
iMIS Documentation

iMIS 15 System Guide

By Advanced Solutions International



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Business Object Designer (BOD)

The Business Object Designer (BOD) is an administrative tool for viewing, editing, and creating *iMIS* business objects. It provides a graphical user interface to the properties related to business objects.

Important: All **Actions** and **Constraints** are now removed from BOD, to support optimal performance and scalability. If you added any actions or constraints to your own business objects, be aware that they will no longer run when your business object is used.

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Understanding business objects

iMIS ships with an extensive collection of business objects, which can be customized and extended. They can also be used as models for new business objects.

What is a business Object?

A general definition, from the Object Management Group:

A business object is a representation of a thing active in the business domain, including at least its business name and definition, attributes, behavior, and relationships. A business object may represent, for example, a person, place or concept. The representation may be in a natural language, a modeling language, or a programming language.

An *iMIS*-specific definition, in terms of the Business Object Designer:

A business object is an *iMIS* system construct representing the data elements and business rules of a business concept like a contact; it is implemented using a combination of business rules, a schema definition that describes the data structures of the object's properties, and a database view.

These are the basic elements of an *iMIS* business object:

- **Properties** – attributes of the object (typically map to database columns). For example, Contact.LastName
- **Branches** – used to provide inheritance-like functionality for similar objects – i.e., objects similar enough to be represented within a single object definition.

How is a business object used?

Business objects are used throughout the *iMIS* application to model business concepts and rules. They represent a database table or tables, and can add additional logic to operations performed on those tables. Business objects allow for runtime customization of *iMIS* behavior without access to source code.

A business object is an *iMIS* system construct representing the data elements and business rules of a business concept, like a contact. It is implemented using a combination of business rules, a schema definition that describes the data structures of the object's properties, and a database view. Business objects are behind all of the controls within the *iMIS* database.

These objects are more than just the tables where data is stored. They let you present data from within the database in a way that is user friendly and used by queries, windows, and other objects within *iMIS*.

How does a business object work?

After a business object is defined using BOD, its definition is stored and made available to the runtime environment.

When an instance of a business object is created (instantiated), the business object definition is used to create an in-memory table structure (a .NET DataSet). This structure stores all data related to the instance of the object.

As the instance of the business object is changed, changes are made to the in-memory structure. Changes are not written to the database until an explicit commit is performed.

Business object physical representation

A business object is composed from many elements:

- one or more database tables
- a schema definition
- a database view

Database tables

At the lowest level, business objects represent a database table or tables. Business objects can represent one table, or multiple tables. BOD builds lists of tables that exist in the database; it does not create tables initially.

Note: Tables must be created using SQL Server Enterprise Manager or Query Analyzer.

Schema definition

The schema definition of a business object is stored in the *iMIS* database. You access the business object using the Document System. The schema definition defines all properties and their types, and is used to create the in-memory runtime representation of the object.

Database view

A database view is created to represent data access for a business object, containing all the necessary tables, columns, and joins. The view is used when running queries against business objects. The naming convention is **vBo<BusinessObjectName>**. For example, **vBoAccessArea** is the view associated with the **AccessArea** business object.

iMIS business object model

A business object is an *iMIS* system construct representing the data elements and business rules of a business concept like a contact; it is implemented using a combination of business rules, a schema definition that describes the data structures of the object's properties, and a database view.

The *iMIS* Business object model sets the framework and foundation for most significant *iMIS* application objects such as customers, orders, products, inventory, tasks, etc. All *iMIS* Business objects share a common construction methodology and standard ways of expressing their properties, attributes, and methods. *iMIS* business objects are extensible and customizable via the Business Object Designer.

Using the .NET Dataset Object Model

The *iMIS* business object base classes are based upon the .NET DataSet object model. The .NET DataSet is the main target for data handling as created by the .NET design engineers. Modeling over the .NET DataSet and constituent components has a number of advantages and implications:

- *iMIS* business objects basically appear just like .NET datasets.
- *iMIS* business objects support automatic binding in the development and runtime environment.
- All objects automatically have an XML representation.
- *iMIS* business objects utilize the standard DataSet constructs to share and express data and metadata.
- The term “metadata” is frequently defined literally as “data about data”. In the context of *iMIS* business objects, metadata is the structured, persistent data about business object resources, their characteristics, and their behavior.
- All of the properties are exposed to the outside world in the Dataset table/column/row object model.

Base classes for business objects

Business objects are implemented by inheritance from core .NET classes, specific to ADO.NET. This means that the features and power of the base class are available to the business object base classes.

- **BusinessContainer** – Container of business objects and their instances. Corresponds to a .NET DataSet (System.Data.DataSet class).
- **BusinessController** – Collection of business object instances and implementer of business logic. Corresponds to a DataTable (System.Data.DataTable class).
- **BusinessItem** – Contains a single instance of a business object. Corresponds to a DataRow (System.Data.DataRow class).

Benefits of *iMIS* business objects

This table summarizes the significant gains that business objects bring to the management and protection of both data and business rules:

Feature/Benefit	Example
-----------------	---------

Feature/Benefit	Example
.NET centric	Auto-binding to runtime controls. Can be passed through web services. Database persistence and persistence engine ready made. XML ready. .NET standard metadata structures.
Automatically implements standardized object and column security for all objects	Keep sensitive data from entire staff or user population.
New types of objects	User-defined tables, survey, application forms, etc.
New columns	Extend product, order, referral, opportunities, issue management definitions.
Standard interface for all objects	Can be used directly by query tools, workflow, screen painters, export utilities, mail merge utilities, etc.

***iMIS* business rules**

iMIS business rules provide the editable metadata to *iMIS* business objects. Non-visual classes and visual editors are provided for editing metadata. *iMIS* business rules provide a technical architectural model for object extensibility as well as a recognizable business concept.

The following types of business rules and metadata are supported:

- Column definitions

Property definitions

- Property type: virtual or persistent
- Data type, length, etc.
- Captions, default values
- Descriptive dictionary type of information

Working with Business Object Designer

The Business Object Designer (BOD) is an administrator-level tool for viewing, editing, and creating business objects especially for *iMIS*. It provides a graphical user interface to the properties related to business objects. To explore BOD,

1. In *iMIS*, browse to **Tools** and select the **Business object designer**.
2. Find and select a business object in the list, such as **Campaign**, and select **Edit**.
3. Explore its properties.

Which business objects for which jobs?

Cs* Objects for legacy tables

CS Business Objects (CsContact, CsActivity, ...) are objects related to the areas of *iMIS* you are most familiar with. For example, CsContact is an object that combines data from the Name and Name_Fin tables into a single, simple-to-query object in a location that's easy to find. Cs Business Objects are based on legacy *iMIS* tables.

Cs Business Objects are used in many instances. For example, if IQA is the only application running in your organization, you will use the CsObjects.

In addition, any tables built through the *iMIS* Customizer features will appear in the list of business objects as “CsName_” + TableName.

Commonly queried CsObjects include but are not limited to these:

CsActivity	CsDuesHisotry	CsOrderLines
CsAddress	CsEvent	CsOrders
CsCalls	CsEventHistory	CsPledges
CsCommittee	CsFunction	CsProduct
CsContact	CsGeneralLookupTables	CsRegistration
CsDonations	CsInventory	CsRelationship
CsDonationsDetail	CsMemberType	CsStaffUser
CsDonorData	CsOrderHistory	CsSubscriptions

When to use CsContact vs. NetContact

There are two versions of the Contact business object, one is called CsContact and the other is called NetContact.

- Organizations that use Business Objects with IQA only can reliably use CsContact.
- Organizations that are licensed for any component of the Marketing Suite or Process Manager should use NetContact. NetContact is a required object within those modules.

Objects for business rules

Many objects within the list of business objects control how different business rules, most importantly security rules, are managed within the database. These business objects are system objects and *should not* be modified.

These objects include but are not limited to these:

AccessArea	Group *	User
AccessItem	Role	UserRole
AccessMain	UniformRegistry	UserToken

* There are many different objects with names beginning with ‘Group’.

Objects that support modules

In addition to the objects listed above, other objects (used specifically by Process Manager, Marketing Suite, or *iMIS* Web Components) are listed in the Business Object folder. These objects include but are not limited to:

- Process Manager
 - OpportunityMember
 - OpportunitySales
 - OpportunityDonor
 - OppMemberContact
 - OppSalesContact
 - OppDonorContact
 - Opportunity

- OpportunityHistory
- OpportunityReport
- OpportunityCompetitor
- OpportunityType
- ActionPlan
- Campaign Management
 - Appeal
 - AppealParticipation
 - AppealProduct
 - Campaign
 - CampaignParticipation
 - CampaignTypeRef
 - Solicitation
 - SolicitationStatusRef
 - SourceCode
 - SourceCodeStatusRef
 - Package
 - PackageItem
 - PackageStatusRef
 - Supplement
- Segmentation
 - SegmentationDef
 - SegmentationJob
 - SourceList
 - ListElement
- RFM Analysis
 - RFM Analysis
- Content Management
 - Document
 - DocumentStorage
 - Hierarchy (DocumentHierarchy, NavigationHierarchy, TagHierarchy)
 - Perspective
 - ContentChangeRequest
 - ContentWorkflow

- NavigationPane
- NavigationWorkflow
- PublishMessageLog
- PublishPriority
- PublishRequest
- PublishRequestDetail
- PublishRequestStatus
- PublishServer
- TagRelationship
- TagRelationshipType
- UniformTag
- URLMapping
- UserDefinedField
- WebPartGalleryEntry

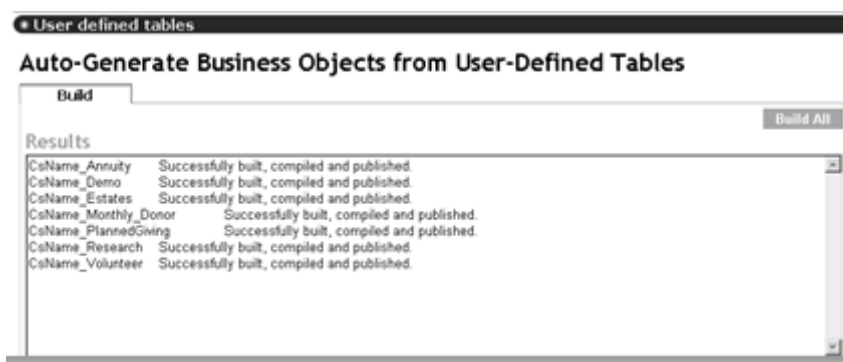
Objects built from user-defined tables

When *iMIS* is first installed or upgraded, any user defined tables that are seen within the Customers area of *iMIS* are automatically built into business objects which can be queried.

As time goes by, it is often necessary to add new fields to Customers tabs and include those queries in IQA queries. This requires that a final step to complete the field addition after you have finished building the table and tab in **Customers > System Set Up**.

To generate objects from user-defined tables

1. From **Tools**, select **User Defined Tables**.
2. Click **Build All**.
3. When complete, the **User Defined Tables** window will list the objects and status of the build of all customer tabs as follows:



Note: When the business objects are built they will be named using the following logic: “CsName_”+ Table Name from Customizer.

Accessing business objects

Note: You must have system-level administrator privileges to perform the tasks discussed in this section. Having administrator privileges for a given module is not sufficient authority to change business objects.

Business objects are central to creating IQA queries, generating reports, and running processes. You can view the list of available business objects by navigating to the **Common** folder in the Central Object Repository.

Finding underlying table data for business objects

Business objects are user-friendly abstractions and collections of data from the *iMIS* tables. These abstractions let you write powerful queries and reports safely, without needing to be intimately familiar with the *iMIS* database schema.

In most cases, the business object name and the names of its various properties are suggestive enough to guide experimentation. At times, however, it can be useful to trace the properties of a business object to their underlying table columns.

To trace business object properties to their underlying table data

1. From **Tools**, select **Business object designer**.
2. Double-click the business object that you want to examine.
3. On the **Properties** tab, select the property that you want to trace.
4. In the lower set of tabs, in the **Definition** tab, the **Database Table** and **Database Column** fields specify the table and column from which the property derives its data.
5. (optional) It can also be useful to examine the table joins used in a business object that comprises multiple tables.
 - In the upper set of tabs, in the **Database** tab, examine the **Joins** field.

Note: All joins in a business object are inner joins.

Building a new business object

To build a new business object, you need to perform the following:

- Build a new SQL table or view, or identify an existing one to use.
- Customize the properties for the new business object.
- Build and publish the new business object.

To build a new business object

1. If no table exists for this business object, open SQL Server and create it, granting appropriate permissions.
2. From **Tools**, select **Business object designer**.
3. From the toolbar, select **New > Design Business Definition**.
4. **Definition** tab: Enter the business object's **Definition** information, and click **Create Object**.
5. Add properties to the business object, saving after you edit each tab.
 - **Database** tab: **Add** the tables that contain the columns you want to use in your business object.
 - **Available Columns** list: Select which columns to use and then click **Add as Properties**, or use **Add All as Properties**. Select **Save**.

- **Properties** tab: Select properties from the list to define the property's characteristics.
 - *To create a lookup:* Select the field you want to edit. Click the **Value** sub-tab: Define any lookups you need. Edit these values as needed. Select **Save**.
- 6. Build and publish the new business object: Select the object and select **Edit**, and **Publish**.

Note: If an error occurs when publishing the business object, check the **Database** tab and ensure that appropriate **Joins** are defined if more than one table is listed in the **Tables** list.

Reverting damaged business objects

If you have a damaged business object, you can fix it by reverting to a prior version. You access this history through the **Versions** command.

Note: After you revert, you still see the damaged version in the list; no versions are ever destroyed through this process. Reverting to an earlier version actually copies the business object: you get a *new* version that matches the definition of the object version you selected.

To revert a business object

1. Select the damaged business object.
2. Select **Versions** to access to all prior versions of the object, if any.
3. From the list of versions, select an earlier one that you know to be undamaged.
4. Click **Revert**. The selected version becomes the current **Working** version.

Note: The object is not reverted until Published.

5. Close the window.
6. (optional) Edit the new working version's properties.
 - To simply revert the object to its prior state, do not make any edits.
 - To create a *modified* version based on a prior state, make appropriate edits.
7. **Publish** the object.

Managing business object properties

Changing property displays

A property's *display* determines what your users see in *iMIS*. The property's display value is used by default on windows and outputs, but you can design queries to override these defaults.

To modify a property display

1. From **Tools > Business object designer**, select your object from the list and click **Edit**.
2. On the **Properties** tab, select the property to be changed and select the **Display** sub-tab.
3. Change the value of the **Prompt for Field**.
4. Click **Save** and **Publish**. Any messages should state that there are no errors.
5. Test your changes by writing a query against the object and selecting the updated property on the **Display** tab.

Adding value lists to properties

Adding value lists to properties can make querying and data entry easier for end users. Value lists define the values that can be stored or selected for a property.

There are three ways of adding value lists to properties:

1. Use *IQA* (see "[Defining property values using IQA](#)") to query the values from an object within the database, e.g. General Look Up tables or CsActivityTypes.
2. Use a *Finder* (see "[Defining property values using a Finder](#)") option to search for records within the database.
3. *Manually add* (see "[Adding properties to business objects](#)") the codes and expansions to the property within the business object.

In many ways, using *IQA* to manage value lists is the most flexible and user friendly way to manage a look up. Values can be added to look up tables and to the modules within *iMIS*. Interfaces can be modified by adding values to a table that otherwise would not be available to users. These interfaces can be accessed by users who do not have the SysAdmin role access in *iMIS*. Value lists that are managed within the business object can only be managed through the BOD.

To build a value display manually

The Business Object Designer allows for value displays to be built directly within the object itself.

1. From **Tools > Business object designer**, select your object from the list and click **Edit**.
2. On the **Properties** tab, select the property that needs values and select the **Values** sub-tab.
3. Select the **Value List** radio button.
4. Build your value list by entering the Code into the **Data Value** property and the Expanded Description for the Code into the **Display Value**.

Note: The Data Value can match the Display Value as long as the Code Value is not longer than the Data Type allows. Spaces can be used as well.

5. Click **Save** and **Publish**. Any messages should state that there are no errors.
6. Test your changes by writing a query against the object, selecting the property on the **Filters** tab, and confirming that it now includes a **Value** list.

Defining property values using IQA

To build a query

1. (Optional) Build the look up table that you want to use to manage the value in SQL Server.
2. Build the query that will define the look up table. Be sure that the **Display** tab displays the code value as well as the expanded description.
3. Save the query in the **Document System** in **Common > Queries > Value Lists**.

To select values to display for a property

1. From **Tools > Business object designer**, select your object from the list and click **Edit**.
2. On the **Properties** tab, select the property that needs values and select the **Values** sub-tab.
3. Select the **Query Object** option.
4. Browse and select the query you saved.
5. Define the **Data Value** to match the code that exists in the data
6. Define the **Display Value** to match the expanded description that describes the Data Value.

7. Click **Save** and **Publish**. Any messages should state that there are no errors.
8. Test your changes by writing a query against the object, selecting the property on the **Filters** tab, and confirming that it now includes a **Value** list.

Defining property values using a Finder

The Document System contains queries that are used in different areas of *iMIS* to search for customer records. These queries are found in the **Common > Queries > Search** folder.

The finder allows one of those queries to be used as a pop up search option within a prompt much as the Key Contact search operates within Process Manager.

To attach a query as a Finder to a field

1. Make sure you have a query you will reference with your search and that the query includes the ID Number and the Full Name or Company Name on the display tab.
2. Save in a central location (such as **Common | Queries | Search**).
3. From **Tools > Business object designer**, select your object from the list and click **Edit**.
4. On the **Properties** tab, select the property that needs values and select the **Values** sub-tab.
5. Select the **Finder** radio button.
6. Browse and select the query you want to attach.
7. Define the **Data Value** to match the ID that exists in the data.
8. Define the **Display Value** to match the expanded description that describes the Data Value.
9. Click **Save** and **Publish**. Any messages should state that there are no errors.
10. Test your changes by writing a query against the object, selecting the property on the **Filters** tab, and confirming that it now includes a **Value** list.

To use a Finder with a referenced object

You can use a finder with a Business Object as the source for the Finder's data, instead of having to build an IQA query to return the records.

1. From **Tools > Business object designer**, select your object from the list and click **Edit**.
2. On the **Properties** tab, select the property that needs a finder and select the **Definition** sub-tab.
3. In the **References Object** field, enter the name of the BOD object you want to use to populate the Finder.
4. Select the **Display** tab under **Properties**.
5. Select **Finder** as the **Display Control**.
6. Click **Save** and **Publish**. Any messages should state that there are no errors.

Adding properties to business objects

You can add new properties to your objects that are based on a table or view in your *iMIS* database.

To add a new property to a business object:

1. From **Tools > Business object designer**, select your object from the list and click **Edit**.
2. On the **Database** tab, select the property you want to add to the object from the **Available Columns**.
3. Move the property from **Available Columns** to **Used Columns** by clicking **Add as Properties** or **Add All Properties**.

Note: Any properties you add to the business object will display at the *end* of the list of properties the **Filters** and **Display** tabs in IQA.

4. Click **Save** and **Publish**.
Any messages should state that there are no errors.
5. Test your changes by writing a query against the object and adding the new property on the **Display** tab.

BOD Field Reference

When editing a business object, you work within the BOD - **Business Object Designer** window. The buttons described in this section are available for each tab of the interface.

By default, the designer is found under the **Tools** menu.

- Select **Tools > Business object designer**. From the toolbar, choose **New > Design Business Definition**, or select an existing object, then from the toolbar choose **Edit**.

Commands

- **Save** - Saves changes to the BOD object. Changes will not go live in *iMIS* until the object has been published. You must save an object before you can publish it.
- **Publish** - Publishes serialized metadata for the BOD object for use by *BusinessRuleBase*. Once the object is published, it is available to IQA and other controls within *iMIS*.

BOD Definition tab

The **Definition** tab includes the name of the object, its status and a field to record a meta-data description of the role of the business object. In addition, certain objects inherit properties from parent objects. The definition of which object inherits properties can be viewed on the **Definition** tab as well as the join between the parent and child objects.

Note: The **Object Type** defaults to **Standard**, which is fully editable. Any object that is *not* a **Standard** type is generated outside of BOD: you can use these non-standard objects in your queries and reports, but they are read-only in BOD to prevent changes to their required structure.

By default, the BOD **Definition** tab is found under **Tools > Business object designer**: From the toolbar, choose **New > Design Business Definition** (or select an existing object, then from the toolbar choose **Edit**), then select the **Definition** tab.

The screenshot shows the Business Object Designer (BOD) interface. The top tab is 'Definition', which contains the following fields and controls:

- Name:** A text box containing 'EventFunction'.
- Active:** A checkbox that is checked.
- Inherits from:** A field that is currently empty.
- Object Type:** A dropdown menu set to 'Standard'.
- Description:** A text area containing the text: 'An event function is an assembly of participants for a period of time as part of an overall event'.
- Available to Screen Designer?:** A checkbox that is checked.
- Default Display Property:** A dropdown menu set to 'Name'.
- Default Title Property:** An empty dropdown menu.
- Default Description Property:** An empty dropdown menu.

Below the Definition tab is the 'Branches' tab, which shows a tree view with the entry 'EventFunction (Root)'.

Definition

- **Name** - The name of the BOD object. *Caution!* Do not use SQL Server reserved keywords as object names. Examples include ADD, GOTO, JOIN, and WHILE.
- **Active** - Indicates whether the object is Active (being used). If unchecked, the object is archived.
- **Inherits from** - If the object inherits from another object, the name of that object appears here and a red X appears next to it. The red X allows you to remove the inheritance, making this object stand alone. If the object does not inherit from another, a **Browse** button appears. Clicking the **Browse** button lets you find an object in the Document Browser and select it as the base object from which this one will inherit.
- **Description** - A text description of what the object is meant to do. This appears in the tool tip help and also in the summary in the Document Browser.
- **Available to Screen Designer?** - Unused.
- **Default Display Property** - Indicates which property should be returned when the business object is referenced as a foreign-key by another business object.
- **Default Title Property** - Unused.
- **Default Description Property** - Unused.

Branches

Displays a tree view of business objects related to the open object. Branched objects inherit properties from the top **Root** object. To establish a branch, first create a new **Design Business Definition**. On the **Definition** tab, select **Browse** next to **Inherits from** and select the root object. After you click **Create Object**, make any required changes to the branched object, then **Save**.

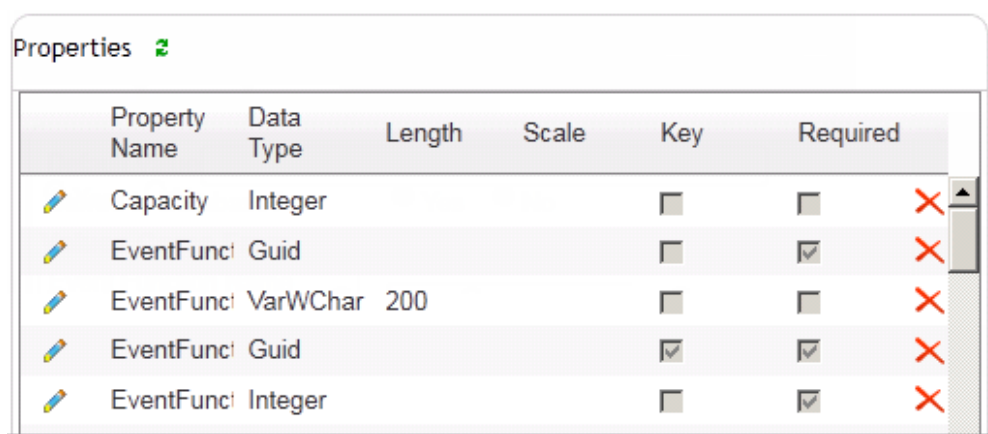
Note: If you create a **Copy** of a **Root** object, you must recreate any branched objects that you require. Branch relationships are not saved during the copy. You cannot copy branched objects.

BOD Properties Tab

The **Properties** tab displays each of the fields within the object and the specific attributes associated with those fields. Properties are defined initially from their SQL tables or views. Properties are attributes of the object (such as `Contact.LastName`). The Properties section lets you add, remove, and edit property values and their characteristics. The initial property entries that correspond to database columns are typically generated from the Database page.

By default, the BOD **Properties** tab is found in the following location:

- **Tools > Business object designer**, then from the toolbar choose **New > Design Business Definition** (or select an existing object, then from the toolbar choose **Edit**), then select the **Properties** tab.



	Property Name	Data Type	Length	Scale	Key	Required	
	Capacity	Integer			<input type="checkbox"/>	<input type="checkbox"/>	
	EventFunc	Guid			<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	EventFunc	VarChar	200		<input type="checkbox"/>	<input type="checkbox"/>	
	EventFunc	Guid			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	EventFunc	Integer			<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Properties

- **Property Name** - The name of the property. *Caution!* Do not use SQL Server reserved keywords as property names.
- **Data Type** - A drop down list of available data types for the property. The choice here yields the data type of the property on the object and in the database if the property is to be stored in the database.
- **Length** - Only shown if Data Type is one that can have a variable length (e.g., String, Numeric). It is the maximum length of the data allowed in the property. Also is the length of the data in the column in the database if the property is to be stored in the database and is the maximum length of the data input field for properties that show in the UI and have maximum length as a parameter (e.g., Text Box).
- **Scale** - Only shown if Data Type is numeric. It is the number of digits to the right of the decimal point.
- **Key** - If checked, the property is part of the Primary Key of the object and of the database table if the property is stored in the database.
- **Required** - If checked, the property must be set before the object can be save/used. Also marks the corresponding database column as NOT NULL if the property is stored in the database
- **X** - Deletes the property from the object and, if the property is stored in the database, removes the column from the database table after a warning.

BOD Properties tab - Definition sub-tab

Stores the physical data definition of the property. Property definitions are initially defined from SQL and can be refreshed from the database at any time.

By default, the BOD **Definition** sub-tab is found in the following location:

- **Tools > Business object designer**, then from the toolbar choose **New > Design Business Definition** (or select an existing object, then from the toolbar choose **Edit**), then select the **Properties** tab.

Caution! Do not use SQL Server reserved keywords as table or column names.

The screenshot shows the Business Object Designer (BOD) Properties tab, specifically the Definition sub-tab. The window title is "Name VarWChar 50". The sub-tabs are Definition, Display, and Values. A "Refresh from Database" button is located in the top right corner. The form contains the following fields:

- Stored in Database?**: Radio buttons for Yes (selected) and No.
- Database Table**: Text box containing "EventFunction".
- Database Column**: Text box containing "EventFunctionName".
- Allows NULL?**: Unchecked checkbox.
- References Object**: Empty text box.
- Identity Column?**: Unchecked checkbox.
- Start Value**: Text box containing "1".
- Increment**: Text box containing "1".
- Calculated Value**: Text box containing "No".
- Read Only?**: Unchecked checkbox.
- System Property? (Internal)**: Unchecked checkbox.

Stored in Database?

Indicates whether the field is stored in the database. Option is disabled and always set to Yes.

Database Table

The drop-down contains any tables used in defining the object with the default being the table name that matches the object's name, if any.

Database Column

Defaults to PropertyName (from the Property List) if creating by adding properties. PropertyName from the PropertyList defaults to this value if reverse engineering existing tables (like what is done today)

Allows NULL?

Allows a null value to be entered for the property when it's saved. When cleared, data must be entered for the property before it can be saved. This value is inherited from the database, but it can be manually changed here.

References Object

Indicates the business object for which this property is a foreign key.

Identity Column?

Indicates whether the column auto-increments. If enabled, uses the following:

- **Start Value** - This is the initial or "seed" value (integer) of the identity. The default is 1.
- **Increment** - This is an integer by which the identity is incremented with each new row. The default is 1.

Calculated Value

Unused.

Read Only?

If checked, the property's value cannot be modified. Read Only is automatically checked and cannot be changed if there is an expression for Calculated Value.

System Property? (Internal Use Only)

Identifies a property as system defined. When selected, the property can only be modified by an administrator.

Log All Changes?

If checked, any changes made to the value stored in this property is logged to the change log.

Query Builder

Enable these options to expose the property for use in queries.

- **Available to Query Builder?** – Makes the property available for use in IQA whenever the business object is selected as a source.
- **Automatically Include in Queries?** – Automatically includes the property in an IQA query result set whenever the business object is selected as a source.

Security

Unused.

Description

A free-form text description for the property. The description is available as a tool tip in the Screen Designer.

BOD Properties tab - Display sub-tab

Contains data about the caption/prompt for the field and the ability to display or hide a property from IQA. In addition, specific properties can be identified as default display values within IQA.

By default, the BOD **Display** sub-tab is found in the following location:

- **Tools > Business object designer**, then from the toolbar choose **New > Design Business Definition** (or select an existing object, then from the toolbar choose **Edit**), select the **Properties** tab, then select the **Display** sub-tab.

Available to UI?

Exposes the property for use across *iMIS*, such as for queries.

Prompt for Field

This is the prompt that appears in front of the data display or data entry control in the screen designer (previously called Caption).

Prompt Resource Key

Specifies the resource key to use when rendering this property's prompt. Enter resource keys in the form [BaseResourceFileName or ClassName].[ResourceID]. For example, WebResources.FirstName.

Tool Tip/Verbose Prompt

Specifies the text, if entered, to be displayed in a tooltip when the user hovers over a UI element that is bound to the selected property.

Tool Tip Resource Key

Specifies the resource key to use when rendering this property's tool tip. Enter resource keys in the form [BaseResourceFileName or ClassName].[ResourceID]. For example, WebResources.FirstName.

Hint

Specifies the hint text to appear after this property's data entry control.

Hint Resource Key

Specifies the resource key to use when rendering this property's hint text. Enter resource keys in the form [BaseResourceFileName or ClassName].[ResourceID]. For example, WebResources.FirstName.

Pop-up Help

Specifies the help text, when entered, to be displayed in a pop-up window when the user clicks the help button next to the UI element bound to the selected property.

Pop-up Help Resource Key

Specifies the resource key to use when rendering this property's pop-up help text. Enter resource keys in the form [BaseResourceFileName or ClassName].[ResourceID]. For example, WebResources.FirstName.

Keyboard Shortcut

Specifies a keyboard shortcut to access this property.

Display Control

Allows the object designer to specify what data entry control should be used for this property in the Screen Designer. The choices available are not limited based on the data type of the property nor on whether the property references another object. Be sure to select an appropriate control for the data type.

Display Width

Only shown if Display Control is set to a value that takes Width as a parameter (e.g., text box, text area) The width is expressed in number of characters in the column.

Display Height

Only shown if Display Control is set to a value that takes Height as a parameter (e.g., text area, list box).

Allow multiple selection?

Allows one or more selections to be made from a list of values in this property's control. When cleared, multiple selection is not allowed.

Use Auto Capitalization?

Applies *iMIS* auto capitalization rules to the data entered for this property. When cleared, auto capitalization is not applied.

Display Mask

Only shown if Display Control is set to value that allows for display masks (e.g., text box). Lists the pre-built system display masks like Phone Number, Credit Card, Money, Percent, etc.

Format Regular Expression

Specifies the regular expression to be used to format the data entered for this property.

Watermark Text

Specifies the text to be shown as a watermark in the data entry control for this property. When cleared, no watermark text appears.

Watermark Resource Key

Specifies the resource key to use when rendering this property's watermark text. Enter resource keys in the form [BaseResourceFileName or ClassName].[ResourceID]. For example, WebResources.FirstName.

User Defined Mask

Only shown if Display Control is set to value that allows for display masks (e.g., text box). Allows the object designer to specify a mask using a pre-defined set of formatting symbols. The **Help** button to the right explains the syntax and gives examples.

Display Orientation

Only shown if Display Control is set to value that takes orientation as a parameter (e.g., multiple checkboxes, radio buttons). If Horizontal is selected, the choices are displayed from left to right to the right. If Vertical is selected, the choices are displayed from top to bottom.

Display Columns

Only shown if Display Control is set to a value that takes Columns as a parameter (e.g., multiple checkboxes, radio buttons). When combined with Orientation, the number of columns indicates how the set of choices is to be laid out on the screen.

Related Property

Relates this property to another property of the business object.

Show Surf-to-Edit?

Displays a Surf-to-Edit button next to this property's data entry control for authorized users. When cleared, the button is not displayed.

Path to Web Service

Specifies the URL path to a web service that provides data for this property's data entry control.

Web Service Method Name

Specifies the method name to be called from the web service defined in the Path to Web Service field.

Valid Characters

Specifies a list of characters that are valid for data entry in this property's data entry control.

Show Password Strength?

Displays a password strength indicator under this property's data entry control. When cleared, the indicator does not appear.

Starting Path

Specifies the default path the Document System Browser should start with if this property's data entry control prompts the user to select a path.

Validation Regular Expression

Specifies the regular expression to be used to validate the data entered for this property.

Validation Message

Specifies the text to be displayed when the data entry control fails validation.

Validation Message Resource Key

Specifies the resource key to use when rendering the Validation Message. Enter resource keys in the form [BaseResourceFileName or ClassName].[ResourceID]. For example, WebResources.FirstName.

Validation Range Start/End

Specifies the start and end range to be used for the range validation in the Number Up/Down control.

Override Overall CSS Class

Specifies the default CSS class to use when rendering this property's caption/prompt, read-only control, and data entry control.

Override Input Field CSS Class

Specifies the default CSS class to use when rendering this property's data entry control.

Override Caption CSS Class

Specifies the default CSS class to use when rendering this property's caption/prompt.

Override Validator CSS Class

Specifies the default CSS class to use when rendering this property's validation.

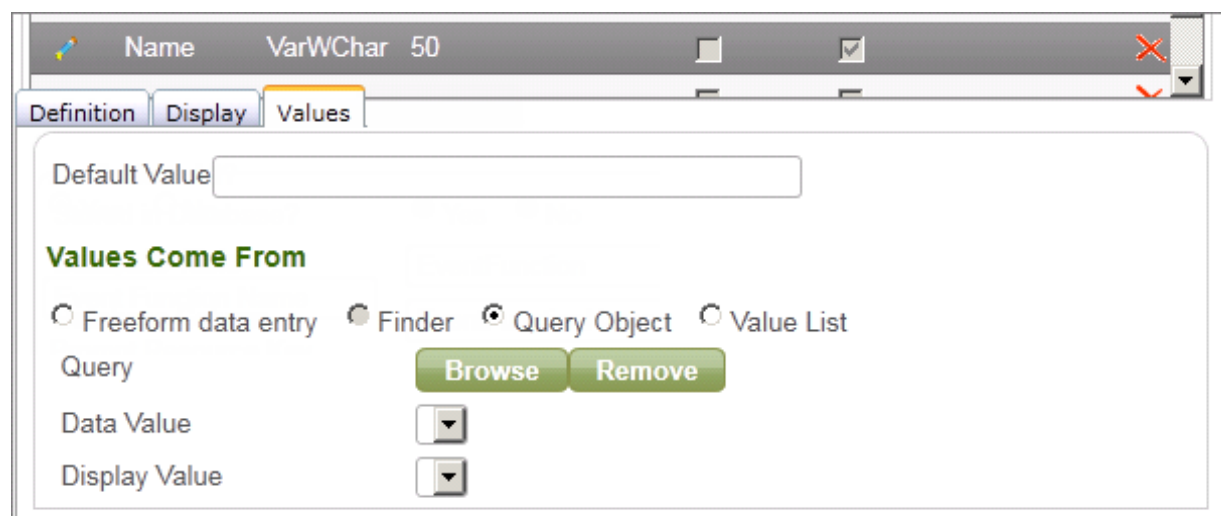
BOD Properties tab - Values Sub-tab

Allows users to define look up values for a property in one of two ways:

- Manually built using codes and values within BOD.
- Built using a reference IQA query.

By default, the BOD **Values** sub-tab is found in the following location:

- **Tools > Business object designer**, then from the toolbar choose **New > Design Business Definition** (or select an existing object, then from the toolbar choose **Edit**), select the **Properties** tab, then select the **Values** sub-tab.



Default Value

Allows the object's designer to indicate what data, if any, should be pre-selected or pre-filled in the field when creating a new instance of the object (Add/New).

Values Come From

Indicates the source (if any) for the allowed values for this property. Choices are:

- **Freeform Data Entry** – The default, if it is available. This indicates that users should type in the value (e.g., for a text box or text area). This choice is only available if the data entry field allows for freeform entry.
- **Finder** – If the data entry control for the property is a finder, this value is selected and no other choice is available. If the data entry control for the property is not a finder, this choice is not available.
- **Query Object** – Indicates that the list of allowed values derives from an IQA query. This choice is only available if the data entry field allows for list type data entry (e.g., drop-down list, list box, combo box, radio buttons, multiple check boxes)
- **Value List** – Indicates that the list of allowed values comes from the object's designer (below). This choice is only available if the data entry field allows for list type data entry (e.g., drop-down list, list box, combo box, radio buttons, multiple check boxes)

Query Object

Only shown if Values Come From is Finder or Query Object. Specifies which IQA query to use for the finder or list. If specified, the name of the query object is shown read-only. In either case a **Browse** button is available to allow you to locate the query to use in via the Document Browser. Note that there is no delete or clear button. A Query Object is required for Finder and Query Object types and is not available to other types.

Data Value

Only shown if Values Come From is Finder or Query Object. Indicates which property/field of the Query Object is stored in the Property when you make a selection.

Display Value

Only shown if Values Come From is Finder or Query Object. Indicates which property/field of the Query Object appears on-screen.

Values

Only shown if Values Come From is Value List. Allows the object's designer to type in the allowed values for the field.

- The **Data Value** fields contain the value to be stored in the property when you select the row.
- The **Display Value** fields contain the value to be shown to the end user when entering data into this property.
- Select **More** to append five additional rows for value entries.

BOD Database tab

The **Database** tab defines the connection between physical tables and views within the *iMIS* database and the properties of the business object. The properties of a business object can comprise single or multiple tables and views. Where multiple tables and views are defined, an appropriate set of inner joins must be defined.

By default, the BOD **Database** tab is found in the following location:

- **Tools > Business object designer**, then from the toolbar choose **New > Design Business Definition** (or select an existing object, then from the toolbar choose **Edit**), then select the **Database** tab.

The screenshot displays the BOD Database tab interface. At the top, a 'Tables' section contains a dropdown menu with 'EventFunction (Primary)' selected, and 'Add' and 'Remove' buttons below it. Below this, the 'Used Columns' list on the left includes: EventFunction.AdditionalInfoHTML, EventFunction.Capacity, EventFunction.EndDate, EventFunction.EventFunctionCategoryKey, EventFunction.EventFunctionCode, EventFunction.EventFunctionDesc, EventFunction.EventFunctionKey, and EventFunction.EventFunctionName. The 'Available Columns' list on the right contains: EventFunction.MarkedForDeleteOn. Between these lists are 'Add as Properties' and 'Add All as Properties' buttons. Below the columns is a 'Filter Expression' field with a dropdown arrow. At the bottom, the 'Joins' section shows two empty dropdown menus separated by an equals sign, with an 'Add' button to the right and a 'Remove' button at the very bottom.

Tables

Specifies which tables from the *iMIS* database are used as the object's data source, similar to the FROM clause of an SQL SELECT statement. To specify the tables in this list, use **Add** and **Remove**. The first table that you add is automatically designated as (**Primary**), which has no system effect and is meant only to indicate which table was added first to the object.

Used Columns

Specifies which columns from the tables specified in the **Tables** list are used as the object's properties, similar to specifying column names in the SELECT clause of a SELECT statement. The columns that you select here are listed on the **Properties** tab. To specify the columns in this list, select one or more columns from the **Available Columns** list, then use **Add as Properties** (hold **Ctrl** or **Shift** to select multiple columns).

Filter Expression

(optional) Specifies a filter expression that further limits the table rows that are acted upon by this business object, similar to the WHERE clause of an SQL SELECT statement. The filter expression is applied after the result set of any **Joins** specified for this object. You must omit the WHERE keyword itself. If there is more than one table listed in the **Tables** list, you must use qualified column names to prevent ambiguity, as shown in the following example using the ACTIVITY_TYPE column from the Activity table:

```
Activity.ACTIVITY_TYPE='F'
```

You must specify only a single WHERE clause, because multiple tables listed in the **Tables** field are joined with an inner join

Available Columns

Lists all of the columns that are available for use as properties for this object. The list comprises all columns from all tables specified in the **Tables** list, minus the columns that have already been added to the **Used Columns** list.

Joins

(required if more than one table is specified in the **Tables** list) Specifies inner joins between the tables specified in the **Tables** list, which limits the table rows on which this business object acts to the result set created by the joins. The drop down lists enable you to choose the columns for each join, then **Add** adds the join to the list of joins for this object.

Multiple joins between the same two tables are expressed with a Boolean AND operator in the same INNER JOIN clause. Every join between a different pair of tables is expressed as a separate INNER JOIN clause.

For example, assume that you've added Table1, Table 2, and Table3 to the **Tables** list, and you have added all of the **Available Columns** to the **Used Columns** list. You then add the following three joins to the **Joins** list.

```
Table1.Column1 = Table2.Column1  
Table1.Column2 = Table2.Column2  
Table2.Column3 = Table3.Column3
```

In this case, an analogous SELECT statement would be:

```
SELECT *  
FROM Table1  
INNER JOIN Table2  
    ON Table1.Column1 = Table2.Column1  
    AND Table1.Column2 = Table2.Column2  
INNER JOIN Table3  
    ON Table2.Column3 = Table3.Column3
```

BOD does not support the creation of cross joins, outer joins, or any join type other than an inner join. The joins that you define here are available as default joins when using the object in an Intelligent Query Architect (IQA) query, but IQA also gives the option to create different, custom joins for the tables underlying the business objects used in the query.

Examples of Business Object customizations

Adding a new business object

This example creates a business object for the Name_Note table and exercises it with a query.

1. Select **Tools > Business object designer**.
2. From the toolbar, select **New > Design Business Definition**.
The **New Object** window appears.
3. In the **Name** field, enter CsName_Note for this example.
4. Click **Create Object**.
5. On the **Database** tab, beneath the **Tables** list, click **Add**.
A window listing all the *iMIS* database tables appears.
6. Select the Name_Note table and click **OK**.
The Name_Note table is added to the **Tables** list, and its columns are added to the **Available Columns** list.
7. Select the **Columns** tab. Select all the columns except TIME_STAMP (which is used for iBO concurrency, and does not apply to this example). Select **Create Property for Selected Columns**.
8. On the **Properties** tab, examine the automatically generated entries on the **Description**, **Type**, **Display**, and **Value** tabs.
9. On the **Display** sub-tab, select the Id, NoteNumber, Note, and Purpose properties and make sure the **Available to Query Builder** and **Automatically Include in Queries** options are checked on the **Definition** tab for each.
10. Select **Save**, **Close**, **Build**, and **Publish**.
11. Open IQA (**Tools > Intelligent query architect**).
12. Create a new query in a working folder (Scratch or something similar).
13. The First Source will be under Common.Business Objects.CsName_Note. Click on it to add to the **Sources** list.
14. On the **Display** tab, note that the four columns in the display set are selected.
15. Select **Save**. On the Document Saver window, enter a name for the query (such as "CsName_Note query") and select **Save**.
16. Select **Run** to see the sample output.
17. To extend the example, add the Name table to the business object, display FULL_NAME in the query results, and republish.
18. In BOD, **Edit** the CsName_Note business object. Select **Physical**, and add the Name table to the Tables list. Add Name_Note.ID=Name.ID to the **Joins** list, by selecting the columns from the left and right drop-down lists.
19. Select **Columns**, select Name.FULL_NAME, and add a property for the column.
20. On the **Properties** tab, select the **Display** sub-tab.
21. Add FullName to the **Display Set**.
22. Select **Save**, **Close**, **Build**, and **Publish**.
23. In IQA, open the query for this business object.
24. On the **Sources** tab, click the **Remove** icon to remove the existing source.

25. Click **Add Source** and re-add **CsName_Note**.

Note: Business object changes aren't automatically reflected in queries that use them.

26. On the **Display** tab, change the order to have Id and Full Name first. Use the **Refresh** button as you go to confirm the order. **Save** the query.
27. Select **Run** to see the query results.
28. On the **Summary** tab, switch to **Advanced** mode to see the SQL for the query.

Editing an existing business object

This example changes a display property on the Campaign object and shows the change from the application.

1. From **Marketing**, select **Campaign definition**.
2. Select any campaign.
3. Select **New Campaign**. Note the captions for Name and Campaign Code – these come from the business object. Select **Close**.
4. Open BOD (**Tools > Business object designer**).
5. Select the **Campaign** object and click **Edit**.
6. Open the Properties tab.
7. Select the property (**Name** or **Campaign Code**) you wish to change..
8. On the **Properties** tab, select the **Display** sub-tab.
9. Change the **Caption** entry for Name to “the Campaign Name”, and for **Description** to “the Campaign Description”.
10. Select **Save**, **Close**, and **Publish**.
11. From **Marketing > New Campaign**, select the same campaign and note the captions.

Creating business objects for user-defined tables

This example creates, builds, and publishes business objects for all user-defined tables set up in *iMIS* Customer Management. It edits one of the business objects, changing display set and prompt entries, and tests the new business object in IQA.

1. From **Customers**, select **> Set up module > General** and click **Additional Windows**.
The **Customer Setup** window appears.
2. Verify that the **Defined Tables** list contains the Name_Demo table. This table (included in the demo database) is used in this example.
3. Close the **Customer Setup** window.
4. From **Tools**, select **User defined tables**.
The **User defined tables** window appears.
5. Click **Build All** and wait for *iMIS* to generate business objects.
Eventually the **Results** field will display a log of the business objects that were built, saved, and published.
6. Ensure that **CsName_Demo** is listed in the **Results** field.
7. From **Tools**, select **Business object designer**.
The Document System appears, displaying a list of available business objects.

8. Select the **CsName_Demo** object and click the **Edit** icon in the toolbar.
The **CsName_Demo** object appears.
9. On the **Properties** tab, in the **Properties** area, ensure that a **Property Name** value exists for was added for each column in the **Name_Demo** table.
10. Add the **ID**, **Spouse**, and **School_Attended** properties to the object's display set, and change the displayed caption for **School_Attended** property.
 - ☐ Click the **Display** sub-tab, which shows the display set values for each **Property Name**.
 - ☐ In the **Property Name** area, select the row containing the **ID** property.
The values shown in the **Display** sub-tab change to the defined display set values for the **ID** property.
 - ☐ In the **Display** sub-tab, select both the **Automatically Include in Queries?** checkbox and the **Default Display Property?** checkbox.
 - ☐ Repeat this process for the **Spouse** and **School_Attended** properties.
 - ☐ For the **School_Attended** property only, change the **Prompt for Field** value from **School Attended** to **Alma Mater**.
11. Click **Save** and wait a moment for your changes to be saved to the business object.
12. Click **Publish**.
A results window appears, listing any messages and errors for the publish operation.
13. Ensure that the business object published without errors and click **Close Dialog**.

Note: If you were to go back to **Tools > User Defined tables** and run **Build All** again, your changes will be overwritten and lost. The business objects for user defined tables are always completely re-created by that operation.

14. From **Tools**, select **Intelligent query architect** and create a new query that uses the **CsName_Demo** business object as the **Query Source**.
15. **Save** the query, then **Run** it.
The result set for the query appears. Notice that the three columns shown in the query result set match the three properties that you defined for the business object's display set.
16. Modify the query to return only those records that contain non-null values for either **Alma Mater** or **Spouse**. Creating an OR evaluation like this requires you to define two separate *filter sets*.
 - ☐ In the IQA window, select **Define**.
 - ☐ On the **Filters** tab, from the Mode drop-down list, select **Advanced**.
 - ☐ From the **Property** drop-down list (beneath the **Property** column header), select **Spouse**.
 - ☐ From the **Comparison** drop-down list, select **Not Empty**.
 - ☐ Click the **Add Line** icon. The filter is added to the filter set.
 - ☐ Click **Add Filter**. A new filter set is added below the first filter set.
 - ☐ From the drop down list at the top of the new filter set (immediately above the **Property** column header), select **Or**.
 - ☐ In the new filter set, use the same process to add the **Alma Mater** property, specify a **Not Empty** comparison value, and click the **Add Line** icon.
17. **Save** the query and **Run** it again.

Notice that the result set for the query now contains only those records that contain values for **Alma Mater** or **Spouse**.

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Content authoring

Web content authoring is the process of creating page-level content for your Content Management (WCM) *websites*. Web content authoring comprises the following activities:

- Defining the *content records* that populate the *content areas* of your website pages, optionally using workflow and *Surf-to-Edit* features to help with this task.
- Managing images that you use in your content.

Before you begin

You cannot perform web content authoring tasks until after the people in your organization who perform website management have performed the following tasks:

- Defined *content authority groups* (CAGs) to control who can define/approve content records and upload images and other file types for use in content records
- Defined *content folders* in which to create your content records

- (optional) Assigned CAGs to specific content folders to enable workflow for the content records in that folder
- (optional) Defined *tags* and *tagged list formats* for use in your content records
- (optional) Defined CM *user defined fields* (UDFs) for use in your content records

Putting it all together

Web content authoring entails the following actions, performed as needed:

- *Managing content records*, each of which is the source of a content area on a rendered web page. You can define these on an ad hoc basis as needed, or by *tracking your current and available authoring work* in your Content Designer **Task List**.
 - You revise pages for your website by adding one or more *iParts* to a content record and/or configuring existing *iParts* in the content record. **Save** the changes and then **Publish** the content record. A few minutes later, the changes become live on all CM websites that use that content record. (You might need to refresh the page in your browser to see the changes.)
 - If you're creating a brand new page, you must link the content record to a *navigation item* in the website's *sitemap* to add the published content record to the website. This is typically done by the person who manages the website.
 - Many *iParts* come with CM, and your *iMIS* implementers might have added custom *iParts* too. To learn about *iParts* and what they do, see *iPart Essentials*, *iPart-based Features*, and *iPart Reference*.
- Managing images for use in content records.
- Approving content records for publication or deletion by authors who do not have **Content Approver** permissions.
- Browsing your website to review its content and *using Surf-to-Edit* (see "Revising website content with Surf-to-Edit") to the underlying content records (or to log a change request for a content revision if you do not have **Content Editor** permissions for a given content record).

Managing content

To define content records

In the Content Designer tool, select **Manage content** and select the *content folder* in which you want to create the *content record*. From the toolbar, choose **New > Website Content** to create a new content record. Select a content record and choose **Edit** to change an existing content record, or choose **Organize > Delete** to delete an existing content record. There are five basic parts to creating a content record, which should be performed roughly in the following order.

Note: All content records in the Core Sites and Sample Websites content folders are protected as System content records and cannot be edited or deleted. If you want to update a System content record, create a copy of it, and then edit the copy. Be sure to also update any navigation items or shortcuts that point to that content record.

1. Choose a **Content Layout**.
2. Add one or more *iParts* to each *iPart zone* by clicking the **add content** link.
3. Configure each *iPart* to define its individual content. (If you are changing an existing content record, you do this by clicking the triangle button at the right of the *iPart*'s title bar and choosing **Configure**.)
4. Define the content record's **Properties**, **Current Tags**, and **Access Settings**.

5. If the parent content folder has been enabled for content authoring workflow, you can optionally change the default settings in the **Workflow Management** section, such as specifying a different *content owner* or different expiration behavior.

You can also click and drag iParts to rearrange them within an iPart zone or between different iPart zones. It's also possible to copy or move existing iParts from one content record to another.

To publish content records

When you first create a content record, or when you make changes to an existing **Published** content record, that particular version of the content record is not visible on any CM websites until it is published. You have two publishing options:

- *Save and publish immediately:* Before closing the content record, select **Save and Publish** to make your changes immediately visible on all websites that use it.
- *Save, then publish later:* If you **Save** the content record without publishing, the content record is marked with a status of **Working**. To publish the content record, select it and then click **Publish** from the Document System toolbar.

After publishing your content record, the status changes briefly to **PublishPending**, and then to **Published** once it has been fully rendered to an **.aspx** file on all web servers that host the relevant CM websites.

To copy or move iParts to another content record

From the content record that contains the iPart that you want to move or copy, click the triangle button at the right of the iPart's title bar and choose **Copy To** or **Move To** as desired. Use the window that appears to specify the content record into which you want to copy or move the iPart.

To copy or move content records to another content folder

You can move content records into different content folders by dragging and dropping them into a different folder. You can also move content records by selecting them, then using the toolbar commands **Organize > Cut** and **Organize > Paste**.

You can copy content records into other content folders by selecting them, then using the toolbar commands **Organize > Copy** and **Organize > Paste**.

When you move or copy a content record into a new content folder, you must re-publish it to make sure that the content record is made visible on all websites associated with the new content folder (and removed from all websites that were associated with the old content folder).

When you move or copy a content record that was originally in a workflow-enabled content folder (a CAG is assigned to the content folder) into another workflow-enabled folder, the content record's assigned content owner remains unchanged if the new folder's CAG also lists that person as a member and that person has **Content Editor** CAG permissions in the new folder's CAG. If either of these conditions are false, then the assigned **Default Owner** of the CAG assigned to the new content folder is assigned as the new content owner for this instance of the content record.

The *tags* inherited from ancestors in the content folder hierarchy are recalculated based on the content record's new position in the hierarchy. Although the new inherited tags are visible immediately within the Content Designer tool, website searches for these tags will not find the content records until you republish them.

To revert to an earlier version of a content record

Every time you publish a content record, the previously published version is saved as an **Archived** version. You can revert to an older archived version by selecting the content record, then from the toolbar choose **Versions**. In the resulting window, select an archived version and click **Revert**.

The version you selected is turned into a new **Working** version at the top of the list (all the previous versions remain intact). When you close the window, this is the version you'll now see in the content folder. As with any **Working** content record, you can publish it when you are ready to push it to your CM websites.

To prevent content records from expiring

Content records in a workflow-enabled content folder can be set to expire a certain number of days after they were last published. The content record's assigned content owner receives several email notifications (and corresponding entries in their Content Designer **Task List**) just before a content record is due to expire, when it expires, and even once or twice after it has expired if the system has not automatically deleted the content record upon expiration. (For more information, refer to *Fields: setup - workflow*.)

If you receive notice of an upcoming expiration, you can prevent the content record from expiring by opening your Content Designer **Task List** and clicking the content record's title in the expiration notice. From the toolbar of the resulting window, choose **Publish**. This republishes the content record, which effectively restarts the expiration clock.

To manually delete expired content records that were not auto-deleted

When a content record expires and the **Automatically delete expired content?** checkbox is selected in the **Workflow Management** section of the content record's definition, the system automatically sets the content record's status to **Recycled**, moves the content record to the **Recycle Bin**, and removes the corresponding rendered **.aspx** file from IIS on all web server hosts to which the content record has been published.

However, if the **Automatically delete expired content?** checkbox is not selected, then when a content record expires, nothing happens at all until the content owner selects the expiration notice in their Content Designer **Task List** and clicks **Delete Selected**. This sets the content record's status to **Recycled**, moves the content record to the **Recycle Bin**, and removes the corresponding **.aspx** file from all web servers.

To restore or purge deleted content records

A content record that has expired and been deleted automatically (or that has been manually deleted by using the **Organize > Delete** command on the Document System toolbar or by using the **Delete Selected** button on a CAG member's Content Designer **Task List**) is moved to the **Recycle Bin** at the bottom of the content folder hierarchy.

- To permanently purge specific content records, select them in the **Recycle Bin**, then from the toolbar choose **Organize > Purge**.
- To permanently purge all items in the **Recycle Bin**, select the **Recycle Bin**, then from the toolbar choose **Organize > Empty the Recycle Bin**.
- To restore a deleted content record, select it, then from the toolbar choose **Versions**. In the version history that appears, click the **Recycled** version at the top of the list (or the desired earlier version) and click **Revert**. The content record is moved to its original content folder and its status changes to **Working**. You must republish the content record to create a rendered version again on all associated CM websites.

Note: If the content record's original parent folder no longer exists (or is in the **Recycle Bin**), the restored content record is placed in the root folder (@) of the tree. You must move it into an appropriate content folder before you can publish the content record.

Troubleshooting

- You can also edit content records by using the *Surf-to-Edit* feature.
- You must have some or all of the following *content authority group* (CAG) permissions in at least one CAG to which you belong:
 - To create or edit content records, you must have **Content Editor** CAG permissions.
 - To publish content records without needing approval from another person, you must have **Content Approver** CAG permissions. Without these permissions, you will see a **Submit** command (instead of a **Publish** command) in the Document System toolbar, which submits a publishing request to all **Content Approvers** defined in the system.

- To delete content records without needing approval from another person, you must have **Content Approver** CAG permissions, and you must have **Delete** Document System permissions for each content record. Without these permissions, you will see an **Organize > Request Delete** command in the Document System toolbar, but it will only submit a deletion request to all **Content Approvers** defined in the system. You must also have **Content Approver** CAG permissions to use the **Organize > Cut** command, because this action effectively deletes the content record from its current content folder.
- You must have both **Read** and **Edit** Document System permissions on each content folder in which you create new content records. To edit existing content records, you must have both **Read** and **Edit** Document System permissions on each content record. To delete content folders, you must have **Delete** Document System permissions on each content folder. The Document System permissions from the parent content folder are copied into each newly created content record, but can be changed later.
- You must have **Select** Document System permissions on each content record to which you assign tags.
- With the help of the people who perform website management, you must determine in which content folder to create the content record. Every content folder specifies important criteria that defines how the system should manage content and automatically applies these criteria to the content records created in that content folder. For example, the content folder specifies which CM websites the content records will be published to, and also specifies the CAG that determines the default workflow for the content records, such as who is notified when a content record nears its expiration date.
- You should not create content records in the root content folder (the @ folder). It is generally unwise to specify system management criteria for content folders at the root level of the content folder hierarchy, because these criteria would be copied into all new content folders. By leaving the system default values intact in the root content folder, the people who perform website management can design a more flexible authoring and publishing environment.
- Modifications to your *master pages* may be required if iParts appear to overflow the boundaries of iPart zones in the rendered pages. In general, this requires modifying the template's master page and accompanying CSS files to make the Home page and interior page layouts larger than their default size.

Note: Membership in the **SysAdmin** security role effectively grants the full set of Document System permissions and the full set of CAG permissions (you are effectively a member of a **MasterAdmin** CAG too). However, to participate in web content authoring workflow, even members of the **SysAdmin** role must be an explicitly-listed member of at least one CAG.

Note: The **Core Content** content folder and all of its descendant content folders and content records are protected for use by iMIS. The default Document System permissions for these content folders and content records permit editing only by members of the **SysAdmin** role.

Choosing keywords and description text for a content record

External web-based search engines such as Google generally index the text that you specify in the **Description/Summary** field, and they generally ignore the keywords that you specify in the **Keywords/Metatags** field. The CM search engine, by contrast, looks in both of these fields for matches to the keywords specified in the search.

These two fields both generate <META> elements in the source code for a rendered content record, which are used by search engines to index pages and weight search results. The subject of <META> elements and search engines is extremely complex and has spawned its own industry of consultants, but the [Search Engine Watch](#) website includes tips for optimizing your <META> elements for search engines.

Planning for tag inheritance in AdvancedSearch and ContentTaggedList iParts

When choosing the tags to include in the configuration of an **AdvancedSearch** or **ContentTaggedList** iPart, you must account for the effect of implied relationships between parent and child tags in the tag hierarchy. A tag's position in the tag hierarchy creates an underlying relationship that is not specifically displayed in the **Related Tags** section: parent tags are implicitly related to their children tags with a **more broadly defines** relationship, and children tags are implicitly related to their parent tag with a **further defines** relationship. This means that:

- The pre-filtered result set of a basic or advanced search includes all published content records that are tagged with any descendant of the tag that is matched by the search keywords.
- The pre-filtered result set of an advanced search includes all published content records that are tagged with any descendant of a tag that is specified in the configuration of the **AdvancedSearch** iPart if the user selects that tag at runtime on the rendered page that contains the advanced search form.
- The pre-filtered result set of a rendered **ContentTaggedList** iPart also includes published content records that are tagged with any descendent of a tag that is specified in the configuration of the **ContentTaggedList**.
- The content of the **Items by Tag** report (in **Content Management > Reports**) does not list published content records that are tagged with any descendant of each tag in the report.

More

- [Developer articles on iMISCommunity](#)
- [Microsoft Developer Network](#)
- [Telerik Documentation](#)
- [Search Engine Watch](#)

Tracking authoring work

Use the Content Designer **Task List** to keep track of the unpublished *content records* that you have been working on, and also to review content change requests that are available to be worked on.

- The **Content you are working on** section lists the content records that are still in a **Working** status and for which you were the last person to make any changes to the content record's definition.
- The **Content change requests assigned to you** section lists the content records for which a change request was submitted by someone using the *Surf-to-Edit* feature of CM, and for which you are the assigned *content owner*.
- The **Unassigned content change requests** section lists the content records for which a change request was submitted by someone using the Surf-to-Edit feature of CM, but for which there is no assigned content owner.

From your Content Designer **Task List**, you can perform the following actions:

- View the contents of a change request email message by clicking the envelope icon next to the change request. A closed envelope indicates that no one has ever looked at the contents of the change request email message. An open envelope icon indicates that somebody has looked at the contents of the change request email at least once, but this does not mean that anyone has actually worked on the request.
- Edit a content record's definition to incorporate the requested changes by clicking its title in the list.
- Mark content change requests as completed by selecting the checkboxes next to the ones that you want to approve and clicking **Mark as Complete**. The publishing requests are removed from the Content Designer **Task List** of all users, but the associated content records are *not* submitted for publishing. If you had not already published them while editing their definition, you must remember to publish them.
- Ask the submitters of content change requests for more information by selecting the checkboxes next to the ones that you want to reject and clicking **Respond to Selected**. A form appears that you can use to send an email message to the requesters that contains your questions or comments. No change is made to the content change requests, and they remain in the Content Designer **Task List** for all users.

Troubleshooting

- You must have **Content Editor** CAG permissions in at least one *content authority group* (CAG) to which you belong.
- You must have both **Read** and **Edit** Document System permissions on each content record.

Tip: Where notification email addresses are defined

The email address used for all actions related to rejection notice emails and change request notice emails is the one listed in the **Profile** tab of each respective user's contact record (**Customers > Manage Customers**). The source address used in the **Profile** tab is specified in **Customers > Set up module > Address and Notes**, in the **E-mail Flow from/to E-mail at Address** field.

Approving content

To approve content records for publication

When a person who does not have **Content Approver** CAG permissions defines a *content record*, they cannot directly publish the content record, because the **Publish** command is not available on the Document System toolbar. Instead, they see only a **Submit for Approval** command, which creates an entry in the **Content awaiting your approval** section of the Content Designer **Task List** of all users who have **Content Approver** CAG permissions in at least one *content authority group* (CAG) to which they belong). The status of the content record changes to **PublishRequested**.

From your Content Designer **Task List**, you can perform the following actions:

- Review a content record's definition by clicking its title in the list.
- Approve publishing requests by selecting the checkboxes next to the ones that you want to approve and clicking **Approve Selected**. The associated content records are submitted for publishing and the publishing requests are removed from the Content Designer **Task List** for all users. No publishing window is displayed.
- Reject publishing requests by selecting the checkboxes next to the ones that you want to reject and clicking **Return Selected**. A form appears that you can use to send an email message to the requesters that explains the reason for rejecting the selected requests. After completing the form, the **Status** of the associated content records are set to **Working**, and the publishing requests are removed from the Content Designer **Task List** for all users.

To approve content records for deletion

When a person who does not have **Content Approver** CAG permissions deletes a content record with the Document System **Organize > Delete** command, this action creates an entry in the **Content deletion requests** section of the Content Designer **Task List** for all users who have **Content Approver** CAG permissions in at least one CAG to which they belong). The status of the content record changes to **DeleteRequested**.

From your Content Designer **Task List**, you can perform the following actions:

- Review a content record's definition by clicking its title in the list.
- Approve deletion requests by selecting the checkboxes next to the ones that you want to approve and clicking **Delete Selected**. This sets the associated content records' status to **Recycled**, moves the content records to the **Recycle Bin**, and removes the corresponding **.aspx** files from all web servers. The deletion requests are also removed from the Content Designer **Task List** for all users.
- Reject deletion requests by selecting the checkboxes next to the ones that you want to reject and clicking **Respond to Selected**. A form appears that you can use to send an email message to the requesters that explains the reason for rejecting the selected requests. After completing the form, the deletion requests are removed from the Content Designer **Task List** for all users.

- Reject deletion requests without responding to the requestors by selecting the checkboxes next to the ones that you want to reject and clicking **Remove from List**. The deletion requests are removed from the Content Designer **Task List** for all users.

Troubleshooting

- You must have **Content Approver** CAG permissions in at least one CAG to which you belong, and you must also have **Read** Document System permissions on each content record.
- To delete content records, you must have **Delete** Document System permissions on each content record.

Tip: Where notification email addresses are defined

The email address used for all actions related to rejection notice emails and change request notice emails is the one listed in the **Profile** tab of each respective user's contact record (**Customers > Manage Customers**). The source address used in the **Profile** tab is specified in **Customers > Set up module > Address and Notes**, in the **E-mail Flow from/to E-mail at Address** field.

Revising content in place

To revise a CM *website* page by using the *Surf-to-Edit* feature, log on to the website and click the Surf-to-Edit (STE) icon located by default near the **Sign Out** link on every web page of the website. This enables Surf-to-Edit mode until you click the same icon again to disable it.

When Surf-to-Edit mode is enabled, you will see a variety of different STE icons appear in different *content areas* of each web page. Exactly which STE icons you see depend on which *content authority group* (CAG) permissions and Document System permissions you have on the underlying *content records* in the rendered web page:

- If you have both **Content Editor** CAG permissions in at least one CAG to which you belong and **Edit** Document System permissions on the specific content record displayed in a content area:
 - If the content record is used in the Main Content Area of an interior page, you will see an STE icon for the entire content record and for each iPart in the content record. If the iPart is included in a System content record, you will see no STE icons for the iParts in the content record, but you will see one STE icon for the entire content record. The graphic used for each STE icon might look different, depending on what type of iParts are used in the content record. For example, the STE icon for a Content Html iPart will look different from the STE icon for a **ContentTaggedList** iPart. Moreover, the STE icon for the entire content record will look different from both of those.
- If you are a member of at least one CAG (regardless of your specific CAG permissions) and you do *not* have **Edit** Document System permissions on the specific content record displayed in a content area:
 - If the content record is used in the Main Content Area of an interior page, you will see no STE icons for each iPart in the content record, but you will see one STE icon for the entire content record.

In all cases where you can see at least one STE icon, you can hover your mouse pointer over an STE icon to see the name of its associated iPart or content record.

What happens when you click on any of these STE icons depends on whether you have **Edit** Document System permissions to the underlying content records:

- If you have **Edit** permissions on the content record, you can edit the iPart or content record directly.
 - Click the STE icon to open an editor that is very similar to what you see in Content Designer.
 - Click **Save and Publish**.
 - Use your browser's **Refresh** button to display the changes that you have made to the web page.

- If you do not have **Edit** permissions on the content record, you cannot edit the associated content record. Instead, the system displays a form that you can use to enter a content change request, which is distributed as follows:
 - If the content record is workflow-enabled (a CAG is assigned to its parent *content folder*), an email message is sent to the content record's *content owner*, and a change request entry also appears in the content owner's Content Designer **Task List** as being assigned specifically to the content owner.
 - If the content record is not workflow-enabled (or simply has no assigned content owner), a change request entry appears in the **Unassigned content change requests** section of the Content Designer **Task List** for every user who has **Content Editor** permissions in at least one CAG to which they belong. Even though these users do not receive an email from the system, they can view the contents of your email message by clicking the envelope icon next to the change request in their Content Designer **Task List**.

Troubleshooting

- To edit a web page's underlying content records or iParts by using the Surf-to-Edit feature, you must have **Content Editor** CAG permissions in at least one CAG to which you belong, and you must also have **Read** and **Edit** Document System permissions for that content record. Without these permissions, you are instead presented with a form that submits a change request to the Content Designer **Task List** for all **Content Editors** defined in the system.

Tip: Why use Surf-to-Edit?

Defining content records from within the **Content Management** area of *iMIS* is a useful way to author new content, but it isn't always the most effective way to revise existing content. It can be more effective to actually browse (or "surf") through your CM website itself and use the Surf-to-Edit feature to quickly open a page's underlying content record (or even a specific iPart within the content record) for editing. When you've saved your changes, you can continue browsing the website and making further content revisions as needed.

Tip: Where notification email addresses are defined

The email address used for all actions related to rejection notice emails and change request notice emails is the one listed in the **Profile** tab of each respective user's contact record (**Customers > Manage Customers**). The source address used in the **Profile** tab is specified in **Customers > Set up module > Address and Notes**, in the **E-mail Flow from/to E-mail at Address** field.

Content administration

Content Management (CM) stores, presents, and distributes your most valuable organizational asset and key constituent benefit: your information. It gives you control over all aspects of your web presence, including look, navigation, workflow, and content. It also acts as a central repository for customer profiles, transactions, products, services, and content needs by allowing you to construct views of *iMIS* throughout your web presence. Content Management features include:

- **Website administration**
 - Offer simple content management capabilities to chapters, affiliates, or members who wish to maintain a basic HTML page or advanced capabilities to those who want to maintain their own separate website
 - Allow content maintained by chapters, affiliates, or members to flow up to the main organization site and be searchable from the main site
 - Manage separate websites for foundations, magazines, intranets, and more
 - Share content among separate websites through content tagging
- **Content management**

- Easily modify the navigational hierarchy of your site by moving, adding, reordering, and deleting navigation items or full navigation sections of your website
- Allow one-click access to edit web content through the Surf-to-Edit feature
- Allow non-technical users to add, edit, and delete web page content with a browser-based tool similar to a simple word processor
- Create, label, date, and archive multiple versions of content for a web page
- Assign content management responsibility to individuals or groups within your organization by section or page
- Establish publishing restrictions for individuals or groups within your organization that need management oversight from an additional authority
- Provide users with a personalized task list of content that is being edited, awaiting approval, or expiring soon

■ Content tagging

- Publish a single content record once and deliver it automatically throughout your organization's website
- Categorize content using your organization's unique tagging taxonomy structure of terms, audiences, and/or concepts
- Dynamically display multiple content records on a single page through user-defined templates
- Allow keyword searches to be targeted according to your organization's terms, audiences, and/or concepts
- Utilize the combination of content tagging, advanced search capabilities, and your organization's content to deliver web-based knowledge management within the framework of your organization's website.

Managing images

To help you to organize your site images where they cannot be overwritten during upgrades, *iMIS* uses one system-defined path for all of the image files that you upload. This setting is honored by the **Image Manager (Content Designer > Manage images)** and by all iParts that reference uploaded images, such as Content HTML, Content Block, and Contact Profile Picture.

For clarity, iParts that manage images specific to a feature organize those files into subfolders *below* your default. Any filenames ending with *_T* are thumbnails that *iMIS* generates for you.

- *Contact* (individual and organization) images are stored in **/Profile**

Tip: Theme-related images are managed within appropriate theme folders.

To change the upload folder for images

To change the upload folder for your images, you change the **CM.ImagePath** variable in your **SystemConfig** table. For example, this SQL command changes the path to a folder called *foo* in the root directory:

```
Update SystemConfig set ParameterValue = '~/foo' where ParameterName = 'CM.ImagePath'
```

For best results, choose one of these locations for your uploaded images folder:

- On your web root: ...\\ASI\\iMIS\\Net\\
- In the **SharedContent** folder: ...\\ASI\\iMIS\\Net\\SharedContent\\

Important: The path to this directory must be the same on all servers that host your *iMIS* sites.

To upload images

Before you can use image files in your iParts, you must upload them to the server. You can do this while configuring a Content Html iPart, or you can do this using Image Manager, which makes it easy to upload and organize a set of files.

- **Using the ContentHtml editor** - While defining a content record, add a Content Html iPart and configure it to display the HTML editor. In the editor's toolbar, click the **Image Manager** button. In the **Browse Files** tab, open the folder from which you want to upload a new image, go to the **Upload Image** tab and click **Browse**. Select the local file that you want to upload, click **OK**, then click **Upload**.

Tip: To reuse an image hosted on an external server, use the Content Html iPart and insert a standard HTML tag to that image.

- **Using Image Manager** - In Content Designer, select **Manage images**. Open the folder in which you want to upload a new image, or click the **New Folder** icon to create a new folder. Click the **Upload** icon and browse to the file on your computer that you want to upload, click **OK**, then click the **Upload** link at the right of the **Upload** field. To cancel the upload, click the **Upload** icon in the toolbar.

Both the HTML editor and the Image Manager have a built-in **Image Editor** that can perform some basic edits to images that you already uploaded.

Caution: Do not use **Image Editor** with transparent images: the transparent background becomes black. To edit transparent images, save a copy locally (right-click and select **Save Image As...**), edit it with your preferred program, then upload it to *iMIS* again, overwriting the original.

Troubleshooting

- To upload images, you must have **Content Upload** CAG permissions.
- To upload from a network location, first map that folder to a drive letter on your workstation.
- Theme images (which Big Button Panel uses) do not auto-sync between servers.

Synchronizing content on multiple servers

If you have more than one server hosting the same website, take steps to synchronize all servers that host the website. These are issues to address:

1. **Theme files:** If you modify the website's CSS or master page, or if you apply a different theme, copy the changed files to all other servers.
2. **Uploaded images:** Copy your folder for uploaded images to all other servers, either by direct FTP or by file copy.

Tip: This is not necessary for ContentFile iPart attached files, which are automatically copied to remote servers when published.

3. **Hard-coded image paths:** If you use different *virtual* directories on any of your servers, you need to put a variable in any hard-coded image paths to make them publish correctly on all servers. When including images in a Content Html iPart, modify the default **Image URL** and replace the server name and virtual directory with [Root]. For example, if the Image URL is `.../iMIS/images/mypic.jpg`, change it to `[Root]/images/mypic.jpg`.

Note: When you edit the Content Html iPart, the image appears as a “missing image” red X, but it displays correctly when published.

4. **Navigation area properties:** If you modify navigation area properties (via the Surf-To-Edit link in the Navigation Areas section of the Website Edit screen) you may need to reset the server's worker process to get it to pick up the changes.
5. **Publishing servers:** When publishing content, *iMIS* will not consider the content successfully published until all relevant publishing servers have finished publishing it without error. That means that if one of the publishing services corresponding to any of the publishing servers listed in **Content Management > Maintenance > Publishing servers** is stopped or otherwise inactive, content records will remain in the *PublishPending* state until the publishing service is started or the entry in Publishing servers is removed and the content is republished.

Improving performance for remote servers

The Surf-to-Edit feature of your CM website might be sluggish on some of your external web servers due to latency in communicating with the *iMIS* database. For example, it is common for your public-facing web servers to be hosted at a different data center than your *iMIS* database. You can improve performance by setting up a mirror of the website on your *iMIS* application server, then directing your frequent Surf-to-Edit users to the appserver's URL for the website instead of using the public URL. Note that if your Surf-to-Edit users are working at computers that are outside your organization's firewall, they will need VPN access (or access through a terminal server, etc.) to connect to the appserver-hosted version of the website.

Changes to the website's content records and navigation items that are made on any server that hosts the website are automatically picked up by every other server when you publish the changes. However, images that are uploaded during a Surf-to-Edit session must be manually copied to all other servers. Additionally, changes that your web admins make to the site's CSS, master page, and other aspects of the site's template on one server must also be manually copied to all other servers.

To improve your Surf-to-Edit performance

The following procedure assumes that you already have an external CM website on which your Surf-to-Edit users are experiencing slow performance. You will be changing the website's definition to also host the website on your application server, then advising your Surf-to-Edit users to use the new appserver-hosted website for their Surf-to-Edit sessions.

1. Modify the website's definition to specify that it be hosted by your *iMIS* application server too.
 - ☐ In the **Site Designer** tool, select **Manage websites**.
 - ☐ Select the website you want to modify, then from the toolbar choose **Edit**.
 - ☐ In the **URL(s) pointing to the IIS website root** field, enter a comma-delimited list of URLs that point to the root of the *iMIS* application on your *iMIS* appserver and to the root of the CM application that you installed on each external web server. For example, if you already had two external web servers defined for this website, the list should look similar to the following when you have added the URL that points to your *iMIS* appserver:
`http://www.mypublicdomain1.org/wcm/,http://www.mypublicdomain2.org/wcm/,http://www.myiMISappserver.com/iMIS/.`
 - ☐ If using SSL, add the secure addresses to the **Secure URL(s) pointing to this website root** field in the same order as above.

Important: Restart IIS whenever you change the **Secure URL(s) pointing to the IIS website root** setting. Note that localhost is *not* a valid **Secure URL**.

 - ☐ **Save** your changes.
 - ☐ From the toolbar, select **Publish**.
 - ☐ Select **Publish children as well?** to publish all of the website's navigation items to the new instance of this website on the *iMIS* application server, then click **OK**. Note that the website's content records will not be visible on this new instance until a later step.

- It may take up to 15 minutes for the public and internal sites to reflect the updated navigation.
- 2. Modify the definition of all content folders used by this website to also publish their content records to the new instance of this website on the *iMIS* application server. This will usually be only the website's root content folder (the one with the same name as the website itself), but your organization might also have some additional content folders that are used for content shared among several different websites. For each of these content folders, perform the following steps:
 - In the **Content Designer** tool, select **Manage content**.
 - Select the content folder you want to configure.
 - From the toolbar, choose **Edit**.
 - From the **Publish on Servers** dropdown list:
 - If the current value is **Inherit**, do not change the value.
 - If the value is **Custom**, then leave all currently selected checkboxes alone and also select the checkbox for the publishing server code used by your *iMIS* application server.
 - **Save** your changes.
 - From the toolbar, select **Publish**.
 - Select **Publish All Items** to include all of the folder's content records, and click **OK**.
 - Repeat the steps for each content folder used by the website.
- 3. Make sure the website's template files exist on the public CM server, the appserver, and, if using, the internal CM server. If the files are missing from any of the servers, manually copy the files to the corresponding locations.
- 4. To verify that your changes are successful, visit your public CM website and the appserver's website (e.g. <http://www.mydomain.com/iMIS/WebsiteName/>).
- 5. Advise your frequent Surf-to-Edit users to visit the URL for the *iMIS* appserver-hosted instance of the website and avoid using the public-facing URLs.

Defining user-defined fields (UDFs)

To define user-defined fields (UDFs)

In the **Maintenance** area of **Content Management**, select **User defined fields**. Select an existing CM *user-defined field* (UDF) to change its properties, or you can **add** or **delete** a UDF.

Verify a CM UDF's appearance and behavior by editing any *content record* and looking in the **Properties** section, between the **Mark as important until** field and the **Help URL** field.

Note: When you add, change, or delete a CM UDF, existing content records and their rendered **.aspx** files will not reflect the changes until you edit the content record, specify the desired value for the UDF, then re-publish the content record.

Importing content from a staging server

To prepare the staging server for revision/testing

In a staged development environment, you use a separate staging *iMIS* application server to develop and test new CM *websites*, content, and navigation before putting these additions and changes on your production *iMIS* application server. A staging server must use a different *iMIS* database than your production server.

To prepare the staging server for first use, after *iMIS* is installed and properly working with a copy of your production *iMIS* database, you must export all of your CM definition objects from your production server and import them into the staging server. After this point, all new development for your CM environment should be performed only on your staging server. After testing your changes, you export the new or changed definition objects from the staging server, then import them into your production server. The objects that you'll be exporting and importing are: websites (and subfolders in the website tree that contain websites), *navigation items*, *content folders*, *content records*, *content layouts*, *content types*, *tags*, and *tagged list formats*.

Note: One special requirement for working with a staged development environment is that your tag hierarchy must always be identical on both servers before you begin exporting and importing other objects. Therefore, any changes you make to the tag hierarchy itself must always be exported and imported first, before any other objects. This requirement means that when you are preparing your staging server for first use, you must import the tag hierarchy from your production server first, before importing everything else.

To export and import objects between your staging and production servers

Whether you are preparing your staging server for first use or subsequently moving new content from your staging server to your production server, the general export and import process is exactly the same. A general rule of thumb to speed the process is that you can export and import entire folders or nodes in a tree hierarchy of objects to process all descendant objects at once. When you import an XML file containing multiple objects, you are able to specify exactly which of them to import (except for tags, which are a special case).

Caution! To ensure that dependencies between objects are always maintained, you must import objects in a specific order as described in the following steps.

1. From your *source* server, export your entire tag hierarchy and import it to the *target* server.
 - ❑ From **Content Management**, select **Tagging > Define tags**.
 - ❑ Select the root **Tags** object in the tag hierarchy, then from the toolbar, click **Export**.
 - ❑ When the export begins, you are asked by Windows where to save the exported XML file on your local computer. At this point you can rename the XML file to help you identify what it contains (website.xml, content, xml, tags.xml).
 - ❑ On your *target* server, select the root **Tags** object in the tag hierarchy, then from the toolbar choose **Import**.
 - A window appears that enables you to browse for the location of the XML file on your local computer.
 - Click **Browse** to select the XML file, then click **Upload** to begin the import process.Unlike when importing other types of objects, you are not asked which tags you'd like to import. Instead, the entire tag hierarchy of the target server is overwritten by the tag hierarchy contained in the XML file.
2. On your *source* server, ensure that all the objects you plan to export are in a **Published** state. Objects that are still in a working state will not be included in the XML file created by the **Export** command. If you are preparing a staging server for first-time use, you must ensure that all CM definition objects on the production server are in a published state, because you must export all of them.
3. For each type of definition object, select the objects that you want to export and create an exported XML file.
 - ❑ It can be helpful to export objects in the following order, to help you remember to import them to the target server *in the same order*:
 - Content types
 - Tagged list formats

- Content layouts
 - Content records
 - Websites
 - Navigation items
- You can export the entire contents (all descendants) of a content folder, sub-folder in the websites tree, or all navigation items in a branch of a sitemap by selecting a folder or navigation item that contains descendants.
 - You can export a portion of a content folder, or a portion of the websites in a given folder of the websites tree, or a portion of the navigation items within one branch of the sitemap hierarchy by holding **Shift** or **Ctrl** while selecting each object. For all other exportable object types (content layouts, content types, and tagged list formats), you can likewise multi-select any portion shown.
4. From the toolbar, choose **Export**.
- If the selected object type is a content folder, navigation item, or sub-folder in the websites tree, you are presented with the option to **Export children as well?**
 - Select this checkbox to export all **Published** descendants of the object that you selected for export.
 - Clear this checkbox to export only the object that you selected.
 - When the export begins, you are asked by Windows where to save the exported XML file on your local computer. At this point you can rename the XML file to help you identify what it contains (website.xml, content, xml, tags.xml).
5. On your *target* server, select the location into which you want to import the contents of the XML file, then from the toolbar choose **Import**.
- A window appears that enables you to browse for the location of the XML file on your local computer.
6. Click **Browse** to select the XML file, then click **Upload** to begin the import process.

Caution! You must import these XML files in the order shown in Step 3, to ensure that dependant objects are present in the target database when the object that depends on them is imported.

A window appears that enables you to selectively choose which objects in the XML file to import, and other options that affect the import results.

- In the **Import File Contents** area, ensure that the checkbox for every object that you want to import is selected. Note that if you choose not to import any folders that are listed in the XML file, the system will create a new folder with the same exact name (because the folder's children must still be placed in a folder with that name), but the definition of that new folder will comprise system-assigned defaults instead the original folder's definition.
- In this context of importing changes and additions between staging and production servers, it does not matter whether the **Overwrite existing objects** checkbox is selected or not. The only objects from the XML file that will actually be imported are those that are completely new to the target server (they were initially created on the source server), or those that are a more recently published version than the same content record already existing on the production server.
- In this context of importing changes and additions between staging and production servers, you should generally leave the **Override destination with** checkbox cleared. When selected, this option ignores the original folder paths of the objects in the XML file and instead places all of the objects in a single flat level inside the definition object you selected as the target location for the imported objects, which is probably not the result that you want. For example, assume that on your staging server, you exported content folder A, which contained several content records and a sub-folder B, which in turn contained several content records. On your production folder, you selected content folder C before beginning the import. In this scenario:

- If you leave this checkbox cleared, the imported result will be a content folder A with several content records and a sub-folder B with several content records in it. In other words, an exact copy of the exported structure from your staging server.
 - If you select this checkbox, all of the content records from both folder A and folder B will be placed directly in folder C. Additionally, both folder A and folder B will also be placed inside of folder C, with nothing inside of them.
7. Click **Import**. When the import is complete, review the **Messages** area to ensure that no unexpected import errors occurred. Note that it is entirely normal to receive various **Document already exists in a different path** errors. This means that some of the objects in your XML file were identical to an object in the target database. For example, assume that you have exported an entire content folder from your staging server, but only a few of the content records in that folder had been modified since the last time this content folder had been imported to your production server. When you import this XML file into your production server, you would receive this error for all of the content records that you had not changed since the last time you had imported this content folder from the staging server.

Note: If further edit on a sitemap is necessary, modify the navigation item on the staging server and then export only the affected sitemap node, instead of exporting the entire sitemap at its root level.

8. All of your imported objects on the target server are now in a working state, so you'll need to re-publish them before they can be used (or will appear on a rendered website).

Troubleshooting

- For an import to succeed, one of the following conditions must be true on the *target* database:
 - All of the objects in the XML file must never have existed in the target database
 - All of the objects in the XML file must have been completely purged from the target database. To completely purge an object you must delete it so that it ends up in the **Recycle Bin**, and then either purge that specific object from the **Recycle Bin** or empty the **Recycle Bin** entirely.
 - All of the objects in the XML file must be replacing older published versions on the target database. For example, if you export objects from a production server to a staging server and make changes to them on the staging server, then you export the newer versions from the staging server and import them back to the production server, the versions from the staging server are newer than the versions on the production server, so the import will complete successfully.
 - All of the objects in the XML file must be replacing completely different objects that have the same path and name AND you must select the **Overwrite existing objects** checkbox on import. For example, if you create a content record called **MyContent** in the content folder called **MyFolder** directly beneath the root (@) content folder, the path for this content record is **@/MyFolder/MyContent**. If you export the **MyContent** content record, then delete and purge the original **MyContent** content record, then create a brand new content record called **MyContent** in that same **MyFolder** content folder, then the import will complete successfully.
- Remember that multiple definition objects are required to render what end-users experience as "your website". If you import only a website object, that's not enough information to produce a rendered website in IIS. You must also import navigation items, content records, and so on. Every one of the following definition objects are potentially needed to render a website in IIS, so to "import an entire website" from one *iMIS* database to another, you need to import all of the following object types: websites, navigation items, content folders, content records, content layouts, content types, tags, and tagged list formats.
- Tags that are assigned to content records and content folders are not saved in the definition of the content record or content folder. Instead, the entire tag hierarchy is used to create an internal table that is associated with content records and content folders by using internal object IDs. This is why you must always import the entire tag hierarchy first before importing any other CM definition objects.

- You must have been granted the appropriate CAG permissions and Document System permissions in *iMIS* to use the **Export** and **Import** commands for all CM definition objects on both your staging server and on your production *iMIS* application server.

Tracking your site with Google Analytics

Google Analytics tracks and collects important data on how visitors interact with a website. Google Analytics provides reports on the data collected allowing you to assess whether your website is meeting its goals. This tracking is accomplished by adding a Google Analytics script to the website. A new parameter was added to the **Manage websites** window if you want to use Google Analytics to track data on an *iMIS* website.

Required steps

1. Create a Google Analytics account: google.com/analytics
 - Configure the account.
 - Google Analytics will provide the code for you to paste in the **Manage websites** window.
2. Add the script to your *iMIS* website:
 - In the **Site Designer** tool, select **Manage websites**.
 - From the **Properties** tab, expand the **Advanced** section and paste the entire script, including the tags, in the **Google Analytics script** field and click **Save**.
 - Publish the website.
3. Visit your Google Analytics account to review the data collected.

Website maintenance

Website maintenance comprises the ongoing tasks that you periodically perform to help you troubleshoot your CM *websites* and manage the publishing queue for each *publishing server*.

To manage the priority of pending publication requests

In the **Maintenance** area of **Content Management**, select **Publishing servers**. If the **Number of Pending Requests** for a *publishing server* is a non-zero value, click **detail** to view the current publishing requests queue. Change a request's priority in the queue by using the **Priority** drop-down list. Click **Save** to process these changes.

To view CM reports

In the **Reports** area of **Content Management**, select a report, then from the toolbar, choose **Run**. If a query parameters window appears, specify the additional required parameters that you are asked for, then click **Run**.

To create new CM reports

All CM reports are standard Document System report definition objects that are based on Intelligent Query Architect (IQA) queries. Some default reports are included with CM, and you can define additional reports using the techniques described in [Reporting Essentials](#).

Using Site Designer

Tip: The **Access Settings** security options are the same throughout *iMIS* (see [Using Access Settings](#)). For best performance, use [Preconfigured security sets](#).

Getting started: website management

Website management is the process of configuring and maintaining the appearance, navigation structure, and content authoring environment for Content Management (WCM) *websites*. Website management comprises the following activities:

- Defining the appearance and navigation structure of websites.
- Defining the infrastructure for the web content authoring environment.
- Performing website maintenance.

Putting it all together

Website management comprises three general workflows:

- The process of defining the appearance and navigation structure of your CM websites entails the following actions, which should generally be performed in the order shown:
 - Defining website look and feel, by choosing a specific mix of available *master pages* and *themes*.
 - [Defining sitemaps \(navigation items\)](#) to build the navigation structure of your website.
 - (optional) *Defining shortcut URLs* to enable the use of short, "reader-friendly" links to important pages of your website.
- The process of creating the infrastructure to support the people who perform web content authoring entails the following actions, which should generally be performed in the order shown:
 - *Defining content authority groups (CAGs)* to grant various content authoring permissions to the people who will perform web content authoring in your organization.
 - *Defining content folders* to organize the creation of content records.
 - (optional) [Enabling workflow for content authoring](#) for specific content folders to enable better coordination of web content authoring efforts among the people responsible for developing and maintaining the *content records* in those folders.
 - (optional) *Defining content layouts* to extend the basic set of content layouts provided with CM, thereby enabling new arrangements of the *iParts* in a content record.
 - *Defining tags* and defining *tagged list formats* (see "[Defining tagged list formats](#)") for use in content record properties and certain types of *iParts* to enable tag-filtered searches and the creation of dynamic content that changes automatically based on the tags assigned to content records in the system.
 - (optional) *Defining CM user-defined fields (UDFs)* to enable capturing additional properties of the content in content records, which can enable CM website visitors to perform more powerful website searches, and can provide additional filtering and sorting of the output of **ContentTaggedList** *iParts*.
 - (optional) *Importing content from a staging server* if you choose to develop and test new content and navigation outside of your production environment.
- The process of website maintenance entails the following actions, performed as needed:
 - [Managing the priority of pending publication requests](#) to speed up a *publishing* request that is behind many others in the publishing queue.
 - [Viewing CM reports](#) to gain information about your websites and web content authoring efforts.

Website appearance and structure definition

Website appearance and structure definition is the process of defining the look and feel and the navigation of your CM *websites*.

To define website look and feel

The initial look and feel of a CM website is chosen when the administrator first defines CM websites.

However, anyone with access to the Site Designer tool can subsequently change the look and feel of an existing website in various ways by using the **Site Look and Feel** section of the website's definition:

- You can selectively mix and match *master pages* and *themes* that are listed in their respective drop-down lists. This makes it easy, for example, to share a customized master page among several different websites.
- You can enable or disable the *breadcrumb* navigation on the site.

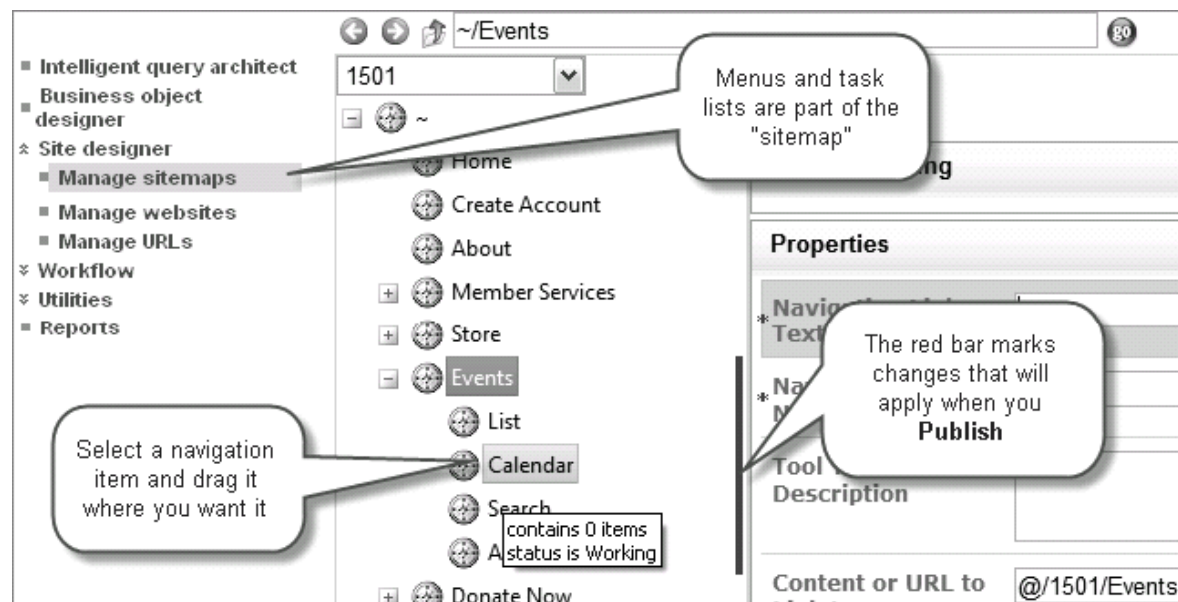
You can also use the **Navigation Areas** section of the website's definition to select the *navigation areas* that are used on the site, which can change the links that appear on the website according to the definition of each navigation area.

To customize master pages, see Integrating hand-built master pages and themes with CM.

To customize navigation areas, see Defining navigation areas and breadcrumb areas.

Modifying menus and task list items

Site Designer lets you quickly add, move, edit, and delete the items in your menus and task lists from your websites, without ever touching HTML or configuration files.



Site Designer in **Tools** manages the menus and task links for all of your websites

The structure of each website is a "sitemap", which you manage as simple hierarchy of "navigation items". Users see these as menus (tabs) and groups of task list items.

As with most work you do in **Tools**, your sitemap changes are versioned (so that you can revert from mistakes) and you can export and import sitemaps between systems.

To move menus and task list items

1. Logged into *iMIS* as a sysadmin, open **Tools > Site designer, Manage sitemaps**.

2. From the drop-down list above the tree, select which site you want to reorganize.
3. Drag and drop to change the order of menus and task items.

Tip: Dropping an item *on top of* another places it below (subordinate); to move an item up or down in a list, be sure to drop the item onto the dotted line that temporarily appears *between* items during the move.

4. At the bottom right, select **Save**. The **Status** section header reports **Working**.
5. Select **Preview** on the toolbar to check your changes, so that you can correct any problems before publishing.
6. Select **Publish** on the toolbar. The **Status** section header reports **Published**, and you can follow the **URL** link to see the changes on the live site.

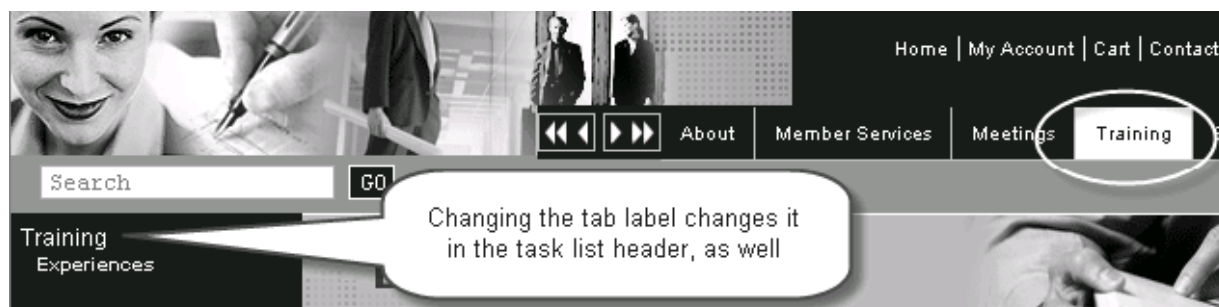
To change menus and task list items

1. Logged into *iMIS* as a sysadmin, open **Tools > Site designer, Manage sitemaps**.
 2. From the drop-down list above the tree, select which site you want to modify.
 3. Select the navigation item you want to change and edit the properties, options, and settings at right.
- For example, to rename **Education** to **Training** on your site, select **Education** and change its **Navigation Link Text** property:



4. At the bottom right, select **Save**. The **Status** section header reports **Working**.
5. Select **Preview** on the toolbar to check your changes, so that you can correct any problems before publishing.
6. Select **Publish** on the toolbar. The **Status** section header reports **Published**, and you can follow the **URL** link to see the changes on the live site.

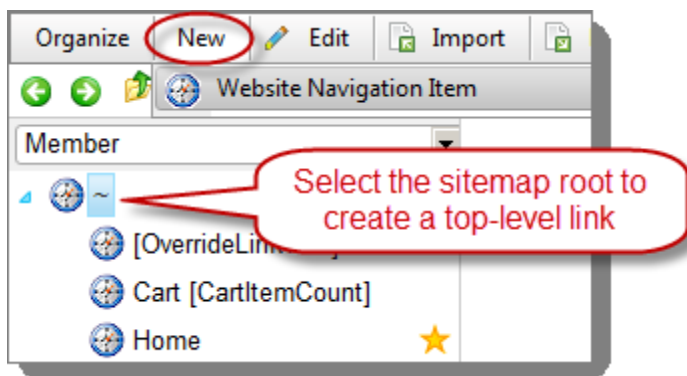
For example, this **Events** tab was renamed to **Training**, which changed the label on both the tab and the task list heading:



To add new menus and task list items

1. Logged into iMIS as a sysadmin, open **Tools > Site designer, Manage sitemaps**.
2. From the drop-down list above the tree, select which site you want to modify.
3. Select the navigation item (parent) that you want your new item to appear below (child) and click **New > Website Navigation Item**.

For example, to add a new **Resources** tab to your site, select the very top node on the sitemap:

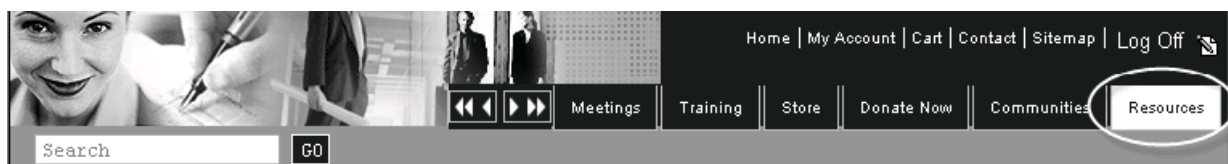


4. Specify the new item's properties, options, and settings at right.
5. If needed, drag and drop the new item to the relative position where you want it to appear.

Tip: Dropping an item *on top of* another places it below (subordinate); to move an item up or down in a list, be sure to drop the item onto the dotted line that temporarily appears *between* items during the move.

6. At the bottom right, select **Save**. The **Status** section header reports **Working**.
7. Select **Preview** on the toolbar to check your changes, so that you can correct any problems before publishing.
8. Select **Publish** on the toolbar. The **Status** section header reports **Published**, and you can follow the **URL** link to see the changes on the live site.

For example, this **Resources** tab was placed at the bottom of the sitemap, which made it the last tab on this website:



Defining sitemaps (navigation items)

To define sitemaps (navigation items)

In the Site Designer tool, select **Manage sitemaps** and from the drop-down list at the top of the document tree area, select the *sitemap* that you want to define. In the sitemap tree, select the *navigation item* beneath which you want to create the new navigation item. From the toolbar, choose **New > Website Navigation Item** to create a new navigation item, choose **Edit** to change an existing navigation item, or choose **Organize > Delete** to delete a navigation item. Define the navigation item's **Properties**, **Workflow Management**, **Options**, and **Access Settings**.

To publish navigation items

When you first create a navigation item, or when you make changes to an existing **Published** navigation item, the navigation item has a status of **Working** and that particular version of the navigation item is not yet visible on the associated CM *website*.

To publish this version of the navigation item and make it visible on its sitemap's associated CM website, select the navigation item, then from the toolbar choose **Publish**.

To reorganize navigation items within the sitemap hierarchy

You reorganize the sitemap hierarchy by dragging and dropping navigation items into new positions:

- Drop navigation item A onto navigation item B to make A subordinate to B (A becomes a child of B, and B is the parent of A).
- Drop navigation item A into the space below navigation item B (a dotted line appears below B) to make A follow B at the same level of the hierarchy (A becomes a sibling of B).

Troubleshooting

- You must have one or both of the following *content authority group* (CAG) permissions in at least one CAG to which you belong:
 - To create new navigation items, you must have **Navigation Creator** CAG permissions.
 - To modify the properties of a navigation item, you must have **Navigation Editor** CAG permissions.
- To edit existing navigation items, you must have both **Read** and **Edit** Document System permissions on each navigation item. To delete existing navigation items, you must have **Delete** Document System permissions on each navigation item. The Document System permissions from the parent navigation item are copied into each newly created navigation item, but can later be changed.
- If you click the rendered link from a navigation item in a CM website and you receive a message that **The requested content could not be loaded**, this means that the navigation item's target *content record* has been deleted. To fix the navigation item, you must take one of the following actions:
 - Point the navigation item at a different content record.
 - Remove the navigation item from the sitemap.

Caution! The sitemaps for **Core Sites** and **Sample Sites** are protected for use by *iMIS*. The default Document System permissions for these sitemaps permit editing by SysAdmins only.

Copying a website

To create a public-facing website that makes full use of iParts and SOA, it is easiest to copy an existing sample site, such as **Member**, and change it to meet your needs.

When you copy a website, the site navigation and content records are copied to the new site.

1. (*Important*) From **Site Designer > Manage websites**, select the website you plan to copy and review the following fields before you proceed:
 - From the **Properties** tab, make sure the folder selected for the **Website-specific parent content folder** field contains the content unique to this website. Only the content in this site-specific folder will be copied. Any content shared with another website should be placed in a separate, shared folder.
 - From the **Look and Feel** tab, the **Folder containing template content** is normally a sub-folder of the parent folder. If the template content (footer area, header logo, etc) is stored in a different folder, be sure to select that folder instead.
2. Copy a website:
 - From the **Organize** menu, select **Copy**.

- ☐ Select the folder where you want to paste the new website.
- ☐ From the **Organize** menu, select **Paste**.
- ☐ Enter the **Name** of the new website. Do not use special characters or punctuation.

Note: During the copy process, Content Codes are cleared from content records because this code must be unique for each content record. A warning message displays a list of the content records where the Content Code was cleared. See the log files for details.

3. Copy an out-of-the-box theme and master page to be unique to your new site.

Note: The themes change and develop with every *iMIS* update. To avoid losing your changes, be sure to work from a *copy* of the theme. Creating a copy of a theme also ensures that you do not compromise your ability to fall back to an original that works. Follow these steps to copy a theme, which is far easier than creating one from scratch.

- ☐ From the **Look and Feel** tab, select the master page and theme that is the best match for the look that you want for your new site.
- ☐ Locate the theme folder (such as \Aspen), which defaults to **C:\Program Files\ASII\iMIS\Net\App_Themes**.
- ☐ Copy, paste, and rename \Aspen to your new site name (\ABC).
- ☐ Locate the master page (such as Forest.master), which defaults to **C:\Program Files\ASII\iMIS\Net\Templates\MasterPages**
- ☐ Copy, paste, and rename Forest.master to your new site name (ABC.master).

4. Edit your site to use your new theme files.

- ☐ Select **Site designer > Manage websites** and highlight your site (ABC).
- ☐ Edit the site **Look and Feel** to point to your new theme files:
 - **MasterPage/Template:** select ABC
 - **Theme:** select ABC
- ☐ Select **Save**.

5. Publish the website:

- ☐ Select the newly copied website and select **Publish**.

6. Publish the content folders:

- ☐ In Content Designer, select **Manage content**.
- ☐ Select the content folder of the copied website.
- ☐ Select **Publish**. As each folder and content records are published, the status will change from **PublishPending** to **Published**.
- ☐ After all content folders are published, log off and close the browser.

7. If the website you copied contains URL shortcuts, be sure to review the shortcuts in the new website to see if new shortcuts need to be added. For example, when you select the *iMIS* logo in the Member site, the page is redirected to the shared Member Home content record. When you make a copy of the Member site and you select the *iMIS* logo from the new site, you will be redirected to the same shared Member Home content record. To resolve this, create a new shortcut for the new website that points to your new Member Home.

Deleting a website

A website administrator can delete a website and the content records associated with the website. However, you should proceed with caution as a deleted website cannot be retrieved. Ensure the website is not a production site.

1. In the Site Designer tool, select **Manage websites**.
2. Select the website you want to delete (such as **Copy of Member**).
3. From the **Organize** menu, select **Delete**.
4. Select **Recycle Bin**.
5. From the **Organize** menu, select **Empty the Recycle Bin** and click **OK**.
6. In the Content Designer tool, select **Manage content**.
7. Select the content folder of the newly copied website and select **Organize** and **Delete**.
8. Select **Recycle Bin**.
9. From the **Organize** menu, select **Empty the Recycle Bin** and click **OK**.

Defining shortcut URLs

iMIS supports the ability to define friendly URL shortcuts, so that an easy-to-remember URL redirects to a specific page. You can create these shortcuts for any of your websites and link the shortcuts to a URL or content record.

To create a new shortcut URL, in the **Site Designer** tool, select **Manage shortcuts**, then click **Add**. After you specify the values for the shortcut URL, click **Insert**. You can click the **Shortcut** to test the link.

For example, create an **Events** shortcut that points to the **Conference List** page. You can do this either by entering the URL to the page (`~/Events/Conferences/ConferenceList.aspx`) or by selecting the content record (`@/Events/Conferences/ConferenceList`). After inserting the shortcut, the link `www.yourwebsite/Events` automatically displays `www.yourwebsite/Events/Conferences/ConferenceList.aspx`.

By default, shortcuts apply to all of your websites. For example, if you define an **Events** shortcut for all sites, it always displays the same content record, regardless of which website the user is visiting, `www.yourwebsite/events` or `www.otherwebsite/events`. But you can also define shortcuts for a specific site. For example, you may want your mobile website to display a different content record for `www.mobilesite/events`. In that case, select your mobile site from the **For Website** dropdown list and point the **Events** shortcut to the content record you prefer.

Note: Some system shortcuts cannot be edited or deleted, but they are listed for your reference. Other shortcuts are reserved for use in the sample sites and can be edited but not deleted.

URL rewriting in iMIS

When someone visits your website, iMIS uses a URL Rewriter to determine which page to display as they navigate your site. The Rewriter parses the URL and then looks for a matching definition for the following elements, which are resolved in this order:

1. Virtual directory name
2. Website URL (**Site designer > Manage websites, URL Name of this Website** field)
3. Links to a content folder that contains a content record with a **Publish File Name** of **Default**.
4. URL shortcuts for a particular website (**Site designer > Manage shortcuts, Shortcut** field)
5. URL shortcuts set up for All sites (**Site designer > Manage shortcuts, Shortcut** field)

6. Navigation path (**Site designer > Manage sitemaps, URL field**)
7. Navigation codes (**Site designer > Manage sitemaps, Navigation Code field**)

For example, consider the URL <http://mysite.com/mbr/events>. If you have a URL shortcut named **events** and a navigation code named **events**, the page associated with the URL shortcut is rendered, instead of the page associated with the navigation code.

Using Content Designer

Content infrastructure definition is the process of defining the objects that secure, organize, and collect your content, and that assist with managing web content authoring activities.

Tip: The **Access Settings** security options are the same throughout *iMIS* (see [Using Access Settings](#)). For best performance, use [Preconfigured security sets](#).

Defining content authority groups (CAGs)

To define CAGs

In the **Maintenance** area of **Content Management**, select **Content authority groups**. Select an existing *content authority group* (CAG) to change its properties, or you can **add** or **delete** a CAG. Expand the **Group Membership** section to add new group members. Once members have been added, you can edit CAG permissions for each member.

When defining a CAG, you can designate that it is a **Master Admin** CAG. This assigns all members of this CAG to the **Content Administrator** Document System security role, which gives them full Document System permissions to all CM definition objects in the system. This is useful when you want to ensure that members of this CAG are never limited in any way by the **Access Control** settings of CM definition objects.

To create a CAG that is based on an *iMIS* security group

To enable the people who perform web content authoring to view and define *content folders* and *content records*, you must grant Document System **Read**, **Edit**, and **Delete** permissions to these people in the **Access Settings** section of every content folder definition. It can be too permissive to grant these permissions to the security role **Everyone**, and it can be too tedious to add every person as an individual user just so you can grant them the appropriate permissions.

A much easier method is to define CAGs that are based on your preexisting *iMIS* security groups, with each CAG having the same members as the corresponding security group. Then, when defining content folders, you can assign the CAG in the **Workflow Management** section, and in the **Access Settings** section you can grant Document System **Read**, **Edit**, and **Delete** permissions as needed (or **Full Control** permissions to confer all three) to corresponding security group.

You create a CAG that is based on an *iMIS* security group by selecting the **Copy an existing iMIS Group** option when you are adding a new CAG. This creates a CAG that:

- Has the same name as the selected *iMIS* security group, followed by "**CAG**".
- Has the same members as the selected *iMIS* security group (copied at the time of creation—if additional members are later added to the security group, they are not automatically added to the CAG).
- One of the members has **Content Editor** and **Default Owner** CAG permissions assigned by default. All other members have no CAG permissions at all. You must edit the permissions for each member.

Note: After you create a CAG in the manner, the CAG and the original *iMIS* security group do not automatically stay in sync. They are effectively two different groups at this point and each must be updated separately.

Troubleshooting

- You must be a member of at least one **Master Admin** CAG.
- You must have planned the content authoring workflow that you want for your organization.
- (*optional*) You should have a list, prepared with the assistance of the person who performs *iMIS* administration, of the standard *iMIS* security groups for which you want to create corresponding CAGs.

Managing the Content Block iPart's security through CAGs

Runtime access to the Content Block iPart is controlled via permissions in Content Authority Groups. Only users with administrative access or the Content Editor permission may add content or posts (or add a child, if applicable). Authenticated users without the Content Editor permission may reply to posts if replies are enabled, as well as edit or delete their own replies.

To give a user Content Editor permissions

1. Navigate to **Content Management > Maintenance > Content authority groups**.

2. **Select** an existing CAG or **add** a new one.

The Content Editor Permission can be added to a user in any CAG.

3. From the **Select New Group Members** area, **add** the new user to the CAG if they are not already a member.

4. From the **Current Group Members** area, click **edit permissions** next to the user's name.

5. Select the **Content Editor** checkbox.

No other permissions are required to use Content Block, nor will additional permissions impact the use of Content Block.

6. Click **Update** to update the permissions.

7. Click **Save** to update the CAG.

The next time the user logs in to *iMIS* and navigates to a page containing a Content Block, they will see options to Add, Edit, and Delete HTML Posts and Child Posts (if enabled).

Note: This permission also gives the user Surf-to-Edit permissions which can be used to edit the iPart configuration in CM. Editing content via Content Block or via CM is considered comparable from a security stand point. Also, System Administrators have full access regardless of any CAG permissions.

To add a reply or edit an existing reply

Authenticated Users (i.e. logged-in users) are allowed to create replies to posts if this function is enabled in the iPart configuration. They may also edit and delete their own replies, but not those of other users. System Administrators and Content Editors have full edit access to all replies.

To read content block posts

All users are allowed read access to the Content Block iPart. However, all other *iMIS* security still applies - so pages containing a Content Block can still be public or secure just like any other page on your website.

Defining content folders

To define content folders

In the Content Designer tool, select **Manage content**, then select the *content folder* in which you want to create the new content folder. From the toolbar, choose **New > Website Content Folder** to create a new content folder, choose **Edit** to change an existing content folder, or choose **Organize > Delete** to delete a content folder. Define the content folder's **Properties**, **Workflow Management**, **Current Tags**, and **Access Settings**.

In most cases, content folders are automatically published when you click **Save**. However, if you define an existing content folder that contains any content records with a status of **Working**, the content folder is not automatically published. You must subsequently click **Publish** from the toolbar to create an active **Published** version. (You can choose to publish the children content records, or not, at the same time.)

To copy or move content folders to another content folder

You can move content folders into different content folders by dragging and dropping them into a different folder. You can also move content folders by selecting them, then using the toolbar commands **Organize > Cut** and **Organize > Paste**.

When you move or copy a content folder into a new content folder, you must re-publish it to make sure that the *content records* inside the folder that you moved are made visible on all CM *websites* associated with the new parent content folder (and removed from all websites that were associated with the old parent content folder).

When you move or copy a content folder that is workflow-enabled, the content folder's assigned *content authority group* (CAG) and *content owner* remains unchanged.

The *tags* inherited from ancestors in the content folder hierarchy are recalculated based on the content folder's new position in the hierarchy. Although the new inherited tags are visible immediately within the Content Designer tool, you must re-publish all descendants of the content folder to ensure that website searches for these tags will find the folder's descendant content records.

To revert to an earlier version of a content folder

Every time you save or publish a content folder, the previous version is saved as an **Archived** version. You can revert to an older archived version by selecting the content folder, then from the toolbar choose **Versions**. In the resulting window, select an archived version and click **Revert**.

The version you selected is turned into a new **Working** version at the top of the list. When you close the window, this is the version you'll now see in the content folder hierarchy. As with any **Working** content folder, you can publish it when you are ready to make it an active **Published** version.

To restore or purge deleted content folders

A content folder that has been deleted is moved to the **Recycle Bin** at the bottom of the content folder hierarchy.

- To permanently purge specific content folders, select them in the **Recycle Bin**, then from the toolbar choose **Organize > Purge**.
- To permanently purge all items in the **Recycle Bin**, select the **Recycle Bin**, then from the toolbar choose **Organize > Empty the Recycle Bin**.
- To restore a deleted content folder, select it, then from the toolbar choose **Versions**. In the version history that appears, select the **Recycled** version at the top of the list (or the desired earlier version) and click **Revert**. The content folder is moved to its original location in the content folder hierarchy and its status changes to **Working**. You must re-publish the content folder to create an active **Published** version again.

Troubleshooting

- You must have one or both of the following CAG permissions in at least one CAG to which you belong:
 - To create new content folders, you must have **Folder Creator** CAG permissions.
 - To modify the properties of a content folder, you must have **Folder Editor** CAG permissions.
- You must have both **Read** and **Edit** Document System permissions on each content folder in which you create new content folders. To edit existing content folders, you must have both **Read** and **Edit** Document System permissions on each content folder. To delete existing content folders, you must have **Delete** Document System permissions on each content folder. The Document System permissions from the parent content folder are copied into each newly created content folder, but can later be changed.

- You must have **Select** Document System permissions on each content folder to which you assign tags.
- To be the content owner of a content folder, you must have **Content Editor** CAG permissions in the CAG that is assigned to the content folder.

Note: The **iMIS** content folder and all of its descendant content folders and content records are protected for use by *iMIS*. The default Document System permissions for these content folders and content records permit editing only by members of the **SysAdmin** role.

Enabling workflow for content authoring

To enable workflow for content authoring

When defining a *content folder*, use the **Workflow Management** section to assign a *content authority group* (CAG) and a *content owner* to a content folder. All *content records* created in that content folder will subsequently progress through the *content authoring workflow* that is defined by the permissions assigned to each member of the CAG:

- Any CAG member who has **Content Editor** permissions can be assigned as the *content owner* for the content folder or for individual content records within that folder. If for any reason this member becomes ineligible to be a content owner, the member who has **Default Owner** permissions is automatically assigned as the new content owner for the content folder and/or content records that were assigned to the now-ineligible content owner. Events that can make the current content owner ineligible are:
 - The content owner is removed from the CAG assigned to this content folder.
 - The content owner's **Content Editor** permissions are revoked within the CAG assigned to this content folder.
 - A different CAG is assigned to the content folder and the current owner is not a member with **Content Editor** permissions in the newly assigned CAG.

Note: For content folders that have a *content authority group* (CAG) assigned to them, the **Owner of this content** value is *not* copied to new content records that are created inside of it. Instead, content records automatically have this value set to specify the first person who created the content record, which you can subsequently change as needed.

Caution! A content record does not have a *content owner* automatically assigned if it was created by a person who is a member of the **SysAdmin** role, but who does not have **Content Editor** CAG permissions in at least one CAG.

- The Content Designer **Task List** for each member of the assigned CAG lists the content records that they can take action upon.
 - CAG members who have **Content Editor** permissions see content change requests and expiring content records in their **Task List**. They also see content records they have been defining and which are still in **Working** status.
 - CAG members who have **Content Approver** permissions see content publishing requests and content deletion requests in their **Task List**.

The assigned content owner for the content folder must be a member of the assigned CAG. Unlike other CAG members, the content owner receives email notification of expiring content records. For specific content records within the folder, you can specify a different owner other than the default owner assigned to the parent content folder. This different owner must be a member of the CAG assigned to the content folder, and must also have **Content Editor** CAG permissions.

To disable workflow for content authoring

If a content folder does not have an assigned CAG, then no workflow management takes place for the content records within that folder.

- Content change requests and expiring content records appear in the Content Designer **Task List** for every user in the system who has been assigned **Content Editor** permissions in any CAG.
- Content publishing requests and content deletion requests appear in the task list for every user in the system who has been assigned **Content Approver** permissions in any CAG.
- Nobody receives email notification of expiring content records.

Defining content layouts

In the Content Designer tool, select **Manage content layouts**. From the toolbar, choose **New > Content Layout Definition** to create a new *content layout*, choose **Edit** to change an existing content layout, or choose **Organize > Delete** to delete a content layout. You can define content layouts with the **Content Layout Editor** in two ways.

- Use the **Tool Box** to create simple layouts by adding rows and specifying how many columns are in each row.
- Click **Create Custom Layout** to code more complex layouts:
 - In the **Layout Code** field, insert the HTML and CSS code to create your custom content layout. If you are using CSS, you have the option to either add your custom styles to an existing CSS file in your application server's `App_Themes\[WebsiteName]` directory, or to add a custom CSS file to that same directory. All CSS files in this directory are automatically loaded into the browser memory in alphabetical order. If duplicate selectors exist in this directory, then the attributes used in the last-loaded selector are used if there are any conflicts. For example, if you have `body {color:blue; margin:10px;}` in `aastyle.css` and you have `body {color:red; width:50%;}` in `zzstyle.css`, then the font color will red and both the `margin` and `width` attributes are applied because they do not conflict.
 - If you are using the YUI Grids CSS library, you can overload the `CLASS` attribute of a `<DIV>` element that functions as an *iPart zone* with `first` to indicate that this is the first of a series of grids, which helps floats and margins to work more smoothly.
 - You can overload the `CLASS` attribute of a `<DIV>` element that functions as an *iPart zone* with `shade` to highlight that grid with a gray background in the layout preview image, so that you can see the relative dimensions of each *iPart zone*.
 - Inside each `<DIV>` element that functions as an *iPart zone*, insert a single `<P>` element with a number that identifies the *iPart zone*. For example, if your layout comprises four *iPart zones*, the content of each `<P>` element could be the numbers 1, 2, 3, and 4, respectively. These `<P>` elements do not appear in the rendered *content record* if no *iPart* has been added to an *iPart zone*.

For example, the following code creates two equally-divided *iPart zones* in the top row, with two smaller, equally divided *iPart zones* beneath the left top *iPart zone* (and nothing beneath the top right *iPart zone*):

```
<div id="bd">
  <div class="yui-g">
    <div class="yui-u first shade"> <!-- top left 50% zone -->
      <div>
        <p>1</p>
      </div>
      <div>
        <div class="yui-u first shade"> <!-- bottom left 25% zone -->
          <p>3</p>
        </div>
        <div class="yui-u shade"> <!-- bottom right 25% zone -->
          <p>4</p>
        </div>
      </div>
    </div>
  </div>
</div>
```

```
<div class="yui-u shade"> <!-- top right 50% zone -->
  <p>2</p>
</div>
</div>
</div>
```

Troubleshooting

- You must have **Layout Editor** CAG permissions in at least one *content authority group* (CAG) to which you belong.
- If you plan to code custom content layouts, you must be familiar with CSS layout techniques.
- The default content layouts shipped with *iMIS* are always overwritten during upgrades, so the best practice is to create new content layouts rather than modifying the default ones. Take care to name your user-created content layouts uniquely to prevent *iMIS* from treating them as standard *iMIS* content layouts during an upgrade. An easy technique to ensure unique naming is to prefix the name with an acronym for your organization, such as "**ORG** One Over Two".

Note: Membership in the **SysAdmin** security role effectively grants the full set of Document System permissions and the full set of CAG permissions (you are effectively a member of a **MasterAdmin** CAG too). However, to participate in web content authoring workflow, even members of the **SysAdmin** role must be an explicitly-listed member of at least one CAG.

Tip: Supported layout types

Although *iMIS* uses DIV-based CSS layout, you can use table layout or any combination of HTML elements that you prefer. The only absolute requirements are:

- You must insert a single `<p>` element with *only* a single number inside it where you want each iPart zone to be located in your layout (unique numbers for each iPart zone, starting with 1). You must also have at least one of these `<p>[number]</p>` strings in your custom content layout. CM looks for these strings to determine how many iPart zones are in the layout, and where they are located. Any other content inside of a `<p>` element other than a single number is not considered as being an iPart zone, and the content is copied directly to the rendered output of the content record.
- The HTML elements that you use must be valid in the context of a `<body><form>` container. For example, you cannot use a `<head>` element in your custom content layout.

You can also add ASPX code and other markup to add "standard" elements to a layout (such as always including a search box or a logon control on a given content layout, for example). These elements will be available in the published output of a content record, but they will not be visible when previewing your custom content layout in the layout editor.

More

- [YUI Grids CSS Library](#)

Using Tagging

Defining tags

In the **Tagging** area of **Content Management**, select **Define tags**. From the toolbar, choose **New** to create a new *tag*, select an existing tag to edit its properties, or select an existing tag, then from the toolbar choose **Delete** to delete it. Define the tag's **Properties**, **Access Settings**, and **Related Tags**.

When you create a child tag, it automatically copies the properties of the parent tag. Subsequent changes to the parent tag's properties do not affect the child tag.

You can reorganize the tag hierarchy by dragging and dropping tags into new positions. Drop tag A onto tag B to make A subordinate to B (A becomes a *child* of B, and B is the *parent* of A).

Troubleshooting

- You must be a member of at least one *content authority group* (CAG).
- Although no specific Document System permissions are required to define tags, the people who perform web content authoring must have **Select** Document System permissions on a tag to be able to assign that tag to a *content record* or *content folder*.
- You must plan your tag hierarchy in a manner that accounts for the effect of implied relationships between parent and child tags in the hierarchy. A tag's position in the tag hierarchy creates an underlying relationship that is not specifically displayed in the **Related Tags** section: Parent tags are implicitly related to their children tags with a **more broadly defines** relationship, and children tags are implicitly related to their parent tag with a **further defines** relationship. This means that:
 - The pre-filtered result set of a basic or advanced search includes all published content records that are tagged with any descendant of the tag that is matched by the search keywords.
 - The pre-filtered result set of an advanced search includes all published content records that are tagged with any descendant of a tag that is specified in the configuration of the **AdvancedSearch** iPart if the user selects that tag at runtime on the rendered page that contains the advanced search form.
 - The pre-filtered result set of a rendered **ContentTaggedList** iPart also includes published content records that are tagged with any descendant of a tag that is specified in the configuration of the **ContentTaggedList**.
 - The content of the **Items by Tag** report (in **Content Management > Reports**) does not list published content records that are tagged with any descendant of each tag in the report.

Note: Membership in the **SysAdmin** security role effectively grants the full set of Document System permissions and the full set of CAG permissions (you are effectively a member of a **MasterAdmin** CAG too). However, to participate in web content authoring workflow, even members of the **SysAdmin** role must be an explicitly-listed member of at least one CAG.

Defining tagged list formats

In the **Tagging** area of **Content Management**, select **Define tagged list formats**. From the toolbar, choose **New > Tagged List Format** to create a new *tagged list format*, choose **Edit** to change an existing tagged list format, or choose **Organize > Delete** to delete a tagged list format.

Verify a tagged list format's behavior by using it in a **ContentTaggedList** iPart, then previewing *content record* that contains the iPart.

Troubleshooting

- The default tagged list formats shipped with *iMIS* are always overwritten during upgrades, so the best practice is to create new tagged list formats rather than modifying the default ones. Take care to name your user-created tagged list formats uniquely to prevent *iMIS* from treating them as standard *iMIS* tagged list formats during an upgrade. An easy technique to ensure unique naming is to prefix the name with an acronym for your organization, such as "**ORG**SimpleWithHTML".

Content Management Fields

The fields described in this section are used when performing the tasks in this guide.

Document System windows

Many of the windows used throughout **Content Management** and **Tools > Site Designer** are standard Document System windows. For more information about the standard Document System toolbar commands and standard conventions for using Document System windows, refer to *Document System (iMIS Tools reference)*.

iMIS security access permissions

The visibility of task list items, windows, and even specific fields in some windows are determined by the permissions defined in your *iMIS* user record. Similarly, the ability to view or edit definition objects used throughout **Content Management** and **Tools > Site Designer** is determined by permissions set on the definition object or its parent folder in the Document System, and these permissions can be granted specifically to you or to the *iMIS* security roles or security groups to which you belong.

For more information, refer to [Security Administration](#).

Fields: content authority groups (CAGs)

These fields control the properties of *content authority groups* (CAGs) that are defined in the system. By default, these fields are found in the following locations:

- **Content Management > Maintenance > Content authority groups**, then click **Add** (or click **select** next to an existing CAG).

Master Admin (Is Master Admin)

Assigns all members of this CAG to the **Content Administrator** Document System security role, which gives them full Document System permissions to all CM definition objects in the system. This is useful when you want to ensure that members of this CAG are never limited in any way by the **Access Control** settings of CM definition objects.

Copy an existing *iMIS* group

(appears only when you click **add** from the main list of defined CAGs)

Creates a CAG that is based on an existing *iMIS* security group that you choose by clicking the select link. This CAG:

- Has the same name as the selected *iMIS* security group, followed by "CAG".
- Has the same members as the selected *iMIS* security group (copied at the time of creation—if additional members are later added to the security group, they are not automatically added to the CAG).
- One of the members has **Content Editor** and **Default Owner** CAG permissions assigned by default. All other members have no CAG permissions at all. You must edit the permissions for each member.

edit permissions

(appears only after at least one member has already been added to the CAG)

Note: The following CAG permissions are additive with the standard Document System permissions used for all *iMIS* definition objects. For example, even if you have **Content Editor** CAG permissions, you will not be permitted to edit the properties of a specific content record unless you also have **Read** and **Edit** Document System permissions on that content record. And even if you have **Content Approver** CAG permissions, you are not permitted to delete content records unless you also have **Delete** Document System permissions on each content record.

- **Content Editor** - Grants the ability to create new content records and edit the properties of existing content records. Also enables you to be designated as the *content owner* of a content folder or content record. The following workflow events appear in your Content Designer **Task List**:
 - Content record expiration notices

- ☐ Content record change requests

Clear this checkbox to revoke these permissions and prevent these workflow event notifications.

Note: If you do not also have **Content Approver** CAG permissions, you will not be able to publish or delete content records. Instead of a **Publish** command on the toolbar, you will see only a **Submit** command, which notifies every person with **Content Approver** CAG permissions that you have requested to publish the content record. Likewise, although you'll see a **Delete** command, the content record is not actually deleted. Instead, all content approvers receive notice that you have requested to delete the content record.

- **Default Owner** - Designates a single member of the CAG as the default content owner to automatically assign to a content folder or content record if the current content owner becomes ineligible for any reason. For example, if you change the CAG assigned to a content folder and the previous content owner does not have **Content Editor** CAG permissions in the newly assigned CAG (or isn't even a member of the new CAG), then the **Default Owner** of the newly assigned CAG is automatically assigned by the system as the new content owner for the content folder.
 - ☐ When you define a new CAG, the first member that you add to the CAG is automatically assigned both **Default Owner** and **Content Editor** CAG permissions.
 - ☐ You cannot remove **Default Owner** permissions from a CAG member. Instead, you must assign Default Owner permissions to a different member (which also automatically assigns **Content Editor** permissions to that member if they do not already have them).

Note: For content folders that have a *content authority group* (CAG) assigned to them, the **Owner of this content** value is *not* copied to new content records that are created inside of it. Instead, content records automatically have this value set to specify the first person who created the content record, which you can subsequently change as needed.

Caution! A content record does not have a *content owner* automatically assigned if it was created by a person who is a member of the **SysAdmin** role, but who does not have **Content Editor** CAG permissions in at least one CAG.

- **Content Upload** - Grants the ability to upload images for use in Content Html iParts and to upload other types of files for use in **ContentFile** iParts. Clear this checkbox to revoke these permissions.
- **Content Approver** - Grants the ability to approve content records that have been submitted for publishing or for deletion. The following workflow events appear in your Content Designer **Task List**. By default, publishing requests are also emailed to you, but the person who performs CM implementation can disable these emails in **System Setup > Set up content management > Content designer configuration**.
 - ☐ Content record publishing requests
 - ☐ Content record deletion requests

Clear this checkbox to revoke these permissions and prevent these workflow event notifications.

- **Folder Creator** - Grants the ability to create new and edit existing content folders. Clear this checkbox to revoke these permissions.
- **Folder Editor** - Grants the ability to edit the properties of existing content folders. Clear this checkbox to revoke these permissions.
- **Navigation Creator** - Grants the ability to create new and edit existing navigation items. Clear this checkbox to revoke these permissions.
- **Navigation Editor** - Grants the ability to edit the properties of existing navigation items. Clear this checkbox to revoke these permissions.
- **Layout Editor** - Grants the ability to create new content layouts and edit the properties of existing content layouts. Clear this checkbox to revoke these permissions.

Fields: content folders

These fields control the properties of *content folders* that are defined in the system. By default, these fields are found in the following locations:

- **Content Management > Content designer > Manage content**, then from the Document System toolbar choose **New > Website Content Folder** (or select an existing content folder, then from the toolbar choose **Edit**).

Note: The **iMIS** content folder and all of its descendant content folders and content records are protected for use by *iMIS*. The default Document System permissions for these content folders and content records permit editing only by members of the **SysAdmin** role.

Status

Specifies whether this definition object is in a **Working**, **PublishPending**, **Submitted**, **Published**, **Inactive**, or **Active** state. Click the expand icon to view further details, including who created the record, who modified it last, and dates of these changes.

- *Content records* in a **Working** state have been saved within the *iMIS* database, but the latest changes have not been made active on the associated CM websites by the associated *publishing servers* and their corresponding *iMIS publishing service* (**AsiPublishing15**). The **Publish** command on the toolbar queues the content record to the associated publishing servers, during which the content record is in a **PublishPending** state and can be viewed in the **Pending Requests** detail for the associated publishing servers. After each publishing server has successfully processed the publishing request, the latest changes become visible on the associated websites and become active within *iMIS*, both of which are denoted by the **Published** state.

If an *iMIS* user does not have *content authority group* (CAG) **Content Approver** permissions, they will see a **Submit** command instead of a **Publish** command. The **Submit** command queues a publishing request to the Content Designer **Task List** of all CAG members who have **Content Approver** permissions. (Alternatively, if workflow is enabled for the parent content folder, only those members of the content folder's assigned CAG who have **Content Approver** permissions.) Only a person with **Content Approver** permissions in at least one CAG can actually publish content records.

- For all other definition objects, the publishing process is less complex and does not involve CAG permissions, publishing servers, or the *iMIS* publishing service. When the object is in a **Working** state, the latest changes have been saved within the *iMIS* database, but they have not yet been made active within *iMIS*. The **Publish** command makes the latest changes active within *iMIS*.
- Websites in an **Inactive** state are offline so that browsers cannot view the website content, and instead see a 503 error (Service Unavailable) from IIS. Selecting the **Is this website active?** checkbox in the **Status** section of the website's definition puts the website in an **Active** state, enabling browsers to view the website content. Clearing the checkbox puts the website in an **Inactive** state.

Folder Name

Specifies a version of the folder **Title** that meets the requirements for an IIS path segment to the rendered .aspx files for each content record in the folder. Every content folder created in CM has a corresponding IIS folder.

Default Website (for search)

Specifies the website for which searches will always include the content records within this content folder. This value is not inherited by any children content folders, although when you create a new content folder this field will copy the current value from its parent content folder as a default value.

Troubleshooting: If *iMIS* returns no search results, be sure to designate some content folders to list the specific website in either of these fields.

Include content in Searches for these additional Websites

Specifies additional websites, other than the one specified in **Default Website (for search)**, for which searches will always include the content records within this content folder. These values are not inherited by any children content folders, although when you create a new content folder this field will copy the current values from its parent content folder as default values.

Caution! If you clear the **Always display content in default website** checkbox, be careful to specify only additional websites whose sitemaps include navigation items that link to all of the content records in this content folder.

Troubleshooting: If *iMIS* returns no search results, be sure to designate some content folders to list the specific website in either of these fields.

Always display content in default website

Displays the rendered version of a content record in this content folder in the context of the website specified in **Default Website (for search)** regardless of which website the search was performed on. When cleared, displays the rendered content record in the context of the website in which the search was made.

Publish on Servers

Specifies the *publishing servers* that should manage the publishing of all content records within this content folder.

- In the simplest case where you have only one publishing server defined in your CM environment, you should set this value to **All** for the root content folder (@) and set this value to **Inherit** on all folders beneath the root.
- In more complex environments with multiple publishing servers, you should generally use the **Custom** option to select one or more specific publishing servers for a given content folder and then set this value to **Inherit** on all folders beneath the one for which you chose a custom selection of publishing servers.

Workflow Management

Specifies whether content workflow is enabled for this content folder (and by default, all of its children content records too).

- If an **Authority Group** is assigned to this folder, then content workflow is enabled, and only the members of that *content authority group* (CAG) receive workflow notifications in their Content Designer **Task List** when changes occur to content records in the content folder.
- If no **Authority Group** is assigned, then any member of any CAG in the system receives workflow notifications in their task list when changes occur to content records in the content folder.

The following fields appear only when a CAG is assigned to a content folder.

- **Owner of this content** - Specifies which member of the assigned CAG should replace the designated content owner of any child content records or content folders if the current owner assigned to a content record becomes ineligible for any reason. The drop-down list includes only those members of the assigned CAG who have **Content Editor** permissions.
- **Content is considered expired *n* days after last published** - Specifies the default expiration interval for all content records in this folder. Expired content records are no longer rendered on CM websites, but the content record remains in the system with no change in status until it is manually deleted by using the **Organize > Delete** command on the Document System toolbar or by using the **Delete Selected** button on a CAG member's Content Designer **Task List**. (This default expiration behavior can be selectively overridden by the **Automatically delete expired content?** field in the definition of each content record.) Manually republishing the content record makes it appear again on the CM websites and resets the expiration interval.

The expiration interval can be effectively overridden for a specific content record in this folder by specifying a value smaller than the expiration interval for the **Automatic Publishing Frequency** field in the content record definition. This ensures that the expiration interval is never reached for that content record.

- **Update this value for content in this folder and all subfolders** - Automatically applies the settings in this **Workflow Management** section to all descendant content folders when you save your changes to this content folder definition.

Current tags

Specifies the *tags* that are currently associated with this content folder. Clicking the **Modify** link displays a tag selection tree. Tags applied to a content folder are inherited by all descendant content records and content folders, not just the immediate children of this content folder. The **Tags inherited from parent hierarchy area** lists all tags that are being inherited from a content folder higher in the content folder hierarchy.

Only the inherited tags and the additional specific tags that you select here are used by the CM search engine. If you want search results to also find the descendant content records by descendant tags in the tag hierarchy, you must select the parent tag and also the specific descendant tags.

Although the CM search engine recognizes tag inheritance and finds descendant content records based on inherited tags, the **Items by Tag** report does not recognize tag inheritance and won't list the descendant content records and content folders for a tag that they inherit.

To choose useful tags for the dynamic handling of descendant content records, it helps to understand how tag-related functionality handles tag inheritance.

- The pre-filtered result set of a basic or advanced search includes all published content records that are tagged with any descendant of the tag that is matched by the search keywords.
- The pre-filtered result set of an advanced search includes all published content records that are tagged with any descendant of a tag that is specified in the configuration of the **AdvancedSearch** iPart if the user selects that tag at runtime on the rendered page that contains the advanced search form.
- The pre-filtered result set of a rendered **ContentTaggedList** iPart also includes published content records that are tagged with any descendant of a tag that is specified in the configuration of the **ContentTaggedList**.
- The content of the **Items by Tag** report (in **Content Management > Reports**) does not list published content records that are tagged with any descendant of each tag in the report.

Note: Tags are always overwritten on import. For example, if you import a content folder from a staging server to a production server, the assigned tags on the production server are overwritten by whatever tags were assigned on the staging server.

Access Settings

Specifies the Document System permissions granted for this definition object to *iMIS security roles, security groups, specific iMIS users, iMIS member types, or to all Full and Casual users based on their assigned authorization levels.*

- **Apply changes to all descendants** - Changes to this section, when saved, flow automatically to all descendant definition objects. When cleared, changes to this section apply only to the current definition object. This checkbox usually appears only on Document System folder objects.
- **Use a preconfigured security set** - Specifies a preconfigured security configuration to use for this definition object, which can be much simpler than using the **Make this available to** option to specify the permissions for definition objects. The specific permissions in the preconfigured security configuration are displayed (read-only) in the **Make this available to** area.

If you select a preconfigured security configuration and then switch to the **Make this available to** option, the permissions granted by the preconfigured security configuration are copied. This enables you to use a preconfigured security configuration as a starting point for defining custom permissions.

- **Make this available to** - Lists the roles, groups, users, member types, or authorization levels that have been enabled to define or view rendered output from this object. This option enables you to specify custom permissions for the definition object if none of the preconfigured security configurations meets your needs. The **SysAdmin**, **Content Administrator**, and **Everyone** roles are default system-defined security roles that are assigned to every definition object used by CM. The **SysAdmin** role is assigned in the definition of an *iMIS* user record, but the **Content Administrator** role is automatically assigned to every *iMIS* user who is a member of a CM *content authority group* (CAG) that is designated as a **Master Admin** CAG.

The permissions that can be assigned to each entry in the list are:

- **Full Control** - Enables all of the following permissions.
- **Read** - Enables users to see this object both in CM definition windows and as rendered output in CM websites, but they cannot change the object's definition.
- **Add** - Enables users to create new objects, or to paste or import an object into the Document System.
- **Edit** - Enables users to edit this object's definition, but not to delete the object.
- **Delete** - Enables users to delete this object.
- **Select** - (if displayed) Enables users to assign a *tag* to *content folders* and *content records*.

Fields: content records

These fields control the properties of *content records* that are defined in the system. By default, these fields are found in the following locations:

- **Content Management > Content designer > Manage content**, then from the Document System toolbar choose **New > Website Content** (or select an existing content record, then from the toolbar choose **Edit**).
- You must be logged on to the website and have **Content Editor** permissions in at least one *content authority group* (CAG) in order to use the *Surf-to-Edit* (STE) feature to modify a content record.

The Save options available for a content record are:

- **Save**: A **Working** version of the content record is saved. Publish the content record to make it the active version.
- **Save As**: This option is available on System content records. You can rename and save the content record to a new (non-System) folder. The **Save** and **Save & Publish** options are hidden.
- **Save & Publish**: This option is available if you have the **Content Approver** CAG permission. When you **Save and Publish**, your changes are immediately visible on any CM website that uses the content record.
- **Save and Submit for Approval**: This option is available if you do not have the **Content Approver** CAG permission. When you **Save and Submit for Approval**, your changes are saved and a content publishing request is submitted to the content folder's Content Approver.

Note: Content records might also contain additional CM *user-defined fields* (UDFs). UDFs appear in the **Properties** section, beneath the **Mark as important until** field.

Note: System content records cannot be edited or deleted. If you want to update a System content record, create a copy of it, and then edit the copy. Be sure to also update any navigation items or shortcuts that point to that content record.

Note: You cannot use **Export** and **Import** to make copies of objects within the same *iMIS* database. To make copies, use **Organize > Copy** and **Organize > Paste**.

Status

Specifies whether this definition object is in a **Working**, **PublishPending**, **Submitted**, **Published**, **Inactive**, or **Active** state. Click the expand icon to view further details, including who created the record, who modified it last, and dates of these changes.

- *Content records* in a **Working** state have been saved within the *iMIS* database, but the latest changes have not been made active on the associated CM websites by the associated *publishing servers* and their corresponding *iMIS publishing service (AsiPublishing15)*. The **Publish** command on the toolbar queues the content record to the associated publishing servers, during which the content record is in a **PublishPending** state and can be viewed in the **Pending Requests** detail for the associated publishing servers. After each publishing server has successfully processed the publishing request, the latest changes become visible on the associated websites and become active within *iMIS*, both of which are denoted by the **Published** state.

If an *iMIS* user does not have *content authority group (CAG) Content Approver* permissions, they will see a **Submit** command instead of a **Publish** command. The **Submit** command queues a publishing request to the Content Designer **Task List** of all CAG members who have **Content Approver** permissions. (Alternatively, if workflow is enabled for the parent content folder, only those members of the content folder's assigned CAG who have **Content Approver** permissions.) Only a person with **Content Approver** permissions in at least one CAG can actually publish content records.

- For all other definition objects, the publishing process is less complex and does not involve CAG permissions, publishing servers, or the *iMIS* publishing service. When the object is in a **Working** state, the latest changes have been saved within the *iMIS* database, but they have not yet been made active within *iMIS*. The **Publish** command makes the latest changes active within *iMIS*.
- Websites in an **Inactive** state are offline so that browsers cannot view the website content, and instead see a 503 error (Service Unavailable) from IIS. Selecting the **Is this website active?** checkbox in the **Status** section of the website's definition puts the website in an **Active** state, enabling browsers to view the website content. Clearing the checkbox puts the website in an **Inactive** state.

Title

Specifies what is rendered in the title of a browser window or browser tab when the rendered output of a content record is displayed. The words used in this field also factor into the relevancy weighting of search results. (**System Setup > Set up content management > Search configuration.**)

Publish File Name

Specifies the name of the **.aspx** file to which this content record is published.

Generate full URL

Enables you to paste a full URL for this content record into the body of an iPart (for example: `http://10.40.10.105/iMIS/ContactManagement/ContactLayouts/Personal.aspx`).

Generate Freelink

Enables you to paste a wiki-style internal link for this content record into the body of an iPart (for example: `[[About_Us]]`). The freelink text is the defined **Publish File Name** of this content record. When the web page is rendered in a browser, the freelink is replaced by a standard URL link:

```
<a href=http://www.ourdomain.org/iMIS/Content/About_Us/About_Us.aspx>About_Us</a>
```

(optional) You can add replacement text to the freelink using the following format: `[[About_Us | Learn about our organization]]`, which would be rendered as:

```
<a href=http://www.ourdomain.org/iMIS/Content/About_Us/About_Us.aspx>Learn about our organization</a>
```

If you have multiple content records with exactly the same **Publish File Name** (which is possible if the content records are in different content folders), you can assign a unique content code to each content record. The system will copy the content code instead of the name. Alternatively, you can manually add a content folder path to identify a specific content record (for example, `[[@/Legal_Services/About_Us]]`).

Caution! If you add a content folder path to a freelink, the freelink will not resolve correctly in rendered webpages if the target content record is moved to a different content folder. For this reason, it is generally best practice to ensure that all your content records are uniquely named and thereby avoid the need to add a content folder path to a freelink.

add content


Displays an iPart Gallery browser that lets you select from available ASP.NET iParts to add to this iPart zone of the content record by selecting the desired iParts and clicking **OK**. After the iParts have been added to the zone, you can drag each iPart into the order you want them to appear in that zone of the rendered web page.

The **Content** folder contains the system-defined iParts that ship with *iMIS*, and are meant for general-purpose content authoring. For example, the Content Html iPart enables you to author a block of HTML text, and the **ContentTaggedList** iPart enables you to specify the automatic inclusion of other content records or even entire content folders that have a certain tag associated with them.

The **Or, enter a path to a web user control** field allows implementers to specify a path to a user control that is not defined within the iPart Gallery. See *Defining custom iParts as content types*.

To see the **Communities** iPart gallery, you need a **COMMUNITIES** license.

To work with iParts that have been added to a content record, click the drop-down arrow at the right of an iPart's title bar and choose from the following commands:

- **Configure** - Displays a window that enables you to define the properties of the iPart. For example, performing this action for a Content Html iPart displays an HTML editor. When configuring an iPart, click the  link for Configuration Help.
- **Copy To** - Copies the iPart to another content record.
- **Move To** - Moves the iPart to another content record.
- **Connect** - Displays a connection editor that enables staff or consultants to define iPart connections. Connections allow one iPart to interact with another iPart on the same content record. Not all iParts support connections, so when configuring an iPart, open the Configuration Help to determine the iPart's connection options.

When creating a new connection, the available connection types are listed, and a drop-down list enables you to select from the other iParts on the same content record. For example, to configure iPart A to act upon iPart B, create a connection, and set iPart A to be the **Object Consumer**. Set iPart B to be the **Object Provider**. Each iPart can only have one Consumer and one Provider per connection type. So an iPart can only act as an Object Provider for one other iPart, for example, not as an Object Provider for several other iParts.

The connection editor lists all current connection points for the iPart and allows you to define new connections. Each iPart (consumer and provider) displays the connection once it is defined. For example, if you select iPart A and connect it to iPart B, and then look at the connections for B, you will see the connection there as well. Connections can also be disconnected from here.

Currently, connections can be of four types: Object, Atom Object, Uniform Key, or String. The type of connection to use depends on the implementation by the iPart's author. Please refer to the specific iPart's Configuration Help for details.

- **Minimize** - Collapses the iPart's preview box, instead displaying only the iPart's title bar.
- **Restore** - Expands a collapsed iPart to display its preview box.
- **Remove** - Removes the iPart from the content record.

Note: The *content types* defined in the system determine the behavior of ASP.NET iParts controls within *iMIS*. Each iParts control must have an associated content type, which tells *iMIS* how to create the corresponding iPart within the system, how to edit it, how to display it, how to publish it, and so on. The system-defined iParts in the **Content** gallery all have a corresponding content type. A special **ContentWebUserControl** content type is used as the default content type for all custom iParts that you add to a content record. You can optionally define entirely new content types to enable more sophisticated system handling of a custom iPart that has been added to a content record.

Properties (the link at upper right of each iPart zone)

Specifies the displayed title and CSS classes associated with this iPart zone of the content record.

- **Title** - Specifies a title for the zone, which is displayed in the rendered output at the top of the zone, preceding the content items in that zone.
- **Title CSS Class** - Specifies a CSS **class** attribute for the **<div>** element that comprises the rendered zone title. This class must be available in the stylesheets associated with the *theme* used for the associated website.
- **Zone CSS Class** - Specifies a CSS **class** attribute for the **<table>** element that comprises the rendered zone. This class must be available in the stylesheets associated with the *theme* used for the associated website.

Display within the template

Renders the content record within the content area of the website's *master page*. When cleared, renders the content record as a standalone web page that contains none of the navigation areas or graphic look-and-feel of the website's master page.

Content is restricted to members

Makes the rendered version of this content record non-readable unless the person attempting to view the rendered content on the website is:

- Logged on to the website with a valid *iMIS* login, and
- The contact record that corresponds with the *iMIS* login is a member type (customer type) that is defined as **Is a member** in **Customers > Set up module > Customer types**.

When cleared, the rendered version of this content record is readable by any user regardless of their member type.

Content requires user to log on

Makes the rendered version of this content record non-readable unless the person attempting to view the rendered content on the website is logged onto the website with a valid *iMIS* login. When cleared, the rendered version of this content record is readable by anonymous website visitors.

Content is secure (https://)

Makes the rendered version of this content record be displayed through a secured connection (SSL) to the web server regardless of which navigation item sends the user to this content record, but only if both of the following two conditions are also met:

1. The website(s) whose sitemap navigation items point to this content record have valid **https://** URLs listed in the **Secure URL(s) pointing to the IIS website root** field in their definition.

Important: Restart IIS whenever you change the **Secure URL(s) pointing to the IIS website root** setting. Note that **localhost** is *not* a valid **Secure URL**.

2. You have installed valid site certificates in IIS for each web server that hosts these websites.

Because a content record cannot know in which websites it will ultimately be used, there is no validation possible for this checkbox. If this content record ends up being served by a website that does not meet the above criteria, the content record will be displayed through a non-secured connection (**http://**).

Content allows user impersonation

Description/Summary

Specifies a description of the content record that is oriented to the people who perform web content authoring, and which is also included in the <META> element's **description** attribute in the rendered page's source code for this content record. This text is not displayed in the rendered web page itself or in search results summaries, but the words used in the <META> element enable searches performed through the CM search engine (and also many external web-based search engines such as Google) to locate this content record even if the words are not actually used anywhere in the visible rendered content.

The words used in this field also factor into the relevancy weighting of search results. (**System Setup > Set up content management > Search configuration**, the **SE.SearchDescriptionHint** field.)

Keywords/Metatags

Specifies the keywords that should be included in the <META> element's **keywords** attribute in the rendered page's source code for this content record. These keywords enable searches performed through the CM search engine to locate this content record even though these keywords are not actually used anywhere in the visible rendered content.

Note: External web-based search engines such as Google do not typically index the contents of this <META> element.

The keywords used in this field also factor into the relevancy weighting of search results. (**System Setup > Set up content management > Search configuration**, the **SE.SearchKeywordHint** field.)

Date of Publication

Specifies the publication date for this content record, for the purpose of filtering search results or for filtering and sorting of the output from **ContentTaggedList** iParts. For example, you could override the default (actual) date that this content record was published if you wanted searches based on a different date to find the rendered version of this content record.

Publish on Future Date

Specifies a delayed and automated publication date for this content record, enabling you to embargo the content by completing the content record now but ensuring that its rendered version does not become available on any websites until later.

Automatic Publishing Frequency

Specifies how frequently to automatically republish this content record. This field can be used to prevent a content record from ever being automatically expired if a non-zero value has been specified in the **Content is considered expired *n* days after last published** field for the content folder that contains the content record. You do this by specifying a value here that is smaller than the value in the **Content is considered expired...** field.

Mark as important until

Specifies the date after which the **New** icon for an entry in the rendered version of a **ContentTaggedList** iPart will stop being displayed.

Note: This field affects only content records that contain a **ContentTaggedList** iPart, and only if the **CM.UseImportantUntilDate** configuration option is enabled (**System Setup > Set up content management > Content designer configuration**).

Content code

Specifies a unique identifier for this particular content record that can be used to ensure that a navigation item will always point to this content record even if the content record's location in the Document System hierarchy changes at some future date. Normally if this happens (by moving the content record to a different content folder), the **Content or URL to Link to** field in a navigation item must be manually changed to point to the new relative path of the content record within the Document System hierarchy.

However, if you specify this **ContentCode** value in the **Content or URL to Link to** field in a navigation item, then even if this content record is moved to another content folder or renamed, the navigation item will still point to this content record.

Cache duration

You have the option to cache webpages on your server to improve website performance. This option only caches pages for unauthenticated users. A version of the page is cached for each major browser version that accesses the page (for example Firefox 14, IE9, etc.). Pages can be cached for 5 seconds (**Short**), 5 minutes (**Medium**), or 1 hour (**Long**).

When you enable this option, the first request for the content record generates and stores a cached version of the webpage on the server for the specified duration. Within that period of time, if another unauthenticated user visits the page using the same web browser type and version, then the page is loaded from the cache, instead of accessing the database again.

Consider what type of content the page displays when you choose the cache duration. For example, if the content record contains a *Content Tagged List*, and new data is tagged regularly, then you would likely only want to cache the page for a short or medium period of time. However, if the data is more static, like an article, then caching for a long period of time may make more sense.

The **Cache duration** is ignored if the content record contains any iParts that require dynamic data, because dynamic data cannot be accessed from the cache. This applies to the *Payment Creator* iPart, *Contact Account Creator* iPart, *Cart Details Display* iPart, and any *Content HTML* iParts that contain script tags (such as C# code or JavaScript).

Page caching can be disabled site-wide when the following value is set to **false** within the website's **web.config** file:

```
<add key="Content.EnablePageCaching" value="true"/>
```

Content Parameters

(appears only in content records that contain a custom iPart)

Specifies the parameters for a custom iPart that has been added to this content record. The exact parameters cannot be described here because they are defined in the custom iPart and its associated content type. Contact the staff or consultants who created the custom iPart for information about what you should enter in this field.

This content is part of the site's Template design

Enables this content record to populate a named content area of a template design. When cleared, the rendered version of this content record can only be viewed if it is pointed to by a navigation item.

The available content areas that you can specify in the associated Show in content area field are the first part of the .aspx file names listed in the Content Areas folder of the CM website folders created in IIS. For example, if you want this content record to be the content displayed for the HomePageContentArea6.aspx page in a website created with the master page template, you would specify HomePageContentArea6 in this field.

Workflow Management

(appears only when a CAG is assigned to the parent content folder, which means that content workflow is enabled for this content record)

- **Owner of this content** - Specifies which person should receive email notification when this content record approaches its expiration date, and should be assigned a content change request in their Content Designer **Task List** when a Surf-to-Edit user requests a change to this content record. If the person who creates a content record has **Content Editor** CAG permissions in at least one CAG, that person is automatically assigned as the *content owner*. You can subsequently change this value. The drop-down list includes only those members of the assigned CAG who have **Content Editor** permissions.

- **Content is considered expired n days after last published** - Specifies the expiration interval for this content record. When expired, the content record is no longer rendered on CM websites, but the content record remains in the system with no change in status until it is manually deleted by using the **Organize > Delete** command on the Document System toolbar or by using the **Delete Selected** button on a CAG member's Content Designer **Task List**. Manually republishing the content record makes it appear again on the CM websites and resets the expiration interval.

The expiration interval can be effectively overridden by specifying a value smaller than the expiration interval for the **Automatic Publishing Frequency** field. This ensures that the expiration interval is never reached for that content record.

- **Content set to expire** - Specifies an exact expiration date for this content record. You can specify a value for this field only if the value specified for the **Content is considered expired n days after last published** field is 0. Otherwise, this field is read-only.
- **Automatically delete expired content?** - Overrides the default expiration behavior described above by automatically deleting the content record when it has passed its expiration date. The content record is moved into the **Recycle Bin** at the bottom of the content folder hierarchy and its status is changed to **Recycled**.

Current Tags

Specifies the *tags* that are currently associated with this content record. The **Tags inherited from parent hierarchy area** lists all tags that are being inherited from a content folder higher in the content folder hierarchy. Clicking the **Modify** link opens a window that enables you to select the tags for this content record.

Only the inherited tags and the specific tags that you select here are used by the CM search engine. If you want search results to also find this content record by descendant tags in the tag hierarchy, you must select the parent tag and also the specific descendant tags.

Although the CM search engine recognizes tag inheritance and finds descendant content records based on inherited tags, the **Items by Tag** report does not recognize tag inheritance and won't list the descendant content records and content folders for a tag that they inherit.

To choose useful tags for the dynamic handling of a content record, it helps to understand how tag-related functionality handles tag inheritance.

- The pre-filtered result set of a basic or advanced search includes all published content records that are tagged with any descendant of the tag that is matched by the search keywords.
- The pre-filtered result set of an advanced search includes all published content records that are tagged with any descendant of a tag that is specified in the configuration of the **AdvancedSearch** iPart if the user selects that tag at runtime on the rendered page that contains the advanced search form.
- The pre-filtered result set of a rendered **ContentTaggedList** iPart also includes published content records that are tagged with any descendent of a tag that is specified in the configuration of the **ContentTaggedList**.
- The content of the **Items by Tag** report (in **Content Management > Reports**) does not list published content records that are tagged with any descendant of each tag in the report.

Note: Tags are always overwritten on import. For example, if you import a content record from a staging server to a production server, the assigned tags on the production server are overwritten by whatever tags were assigned on the staging server.

Access Settings

Specifies the Document System permissions granted for this definition object to *iMIS security roles*, *security groups*, specific *iMIS* users, *iMIS* member types, or to all Full and Casual users based on their assigned *authorization levels*.

- **Apply changes to all descendants** - Changes to this section, when saved, flow automatically to all descendant definition objects. When cleared, changes to this section apply only to the current definition object. This checkbox usually appears only on Document System folder objects.
- **Use a preconfigured security set** - Specifies a preconfigured security configuration to use for this definition object, which can be much simpler than using the **Make this available to** option to specify the permissions for definition objects. The specific permissions in the preconfigured security configuration are displayed (read-only) in the **Make this available to** area.

If you select a preconfigured security configuration and then switch to the **Make this available to** option, the permissions granted by the preconfigured security configuration are copied. This enables you to use a preconfigured security configuration as a starting point for defining custom permissions.

- **Make this available to** - Lists the roles, groups, users, member types, or authorization levels that have been enabled to define or view rendered output from this object. This option enables you to specify custom permissions for the definition object if none of the preconfigured security configurations meets your needs. The **SysAdmin**, **Content Administrator**, and **Everyone** roles are default system-defined security roles that are assigned to every definition object used by CM. The **SysAdmin** role is assigned in the definition of an *iMIS* user record, but the **Content Administrator** role is automatically assigned to every *iMIS* user who is a member of a CM *content authority group* (CAG) that is designated as a **Master Admin** CAG.

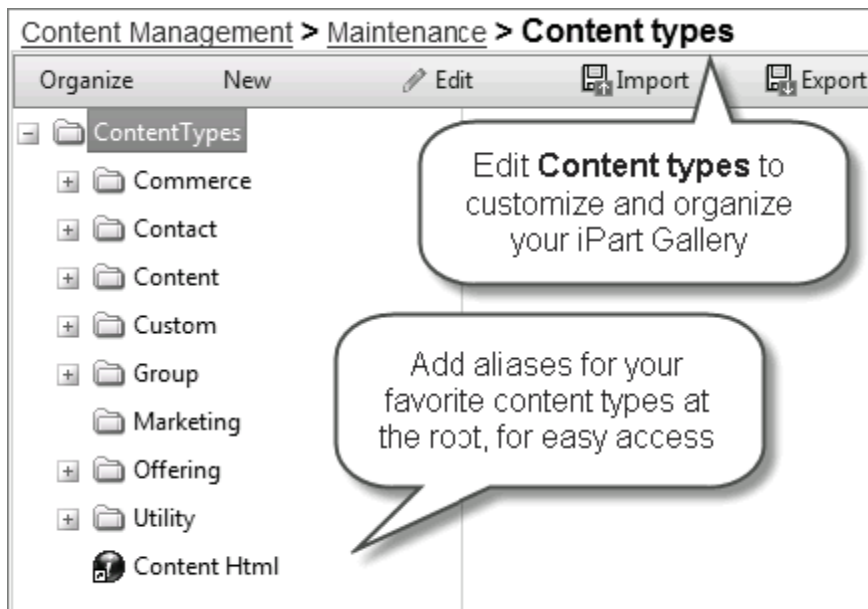
The permissions that can be assigned to each entry in the list are:

- ☐ **Full Control** - Enables all of the following permissions.
- ☐ **Read** - Enables users to see this object both in CM definition windows and as rendered output in CM websites, but they cannot change the object's definition.
- ☐ **Add** - Enables users to create new objects, or to paste or import an object into the Document System.
- ☐ **Edit** - Enables users to edit this object's definition, but not to delete the object.
- ☐ **Delete** - Enables users to delete this object.
- ☐ **Select** - (WCM only) Enables users to assign a *tag* to *content folders* and *content records*.

Fields: content types

These fields control the properties of *content types* that are defined in the system.

- To create a content type, select **Content Management > Maintenance > Content types**, then from the toolbar choose **New > Content Type**
- To change a content type, select **Content Management > Maintenance > Content types**, select an existing content type, then from the toolbar choose **Edit**.



To place your control into the iPart Gallery for easy sharing and reuse, create a content type.

Tips

- The class libraries and user controls that you specify must be manually copied to a file path that resolves to the same root-relative URL on all servers that host CM websites.
 - The class libraries must be placed in the **bin** folder below the root of the physical path for the IIS application or IIS web site that hosts your CM websites.
 - The user controls can be placed in any folder below the root of the physical path.
- When specifying paths to controls, be sure to use forward slashes (/) for the segment delimiters.

Name of the Content Type, Description of the Content Type

Specifies the name and description of the associated iPart. If you are publishing this iPart in the Gallery (see next), be sure this text is as you want it to appear to users in the Gallery when they select iParts for use in content records, and do not duplicate any iPart names already appearing there.

URL to the control or page that is used to display items of this type at runtime

Specifies a relative URL from the root (~) of the physical path for the IIS application or IIS web site that hosts your CM websites to the web user control that should be used to display instances of the iPart associated with this content type. By default, the root corresponds to **C:\Program Files\AS\iMIS\Net**. For example, `~/CustomControls/myUserControl.aspx`.

If you have not created a custom **IContentType** class (you entered `Asi.Business.ContentManagement.ContentType.ContentTypeBase` in the **Name of the IContentType class within the assembly** field), a declaration to this control is embedded in published pages that use the iPart, and the control will be dynamically loaded and inserted into the page when rendering the control (for preview or for search). If you've implemented a custom **IContentType** class, you can change this behavior to match your own requirements.

Advanced Properties (optional)

Name of the .NET assembly that contains the class that implements this content type

Specifies the name of the class library that contains the compiled **serializable class**.

Name of the serializable class within the assembly that implements this content type

Specifies the name of the class that implements the iPart in Content Designer (which must inherit the base class **Asi.Business.ContentManagement.ContentItem**). You must enter the fully qualified class name, including the namespace.

Name of the .NET assembly that contains the **IContentType** class used to publish this content type

Specifies the name of the class library that contains the compiled **IContentType** class.

- If you are using the base **IContentType** class provided with CM for this content type, enter `Asi.Business.ContentManagement`.
- If you are using a custom-developed **IContentType** class, enter the name of the class library that contains the compiled class.

Name of the **IContentType** class within the assembly

Specifies the name of the class that implements the **IContentType** interface that CM uses to render and publish the iPart.

- To use the default rendering and publishing behavior provided by the base **IContentType** class provided with CM, enter `Asi.Business.ContentManagement.ContentType.ContentTypeBase`.
- To perform custom actions when an iPart is published or rendered, you can instead create a custom **IContentType** class (which must inherit the base class **(Asi.Business.ContentManagement.ContentType.ContentTypeBase)**). You must enter the fully qualified class name, including the namespace.

URL to the control or page that is used to collect the properties of a new item of this type

Specifies a relative URL from the root (~) of the physical path for the IIS application or IIS web site that hosts your CM websites to the web user control that should be used to collect properties when creating new instances of the iPart associated with this content type. By default, the root corresponds to **C:\Program Files\ASII\iMIS\Net**. For example, `~/CustomControls/myUserControl.aspx`.

In most cases, you should specify the same control here as for the **URL to the control page that is used to edit the properties of an existing item of this type**.

Note: This control is currently unused in this version of CM. Instead the control specified in **URL to the control page that is used to edit the properties of an existing item of this type** is used for collecting the properties for newly created iParts and for existing iParts that are being edited.

URL to the control or page that is used to edit the properties of an existing item of this type

Specifies a relative URL from the root (~) of the physical path for the IIS application or IIS web site that hosts your CM websites to the web user control that should be used to collect properties when editing the configuration of an existing iPart associated with this content type. By default, the root corresponds to **C:\Program Files\ASII\iMIS\Net**. For example, `~/CustomControls/myUserControl.aspx`.

In most cases, you should specify the same control here as for the **URL to the control page that is used to collect the properties of a new item of this type**.

URL to the control or page that is used to collect parameters for content items of this type

Specifies a relative URL from the root (~) of the physical path for the IIS application or IIS web site that hosts your CM websites to the web user control that should be used to collect parameter overrides for the iPart associated with this content type. By default, the root corresponds to **C:\Program Files\ASII\iMIS\Net**. For example, `~/CustomControls/myUserControl.aspx`.

You use this type of control to override the configuration of an iPart on a per-navigation-item basis. The parameter overrides can be specified in two different ways in a navigation item, depending on what type of input this control is written to accept:

- The **URL parameters** field can pass parameters in an ampersand-delimited string that is appended to the URL that fetches the associated content record.
- The **Content parameters** field can actually display selected properties from the control that defines the configuration page for the associated iPart. (In other words, a subset of the properties defined in the control specified in the **URL to the control or page that is used to edit the properties of an existing item of this type** field.)


Only one of the content types shipped with CM uses this field (**ContentTaggedList**), and the corresponding control is written to collect parameters from the **Content parameters** section of a navigation item.

URL to the icon graphic that represents items of this type

Specifies a relative URL from the root (~) of the physical path for the IIS application or IIS web site that hosts your CM websites to an image file that should be displayed on rendered web pages as the *Surf-to-Edit* (STE) icon for iParts associated with this content type. By default, the root corresponds to **C:\Program Files\ASII\iMIS\Net**. For example, `~/CustomControls/mySurfToEditIcon.gif`.

The image file must be 16x16 pixels in size. If this field is left blank, a default STE icon is used (`~/AsiCommon/icon_con_usercontrol.gif`).

URL to the configuration help page

Specifies a relative URL from the root (~) of the physical path for the IIS application or IIS web site that hosts your CM websites to the Configuration Help for the iPart associated with this content type. This Help page displays when you click the  link when configuring an iPart. By default, the root corresponds to **C:\Program Files\ASII\iMIS\Net**. For example, `~/iparts/Common/QueryMenu/QueryMenuHelp.htm`.

The visual look and feel of the Help page is based on the *iMIS* theme you have selected. To be consistent with the rest of *iMIS*, we recommend that you only use basic HTML and allow *iMIS* to style the page. However, if needed, you can tailor the page using internal CSS.

Fields: iParts gallery

These fields control the properties of the standard *iMIS* iParts that are defined in the system. By default, these fields are found in the following locations:

- In a *content record*, click **add content**, click a gallery folder, and select one of the listed iParts to the content record. For an existing iPart, click the down triangle at the far right of the iPart's title bar, then choose **Configure**.
- When using the *Surf-to-Edit* (STE), click the STE icon that relates to various iParts in the content records used in the *content areas* of the page. You must be logged on to the website and have **Content Editor** permissions in at least one *content authority group* (CAG).
- To see the **Communities** iPart gallery, you need a **COMMUNITIES** license.

When you configure an iPart directly from STE, the available Save options are:

- **Save:** A **Working** version of the content record is saved. Publish the content record to make it the active version.
- **Save and Publish:** This option is available if you have the **Content Approver** CAG permission. When you **Save and Publish**, your changes are immediately visible on any CM website that uses the content record.
- **Save and Submit for Approval:** This option is available if you do not have the **Content Approver** CAG permission. When you **Save and Submit for Approval**, your changes are saved and a content publishing request is submitted to the content folder's Content Approver.

When you configure an iPart from a content record, you only have the option to **Save** or **Cancel**. You can publish your changes from the content record or the Document System toolbar.

Tips

To work with iParts that have been added to a content record, click the drop-down arrow at the right of an iPart's title bar and choose from the following commands:

- **Configure** - Displays a window that enables you to define the properties of the iPart. For example, performing this action for a Content Html iPart displays an HTML editor. In configuration, you can access **Help** (🔗) for most iParts. This detailed configuration documentation also appears in the iPart Reference on the Helpsite.
- **Copy To** - Copies the iPart to another content record.
- **Move To** - Moves the iPart to another content record.
- **Connect** - Displays a connection editor that enables staff or consultants to define iPart connections. Connections allow one iPart to interact with another iPart on the same content record. Not all iParts support connections, so when configuring an iPart, open the Configuration Help to determine the iPart's connection options.

When creating a new connection, the available connection types are listed, and a drop-down list enables you to select from the other iParts on the same content record. For example, to configure iPart A to act upon iPart B, create a connection, and set iPart A to be the **Object Consumer**. Set iPart B to be the **Object Provider**. Each iPart can only have one Consumer and one Provider per connection type. So an iPart can only act as an Object Provider for one other iPart, for example, not as an Object Provider for several other iParts.

The connection editor lists all current connection points for the iPart and allows you to define new connections. Each iPart (consumer and provider) displays the connection once it is defined. For example, if you select iPart A and connect it to iPart B, and then look at the connections for B, you will see the connection there as well. Connections can also be disconnected from here.

Currently, connections can be of four types: Object, Atom Object, Uniform Key, or String. The type of connection to use depends on the implementation by the iPart's author. Please refer to the specific iPart's Configuration Help for details.

- **Minimize** - Collapses the iPart's preview box, instead displaying only the iPart's title bar.
- **Restore** - Expands a collapsed iPart to display its preview box.
- **Remove** - Removes the iPart from the content record.

Note: The *content types* defined in the system determine the behavior of ASP.NET iParts controls within iMIS. Each iParts control must have an associated content type, which tells iMIS how to create the corresponding iPart within the system, how to edit it, how to display it, how to publish it, and so on. The system-defined iParts in the **Content** gallery all have a corresponding content type. A special **ContentWebUserControl** content type is used as the default content type for all custom iParts that you add to a content record. You can optionally define entirely new content types to enable more sophisticated system handling of a custom iPart that has been added to a content record.

Other tips:

- Modifications to your *master pages* may be required if iParts appear to overflow the boundaries of iPart zones in the rendered pages. In general, this requires modifying the template's master page and accompanying CSS files to make the Home page and interior page layouts larger than their default size.
- Custom ASP.NET iParts are not described in this section because they are not part of the standard set of iParts shipped with iMIS.
- Implementers can add an ad hoc ASP.NET web user control to a content record by entering the relative path to the iPart in the **Or, enter a path to a web user control** field.

Or, enter a path to a web user control

Specifies a relative URL from the root (~) of the physical path for the IIS application or IIS web site that hosts your CM websites to a web user control that you want to insert into this content record. By default, the root corresponds to **C:\Program Files\ASI\iMIS\Net**. For example, `~/CustomControls/myUserControl.aspx`.

Note: Be sure to use forward slashes (/) for the URL segment delimiters.

Fields: publishing options

These fields determine how the system should process a CM definition object when you use the **Publish** command. By default, these fields are found in the following locations:

- **Content Management**, when clicking the **Publish** command on the Document System toolbar for most CM definition objects.
- **Tools > Site Designer**, when clicking the **Publish** command on the Document System toolbar for most CM definition objects.

Tips

- When you choose to **Save and Publish** a content record or iPart, then no publishing options are displayed. Your changes to the content record or iPart are automatically published and immediately visible on all websites that use it.
- You can multi-select content records (by holding **Shift** or **Ctrl** while selecting them) to publish a group of content records all in one operation.
- If you publish a content folder, the publishing process automatically includes all descendants (content records and sub folders) of that content folder too, and the publishing option you select is applied to each descendant.
- When you make changes to the definition of a content folder, the system flags only that content folder as now being in a **Working** state. However, changes made to a content folder usually affect the behavior of all of its descendant content records and content folders, so you generally must re-publish all of its descendants too. This is where the **Publish All Items** and **Publish Working Items, Regenerate Published Items** options become useful:
 - Use **Publish All Items** to effectively reset the expiration countdown timer for all descendant content records that are controlled by the **Content is considered expired *n* days after last published** field.
 - Use **Publish Working Items, Regenerate Published Items** if you do not want to affect the current expiration countdown timer for all descendant content records.

Publish children as well?

(appears only for some definition object types)

If the selected definition object or folder has children, such as a navigation item in the **Manage sitemaps** tree or a subfolder in the **Manage websites** tree, then all descendants of the definition object or folder will be published too.

Note: This option is not displayed for content folders because the publishing process for a content folder always applies to all of the content folder's descendants.

Publish Working Items Only

(appears only for some definition object types)

Publishes only the selected definition objects that currently have a status of **Working**. Selected objects that are in any other state are ignored.

Publish All Items

(appears only for some definition object types)

Publishes all of the selected definition objects regardless of their status. Objects that are currently in a **Published** state have their **Updated on** date reset to the current date.

Publish Working Items, Regenerate Published Items

(appears only for some definition object types)

Publishes all of the selected definition objects regardless of their status. The **Updated on** date remains unchanged for objects that are currently in a **Published** state.

Close this window after submitting for publish?

Prevents the publishing results from being displayed, which can reduce the number of clicks you must make when publishing. This option is saved as a preference until you change it again.

Fields: publishing servers

These fields control the properties of *publishing servers* that are defined in the system. By default, these fields are found in the following locations:

- **Content Management > Maintenance > Publishing servers**, then click **add** (or click **select** next to an existing publishing server).

Tips

- All references to "the *publishing service*" mean a specific instance of the **AsiPublishing15** service. You can install multiple instances of this service to any web server on which Content Management (WCM) navigation items and content should be published, but each instance must have a unique single-letter identifier.
- If you need to create multiple publishing servers, you must manually create a new publishing server for each IIS application and IIS web site. When you define a new publishing server, the **Frequency** and **Publishing Speed** values default to zero. You should set them to **Frequency=10** and **Publishing Speed=100**.

Note: You must associate no more than one publishing server with each publishing service. If your environment has more than one IIS application or IIS web site that is hosting CM websites on a given server, you must install one publishing service for each such IIS application and IIS web site, and you must define a single corresponding publishing server for each publishing service. For more information, refer to *Installing CM on web servers*.

detail

(appears only in the main list of defined publishing servers)

Lists the currently pending and recently completed publishing requests for the associated publishing server. You can cancel pending requests or change their priority in the publishing queue. Changes to pending requests are processed when you click **Save**.

error log

(appears only in the main list of defined publishing servers)

Lists the errors reported by the publishing server. You can remove errors from the list by selecting the corresponding checkbox and clicking **Delete Selected**.

Description

Specifies the name of the publishing server that is displayed in the list of publishing servers in your CM environment.

Publish Server Code

Specifies the unique single-letter identifier of the **AsiPublishing15** service that this publishing server controls. This must be a single uppercase letter from A-Z, which means that you can define at most 26 different *iMIS* publishing services in your CM environment (one publishing service per IIS application or IIS web site that hosts CM websites, with one corresponding publishing server per publishing service defined in CM to control each publishing service).

Local Publish Path

Specifies the root directory where the rendered **.aspx** files from published content records should be written on the server where the publishing service is running. This directory must be within the physical path of the IIS application or IIS web site that hosts CM websites.

By default, this path is **C:\Program Files\ASI\iMISNet**.

For 64-bit systems, the path must be changed to reflect the installation path default of **C:\Program Files (x86)\ASI\iMISNet**.

The uploaded files are written to system-created directories below the one that you specify here. Each directory corresponds to a content folder in the CM content folder hierarchy. Uploaded files are placed into the directory that corresponds to the parent content folder of the content record in which the **ContentFile** iPart is defined.

Local Protected Path

Specifies the root directory where the uploaded files defined in a **ContentFile** iPart (e.g., Word, Excel, PowerPoint, PDF, etc.) should be written on the server where the publishing service is running. For security reasons, this directory must not be in the IIS **Physical Path** of any website, virtual directory, or application in IIS. In other words, the files in this directory must not be able to be linked to directly by web browsers. Instead, they are "served" to the client only after security permissions are verified.

By default, this path is **C:\Program Files\ASI\iMIS\indexServiceProtected**.

The uploaded files are written to system-created directories below the one that you specify here. Each directory corresponds to a content folder in the CM content folder hierarchy. Uploaded files are placed into the directory that corresponds to the parent content folder of the content record in which the **ContentFile** iPart is defined.

IP Address

Specifies the IP address of the computer that is running the **AsiPublishing15** service for this publishing server. This is usually the IP address of the *iMIS* application server. You can run this service on a different computer than the *iMIS* application server, but there is no real benefit in doing so because the publishing service is not resource-intensive.

Alternate Server IP Address

Specifies an additional IP address of the computer that is running the **AsiPublishing15** service for this publishing server, used for web servers that associate themselves with more than one IP address. You cannot specify a value for this field unless you have already specified the **Server IP Address**.

Frequency

Specifies the interval, in seconds, at which the publishing server should check for new **PublishPending** requests.

Publishing Speed

Specifies the maximum number of **PublishPending** requests that should be processed in each **Frequency** interval.

IIS Security

Specifies the authentication credentials for a Windows account that has permission to create, update, and delete content in the **Local Publish Path** that is specified in the **Publishing Server Properties** area.

These fields are required only when IIS security is used to protect IIS web site content.

- **IIS Security User Name** - Specifies a windows user name.

- **IIS Security Password** - Specifies the password associated with the windows user name.
- **IIS Security Domain** - Specifies the Windows domain name if the Windows account being used is a domain account instead of a local account.

Fields: setup - Content Designer

These fields configure the global behavior of the Content Designer tool. By default, these fields are found in the following locations:

- **System Setup > Set up content management > Content designer configuration.**

Tips

- The default text in several of these setup fields includes text enclosed in brackets, such as **[WebsiteName]**, **[PageLinkURL]**, and so on. These are system variables that are replaced dynamically with context-specific information. You can remove them entirely if you don't want to use them, but you must not change them in any way if you plan to use them, or you'll get unexpected results.
- If you are getting unexpected results in the things that these setup fields create (such as boilerplate text in "Email a friend" emails), the cause might be that some of these system variables were changed slightly. You can use the **Reset to default value** button to restore the default text (and therefore the original system variables).

CM.EmailAFriendSubject

Specifies the template text of the subject line used in "email a friend" emails. You can use the same variables here as for the **CM.EmailAFriendTemplate** field.

CM.EmailAFriendTemplate

Specifies the template for the email sent by the "email a friend" feature. The following variables can be used in the template:

- **[WebsiteName]** - The name of the website.
- **[WebsiteURL]** - The URL of the website.
- **[PageLinkTitle]** - The title of the *content record*.
- **[PageLinkURL]** - The URL of the content record
- **[SendToEmailAddress]** - The user-supplied value of the **Send this page to** field on the **Email this page to a friend** window.
- **[SenderMessage]** - The user-supplied value of the **Personal message** field on the **Email this page to a friend** window.
- **[SenderEmailAddress]** - The user-supplied value of the **Your email address** field on the **Email this page to a friend** window.

CM.EmailAFriendConfirmationMessage

Specifies the text of the confirmation message displayed to the user after an "email a friend" email has been successfully sent by the system.

CM.ImagePath

Specifies the relative path of the file system folder on the *iMIS* application server and external web servers where user-uploaded images are stored. The root (~) of the path is the same as the physical path for the application in IIS (...**ASI\iMIS\Net**). The default folder is ~/images. See Managing images for use in content records.

CM.ShowFileTypes

Specifies which file extensions should be prefixed before the content record's **Title** in the rendered results of a **ContentTaggedList** iPart, if the content record contains a **ContentFile** iPart that will download a file with the listed extension.

CM.UseImportantUntilDate

Enables the behavior of the **Mark as important until** field in content records. When cleared, disables the field's behavior.

CM.PublishingMaxNumOfAttempts

Specifies how many times each *publishing service* will attempt to process a system publishing request for a content record before it flags the request as failed. This prevents overconsumption of system resources if there is a connection issue or other issue that is preventing the publishing service from successfully processing the request.

CM.SendEmailOnApprovalRequest

Sends an email to all people who have **Content Approver** permissions in at least one *content authority group* (CAG) to which they belong whenever anyone submits a content record publishing request. When cleared, disables email notification of publishing requests. Fields: setup - quick setup

These fields configure the basic global behavior of the Content Management. By default, these fields are found in the following locations:

- **System Setup > Set up content management > Quick setup.**

Note: All of these fields are duplicated in the other windows beneath **System Setup > Set up content management**. The presence of those fields in the default **Quick setup** window ensures that critical configuration properties are set before using CM.

Tips

- The default text in several of these setup fields includes text enclosed in brackets, such as **[WebsiteName]**, **[PageLinkURL]**, and so on. These are system variables that are replaced dynamically with context-specific information. You can remove them entirely if you don't want to use them, but you must not change them in any way if you plan to use them, or you'll get unexpected results.
- If you are getting unexpected results in the things that these setup fields create (such as boilerplate text in "Email a friend" emails), the cause might be that some of these system variables were changed slightly. You can use the **Reset to default value** button to restore the default text (and therefore the original system variables).

CM.EmailAFriendConfirmationMessage

Specifies the text of the confirmation message displayed to the user after an "email a friend" email has been successfully sent by the system.

CM.EmailAFriendSubject

Specifies the template text of the subject line used in "email a friend" emails. You can use the same variables here as for the **CM.EmailAFriendTemplate** field.

CM.EmailAFriendTemplate

Specifies the template for the email sent by the "email a friend" feature. The following variables can be used in the template:

- **[WebsiteName]** - The name of the website.
- **[WebsiteURL]** - The URL of the website.
- **[PageLinkTitle]** - The title of the *content record*.
- **[PageLinkURL]** - The URL of the content record

- [SendToEmailAddress] - The user-supplied value of the **Send this page to** field on the **Email this page to a friend** window.
- [SenderMessage] - The user-supplied value of the **Personal message** field on the **Email this page to a friend** window.
- [SenderEmailAddress] - The user-supplied value of the **Your email address** field on the **Email this page to a friend** window.

CM.ImagePath

Specifies the relative path of the file system folder on the *iMIS* application server and external web servers where user-uploaded images are stored. The root (~) of the path is the same as the physical path for the application in IIS (...**ASIiMIS\Net**). The default folder is ~/images. See Managing images for use in content records.

SE.MaximumResults

Specifies the maximum number of search results that the system will display.

SE.ResultsPerPage

Specifies how many search results to display per page. If there is more than one page of search results, links appear at the bottom of each page that enable navigation among the result pages.

Fields: setup - search

These fields configure the global behavior of the search functionality of Content Management (WCM). By default, these fields are found in the following locations:

- **System Setup > Set up content management > Search configuration.**

SE.MaximumResults

Specifies the maximum number of search results that the system will display.

SE.ResultsPerPage

Specifies how many search results to display per page. If there is more than one page of search results, links appear at the bottom of each page that enable navigation among the result pages.

SE.ProblemMessage

Specifies what should be displayed to users when the search engine has a problem trying to perform the search. (This is not the same as when a search finds no results.) Adding the string {0} in this field passes through the system message for the actual error.

SE.DisplayShowKey

Displays a graphic icon shaped like a key next to every item in the search results list that is visible only to members of your organization. When cleared, no "key" icon is displayed even if the item is visible only to members.

Only users who are logged on to the website, and whose *iMIS* user record is associated with an *iMIS* contact record that is assigned a member type, will see this icon. For a content record to trigger this icon in search results, the **Content is restricted to members** checkbox in the **Properties** section of the content record must be selected.

SE.SearchBodyHint

Specifies the search relevancy weighting given to results found in the body of the rendered content record (all the iParts in the content record). The relevancy weighting for title, description, keywords, and body does not need to total 100. Instead, these weightings are both cumulative and relative to each other.

SE.SearchDescriptionHint

Specifies the search relevancy weighting given to results found in the content record's **Description/Summary** field. The relevancy weighting for title, description, keywords, and body does not need to total 100. Instead, these weightings are both cumulative and relative to each other.

SE.SearchKeywordHint

Specifies the search relevancy weighting given to results found in the content record's **Keywords/Metatags** field. The relevancy weighting for title, description, keywords, and body does not need to total 100. Instead, these weightings are both cumulative and relative to each other.

SE.SearchTitleHint

Specifies the search relevancy weighting given to results found in the content record's **Title** field. The relevancy weighting for title, description, keywords, and body does not need to total 100. Instead, these weightings are both cumulative and relative to each other.

Fields: setup - Site Designer

These fields configure the global behavior of the Site Designer tool. By default, these fields are found in the following locations:

- **System Setup > Set up content management > Site designer configuration.**

ND.WebsiteRootFolder

Specifies the full Document System path to the folder that contains all the CM definition objects used by the Site Designer tool.

Fields: setup - workflow

These fields configure the global behavior of content authoring workflow. By default, these fields are found in the following locations:

- **System Setup > Set up content management > Workflow configuration.**

Tips

- In the following fields that specify the variables `Individual.FirstName` and `Individual.LastName`, you can use any property from the **Individual** business object as long as you can express it with the format `Individual.[property]`.

ND.ExpirationWarningDays1

Specifies the number of days before a navigation item has expired to send the first expiration warning email (**ND.ExpirationWarningText**). This value must be larger than the value specified for **ND.ExpirationWarningDays2**.

ND.ExpirationWarningDays2

Specifies the number of days before a navigation item has expired to send the second expiration warning email (**ND.ExpirationWarningText**). This value must be smaller than the value specified for **ND.ExpirationWarningDays1**.

ND.FinalExpirationNoticeDays

Specifies the number of days after a navigation item has expired to send the additional expiration notice email (**ND.AddExpNoticeText**).

ND.ExpirationSubjectText

Specifies the text that appears as in the subject field of all navigation item expiration emails. You can use the `[Individual.FirstName]` and `[Individual.LastName]` variables to personalize the text with the name of the email recipient.

ND.ExpirationOpeningText

Specifies the text that appears as the opening paragraph in the body of all navigation item expiration emails. You can use the [Individual.FirstName] and [Individual.LastName] variables to personalize the text with the name of the email recipient.

ND.ExpirationWarningText

Specifies the text that appears as the main body of the first and second expiration warning emails that is sent *n* days before a navigation item has expired. The value of *n* is specified in **ND.ExpirationWarningDays1** and **ND.ExpirationWarningDays2**. You can insert the variable [ExpireDays] to display the value of *n*.

Following this text is an automated list of the navigation items that will be expiring on that day and for which the email recipient is designated as the person to notify about expiration in the **Workflow Management** section of the navigation item definition.

ND.ExpirationNoticeText

Specifies the text that appears as the main body of the expiration notice email that is sent on the day that a navigation item expires. Following this text is an automated list of the navigation items that have expired on this day and for which the email recipient is designated as the person to notify about expiration in the **Workflow Management** section of the navigation item definition.

ND.AddExpNoticeText

Specifies the text that appears as the main body of the additional expiration notice email that is sent *n* days after a navigation item has expired. The value of *n* is specified in **ND.FinalExpirationNoticeDays**. You can insert the variable [ExpireDays] to display the value of *n*.

Following this text is an automated list of the navigation items that expired on that day and for which the email recipient is designated as the person to notify about expiration in the **Workflow Management** section of the navigation item definition.

ND.ExpirationTableHeader

Specifies the HTML code to use inside the table header of the list of navigation records that are automatically added to the body of all navigation item expiration emails. You should not delete, change, or add to the number of <th> elements, but it is safe to change the content of each element.

ND.ExpirationTableRow

Specifies the HTML code to use inside the table rows of the list of navigation items that are automatically added to the body of all navigation expiration emails. You should not delete, change, or add to the number of <td> elements, but it is safe to change the content of each element. The following variables can be useful in this context:

- [Navigation.NavigationName] - The **Navigation Link Text** of the navigation item.
- [EditLink] - A system-generated link to the Site Designer definition window for the navigation item. You must be currently logged on *iMIS* through a web browser for this link to resolve correctly.

CM.ExpirationWarningDays1

Specifies the number of days before a content record has expired to send the first expiration warning email (**CM.ExpirationWarningText**). This value must be larger than the value specified for **CM.ExpirationWarningDays2**.

CM.ExpirationWarningDays2

Specifies the number of days before a content record has expired to send the second expiration warning email (**CM.ExpirationWarningText**). This value must be smaller than the value specified for **CM.ExpirationWarningDays1**.

CM.FinalExpirationNoticeDays

Specifies the number of days after a content record has expired to send the first additional expiration notice email (**CM.AddExpNoticeText**). This value must be smaller than the value specified for **CM.ExpAdditionalDays**.

CM.ExpAdditionalDays

Specifies the number of days after a content record has expired to send the second additional expiration notice email (**CM.AddExpNoticeText**). This value must be larger than the value specified for **CM.FinalExpirationNoticeDays**.

CM.ExpirationSubjectText

Specifies the text that appears as in the subject field of all content record expiration emails. You can use the [Individual.FirstName] and [Individual.LastName] variables to personalize the text with the name of the email recipient.

CM.ExpirationOpeningText

Specifies the text that appears as the opening paragraph in the body of all content record expiration emails. You can use the [Individual.FirstName] and [Individual.LastName] variables to personalize the text with the name of the email recipient.

CM.ExpirationWarningText

Specifies the text that appears as the main body of the first and second expiration warning emails that are sent *n* days before a content record has expired. The value of *n* is specified in **CM.ExpirationWarningDays1** and **CM.ExpirationWarningDays2**. You can insert the variable [ExpireDays] to display the value of *n*.

Following this text is an automated list of the content records that will be expiring on that day and for which the email recipient is designated as the *content owner* in the **Workflow Management** section of the content record definition.

CM.ExpirationNoticeText

Specifies the text that appears as the main body of the expiration notice email that is sent on the day that a content record expires. Following this text is an automated list of the content records that have expired on this day and for which the email recipient is designated as the content owner in the **Workflow Management** section of the content record definition.

CM.AddExpNoticeText

Specifies the text that appears as the main body of the additional expiration notice emails that are sent *n* days after a content record has expired. The value of *n* is specified in **CM.ExpAdditionalDays**. You can insert the variable [ExpireDays] to display the value of *n*.

Following this text is an automated list of the content records that expired on that day and for which the email recipient is designated as the content owner in the **Workflow Management** section of the content record definition.

CM.ExpirationTableHeader

Specifies the HTML code to use inside the table header of the list of content records that are automatically added to the body of all content record expiration emails. You should not delete, change, or add to the number of <th> elements, but it is safe to change the content of each element.

CM.ExpirationTableRow

Specifies the HTML code to use inside the table rows of the list of content records that are automatically added to the body of all content record expiration emails. You should not delete, change, or add to the number of <td> elements, but it is safe to change the content of each element. The following variables can be useful in this context:

- [Content.ContentName] - The **Title** of the content record.
- [EditLink] - A system-generated link to the Content Designer definition window for the content record. You must be currently logged on *iMIS* through a web browser for this link to resolve correctly.

Fields: shortcut URLs

These fields control the properties of *shortcut URLs* that are defined in the system. By default, these fields are found in the following locations:

- **Content Management > Site designer > Manage shortcuts**, then click **Add** (or click **Edit** next to an existing shortcut).
- **Tools > Site designer > Manage shortcuts**, then click **Add** (or click **Edit** next to an existing shortcut).

For Website

The **All Sites** option applies the shortcut to all *websites* in the system. Select a specific site to only apply the shortcut to a single website. If you enter an *iMIS* URL for the shortcut, it's important to ensure that all of your sites have the specified relative *navigation item* path in their respective *sitemaps*.

Shortcut

The name of the shortcut. Do not enter the name of an existing folder path for the website.

URL or Content Record

Enter a URL or select a content record to display when a user navigates to the shortcut. If you enter a URL, replace the site's root URL with ~, for example ~/Events/Conferences/ConferenceList.aspx.

Description

(optional) Enter a description for the shortcut.

Fields: sitemaps (navigation items)

These fields control the properties of the *navigation items* within each *sitemap* defined in the system.

- Open **Site designer > Manage sitemaps**, select a sitemap from the drop-down list, then create (**New > Website Navigation Item**) or select and **Edit** a navigation item.

Tip: The **Access Settings** security options are the same throughout *iMIS* (see [Using Access Settings](#)). For best performance, use [Preconfigured security sets](#).

Tips

- Choose which sitemap to edit by using the drop-down list above the sitemap tree.
- | Red bars next to navigation items indicate a *Working state* (unpublished).
- Drag and drop navigation items in the sitemap tree to reorganize them.
 - *Child position:* Drop navigation item A *onto* nav item B to make A subordinate to B (A becomes a *child* of B, and B is the *parent* of A).
 - *Sibling position:* Drop navigation item A into the space *below* nav item B (a dotted line appears below B) to make A follow B at the same level (A becomes a *sibling* of B).
- URL paths for navigation items map relative to the IIS web site root to which this sitemap's website is mapped in the **Properties** section of the **Manage websites** window. Several websites can map to the same IIS web site root, and some of the properties that you define in this window need to be unique across all sitemaps that ultimately map to the same IIS web site root. Therefore, it helps to identify which other websites might share the same IIS web site root when working with this window.

Caution! The sitemaps for **Core Sites** and **Sample Sites** are protected for use by *iMIS*. The default Document System permissions for these sitemaps permit editing by SysAdmins only.

This navigation item is a break

Defines the navigation item as a special *break item* that is rendered as a simple horizontal line in the *secondary navigation area* of a CM website, disables all other definition fields for the navigation item, and creates system-generated values for the **Navigation Link Text** and **Navigation Folder Name**.

When cleared, enables all definition fields for the navigation item.

Status

Specifies whether this definition object is in a **Working**, **PublishPending**, **Submitted**, **Published**, **Inactive**, or **Active** state. Click the expand icon to view further details, including who created the record, who modified it last, and dates of these changes.

- *Content records* in a **Working** state have been saved within the *iMIS* database, but the latest changes have not been made active on the associated CM websites by the associated *publishing servers* and their corresponding *iMIS publishing service (AsiPublishing15)*. The **Publish** command on the toolbar queues the content record to the associated publishing servers, during which the content record is in a **PublishPending** state and can be viewed in the **Pending Requests** detail for the associated publishing servers. After each publishing server has successfully processed the publishing request, the latest changes become visible on the associated websites and become active within *iMIS*, both of which are denoted by the **Published** state.

If an *iMIS* user does not have *content authority group (CAG) Content Approver* permissions, they will see a **Submit** command instead of a **Publish** command. The **Submit** command queues a publishing request to the Content Designer **Task List** of all CAG members who have **Content Approver** permissions. (Alternatively, if workflow is enabled for the parent content folder, only those members of the content folder's assigned CAG who have **Content Approver** permissions.) Only a person with **Content Approver** permissions in at least one CAG can actually publish content records.

- For all other definition objects, the publishing process is less complex and does not involve CAG permissions, publishing servers, or the *iMIS* publishing service. When the object is in a **Working** state, the latest changes have been saved within the *iMIS* database, but they have not yet been made active within *iMIS*. The **Publish** command makes the latest changes active within *iMIS*.
- Websites in an **Inactive** state are offline so that browsers cannot view the website content, and instead see a 503 error (Service Unavailable) from IIS. Selecting the **Is this website active?** checkbox in the **Status** section of the website's definition puts the website in an **Active** state, enabling browsers to view the website content. Clearing the checkbox puts the website in an **Inactive** state.

Properties

Navigation Link Text

Specifies the *anchor text* that will be used for the links representing this navigation item throughout the CM website. This value must be unique among all sibling navigation items in the sitemap tree.

Navigation Folder Name

Specifies the name of this navigation item within the sitemap tree. This value is automatically generated by the system to be a valid *hierarchical part* of a URL (the "path" of "folder names" in a long URL) when you enter the **Navigation Link Text**. For example, if there are spaces in the value that you specified in the **Navigation Link Text** field, they are automatically converted to underscore characters in this field.

If you manually change this value, you must use a value that web browsers will correctly parse as a valid hierarchical part of the URI scheme used in URL syntax. You must also ensure that this value is unique among all sibling navigation items in the sitemap tree.

Tool Tip Description

Specifies short help text that pops up when the user hovers over the link in the navigation. Leave it blank if you do not want to show a Tool tip.

Content or URL to Link to

Specifies the target of the navigation link. You can specify an absolute URL to any website, a relative URL to pages within the website associated with this sitemap, or you can click **select** to browse for a content record. For relative URLs, use a tilde character to represent the IIS web site root where this sitemap's website is located. Example: `~/ThisWebsiteFolder/Default.aspx`

You can specify this value in five ways:

Note: If a navigation item is selected as the **Home** link for a website (**Manage sitemaps, Options** tab), be sure to enter **Default.aspx** as the **Content or URL to Link to** (**Manage sitemaps, Properties** tab). **Default.aspx** is the default page used when a link does not specify a page.

- Click the **select** link and select any content record defined in the system.
- Specify a root-relative URL to a manually coded **.aspx** or **.html** file located anywhere in below the root (~) of the physical path associated with the IIS application or IIS web site that hosts your CM websites. For example, ~/handCodedPages/myPage.aspx.

Note: Be sure to use web-style forward slashes (/) for the segment delimiters.

- Specify an absolute path to a manually coded **.aspx** or **.html** file located anywhere in the IIS folder hierarchy of the **Default Web Site**. This is useful for linking to files that are outside of the physical path of the IIS application or IIS web site that hosts your CM websites. The root of the absolute path is the IIS **Default Web Site**, which must be represented by a single forward slash (/), and you must also use forward slashes to delimit the path segments. For example, the absolute path to an **.aspx** file located in a first-level virtual directory named **SiteX** would be /SiteX/externalPage.aspx.
- Specify an absolute URL to a page on an external website. For example, http://docs.imis.com/.

URL Parameters

Specifies a string to append to this navigation item's URL. The string can be one or more parameters that will pass data to the parameter-collection web user control in the content type associated with a custom iPart that is used in the content record to which this navigation item points. (None of the standard *iMIS* iParts use parameter-collection web user controls that accept this type of input in their associated content types.) The specific control is defined in the **URL to the control or page that is used to collect parameters for content items of this type** field in the iPart's corresponding content type.

Each parameter must contain a name and a value. Separate multiple parameters with an ampersand (&). For example, **name1=value1&name2=value2**.

Breadcrumb Name

Specifies the text displayed for the navigation item in a *breadcrumb* path, if breadcrumbs are enabled for the CM website. This text must be unique among all sibling navigation items in the sitemap tree.

Hide on this page

Prevents the **Breadcrumb Name** for this navigation item from being displayed in a breadcrumb path. When cleared, the **Breadcrumb Name** will be visible in breadcrumb paths.

Override Content Title

Specifies the text to use to override the title bar title. This title appears on the content page pointed to by this navigation item. Leave it blank to allow the content's assigned title to display.

Navigation Code

(for use by developers) This field allows developers to hard-code links to this navigation item without worry about the text or location of the navigation changing later. It specifies a URL alias for the navigation item that will stay the same even if this navigation item is moved within the sitemap tree or if the **Navigation Folder Name** is later changed. Navigation codes allow you to identify navigation items without the need to refer to the full path or underlying GUID for that item. They can be used in a variety of ways, including:

- Creating links in IQA query results
- Creating links in search results for the Common Search iPart
- Creating target links in ASPX web pages to redirect users to another page
- Creating links in the Big Button Panel iPart

A navigation code must be unique among a given sitemap. If a navigation code is unique among all navigation items that share the same IIS web site root, which is defined from **Site designer > Manage websites > Properties** of a website, then it can be used in a URL without the website name (such as <http://mydomain.com/StoreHome> instead of <http://mydomain.com/PublicSite/StoreHome>).

Image URL

Enter an image URL or select an image to display next to the navigation item.

CSS Class

Specifies one or more CSS classes to apply to the navigation item. For example, `class1 class2`.

Folder containing template content

Defaults to **Inherit from parent**, which you can disable to specify a different folder, such as for content that is shared across areas or websites.

Workflow Management

Remove this navigation if it has not been published within *n* days - Specifies the expiration interval for this navigation item. When expired, the navigation item is no longer rendered on CM websites, but the navigation item remains in the system with a status of **Expired**. Manually republishing the navigation item makes it appear again on the CM websites and resets the expiration interval.

The expiration interval can be overridden by specifying a value of 0.

- **Notify this person 10 and 5 days before removing this navigation** - Specifies the *iMIS* user that should receive email notifications before the navigation item expires. This field is enabled only when the preceding field has a non-zero value. The list comprises only those people who have **Navigation Editor** CAG permissions in at least one CAG.

Options

Specifies how the website links created by the navigation item should behave when rendered in a web browser.

Open the link in a new window

Link should be secure (HTTPS)

Makes the rendered version of a content record that is the target of this navigation item be displayed through a secured connection (SSL) to the web server, but only if both of the following two conditions are also met:

1. The website associated with this navigation item's sitemap has a valid `https://` URLs listed in the **Secure URL(s) pointing to the IIS website root** field in their definition.

Important: Restart IIS whenever you change the **Secure URL(s) pointing to the IIS website root** setting. Note that `localhost` is *not* a valid **Secure URL**.

2. You have installed valid site certificates in IIS for each web server that hosts this website.

If the content record that is the target of this navigation item ends up being served by a CM website that does not meet the above criteria, the content record will be displayed through a non-secured connection (`http://`).

Note: If other navigation items point at the same content record, but those other navigation items do not have this checkbox selected, they will not display the content record through a secured connection. However, if the **Content is secure (https://)** checkbox is selected on the target content record itself, then it doesn't matter how this checkbox is set on any navigation items that point at the content record—the content record will always be displayed through a security connection regardless of which link is used to get to the content.

This navigation item is the Home link for the sitemap

This navigation item is active

Check this box to make this navigation functional on the website. Uncheck it to stop this navigation item from functioning on the website. *Important:* Although active, the navigation item cannot appear on the site if it is hidden by the following option.

This navigation item is hidden

Hides the navigation item from the end user, per the automated display rules defined in each navigation area. This option does not apply to any navigation item selected to be displayed in the **Auxiliary** and **Footer** navigation areas. If you do not want a navigation item to appear in those areas, you must clear the **Auxiliary** and **Footer** checkboxes from the **Show in the following navigation area** options. For more information, see *Fields: websites*.

Note: The Primary Navigation ignores the sitemap order for any navigation item marked as **This navigation item is hidden**. To enable the sitemap order, uncheck this property.

This navigation item is expanded by default

This navigation item only displays for unauthenticated users

Hides the navigation item from authenticated users. This option is best used on public-facing *iMIS*-generated websites. For example, enable this option to display a **Create Account** link only to unauthenticated users.

Show in the following navigation areas:

Specifies in which navigation areas this navigation item displays. This applies to the top level of the navigation hierarchy only (the one that is always visible). The navigation item can still be used as a sub-navigation item whether this option is selected or not.

- This option is the only way that you can make a navigation item appear in the **Auxiliary** or **Footer** navigation areas. Note that if the link is flagged as a hidden navigation item, the link is still displayed in the **Auxiliary** and **Footer** navigation areas if selected here. If you do not want a navigation item to appear in those areas, you must clear the **Auxiliary** and **Footer** checkboxes.
- Remember that these navigation areas are defined in *iMIS*, but not all website master pages will necessarily include them.
- The **Inherit from ~** checkbox shows this navigation item if the parent is also displayed.

Fields: tagged list formats

These fields control the properties of *tagged list formats* that are defined in the system. By default, these fields are found in the following locations:

- **Content Management > Tagging > Define tagged list formats**, then from the Document System toolbar choose **New > Tagged List Format** (or select an existing tagged list format, then from the toolbar choose **Edit**).

Tips

- *Tagged list formats* are used by **ContentTaggedList iParts** to format the rendered display of the iPart. You specify the tagged list format to use in the **List Format** field of the **ContentTaggedList** configuration.
- The default tagged list formats shipped with *iMIS* are always overwritten during upgrades, so the best practice is to create new tagged list formats rather than modifying the default ones. Take care to name your user-created tagged list formats uniquely to prevent *iMIS* from treating them as standard *iMIS* tagged list formats during an upgrade. An easy technique to ensure unique naming is to prefix the name with an acronym for your organization, such as "ORGSimpleWithHTML".

- The format you define here is applied as a display mask to a single item in a **ContentTaggedList** iPart. This format is repeated once for each item *content record* in the list rendered from the iPart. The basic elements of a tagged list format are:
 - One or more content record property labels to explain a following content record property value.
 - One or more content record property values.
 - A single link to the content record itself.
 - HTML fragments.

While none of these elements is actually required by the system, at a minimum you should at least insert the link to the content record itself.

- The content record property values are all read-only values.
- The tagged list format editor is essentially the HTML editor used for Content Html iParts, with some *iMIS*-specific toolbar buttons at the right of the bottom toolbar, and a list of embeddable content record properties at the right of the editor.

If you find some features of the HTML editor confusing, you can download the [RadEditor user manual](#) from the [Telerik Documentation](#) site.

Note: Some features described in this external document have not been enabled for use when defining Content Html iParts or tagged list formats.

Caution! If you use the HTML editor's built-in **Image Editor** to modify an image that has a transparent background, the transparent background will be replaced by solid black pixels. If you need to edit images that have a transparent background, you should save a copy of the image to your local computer and use your preferred image editing program to modify it. Then upload the new version to *iMIS* again, overwriting the old version if desired. The easiest way to save a copy of the image to your local computer is to right-click the image shown the **Preview** area of the **Image Editor**, and choose **Save Picture As**.

iMIS Label Manager (toolbar button - red "A")

Edits a content record property value that has been inserted in the editing area in two possible ways:

- Changes an existing content record property value in the editing area to a different property. You must place your editing cursor somewhere inside the existing property value before clicking this button.
- Enables you to define a display mask for date-oriented and numeric property values.

Tip: While you can use this toolbar button to insert a new property value, it's much easier to insert new values by using the red **A** icons in the **Content - Properties** list.

- **Display Value** - Has no effect.
- **Property** - Specifies the property value in which the editing cursor is positioned. If you select a different property value from the list, it will replace the property value in which the editing cursor is positioned.
- **Display Format** - Specifies a display mask for date-oriented and numeric property values. To view a list of the syntax you can use for the display mask, click **View complete list of Date/Time and Number formats**.

iMIS Hyperlink Manager (toolbar button - globe and chain)

Creates a link to the content record itself, enabling you to define the anchor text for the link in various ways.

- **Dynamically based on Property** - Specifies anchor text that is different for every content record in the rendered **ContentTaggedList** iPart. The anchor text will be the selected content record property value.
- **Static text** - Specifies anchor text that will be the same for every content record in the rendered **ContentTaggedList** iPart.

- **Display Format** - Specifies a display mask for date-oriented and numeric property values if you specify the anchor text to be **Dynamically based on Property**. To view a list of the syntax you can use for the display mask, click **View complete list of Date/Time and Number formats**.

iMIS Conditional Display Manager (toolbar button - {...})

Specifies a single conditional display parameter for any element of the tagged list format (property label, property value, link, or HTML fragment). You must select the entire element before clicking this button. When you insert the conditional parameter, the element is surrounded by braces { } to indicate that it is a conditional display block.

To simulate ELSE arguments for the conditional display of an element, you can copy and paste the element inside the a conditional display block to a position immediately following the existing display block, then select the copied element and click this button to create a new conditional display block with a different parameter.

Note: The **iMIS Conditional Display Manager** is a generic conditional display control shared among several *iMIS* features. Therefore, you should be careful to choose values that make sense in the context of conditional display of an element in a tagged list format. As a rule, you should use the default values for **Data type**, **Comparison type**, and **Source**. The only value you should change is for the **Value** drop-down list, to specify the content record property value that you want to ensure is not empty before displaying this element.

Insert 'Members Only' Marker (toolbar button - red key)

Inserts a graphic icon that is conditionally displayed for an item in a rendered **ContentTaggedList** iPart if the **Content is restricted to members** checkbox is selected in the **Properties** section of the corresponding content record.

Insert 'New' Marker (toolbar button - NEW)

Inserts a graphic icon that is conditionally displayed for an item in a rendered **ContentTaggedList** iPart if the **Mark as important until** field in the **Properties** section of the corresponding content record contains a value and that date has not yet passed.

Content - Properties

Lists the content record properties that can be used as elements in the tagged list format. The list of available properties includes all CM user-defined fields (UDFs) that are defined in the system.

- **P icon** - Inserts a pre-defined label for the corresponding content record property. You can modify this label after it has been inserted into the editing area.
- **A icon** - Inserts a string variable, delimited by brackets [], that will display the actual value of the content record property for each item in the rendered **ContentTaggedList** iPart. You should not directly edit this string, but you can safely delete it or change it by putting the cursor inside the string and clicking the **iMIS Label Manager** button on the toolbar (the red "A").

Note: The string variable created by the **A icon** is not a link. To make the rendered replacement text of a string variable be a link (such as making the **Title** property a link to the actual content record), you must use the **iMIS Hyperlink Manager** (toolbar button - globe and chain).

Note: If you insert an **HTML** property value, the rendered **ContentTaggedList** iPart, displays the full content of all Content Html iParts in the content record, concatenated together with no visible divisions between them.

Fields: tags

These fields control the properties of *tags* that are defined in the system. By default, these fields are found in the following locations:

- **Content Management > Tagging > Define tags**, then select a tag in the tag hierarchy (or click **New**).

Tips

- A tag's position in the tag hierarchy creates an underlying relationship that is not specifically displayed in the **Related Tags** section: Parent tags are implicitly related to their children tags with a **more broadly defines** relationship, and children tags are implicitly related to their parent tag with a **further defines** relationship. This means that:
 - The pre-filtered result set of a basic or advanced search includes all published content records that are tagged with any descendant of the tag that is matched by the search keywords.
 - The pre-filtered result set of an advanced search includes all published content records that are tagged with any descendant of a tag that is specified in the configuration of the **AdvancedSearch** iPart if the user selects that tag at runtime on the rendered page that contains the advanced search form.
 - The pre-filtered result set of a rendered **ContentTaggedList** iPart also includes published content records that are tagged with any descendent of a tag that is specified in the configuration of the **ContentTaggedList**.
 - The content of the **Items by Tag** report (in **Content Management > Reports**) does not list published content records that are tagged with any descendant of each tag in the report.

Tag Name

Specifies the tag name, which can comprise multiple words with spaces and even some special punctuation characters.

Tag Description

Specifies a description of the tag that is oriented to the people who perform web content authoring and website management. This text is not displayed anywhere except when editing the definition for a tag.

Aliases

Specifies a comma-delimited list of other terms that are synonymous with the **Tag Name**. If these alias terms are entered by the user in a basic or advanced search panel, all content tagged with the associated **Tag Name** will be listed in the search results, but with a lower relevancy than if the actual **Tag Name** had been used in a search.

Access Settings

Specifies the Document System permissions granted for this definition object to *iMIS security roles, security groups, specific iMIS users, iMIS member types, or to all Full and Casual users based on their assigned authorization levels.*

- **Apply changes to all descendants** - Changes to this section, when saved, flow automatically to all descendant definition objects. When cleared, changes to this section apply only to the current definition object. This checkbox usually appears only on Document System folder objects.
- **Use a preconfigured security set** - Specifies a preconfigured security configuration to use for this definition object, which can be much simpler than using the **Make this available to** option to specify the permissions for definition objects. The specific permissions in the preconfigured security configuration are displayed (read-only) in the **Make this available to** area.

If you select a preconfigured security configuration and then switch to the **Make this available to** option, the permissions granted by the preconfigured security configuration are copied. This enables you to use a preconfigured security configuration as a starting point for defining custom permissions.

- **Make this available to** - Lists the roles, groups, users, member types, or authorization levels that have been enabled to define or view rendered output from this object. This option enables you to specify custom permissions for the definition object if none of the preconfigured security configurations meets your needs. The **SysAdmin**, **Content Administrator**, and **Everyone** roles are default system-defined security roles that are assigned to every definition object. The **SysAdmin** role is assigned in the definition of an *iMIS* user record, but the **Content Administrator** role is automatically assigned to every *iMIS* user who is a member of a *content authority group* (CAG) that is designated as a **Master Admin CAG**.

The permissions that can be assigned to each entry in the list are:

- ☐ **Full Control** - Enables all of the following permissions.
- ☐ **Read** - Enables users to see this object both in definition windows and as rendered output in websites, but they cannot change the object's definition.
- ☐ **Add** - Enables users to create new objects, or to paste or import an object into the Document System.
- ☐ **Edit** - Enables users to edit this object's definition, but not to delete the object.
- ☐ **Delete** - Enables users to delete this object.
- ☐ **Select** - Enables users to assign a *tag* to *content folders* and *content records*.

Related Tags

- **Automatically create reciprocal relationships** - (Appears when you click **Add** in the **Related Tags** section of the tag definition)

Creates an appropriate reciprocal version of the relationship type specified for this tag in the target related tag. For example, if you specify a **more broadly defines** relationship in the **Choose a relationship type** drop-down list for this tag, the target tag will have an explicit **further defines relationship** created that points back to this tag.

If this checkbox is subsequently cleared on either side of a reciprocal relationship, the corresponding checkbox will automatically be cleared on the other side too.

- **Choose a relationship type** - (Appears when you click **Add** in the **Related Tags** section of the tag definition)

Specifies an explicit type of relationship from this tag to another tag.

Explicit tag relationships currently affect only search results. If these related tags are entered by the user in a basic or advanced search panel, all content tagged with the associated **Tag Name** will be listed in the search results, but with a lower relevancy than if the actual **Tag Name** had been used in a search.

Explicit tag relationships currently have no effect on the dynamically rendered list of content records from a **ContentTaggedList** iPart, nor in the content of the **Items by Tag** report (in **Content Management > Reports**).

Explicit tag relationships are not transitive. If A is related to B, and B is related to C, there is no relationship between A and C. Neither are these relationships implicitly reciprocal. You must manually create the reciprocal relationship or select the **Automatically create reciprocal relationships** checkbox when defining an explicit relationship to other tags.

Note: The specific type of relationship has no particular functionality. Future releases might make use of specific relationship types, but currently all types of explicit tag relationships yield the same search results as a term specified in the **Tag Alias List** field.

Fields: user-defined fields (UDFs)

These fields control the properties of CM *user-defined fields* (UDFs) that are defined in the system. By default, these CM UDF definitions are found here:

- **Content Management > Maintenance > User defined fields**, then click **add** (or click **select** next to an existing UDF).

Specifies a descriptive name for the UDF that appears only in the list of UDFs shown in **Content Management > Maintenance > User defined fields**. This name does not appear in content records.

Use In Search?

The value specified in the corresponding UDF in a content record is added to the "keywords" <META> element in the rendered page for the content record, which enables searches performed through the CM search engine (but not by typical external web-based search engines) to locate the content record by searching for this value. When cleared, the value specified in the corresponding UDF is not added to the "keywords" <META> element in rendered pages.

Because this value is added to the "keywords" <META> element, the relevancy weighting of search results is affected by the **SE.SearchKeywordHint** field in **System Setup > Set up content management > Search configuration**.

Sort Order?

Specifies the order in which this UDF appears in the total set of UDFs in the **Properties** section of content records. The value you specify must be in the range 1 to n , where n is the total number of CM UDFs defined in the system.

If you delete a CM UDF or change this value for any CM UDF, the system automatically recalculates this value on all other UDFs to ensure that this value in all CM UDFs stays within the range 1 to n . Therefore, it's generally a good idea to double-check this value on all CM UDFs when you make these types of changes, because the automatic recalculation might change the original order.

Is Required?

All content records that are defined after this UDF definition is saved will require a non-blank value to be specified in the corresponding UDF in the content record. When cleared, the corresponding UDF in content records will be an optional field.

Label

Specifies the label for this UDF that will appear in content records.

Display Width

Specifies the unit measurement, in pixels, of the width allotted to variable-entry Display Controls such as **Text Field** or **Text Area**.

Display Height

Specifies the unit measurement, in pixels, of the height allotted to variable-entry Display Controls such as **Text Field** or **Text Area**.

Allow Multiple Selection?

Specifies that items in a list-based **Display Control** can be multi-selected. When cleared, only one list item can be selected at a time. This checkbox does not become active until after you select a list-based **Display Control** and click **Save**.

Display Orientation

Specifies the orientation of certain multiple-object **Display Control** types, such as **Check Box(es)** or **Radio Buttons**.

- Horizontal - Arranges the display controls in left-to-right order.
- Vertical - Arranges the display controls in a top-to-bottom order.

Display Columns

Specifies how many columns a multiple-object **Display Control** such as **Check Box(es)** or **Radio Buttons** should span if the selected **Display Orientation** is **Horizontal**. For example, if the **Values** section creates four checkboxes and the **Display Columns** value is 2, the UDF will be rendered with two rows of checkboxes, with two in each row.

References Object

Specifies the name of the *iMIS* business object that has the source properties used to populate the values for list-oriented **Display Control** types, such as **Drop Down List** or **Radio Buttons**. Use this field only in conjunction with the **Value List** option in the **Values Come From** area.

Default Value

Specifies a value that should be pre-filled or pre-selected in this UDF when a new content record is created.

Values Come From

Specifies the source of the value(s) for the UDF. The available choices depend on the type of **Display Control**.

- **Freeform data entry** - Requires users to enter the value manually, such as for a **Text Field** or **Text Area**.
- **Finder** - Requires users to interact with a finder dialog before the values are populated for the UDF. This is automatically selected when the **Display Control** is a **Finder**. No other **Values Come From** option is available in this case.
- **Query Object** - Produces a discrete list of possible values for the UDF in a content record, based on the results of the IQA query that you select here. This choice is available only if the **Display Control** allows for list-oriented data entry, such as **Drop Down List** or **Radio Buttons**.
 - **Data Value** - Specifies which property/field of the **Query Object** is stored when you make a selection.
 - **Display Value** - Specifies which property/field of the **Query Object** appears as the list-oriented labels in the user-defined field in content records.
- **Value List** - Produces a discrete list of possible values based on the contents of the **Designer** tab of the business object specified in **References Object**. This choice is available only if the **Display Control** allows for list-oriented data entry, such as **Drop Down List** or **Radio Buttons**.

Fields: websites

These fields control the properties of *websites* that are defined in your system.

- **Open Site designer > Manage websites**, select a website or create one (**New > Website Navigation Item**).

Tip: The **Access Settings** security options are the same throughout *iMIS* (see [Using Access Settings](#)). For best performance, use [Preconfigured security sets](#).

Tips

- Some of the file locations described in this section are expressed as root-relative URLs based on the root (~) of the physical path for the IIS application or IIS web site that hosts the CM website you are creating. For example, **~/App_Themes**, which in a default installation of an *iMIS* application server would be **C:\Program Files\ASI\iMIS\Net\App_Themes**.

Status

Specifies whether this definition object is in a **Working**, **PublishPending**, **Submitted**, **Published**, **Inactive**, or **Active** state. Click the expand icon to view further details, including who created the record, who modified it last, and dates of these changes.

- *Content records* in a **Working** state have been saved within the *iMIS* database, but the latest changes have not been made active on the associated CM websites by the associated *publishing servers* and their corresponding *iMIS publishing service* (**AsiPublishing15**). The **Publish** command on the toolbar queues the content record to the associated publishing servers, during which the content record is in a **PublishPending** state and can be viewed in the **Pending Requests** detail for the associated publishing servers. After each publishing server has successfully processed the publishing request, the latest changes become visible on the associated websites and become active within *iMIS*, both of which are denoted by the **Published** state.

If an *iMIS* user does not have *content authority group* (CAG) **Content Approver** permissions, they will see a **Submit** command instead of a **Publish** command. The **Submit** command queues a publishing request to the Content Designer **Task List** of all CAG members who have **Content Approver** permissions. (Alternatively, if workflow is enabled for the parent content folder, only those members of the content folder's assigned CAG who have **Content Approver** permissions.) Only a person with **Content Approver** permissions in at least one CAG can actually publish content records.

- For all other definition objects, the publishing process is less complex and does not involve CAG permissions, publishing servers, or the *iMIS* publishing service. When the object is in a **Working** state, the latest changes have been saved within the *iMIS* database, but they have not yet been made active within *iMIS*. The **Publish** command makes the latest changes active within *iMIS*.
- Websites in an **Inactive** state are offline so that browsers cannot view the website content, and instead see a 503 error (Service Unavailable) from IIS. Selecting the **Is this website active?** checkbox in the **Status** section of the website's definition puts the website in an **Active** state, enabling browsers to view the website content. Clearing the checkbox puts the website in an **Inactive** state.

Properties

Name/Title of this Website

Specifies the name of this website within *iMIS* and CM windows and reports. This value also appears as the default browser window title when viewing the home page of the website, but you can override this default browser-facing website name in the root *navigation item* of the website's associated *sitemap* (by using the **Override Content Title** field).

URL Name of this Website

Specifies the unique site ID of this website as a hierarchical part of the complete URL to this website when the IIS application or IIS web site used for CM is hosting more than one CM website.

This value is automatically generated when you enter the **Name/Title of this Website** to ensure that it will parse as a valid hierarchical part of a URL. For example, if there are spaces in the value that you specified in the **Name/Title of this Website** field, they are automatically converted to underscore characters in this field.

If you manually change this value, you *must* use a value that web browsers will correctly parse as a valid hierarchical part of the URI scheme used in URL syntax. You must also ensure that this value is unique among all CM websites.

URL(s) pointing to the IIS website root

Specifies one or more URLs that resolve to IIS applications or IIS web sites that host your CM websites. The staff or consultants who install CM on your organization's web servers should provide you with a list of URLs that correspond to each web server.

The URLs that you specify in this field determine exactly which servers will host this CM website. Use commas to delimit each URL after the first one.

For example, if you want this website to be hosted on three external web servers in different geographic locations, you would specify the three URLs that resolve to the IIS application or IIS web site used for hosting CM websites on each of the three servers. (This requires that CM has already been installed on each server.)

Secure URL(s) pointing to the IIS website root

If you have installed security certificates in IIS on the servers that host this website, specify the secure versions of same URLs that you entered in the **URL(s) pointing to the IIS website root**. The number and order of this list must exactly match the **URL(s) pointing to the IIS website root** field.

The IIS website root (above) points to more than one CM website

Appends the **URL Name of this Website** to each of the URLs defined in the **URL(s) pointing to the IIS website root** field. For example, if the **URL(s) pointing to the IIS website root** is `http://www.example.com/`, and the **URL Name of this Website** is `xyz`, then the full URL to this website would be `http://www.example.com/xyz`.

When cleared, the **URL(s) pointing to the IIS website root** cannot be used for any other CM website except this one.

Make this website the default

Makes this CM website the one that is displayed when a browser requests only the URL(s) specified in **URL(s) pointing to the IIS website root** or **Secure URL(s) pointing to the IIS website root** without also appending the segment corresponding to the value specified in the **URL Name of this Website**. You cannot clear this box directly, because there must always be one such CM website that is specified as the default to display if a URL does not include the URL Name of the website. To clear this box you must edit the definition of another website that shares the same website root URL and select this checkbox in the other website's definition.

Note: This checkbox does not need to be selected if the CM website is the only one being hosted by the IIS application or IIS web site that is (indirectly) specified by the **URL(s) pointing to the IIS website root** field. However, if you later create a second CM website that will be hosted by the same IIS application or IIS web site, the system will automatically select this checkbox for the original CM website.

Website-specific parent content folder

Specifies the site-specific folder that contains the content that is included when the website is copied. When a new website is created, the field is hidden until you save the website and then the path is auto-populated with the website name (@/website name). On existing websites, the field defaults to blank. If you choose to copy this website later, only the content within this site-specific folder will be copied.

Advanced

This section includes options for the integration of third-party APIs.

- Google Analytics script – If you are using Google Analytics to track website activity, paste the script provided by Google Analytics. For more information, refer to [Tracking your site with Google Analytics](#).

Look and Feel

Folder containing template content

Specifies the relative Document System path beneath the root of the content folder hierarchy (@) to the folder that contains the content records that define the content areas of a template. Use the format @/etc/etc. You can use this field to reuse customizations you might have made to the content area files for another website that shares the same template design, which spares you maintaining multiple sets of the same customized content records.

MasterPage/Template to use for the site's layout

Specifies the ASP.NET *master page* to use for the layout of the entire website or special types of website pages as indicated by the field name. You can use this site's layout field to reuse a customized master page among several different websites, rather than maintain multiple versions of the same customized master page. The master pages shown in the list are the contents of the ~/Templates/MasterPages folder.


Theme (colors, fonts, etc.) to use for the site's "look and feel"

Specifies the ASP.NET *theme* to use for the visual look and feel of the website. You can use this field to reuse a customized theme among several different websites, rather than needing to maintain multiple sets of the same customized theme files. The themes shown in the list are the contents of the ~/App_Themes folder.

MasterPage/Template to use for "Print this page" type functionality

Specifies the layout to use to render print-friendly page views, such as called by the printer icon: 

MasterPage/Template to use for **Text Only** requests

Specifies the layout to use to render text-only page views, such as called by the text icon: 

MasterPage/Template to use for **Pop-up** windows

Specifies the layout to use to render pop-up windows, such as used by the "Send this page" icon: 

Use breadcrumbs on this site

Enables breadcrumbs (the hierarchical path of links to the current content) that appears directly between the global navigation and the page contents.

Navigation Areas

This area lists all of the *navigation areas* that are defined for use in the CM environment. The **Edit** icon at the bottom of the list enables you to **add** new navigation areas to the system, **delete** existing ones, or **select** exiting ones to change their properties.

The specific navigation areas that you select here determine which navigation areas are available for use by the navigation items that you define in the sitemap for this website. You must ensure that the master page used by this website contains elements that support all of the navigation areas that you select.

The master page of every template supports the four default navigation areas (**Primary**, **Secondary**, **Auxiliary**, and **Footer**). If you select any navigation area for use in this website besides these four defaults, you must ensure that the master page used by the website contains the elements needed to support that navigation area.

iMIS can support a maximum of 30 navigation areas, and each navigation area must have a unique **Name**.

Caution! Avoid deleting a navigation area, because doing so will remove it from the entire system, which affects all CM websites in the system. When you delete a navigation area, all navigation items that are currently defined to be displayed in that area will still appear in that navigation area in rendered website pages. The master page contains a framework for the navigation area, and published navigation items still contain the properties that make them be displayed in the deleted navigation area. The navigation area will not completely disappear from all of your rendered websites until you edit and save every navigation item in the system that currently uses it.

When defining a navigation area, the following properties are displayed. Not all of these properties are actually used by every navigation area. The specific properties that are used depend on which of the three ASI-developed controls are used in the website's master page to render the navigation area. For more information, refer to *Defining navigation areas and breadcrumb areas*.

- **Navigation Pane Code** - (read only) - Specifies a unique identifier that must be used in the **NavigationPaneCode** attribute of various **asi:** and **asiweb:** controls used in master pages to support navigation areas. When you add a new navigation area, this code is displayed as **0** until you click **Save** and then **select** the navigation area to view its properties. (For more information, refer to *Defining navigation areas and breadcrumb areas*.)
- **Static Display Levels** - Specifies how many levels of the sitemap hierarchy (which is zero-based) to display by default in this navigation area, based on the value of the **Starting Level** field. For example, if this value is set to 2 and **Starting Level** is set to 3, then the 3rd and 4th levels below the sitemap root are displayed in the navigation area.

Only navigation items that are active and not hidden are displayed. (Controlled respectively by the fields **This navigation item is active** and **This navigation item is hidden**, both located the **Options** section of the definition for a navigation item.)

If the range specified by this value comprises more than one level, the rendered list of navigation links is by default collapsed to the first level, requiring users to click one of the parent links in the range to expand that node to show the child links. This default behavior can be overridden on a per-navigation-item basis by selecting the **This navigation item is expanded by default** checkbox in the **Options** section of the navigation item's definition.

Note: This value is ignored by the **asi:PageNav** and **asi:PageNavR** controls that (by default) render the **Primary** navigation area, and by the **asiweb:NavigationList** control that (by default) renders the **Auxiliary** and **Footer** navigation areas.

- **Dynamic Display Levels** - Specifies how many *additional* levels in the sitemap hierarchy to display when the lowest level of the range specified in **Static Display Levels** is expanded, either by user action or because the **This navigation item is expanded by default** checkbox is selected in the **Options** section of the definition for a navigation item.

Only navigation items that are active and not hidden are displayed. (Controlled respectively by the checkboxes **This navigation item is active** and **This navigation item is hidden**, which are both located in the **Options** section of the definition for a navigation item.)

Note: This value is ignored by the **asi:PageSubNav** control that (by default) renders the **Secondary** navigation area, and by the **asiweb:NavigationList** control that (by default) renders the **Auxiliary** and **Footer** navigation areas.

- **Starting Level** - Specifies the level of the sitemap hierarchy (which is zero-based) that constitutes the first (initial) level of the **Static Display Levels** field. The value 1 corresponds to the first level immediately beneath the sitemap root (~). For example, if this value is set to 3 and **Static Display Levels** is set to 2, then the 3rd and 4th levels below the sitemap root are displayed in the navigation area.

Note: This value is currently ignored by the following ASI-developed controls for rendering content areas: **asi:PageNav**, **asi:PageNavR**, **asi:PageSubNav**, and **asiweb:NavigationList**. As a result, this field has no effect on navigation area behavior in the current release.

Content Management Concepts

The terms described in this section explain the basic concepts of CM.

Concept: content authority groups (CAGs) and content authoring workflow

A *content authority group* (CAG) is a special type of *iMIS security group* whose members have permissions that are specific only to Content Management (WCM) functionality within *iMIS*. CAGs are also used to enable content authoring workflow.

CAG permissions

CAG permissions are specified for each member of a CAG. These permissions determine whether that member can create, edit, publish, and delete *navigation items*, *content records*, and *content folders*. They also determine whether that member can define *content layouts*, upload graphics for use in Content Html iParts, and upload files when defining a **ContentFile** iPart.

CAG permissions are globally applied throughout CM. For example, if a specific *iMIS* user is granted permission to edit content records in *any* CAG to which they belong, then that user has global permission to edit content records in any content folder.

CAGs can be designated as a **Master Admin** CAG. Members of a **Master Admin** CAG are automatically assigned to a special *iMIS* **Content Administrator** security role. *iMIS* users who belong to the **Content Administrator** role always have full Document System security permissions for all CM definition objects in the system.

Content authoring workflow

Content authoring workflow is enabled for a content folder by assigning a CAG to the content folder. All content records created in that content folder will subsequently progress through the workflow that is defined by the permissions assigned to each member of the CAG.

When new sub-folders are created, the CAG assigned to the parent folder is copied into the definition of the new sub-folder by default (thus inheriting the parent folder's workflow), but any CAG member with **Folder Editor** permissions can change or remove the assigned CAG of the new sub-folder.

Content authoring workflow revolves around messages that appear in the Content Designer **Task List** for every person who is a member of at least one CAG. Any person with access to **Content Management** can view anyone's Content Designer **Task List**. The Content Designer **Task List** is divided into the following categories:

- **Content you are working on** - Content records that you were the last person to define and save, and which are still in a **Working** state, are listed here. It does not matter whether you are a member of the CAG assigned to the content record's parent content folder, or whether the parent content folder has a CAG assigned to it.
- **Content awaiting your approval** - People who do not have **Content Approver** CAG permissions cannot publish content records. Instead of seeing a **Publish** command, they see a **Submit for Approval** command, which submits a content publishing request. These content publishing requests are listed here for all people that have **Content Approver** CAG permissions in at least one CAG to which they belong. It does not matter whether you are a member of the CAG assigned to the content record's parent content folder, or whether the parent content folder has a CAG assigned to it.
- **Content deletion requests** - People who do not have **Content Approver** CAG permissions cannot delete content records. They see the **Organize > Delete** command, but using it does not actually delete the content record from its parent content folder. Instead, this action submits a content deletion request. These content deletion requests are listed here for all people that have **Content Approver** CAG permissions in at least one CAG to which they belong. It does not matter whether you are a member of the CAG assigned to the content record's parent content folder, or whether the parent content folder has a CAG assigned to it.
- **Content that has expired or will soon expire** - If you are the assigned *content owner* for a content record that is defined to have an expiration date, expiration notices for that content record are listed here when that date approaches, when the date actually occurs, and at defined intervals after the date has passed. (For more information, see *Fields: setup - workflow*.)
- **Content change requests assigned to you** - When people who do not have **Content Editor** CAG permissions use the *Surf-to-Edit* feature of CM to edit an iPart or content record on a rendered web page, they see a content change request form instead of the content record editor or iPart editor. Such content change requests on content records for which you are the assigned *content owner* are listed here.

Note: The person who creates a new content record is automatically assigned as the content owner for that content record (this assignment can be manually changed after creation). It does not matter who the content owner assigned to the parent content folder might be.

Caution! A content record does not have a content owner automatically assigned if it was created by a person who is a member of the **SysAdmin** role, but who does not have **Content Editor** CAG permissions in at least one CAG.

- **Unassigned content change requests** - Similar to the preceding bullet, except that content change requests for content records that have no specified content owner are listed here in the Content Designer **Task List** of every person who has **Content Editor** CAG permissions in at least one CAG to which they belong.

Note: You must be a Full user and you must belong to at least one CAG to see the **Content Management** tab. Casual and Public users who are members of a CAG cannot see the **Content Management** tab, but they can interact with content records by using the *Surf-to-Edit* feature.

Concept: CAG permissions versus Document System permissions

Content authority group (CAG) permissions are specified for each member of a CAG in the definition of each CAG. Document System security permissions are defined in the **Access Settings** section in the definition of most CM definition objects.

Both types of permissions affect your ability to view and define CM definition objects. The interaction between these two different sets of permissions enables some sophisticated structuring of security access and content authoring workflow.

- Document System **Read** permissions for CM definition objects such as a content record or a navigation item determine not only which *iMIS* users can view the properties of that definition object within **Content Management**, but also determine who can see the rendered version of that object on a *website*.

For example, if a content record is assigned to the system role **Everyone** with **Read** permissions, then even anonymous visitors to a CM website will be able to view that content record's rendered web page. However, if only a specific security group such as "Board Members" is given **Read** permissions for that content record, then only members of that security group who have logged on to the CM website will be able to view that content record's rendered page. (If they do not log on to the website with their *iMIS* logon name, they are treated as anonymous users and unable to view the rendered page.)

- Document System **Edit** permissions are required to edit the properties of CM definition objects, and **Delete** permissions are required to delete CM definition objects. However, these permissions are not sufficient by themselves. You must also have the corresponding CAG permissions. For example:
 - If you have Document System **Read** and **Edit** permissions on a content record but you do not *also* have the CAG **Content Editor** permission, then when you attempt to view the properties of that content record, you will see only a rendered preview of that content record. You might want a mixture of permissions like this, plus the CAG **Content Approver** permission, for the staff in your content authoring workflow who you want to give the ability to approve or reject content, but not the ability to create or revise content.
 - If you have Document System **Read**, **Edit**, and **Delete** permissions on a content record and you have the CAG **Content Editor** permission, then you will be able to view and edit the properties of that content record, but you will not be able to delete that content record. If you also have the CAG **Content Approver** permission, then you will also be able to delete that content record.

Concept: content folders

A *content folder* contains a set of *content records* and other content folders in a hierarchical tree. Each content folder specifies important criteria that define how the system should publish and manage the workflow of content records within the content folder.

Children content records and content folders inherit the *tags* from their parent content folder (and therefore also the tags from all ancestor content folders), but no other attributes are inherited. However, some attributes are initially copied from the parent folder at the time of creation.

- The specific **Access Settings** from the parent folder are copied to new content records and content folders at the time of creation, which you can subsequently change as needed.
- The **Authority Group** value from the parent folder is copied to new content folders at the time of creation, which you can subsequently change as needed.
- The **Owner of this content** value from the parent folder is copied to new content folders at the time of creation, which you can subsequently change as needed.
- The **Content is considered expired *n* days after last published** value is copied to new content records and content folders at the time of creation, which you can subsequently change as needed.

Note: For content folders that have a *content authority group* (CAG) assigned to them, the **Owner of this content** value is *not* copied to new content records that are created inside of it. Instead, content records automatically have this value set to specify the first person who created the content record, which you can subsequently change as needed.

Caution! A content record does not have a *content owner* automatically assigned if it was created by a person who is a member of the **SysAdmin** role, but who does not have **Content Editor** CAG permissions in at least one CAG.

Concept: content layouts and iPart zones

A *content layout* is a predefined set of *iPart zones* within a *content record*. Each *iPart zone* can contain one or more *iParts*, and you can drag and drop *iParts* among the zones to rearrange the position in which content appears in a rendered content record.

Concept: content owners

A *content owner* is related to the *content authority group* (CAG) that is assigned to a *content folder* and its children *content records*. Content owners are specified in the **Workflow Management** section of the content folder or content record definition.

Only members of the CAG assigned to a content folder who also have **Content Editor** permissions within that CAG are available to be manually assigned as the content owner for the content folder or for content records within that content folder.

When you create a new content folder, it copies the currently-designated content owner for the parent content folder. However, when you create a new content record, a different process is followed:

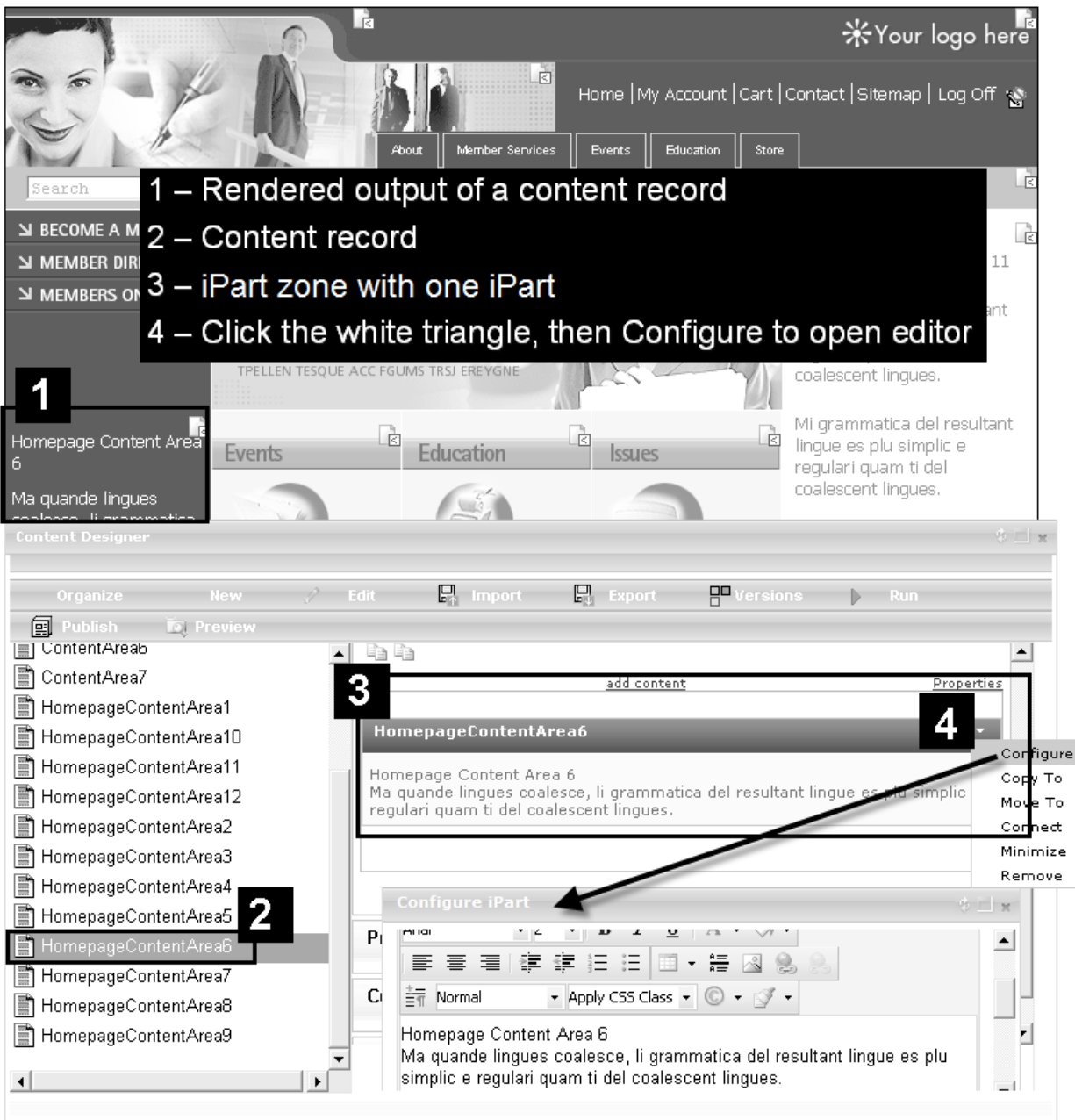
- If the person who created the content record is a person with **Content Editor** CAG permissions in at least one CAG, they are automatically assigned as the content owner for the content record. You can subsequently change this value to any person from the parent folder's CAG who has **Content Editor** CAG permissions.
- If the person who created the content folder does not have **Content Editor** CAG permissions in any CAG (for example, a person who is a member of the **SysAdmin** role), then no content owner is assigned.

The **Owner of this content** field serves a different function for content records and content folders:

- For content records, the content owner
 - Receives email notification of pending expiration for the content record.
 - Is assigned content change requests for the content record in the **Content change requests assigned to you** section of their CM **Task List**.
- For content folders, the content owner
 - Specifies which member of the assigned CAG should replace the designated content owner of any child content records if the current owner assigned to a content record becomes ineligible for any reason.

Concept: content records, iParts, and content types

A *content record* is an *iMIS* definition object, stored in the *Document System*, that specifies all the information needed to render a web page from a Content Management (WCM) web site. Instead of hand-coding the contents of a web page for your *website*, you define some basic properties and *tags* for the content record, choose a *content layout*, add various *iParts* to the *iPart zones* in the layout, and then define the properties for each *iPart*. After the content record has been published to an *.aspx* file on the website, it is available for viewing by web browsers as a complete web page.



An *iPart* is essentially a web widget in the ASP.NET environment. As with any web widget, you choose from different types of *iParts* to insert in the various *iPart* zones in the content layout, then you configure each *iPart* to populate that instance of it with the desired content. You can easily rearrange the rendered page contents by dragging an *iPart* to a different location within the *iPart* zones. A standard set of system-defined *iParts* are available in *iMIS*, but staff or consultants who are experienced in ASP.NET development can also easily add new *iParts* for use when authoring content.

- The standard *iParts* supplied with CM (listed in the **Content** gallery) all have a corresponding content type, which tells *iMIS* how to create the corresponding *iPart* within the system, how to edit it, how to display it, how to publish it, and so on.
- New complex *iParts* that you add to your *iMIS* environment are also listed in the *iPart* Gallery and must also have corresponding content types.
- A special ASI-supplied **ContentWebUserControl** content type is used as a generic default content type for all simple *iParts*, or for ad-hoc web user controls that have been manually added to a content record.
- To see the **Communities** *iPart* gallery, you need a **COMMUNITIES** license.

Concept: master pages and themes

The look and feel of a Content Management (WCM) *website* comprises the general page layout, colors, graphics, and fonts used for all rendered pages in the website. This look and feel is defined by the design's *master page* and *theme*. Master pages and themes are basic elements of ASP.NET web sites, and detailed information about developing and customizing master pages and themes can be found in Microsoft developer resources for ASP.NET development such as the Microsoft Developer Network.

- If you want to customize one of the out-of-the-box themes, we recommend that you start with a copy, so that your changes are preserved when you upgrade. See Copying a website theme for more information.
- If you prefer to use your own hand-built master pages and themes, you must first place them in the appropriate **MasterPages** and **App_Themes** folders beneath the IIS web site root that you plan to associate with this CM website. This ensures that the master pages and themes are available for selection when defining the properties of the website. You must also ensure that the master pages meet all requirements for compatibility with CM.

The master page is an ASP.NET file that specifies the general page layout of all pages in the website. (Do not confuse this with the *content layout* used for main content area of each page.) The master page defines everything that appears on a rendered page, and where they appear, except for two things:

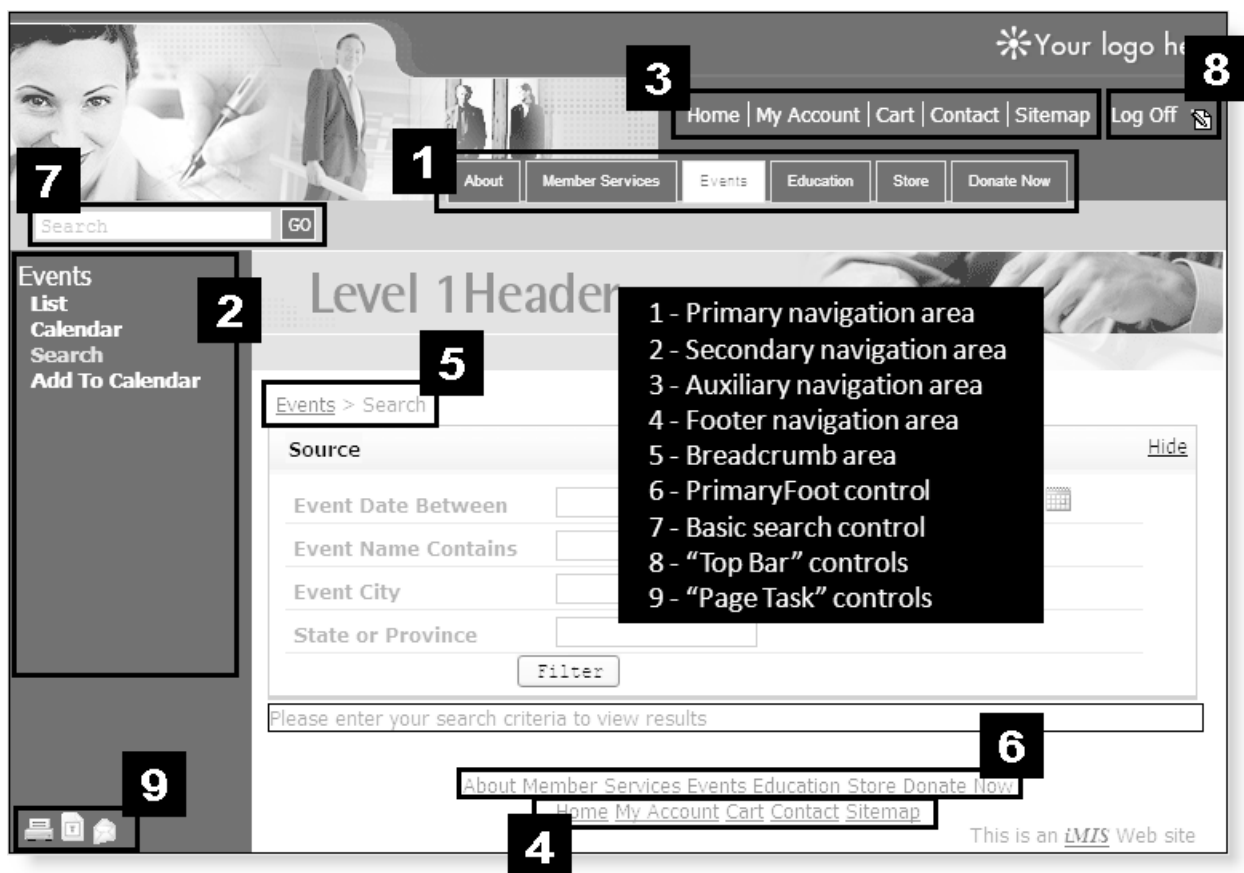
- The rendered content visible in the Main Content Area of each page is controlled by the navigation item for that page. The master page defines only where this content area appears on the website pages, and the content area's exact dimensions.
- The navigation items in the website's sitemap define the actual navigation link text and breadcrumb text shown in the navigation areas. The master page defines only the location, appearance, and behavior of the available *navigation areas* for the website. Which of the available navigation areas are actually used for the website is defined in the properties of the website itself, and each navigation item specifies the exact navigation areas in which it is displayed.

The theme is a collection of files that specify exactly which colors, graphics, and fonts are used in all rendered website pages, giving them a consistent appearance. The theme comprises all the cascading style sheets used by the master page and available for use in a content layout's *iPart zones* and *iParts*, as well as all the graphics used by the master page (as opposed to graphics used in *content records*). Some themes might also include ASP.NET skin files, which define property settings for ASP.NET Web server controls.

Concept: navigation areas and breadcrumb areas

Navigation areas are special ASI-developed controls used in master pages that create automated lists of navigation links. All ASI-developed *master pages* are designed to support the four default navigation areas and the *breadcrumb area* shown in the following diagram, but you can define up to 30 navigation areas in the system and add the corresponding elements to support those navigation areas to any master page.

The breadcrumb area appears automatically on every site, but you must specify exactly which *navigation areas* to enable globally for use by the navigation items in the website's *sitemap*. The four default navigation areas provided with CM are shown in the following diagram.



When a navigation area is globally enabled in the definition for a CM website, a checkbox representing that navigation area becomes available for selection when you are defining navigation items in the sitemap for the website. Whether a particular navigation item actually appears in one of the enabled navigation areas of the website is determined by the specific navigation area checkboxes you select for that navigation item when you are defining it.

All master pages fully support the breadcrumb area and all four of the default navigation areas. However, if you modify the definition of any of the default navigation areas in CM, you might need to revise the master pages to support the changes that you have made.

To integrate your own hand-built master pages with CM, if you plan to use the breadcrumb area and navigation areas available to CM websites, you must ensure that you add the appropriate elements to your master page to support them. Similarly, if you define additional navigation areas in CM, you must modify your master pages to support these additional navigation areas.

Note: The controls that display the **Logon/Logoff** link and the icon that toggles *Surf-to-Edit* mode, both of which appear by default at the right of the **Auxiliary** navigation area, are not a part of the **Auxiliary** navigation area, so they are unaffected if you remove or move the location of this navigation area.

Concept: publishing servers versus publishing services

The publishing service is used by Site Designer when publishing new websites and when adding pages to an already existing website.

- *iMIS* uses publishing services to render and place files into the local file system of web servers that have been prepared to host CM websites. Currently, these files are:
 - Rendered output of a content record (browser-readable **.aspx** files)
 - Downloadable file attachments that are defined in a **ContentFile** iPart.
- *iMIS* does not "push" files to a publishing service when an *iMIS* user performs an action that publishes a content record. Instead, every publishing service regularly polls the *iMIS* database to check whether any publishing requests have been queued up for the corresponding publishing server. For more information, refer to [Concept: publishing CM content](#).

A CM *publishing server* is an added control layer to a specific instance of an *iMIS* publishing service that provides important configuration information and enables sophisticated publishing control for *content records* developed with the Content Designer tool.

- Through the publishing server's assignment to the **Publish on Servers** field in *content folders*, the publishing service can determine which content records it should render when it finds publishing requests during each polling interval.
- Through the **Local Protected Path** and **Local Publish Path** fields in the publishing server definition, the publishing service can determine where to place specific types of files in the file system of web servers that have been prepared to host CM websites.

When you install *iMIS* on a server host, the installer automatically defines corresponding publishing service - publishing server pair:

- A single default instance of the Windows service **AsiPublishing15** is placed on the server host, identified by a unique code string that you specify during installation.
- Connection information to the *iMIS* database is automatically defined by the installer.
- A corresponding publishing server is defined in the *iMIS* database and given a default configuration. You can use **Content Management > Maintenance > Publishing Servers** to change the default configuration.

Concept: publishing CM content

When you create or change an existing CM *website*, *navigation item*, *content folder*, *content record*, or any other CM definition object in the Document System and click **Save**, nothing happens except that *iMIS* stores a **Working** version of that object in the *iMIS* database. It is only when you click **Publish** that *iMIS* actually implements the new version of the definition object, replacing the previous **Published** version of the object with this new **Working** version and then marking it with a status of **Published** to indicate that it is now the current active version.

When you publish the various types of CM definition objects, different things happen depending on what type of object it is:

Note: The following descriptions generally apply to the publishing option **Publish Working Items Only**. If you select either of the other publishing options, then objects in any state are published.

- **Websites** - No downstream processes happen other than CM creates a corresponding *sitemap* if it is an entirely new website, so that you have a structure into which you can add navigation items. If you have developed your own custom *master pages* and *themes*, the people in your organization who perform website administration should have already placed the necessary files on the servers that will host the website.

- **Navigation items** - When a browser first requests a website URL from the *iMIS* application server or an external web server that has been prepared to host CM websites, the CM code on that server examines the **Published** sitemap object in the *iMIS* database and then builds a corresponding in-memory representation of the sitemap's navigation structure. A timer process then re-checks the *iMIS* database every 5 minutes (by default) to determine whether a newer version of the sitemap object has been published, and, if so, the CM code on that server rebuilds its in-memory sitemap structure for that website.

Note: You can change this default 5-minute polling interval if desired, but be aware that each polling process consumes a small amount of system resources so there is a performance tradeoff in specifying a more frequent polling interval. To change the polling interval, edit the value of the **Sitemap.CachePeriod** key (expressed in minutes) in the **<SystemParams>** declaration in the **web.config** file for the *iMIS* application (IIS application **\iMIS**).

- **Content folders** - No downstream processes happen other than *iMIS* checks the status of all descendant content records and sub folders and if it finds any that are currently in a **Working** state, it automatically publishes them too. This enables you to spend several days working on a major change to your website content that encompasses many content records, and then publish all those changes in one action by publishing a content folder high enough in the folder hierarchy to cover all the content records that are in a **Working** state.

Changes made to the **Access Settings** of a content folder that are applied to all descendants are saved to the **Published** descendant content records without the need to re-publish each record. Security checks to determine whether the rendered version of a content record should be served to the requesting browser are performed by examining the current **Access Setting** values of the **Published** content record object in the *iMIS* database.

- **Content records** - *iMIS* checks the value of the **Publish on Servers** field in the parent content folder to determine which *publishing servers* should handle the publishing of the content record. *iMIS* then creates a separate publishing request in the *iMIS* database for each associated publishing server. Meanwhile, every 5 minutes (by default), the *publishing services* (**AsiPublishing15**) installed on every server that hosts CM websites are polling the *iMIS* database to determine whether there are any new publishing requests designated for their corresponding publishing server.

If so, the publishing service examines the **Published** content record object in the *iMIS* database and then renders a corresponding **.aspx** file and places that file in the appropriate location in the server's local file system so that IIS can serve that page to browsers that request the content record's corresponding navigation item link.

Note: You can change this default 5-minute polling interval if desired, but be aware that each polling process consumes a small amount of system resources so there is a performance tradeoff in specifying a more frequent polling interval. To change the polling interval, edit the definition for the corresponding publishing server and specify the desired polling interval in the **Frequency** field.

Note: The CM configuration field **CM.PublishingMaxNumOfAttempts** (located in **System Setup > Set up content management > Content designer configuration**) determines how many times each publishing service will attempt to process a system publishing request before it flags the request as failed. This prevents overconsumption of system resources if there is a connection issue or other issue that is preventing the publishing service from successfully processing the request.

- **Content layouts** - No downstream processes happen. When you define a content record, *iMIS* populates the list of available **Page Layouts** by examining all the **Published** versions of *content layout* objects in the *iMIS* database.
- **Content types** - No downstream processes happen. When you define a content record, *iMIS* examines the **Published content type** objects in the *iMIS* database to determine how to display the corresponding *iPart* when added to the content record.
- **Tagged list formats** - No downstream processes happen. When you add a **ContentTaggedList** *iPart* to a content record, *iMIS* populates the list of available **List Formats** by examining all the **Published tagged list format** objects in the *iMIS* database.

Concept: sitemaps and navigation items

Every CM *website* has a corresponding *sitemap*, in which you define a hierarchy of *navigation items*. Each navigation item defines the behavior of a single link to a web page of some sort, which can be:

- A *content record* located anywhere in the Content Designer *content folder* hierarchy. At run time on the website, IIS actually serves up the rendered **.aspx** version of the most recently **Published** version of that content record.
- An ASI-developed dynamic web page that is available for use on all CM websites. Some of these pages provide standard website functionality such as a dynamic **Sitemap** page, while others provide specific features from the Public view of *iMIS*.
- A manually coded **.aspx** or **.html** file located anywhere in the IIS **Physical Path** associated with the IIS application that is used for hosting CM websites.
- A page located on an external website completely outside of the CM environment.

You can nest navigation items inside of other navigation items, creating a hierarchical structure. The structure that you create for the sitemap hierarchy is very important for two reasons:

- This is what the system dynamically renders as the structure of a **Sitemap** page on CM websites.
- The position of a navigation item in the hierarchy (the root node is level 0 of the hierarchy) determines whether that navigation item is automatically displayed in the various *navigation areas* of website pages. This automated display can be suppressed on a per-navigation item basis, and you can force a navigation item to be displayed in specific navigation areas even if it would not normally be displayed there by the automated display handling specified in the definition of each navigation area.

The specific ASI-developed control used in the website's master page for the rendering of each navigation area also affects whether navigation items are rendered in the various navigation areas. For more information, refer to **Defining navigation areas and breadcrumb areas**.

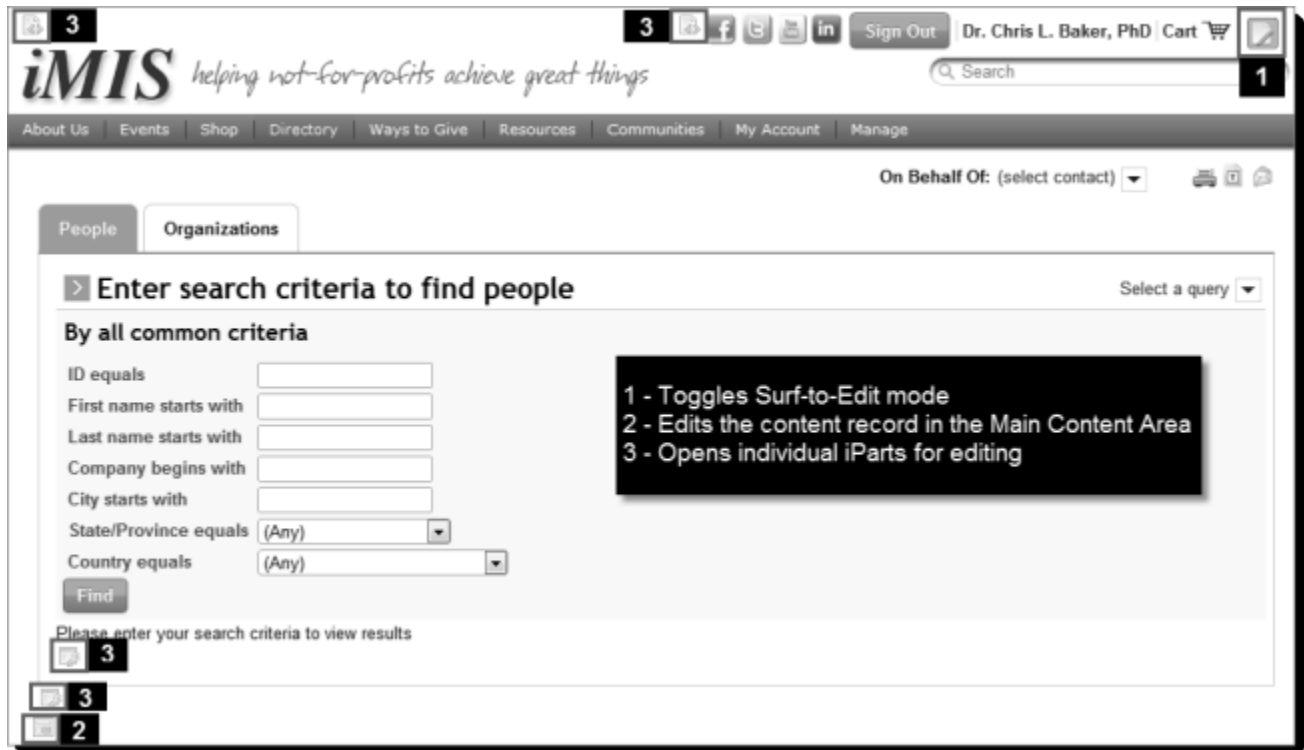
The website's sitemap is automatically created when you define a new CM website, and is given the same name as the website. Currently, CM supports one sitemap per website. You cannot delete or change the name of a sitemap. Instead, you define sitemaps by adding and removing navigation items, rearranging navigation items in the sitemap hierarchy, and changing the definition of individual navigation items.

Note: In content records, you can also hard-code links to other content records or external content by using **ContentReference** and **ContentLink** iParts, but unlike navigation items, these hard-coded links cannot be dynamically displayed or hidden by the system. Instead, they are static links that are always visible in rendered pages.

Concept: Surf-to-Edit

The *Surf-to-Edit* feature enables you to browse (or "surf") to update your *content records* in their rendered form. You can quickly open a web page's underlying content record (or even a specific *iPart* within the content record) for editing. When you have saved your changes, you can continue surfing the website and making further content revisions as needed.

Casual and Public users of iMIS can also use the Surf-to-Edit feature, provided they are members of at least one *content authority group* (CAG) and they have been granted the necessary Document System permissions on content records. This is the only way that Casual and Public users can define CM content.



Concept: tags and tagged list formats

Tags are a special type of keyword that you can associate with *content records* to searches that are more powerful and the automatic population of content based on tags. All descendants of a *content folder* inherit the tags defined for the folder. You can tell which tags are being inherited from a content folder higher in the content folder hierarchy by viewing the **Current Tags** section of a content folder's or content record's definition.

- **AdvancedSearch** iParts specify various tags that your CM *website* users can select to narrow their search to a smaller set of tagged content records.
- **ContentTaggedList** iParts specify various tags that are used to generate a real-time list of links to tagged content records when the content record containing the **ContentTaggedList** is viewed.

Tagged list formats are used by **ContentTaggedList** iParts to format the rendered display of the list of links. The chosen tagged list format is applied as a display mask to each item in the list. For example, one tagged list format might display only a simple list of links, while another tagged list format might display a link followed by an HTML fragment from the target content record.

Unlike some other content authoring systems and web applications, you cannot create ad hoc tags while defining content records. Instead, you must choose from a list of pre-defined tags (that are usually defined by the people who perform website management). This restriction ensures that your content is tagged with a centrally designed taxonomy, which provides more consistent and predictable search results from **ContentTaggedList** iParts.

Tags are defined in a hierarchical structure, with every parent tag having an implicit **more broadly defines** relationship to its children tags, and every child tag having an **implicit further defines** relationship to its parent tag. In general, this means that if you use a parent tag in an **AdvancedSearch** or **ContentTaggedList** iPart, all descendant tags are automatically included as well.

Concept: user-defined fields (UDFs)

User-defined fields (UDFs) in CM are created differently, and serve a very different purpose, than user-defined fields in *iMIS* contact records:

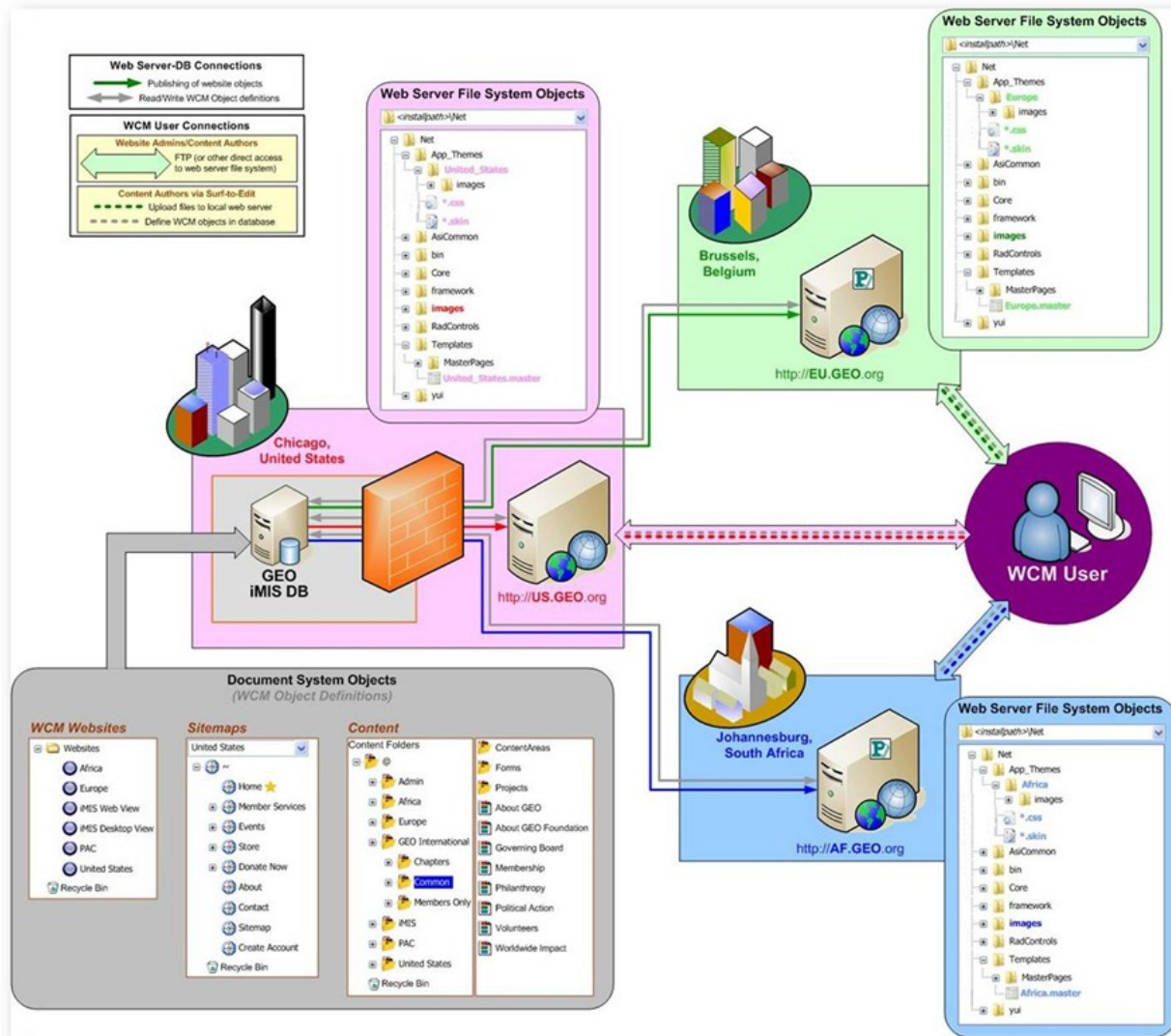
- The UDFs found in *iMIS* contact records enable you to collect custom information about a contact. These contact UDFs are not available for use in CM.
- The UDFs found in CM are primarily useful as a way to capture additional properties of the content in content records, and to provide a controlled list of search criteria for use in CM only. These CM UDFs can be used in three ways:
 - As a value added to the "keywords" <META> element in the rendered page for the content record, which enables searches performed through the CM search engine (but not by typical external web-based search engines) to locate the content record by searching for this value. This behavior is controlled by the **Use in Search?** property of a CM UDF.
 - As a search filter in **AdvancedSearch** *iParts*, applied to the initial result set based on the tags and keywords specified in the search.
 - As both filtering criteria and sorting criteria in **ContentTaggedList** *iParts*. A date-oriented UDF can be used to filter the initial result set based on the chosen tags, and a different UDF of any type can be used to sort the the final result set.

Every UDF defined in CM is added as a new custom property to every *content record*, and can be displayed in a wide variety of formats from a simple text field to a drop-down list to a calendar control to a set of radio buttons, and so on. In the advanced search panel rendered from an **AdvancedSearch** *iPart*, the user-defined field appears exactly the same way that it does in content records. This enables CM *website* users to specify UDF values for advanced searches in the same manner that the UDF values are chosen when authoring content. For example, a date-oriented UDF will have a calendar control that makes it easy to select a date.

Concept: websites and web server interaction with *iMIS*

A CM *website* is slightly different from a Microsoft Internet Information Services (IIS) web site. While the rendered output of a CM website provides a total website experience for visitors to the site, a single CM website can actually be hosted on multiple web servers even though you are only maintaining a single website in your CM environment. Within the internal structure of IIS, a CM website is usually maintained as a subset of the **iMIS** application, but you can configure IIS to host CM websites as individual IIS applications or even as individual IIS web sites.

The following diagram illustrates the connection points between multiple IIS web servers that host CM websites, the *iMIS* database, and users.

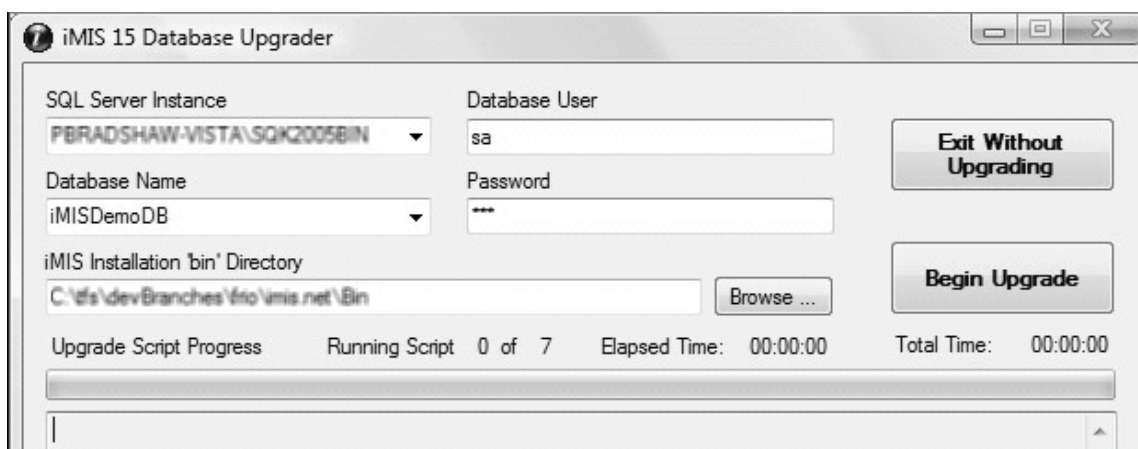


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iMIS Database Upgrader: DB Upgrader

You can run *iMIS* Database Upgrader (DB Upgrader) standalone from the *iMIS* program group. Use **View Logs** to quickly locate and view log outputs for all upgrades, completed and failed.



Important: Special characters in your **sa** password can disrupt command-line processing, so change the password to use only alphanumeric characters and ! # @, with no spaces. You may use hyphens and underscores after the first character, but avoid all other punctuation and symbols.

Begin Upgrade

This button runs a set of database upgrade scripts against the specified *iMIS* database. The specific scripts that are run depend on how many versions back the database is from the current version of *iMIS*. There is one upgrade script per version, so the upgrader upgrades the starting version to the next version, then the next, and so on until the final script updates the database to the current release of *iMIS*.

The following error message appears in the **iMIS15DBUpgrade.log** if the upgrade process fails:

```
*** UPGRADE PROCESS ENDED WITH ERRORS !!! ***
```

To determine how to retry the database upgrade after fixing the problems suggested by the point at which the failure occurred, you first must identify which upgrade script failed by scrolling up through the log until you find the header stamp that immediately precedes the error message. Header stamps look like this:

```
=====
= iMIS 15.0.2.x to iMIS 15.0.3.x Database Upgrade Driver Script =
=====
```

The version numbers shown in the header stamp determine how you must retry the database upgrade:

- If the first version number shown in the header stamp (the one on the left) is 15.1.1 or higher, you should fix the data in the current version of the database, then in the **iMIS 15 Database Upgrader**, click **Begin Upgrade** to resume the database upgrade from the beginning of the step that failed.

If you want to restart the upgrade from some step earlier than the one in which the failure occurred, run the following UPDATE against the database, specifying a **ParameterValue** that is the step at which you want to restart the upgrade (use a value of 0 to force the upgrade to restart at the very beginning):

```
UPDATE [dbo].[SystemConfig]
    SET [ParameterValue] = 3 -- The last completed step number
    WHERE [ParameterName] = 'System.Database.State'
```

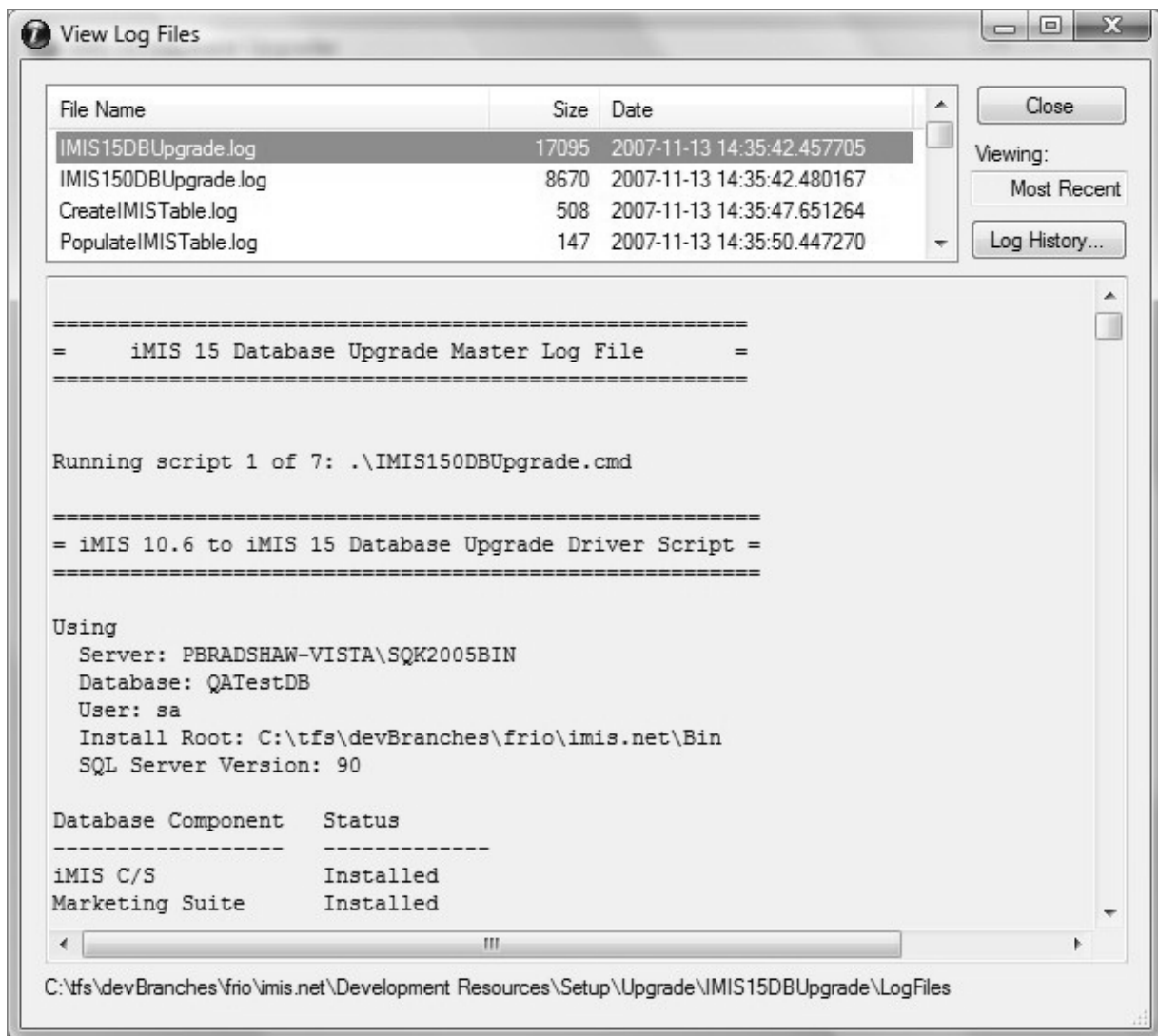
- If the first version number shown in the header stamp is lower than 15.1.1, you must first restore the database to the backup you made before beginning the upgrade process. Next, fix the data in that restored version of the database. Finally, in the **iMIS 15 Database Upgrader**, click **Begin Upgrade** to restart the entire database upgrade process. Note that you cannot click **Begin Upgrade** until you have restored the database to a backup preceding its failed upgrade state.

View Log Files

The log files appear chronologically by run time. To sort the list by any column, click on its header. To help you spot errors, *.err files have red highlighting.

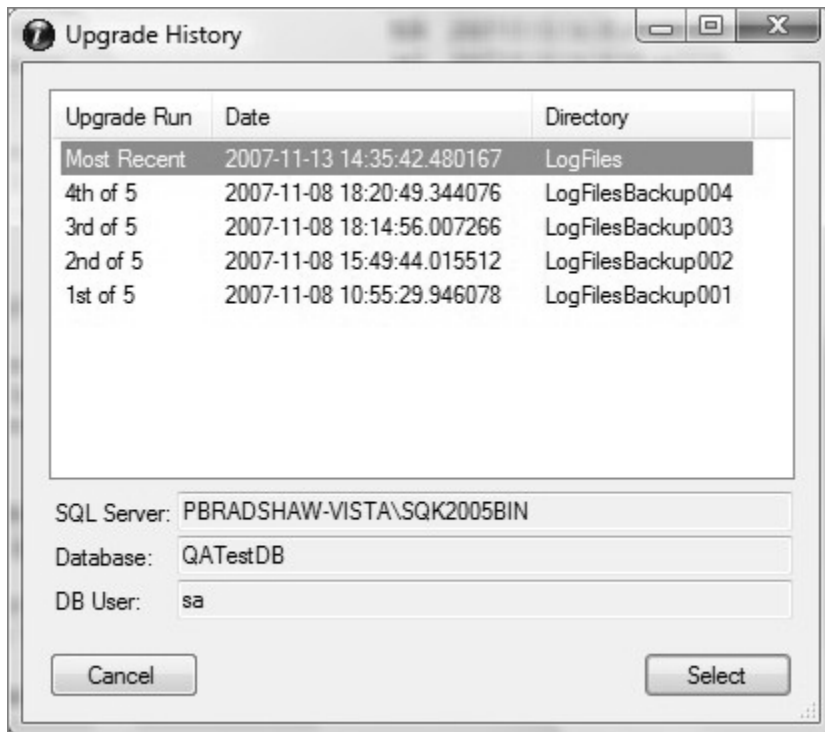
The contents of the selected log display below the list, and the pathname displays at bottom. At top right, the **Viewing:** information and **Log History** command remain hidden until you have run multiple upgrades.

Tip: You can select and copy text within both the log contents and the pathname areas.



Upgrade History window

All logs of every run are preserved, so use this archive to access prior runs, for getting log file locations and copying log file text (such as error messages) into other applications or email. The Upgrade History lists the order, date, and location of all the upgrades that have ever been run. Below the list, you can see which user, server, and database name were used for the selected upgrade.



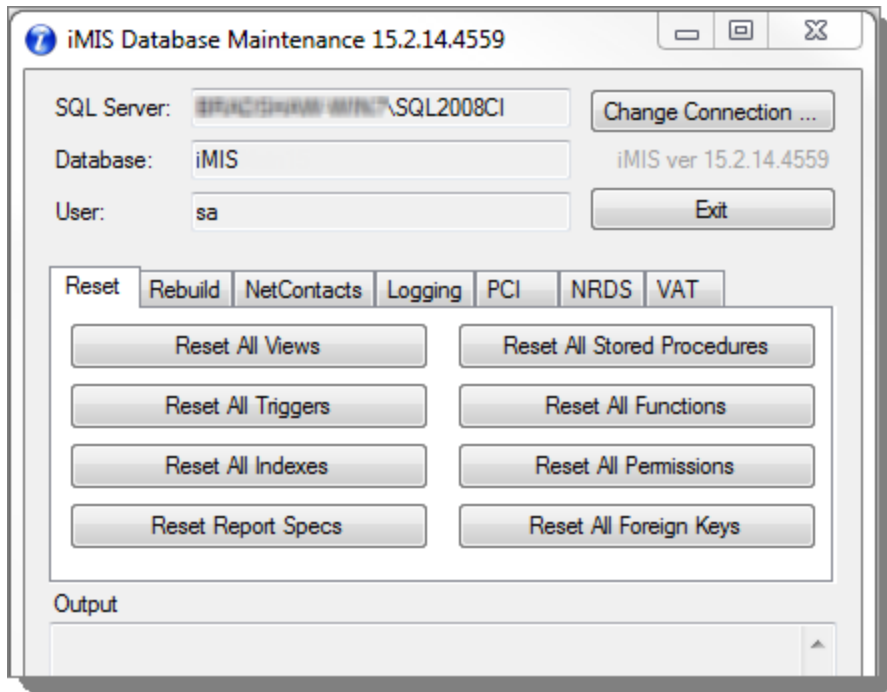
Click **Select** to return to the previous window with the selected run's logs displayed, rather than the most recent run (the default).

***iMIS* Database Maintenance: DB Maintenance**

iMIS Database Maintenance (DB Maintenance) is a standalone application that replaced the *iMIS* 10 Table Analysis utility. This tool lets you rebuild, analyze, and manage all *iMIS* tables. It also lets you run special scripts that prepare your database to support advanced options, such as PCI, NRDS, and VAT.

Tip: The **DB Maintenance** utility replaces **DB Repair**.

DB Maintenance runs as a separate, local application from the *iMIS* program group and organizes helpful database commands on a set of tabs.



- **Change Connection** – Switch to another *iMIS* database.
- **Output** – Displays information about the functions performed; this information also writes to a log file in the executable's directory.
- **Analyze Database** – Run a full analysis on the entire *iMIS* database. This process performs an extensive database analysis, so allow ample time for it to run.

Table analysis testing:

- missing table
- missing or extra columns
- wrong column order, data type, length, or defaults
- wrong numeric precision, scale, radix
- missing index
- missing PK/unique/clustered index
- missing or disabled triggers
- missing or disabled/distrusted foreign keys
- **Prepare *iMIS* Database** – Prepare an *iMIS* database that has just been restored to a new location or under a new name.
- **Table Details** – Analyze, examine, reset, or rebuild individual tables.

Precautions for using DB Maintenance

- Verify that you have a valid backup of your *iMIS* database before running DB Maintenance commands that modify the database.

- Ensure the database is protected from updates before modifying it, to prevent failures and data problems from changes occurring while entities are being reset/rebuilt/removed:
 1. Have all users log out.
 2. Stop web servers from updating the database, such as by stopping the AppPool in IIS.
- While users are logged in, you can safely run **Analyze Database** and **Table Details**; however, analyzing the database can affect performance.

DB Maintenance tabs: Reset, Rebuild, NetContacts, Logging, PCI

Reset tab

These functions restore database items to the states they held when last upgraded or installed.

- **Reset All Views:** Drop and recreate all *iMIS* System Views to what they were at the last install/upgrade. Custom Views are unaffected.
- **Reset All Triggers:** Drop and recreate all *iMIS* System Triggers to what they were at the last install/upgrade. Custom Triggers are unaffected.
- **Reset All Indexes:** Drop and recreate all *iMIS* System Indexes to what they were at the last install/upgrade. This preserves custom indexes, as well as primary and alternate key indexes, because of foreign key constraints (relevant only for newer .NET tables).

Caution! This function will not complete successfully if your *iMIS* database contains any full-text indexes. You must first drop all full-text indexes that might exist in your *iMIS* database, and then manually re-create them after you have finished running this function.

- **Reset Report Specs:** Reset all *iMIS* Standard Report Specifications to what they were at the time of the last install or upgrade. These specifications are found in *iMIS* Desktop, from the menu **Utilities > Report Specs**. Custom report specifications are not affected.
- **Reset All Stored Procedures:** Drop and recreate all *iMIS* System Stored Procedures to what they were at the last install/upgrade. Custom Procedures are unaffected.
- **Reset All Functions:** Drop and recreate all *iMIS* System Functions to what they were at the last install/upgrade. Custom User Defined Functions (UDFs) are unaffected.
- **Reset All Permissions:** Reset the permissions on all *iMIS* System database objects to what they were at the last install/upgrade. This grants permissions to all *iMIS* System database objects to the *iMIS* group as required.

Rebuild tab

- **Rebuild Name_All View:** Rebuild the Name_All View, which is not rebuilt by **Reset All Views**.
- **Rebuild Counters:** Rebuild all *iMIS* counters.
- **Rebuild All Existing Indexes:** Rebuild all *iMIS* System Indexes. This runs a DBCC REINDEX command against all existing *iMIS* table indexes.
- **Update Index Statistics:** Update all *iMIS* System Index Statistics.

NetContacts tab

NetContacts

NetContacts commands help you avoid errors when *importing contact records* into *iMIS*. (“NetContacts” takes its name from the **CsNetContacts** business object.)

In *iMIS* 15, a Name table trigger copies data to numerous .NET tables (such as ContactMain, Individual, Institute); the **NetContacts** tab helps you achieve the same synchronization when you import contacts into *iMIS* (see "[Importing contact records](#)").

- **Disable Name Table Trigger:** Disable the trigger on the Name Table that keeps the NetContacts synchronized.
- **Enable Name Table Trigger:** Enable the trigger on the Name Table that keeps the NetContacts synchronized.
- **Synchronize NetContacts:** Synchronize the NetContacts after loading the Name table with the trigger disabled.

Purge

Purge (see "[Purging user and contact records](#)") allows you to permanently delete entries from .NET tables.

- **Purge Unused Users:** Permanently removes user entries from .NET tables that were previously purged from Client/Server tables.
- **Purge Unused Contacts:** Permanently removes contact entries from .NET tables that were previously purged from Client/Server tables.

Logging tab

- **View Current Log File:** View logging information for current log file.
- **Log File History:** View list of log files, from most recent to oldest and select a file to view.
- **Clear Log File:** Back up the current log file to a history file, then clear the current log file. This is helpful to keep a shorter, recent list.

PCI tab

See [Using DB Maintenance for PCI compliance](#).

- **Purge All Cardholder Information:** Removes all existing cardholder information from your *iMIS* database (one-time process).
- **Reset Encryption Key and Data:** (annual process) Resets the encryption keys and re-encrypts cardholder data; writes these events to the PCIAuditLog.
- **Remove Historical Encryption Keys:** (annual process) Deletes the prior encryption keys and writes the event to the PCIAuditLog. Once done, email links encrypted with such keys cannot resolve.

NRDS tab

(*NRDS clients only*) Creates needed items for the data synchronization bridge. See [Creating NRDS items](#).

VAT tab

(*VAT organizations only*) If you enable **VAT Inclusive** in AR/Cash, lets you convert your existing product/event pricing to include the VAT tax amount. See [Converting to VAT Inclusive](#).

DB Maintenance: Table Details

The *iMIS Table Details* page allows you to do analysis and apply fixes and changes at table level rather than globally. All *iMIS* tables are listed alphabetically. When you select a table, a mini-analysis runs on it and reports in the **Output** area.

Features of Table Details

- **Number of rows:** The top right shows a row count for the selected table.
- **Output:** For the selected table, a brief table analysis runs, testing whether the table is missing, is missing columns, or has columns of an incorrect type. The analysis runs when you click on a table name in the list. This read-only area shows system information and quick analysis results.

- **OK:** returns you to the main **DB Maintenance** page.

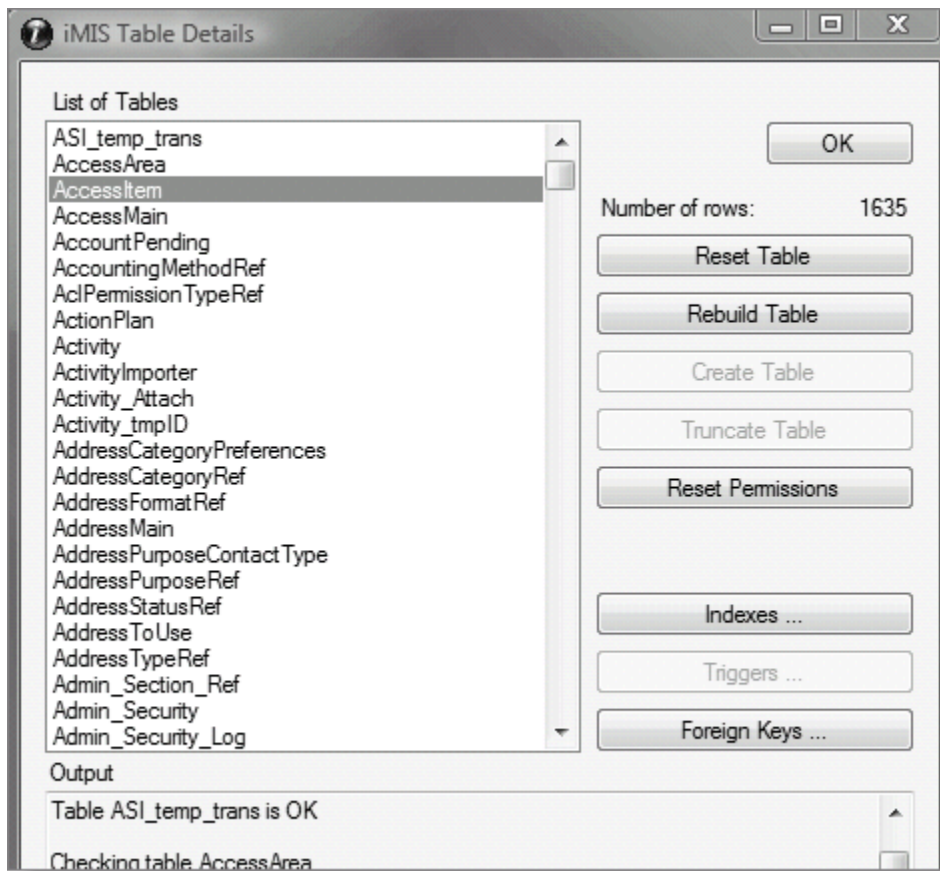


Table-level commands

- **Reset Table:** Performs a non-destructive reset of the table, replacing any missing triggers, indexes, permissions, or foreign keys.
- **Rebuild Table:** Performs a full rebuild of the table (rename the table, re-create the table schema, copy the data back over, re-establish all indexes, triggers, and permissions). It recreates the table from scratch, preserving data. If the table contains large amounts of data, allow ample time for this process to run.

Caution! You lose any user-added columns when you rebuild a table.

- **Create Table:** Recreates the table schema, indexes, triggers, and permissions. Enabled only if the table is missing.
- **Truncate Table:** Deletes all the data in the table, following a prompt for confirmation. Truncating a table with zero rows has no effect, but it runs the command just like any other table, and is useful for testing.
- **Reset Permissions:** Ensures the table is granted the proper permissions to the *iMIS* Group.

Indexes... lets you work with indexes associated with the selected table. Enabled only if there are indexes.

- **Create Indexes:** Creates any indexes that are missing, ensuring that the table has all of the *iMIS* indexes it needs.
- **Drop Indexes:** Drops the indexes associated with the table, except for indexes that are constraints; preserves user-added indexes. This does not affect primary or alternate keys, which may be the target of a foreign key constraint.

- **Rebuild Indexes:** Rebuilds all indexes associated with the table.

Triggers... lets you work with triggers associated with the selected table. Enabled only if triggers exist.

- **Enable Triggers:** Re-enables disabled triggers, which is useful after importing records. Enabled only if there are or should be system triggers on the table (ignores user triggers).
- **Disable Triggers:** Preserves triggers but disables them, which is useful when importing records. Enabled only if there are or should be system triggers on the table (disables user triggers as well).
- **Create Triggers:** Creates any triggers that are missing.
- **Drop Triggers:** Drops the triggers associated with the selected table.

Foreign Keys... lets you work with foreign keys on the selected table as well as other tables that reference it. Enabled only if such foreign keys exist.

- **Enable Table FKs:** Re-enables any disabled foreign keys on the table and checks them all. Enabled only if there are or should be foreign keys on the table.
- **Disable Table FKs:** Disables any foreign keys, which is useful when importing records. Enabled only if there are or should be foreign keys on the table.
- **Create Table FKs:** Creates the foreign keys on the selected table. Enabled only if there should be foreign keys on the table.
- **Drop Table FKs:** Drops the foreign keys on the selected table. Enabled only if there are foreign keys on the table.
- **Create Referencing FKs:** Creates the foreign keys on all tables that reference the selected table.
- **Drop Referencing FKs:** Drops the foreign keys on all tables that reference the selected table.
- **Create ALL FKs:** Creates the foreign keys on the selected table and on all tables that reference it.
- **Drop ALL FKs:** Drops the foreign keys on the selected table and on all tables that reference it.

Using DB Maintenance

Caution! If the version number of the database is *higher* than that supported by DB Maintenance, do not use any database commands until you resolve the version conflict.

To run DB Maintenance

1. From the **Start** menu, select **DB Maintenance Utility** in the *iMIS* program group.
2. When prompted, specify your server and database.
3. Log in using the **sa** user.
The next time you run DB Maintenance, it remembers the connection and only requires your password.
4. Verify that the version number supported by DB Maintenance (which appears at top, in the title bar) is the same or greater than the version number displayed to the right of the **Database** name (which is that of the database you selected).

Caution! Never run an older version of DB Maintenance against a newer database.

5. Click on any of the tabs to bring it to the front.
6. As needed, run the commands presented by the interface.
7. If you receive an error, check whether it's one of these known situations:

- **Column ... has the wrong default. Expected ... ", found ":** a harmless error that might be triggered by upgraded databases.
- **"Wrong Ordinal"** error on certain table columns may be triggered by upgraded databases. This message is generally harmless and affects only the ability to load the affected tables with BCP and the format files created by ASI.

Precautions for using DB Maintenance

- Verify that you have a valid backup of your *iMIS* database before running DB Maintenance commands that modify the database.
- Ensure the database is protected from updates before modifying it, to prevent failures and data problems from changes occurring while entities are being reset/rebuilt/removed:
 1. Have all users log out.
 2. Stop web servers from updating the database, such as by stopping the AppPool in IIS.
- While users are logged in, you can safely run **Analyze Database** and **Table Details**; however, analyzing the database can affect performance.

Rebuilding tables

To rebuild a table

Caution! Never run an older version of DB Maintenance against a newer database.

1. Have all users log out of *iMIS*.
2. Schedule downtime for rebuilding tables containing large amounts of data.
3. Back up all tables that you plan to rebuild.
4. From the **Start** menu, select **DB Maintenance Utility** in the *iMIS* program group.
5. Select the table to be rebuilt.
6. Click **Rebuild Table**.

To rebuild a customized table

If you have added *custom* objects (Foreign Key constraints, triggers, indexes) to *iMIS* tables, you must remove the customizations and then add them back.

1. Record all custom database objects that you have added to your *iMIS* tables, because you must manually recreate them.
2. Manually remove your objects; for example, drop all foreign key constraints on the table (both to and from the table, so you must also check other referencing tables and drop the relevant foreign keys there as well).
3. Restart DB Maintenance, select the tables, and click **Rebuild Table**.
4. Manually recreate all custom foreign key constraints that you recorded.

Importing contact records

The **NetContacts** tab in DB Maintenance helps you import contact records so that your new Name table data is correctly synchronized with all associated .NET table structures.

To import contact records

1. Backup your database.
2. On your appserver, run the **DB Maintenance** tool.

3. After connecting, select the **NetContacts** tab.
4. Click **Disable Name Table Trigger** to disable triggers temporarily.
5. Import your records in *iMIS* Desktop: select **Utilities > Data Transfer Utilities > Import Utility**.
6. When the import is done, click **Enable Name Table Trigger** to restore the trigger.
7. Click **Synchronize NetContacts** to update the associated NET tables.

Purging user and contact records

DB Maintenance lets you permanently delete entries from .NET tables that were previously purged from Client/Server tables.

Caution! Be sure to follow the order here: complete your Client/Server membership purge before proceeding to those in DB Maintenance, and always purge user records before purging contact records.

To purge membership records across *iMIS*

1. Purge member records in Name-related tables.
 1. In *iMIS* Desktop, select **Utilities > Reports and Queries** from the menu.
 2. Select **Purge, Membership Purge for MS SQL** and select **Run**.
The Membership Purge is for the Name table and those tables related to it.
2. Purge *user* records in .NET tables.
 1. In DB Maintenance, select the **NetContacts** tab.
 2. Click **Purge Unused Users**.
 3. Check the estimate for the number of records eligible for purging reported by the **Purge Confirmation** window, and troubleshoot if it seems wrong.
 4. Click **Continue with Purge**. The purge can take minutes or hours, depending on the number of records involved. Entries from the following .NET tables are deleted:
 - aspnet_Profile
 - aspnet_Membership
 - aspnet_Users
 - Users
 - UserMain
 - UserRole
 - UserToken
 5. When the purge is done, check the history log that displays for the success and number of records that were purged.
3. Purge *contact* records in .NET tables.
 1. Click **Purge Unused Contacts**.
 2. Check the estimate for the number of records eligible for purging reported by the **Purge Confirmation** window, and troubleshoot if it seems wrong.
 3. Click **Continue with Purge**. The purge can take minutes or hours, depending on the number of records involved. Entries from the following .NET tables are deleted:
 - GroupMember

- GroupMemberDetail
 - RFMMain
 - Individual
 - Institute
 - ContactBiography
 - ContactCommunicationReasonPreferences
 - ContactLog
 - ContactPicture
 - ContactSalutation
 - ContactMain
 - PrimaryInstituteContactKey is set to null for all related institute records
4. When the purge is done, check the history log that displays for the success and number of records that were purged.

Using DB Maintenance for PCI compliance

Depending on which option you choose in AR/Cash Setup, implementing advanced PCI Compliance support requires changes to your *iMIS* database, either by

- removing all existing cardholder information from your *iMIS* system that predates your new security measures, or
- resetting the encryption keys (including removal of previous keys) and re-encrypting cardholder data each year, as required

DB Maintenance lets you complete these processes easily and reliably through the **PCI** tab.

Precautions for using DB Maintenance

- Verify that you have a valid backup of your *iMIS* database before running DB Maintenance commands that modify the database.
- Ensure the database is protected from updates before modifying it, to prevent failures and data problems from changes occurring while entities are being reset/rebuilt/removed:
 1. Have all users log out.
 2. Stop web servers from updating the database, such as by stopping the AppPool in IIS.
- While users are logged in, you can safely run **Analyze Database** and **Table Details**; however, analyzing the database can affect performance.

To reset encryption keys and data

To maintain PCI compliance with stored cardholder data, you must complete all of the steps below.

1. Choose a time when the database can be offline for several hours. Re-encryption can take minutes or hours, depending on your data; once started, it must not be stopped.
2. In DB Maintenance, open the **PCI** tab.
3. To start the purge, click **Reset Encryption Key and Data**.
A warning prompts you to confirm the process.
4. Allow the process to complete without interruption.

Caution! You risk data corruption if you interrupt the process or close DB Maintenance, which appears unresponsive.

The output of the process displays in the main window of the DB Maintenance utility.

5. Click **Remove Historical Encryption Keys**, or, if postponing that purge, skip to the next step. (If you do the purge later, be sure to recycle the application pool then, too.)

Caution! Once you remove previous keys, clicking on any encrypted links that have already been embedded in emails (such as "create new account" emails) will no longer work. The user will see the error "Your session has timed out. Please try your operation again".

6. Recycle the IIS Application Pool (**iMISApp AppPool**) for each application server that uses this database.

To purge cardholder data

Important: If you implement PCI Compliance with audit logging and later switch to storing no data, be aware that this purge routine leaves the existing audit log (**PciAuditLog** table) intact.

Deferred transactions are lost in a purge, so you need to resolve deferred data and disable settings that allow it.

1. Find and change any gateway that is configured for Deferred Authorization:
 - In *iMIS* Desktop, open **AR/Cash > Set up module** and select **Credit Card Auth**.
 - Under **Current Accounts**, select the first gateway listed.
 - If it is set to **Deferred Authorization**, change it to **Immediate** or **Manual Authorization**.
 - Repeat for all other gateways.
2. Submit any deferred transactions that are pending: In *iMIS* Desktop, open **AR/Cash > Credit card reporting** and run **Print Deferred Pre-authorization Report** and **Submit Deferred Authorizations**.

Any deferred transaction remaining after the purge has no payment information, so it must be re-entered manually.
3. In DB Maintenance, open the **PCI** tab.
4. To start the purge, click **Purge All Cardholder Information**.

A query runs and the **Purge Payment Card Information** window opens, reporting the number of records with cardholder information in each table that will be cleared by the purge.
5. If the report surfaces no problems and you want to complete the purge, select **Continue with Purge** to clear the cardholder information from the database.

The output of the process displays in the main window of the DB Maintenance utility.

Fields affected by the purge

Table: [dbo].[ASI_temp_trans] if exists

- [CC_NUMBER] - masked (shows last 4)
- [CC_EXPIRE] - masked
- [CC_NAME] - cleared

Table: [dbo].[Trans]

- [CC_NUMBER] - masked (shows last 4)
- [CC_EXPIRE] - masked
- [CC_NAME] - cleared
- [ENCRYPT_CC_NUMBER] - cleared
- [ENCRYPT_CC_EXPIRE] - cleared

- [ENCRYPT_CSC] - cleared
- [ISSUE_DATE] - cleared
- [ISSUE_NUMBER] - cleared

Table: [dbo].[Orders]

- [PAY_NUMBER] - masked (shows last 4)
- [CREDIT_CARD_EXPIRES] - masked
- [CREDIT_CARD_NAME] - cleared
- [ENCRYPT_PAY_NUMBER] - cleared
- [ENCRYPT_CREDIT_CARD_EXPIRES] - cleared
- [ENCRYPT_CSC] - cleared
- [ISSUE_DATE] - cleared
- [ISSUE_NUMBER] - cleared

Table: [dbo].[Basket_Payment]

- [PAY_NUMBER] - masked (shows last 4)
- [CREDIT_CARD_EXPIRES] - masked
- [CREDIT_CARD_NAME] - cleared
- [ENCRYPT_CREDIT_CARD_EXPIRES] - cleared
- [ENCRYPT_PAY_NUMBER] - cleared
- [ENCRYPT_CSC] - cleared
- [ISSUE_DATE] - cleared
- [ISSUE_NUMBER] - cleared

Table: [dbo].[Order_Payments]

- [PAY_NUMBER] - masked (shows last 4)
- [CREDIT_CARD_EXPIRES] - masked
- [CREDIT_CARD_NAME] - cleared
- [ENCRYPT_CREDIT_CARD_EXPIRES] - cleared
- [ENCRYPT_PAY_NUMBER] - cleared
- [ENCRYPT_CSC] - cleared
- [ISSUE_DATE] - cleared
- [ISSUE_NUMBER] - cleared

Table: [dbo].[OrderCheckout]

- [CreditCardNumber] - masked (shows last 4)
- [CreditCardExpiration] - masked
- [CreditCardName] - cleared
- [CreditCardAddress] - cleared
- [CreditCardAddress2] - cleared
- [CreditCardAddress3] - cleared
- [CreditCardCity] - cleared
- [CreditCardState] - cleared
- [CreditCardPostalCode] - cleared
- [CreditCardCountry] - cleared
- [ISSUE_DATE] - cleared
- [ISSUE_NUMBER] - cleared

Creating NRDS items

(*NRDS clients only*) The National Association of REALTORS® (NRDS) bridge lets you share information between *iMIS* and NRDS through an automatic synchronization of changes made in either database. Setting up this data sharing includes a one-time command in DB Maintenance to create the needed items:

1. After downloading and installing the WebSphere MQ Client, restart your application server.
2. In DB Maintenance, select the **NRDS** tab and click **Add NRDS Items**.
3. Check the **Output** section below the button to verify that no errors occurred.

For complete setup and configuration details, see NRDS bridge for data synchronization.

Converting to VAT Inclusive

(*VAT organizations only*) If you entered product and event pricing in *iMIS* 15.2.5 and earlier, it was exclusive of VAT. If you now enable **VAT Inclusive** pricing, you need to do a one-time conversion of your existing pricing to include the VAT tax amount.

See Configuring VAT options in AR/Cash. When you enable the option in AR/Cash, *iMIS* prompts you to run this conversion.

Caution: Always back up your database and ensure that you can restore it before running *any* data conversion.

Upgrade note for VAT: Now that *iMIS* stores all order and order line amounts as VAT-inclusive, DB Upgrader takes care of updating all of your existing order data to be consistent with your new order data. Flags on the record ensure that the update occurs only once, and your original data is backed up (Orders_BAK and Order_Lines_BAK). Note that this universal change to storing order amounts as VAT-inclusive is unrelated to whether you set AR/Cash VAT Options to be VAT Exclusive.

ANSI Conversion Utility - ConvertTableToANSI

iMIS Desktop requires ANSI settings to be enabled at all times. Whenever Desktop creates a connection (ODBC or otherwise), it does so with all ANSI options turned ON. To ensure that the entire *iMIS* database has the correct ANSI settings, the upgrade utility rebuilds all tables and recreates all stored procedures, triggers, functions, and views.

Note: Because of this extensive rebuilding, expect upgrading to be significantly slower for very large databases. Before upgrading, check that you have ample free disk space relative to the size of your database, as these tables will be copied during the process of conversion and rebuilding.

ANSI settings required by *iMIS*

iMIS requires that all tables be fully ANSI compliant, so they must be created with `SET ANSI_NULLS ON` and `SET ANSI_PADDING ON`. The **ConvertTablesToANSI** command-line utility rebuilds every table in the database that is not ANSI compliant, including user-defined and third-party tables.

If you are creating your own tables, procedures, triggers, views, etc., be sure to set these ANSI settings:

```
SET ANSI_DEFAULTS ON
SET IMPLICIT_TRANSACTIONS OFF
SET CONCAT_NULL_YIELDS_NULL ON
SET ARITHABORT ON
SET NUMERIC_ROUNDABORT OFF
```

Running a standalone ANSI conversion

The **DB Upgrader** runs the **ConvertTablesToANSI** utility as part of an *iMIS* upgrade, but you can run it standalone as well, from the command line. To ensure a smooth upgrade for a large and complex database, you can do a "pre-upgrade" conversion on a backup of the database to anticipate problems.

1. Create a backup, an off-line copy of your database.

2. If you haven't upgraded, run the *iMIS* installer to expand copies of the database utilities.
3. Locate the **ConvertTablesToANSI** utility, in the **imis.net\IMISDBUpgrade\Utilities** folder.
4. From the command line, run the utility against your database backup:

```
ConvertTablesToANSI.exe -S sqlServerName -U sqlUser -P sqlPassword -D dbName
```

If your database copy converts with no errors, you can use this converted database for your upgrade, which saves the time of reconverting. If there is an error, contact Support for assistance before upgrading.

Troubleshooting ANSI Conversion errors

The ANSI conversion utility rebuilds every table that is not ANSI compliant. These tables are listed in the upgrade log:

```
Rebuilding Tables For Full ANSI Compliance ...
Converting Table 1 of 89: Activity
...
Converting Table 88 of 89: UserMain
Converting Table 89 of 89: W_Reports
ANSI Conversion Successful
Step 4 Done.
```

The total number of tables rebuilt varies by database. Any errors appear the build log, flagged with three asterisks (***), before both the description of the problem and the end of the step:

```
Converting Table 219 of 234: UsedSourceCode
*** Unable to copy data into table UsedSourceCode
...
Converting Table 234 of 234: tempTypeNamesList
*** Errors during ANSI Conversion
Step 4 Done.
```

After such an error, the upgrade continues. Although the completed upgrade reports being "failed", the upgrade will be valid as long as there are no other errors. When a table fails to convert, the utility restores it to its original, unconverted condition, unless connectivity to the database is lost.

IQA Queries

The Intelligent Query Architect (IQA) is the foundation for searches, lists, and data for reporting throughout *iMIS*.

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Understanding IQA

Intelligent Query Architect (IQA) is a query-building tool that extracts data from the *iMIS* database. IQA simplifies query-building tasks by providing a user-friendly interface that makes it easy for a user with limited SQL experience to build queries and reports.

Use IQA to:

- Display targeted information to users, such as a list of committee members, participation lists on contact account pages, and lists of payments and invoices
- Create reports with the Microsoft SQL Server Reporting Service (SSRS)
- Present queries to users with runtime prompts
- Allow users to create ad hoc, dynamic reports
- Organize data for mailings and letter merges
- Gather data for business analysis

To increase efficiency, you can copy and combine existing queries to define new ones. Users can access IQA queries through various locations within *iMIS*, but role-based security settings control access to queries and the underlying data.

Key Features: IQA

IQA allows you to specify many data display options, including:

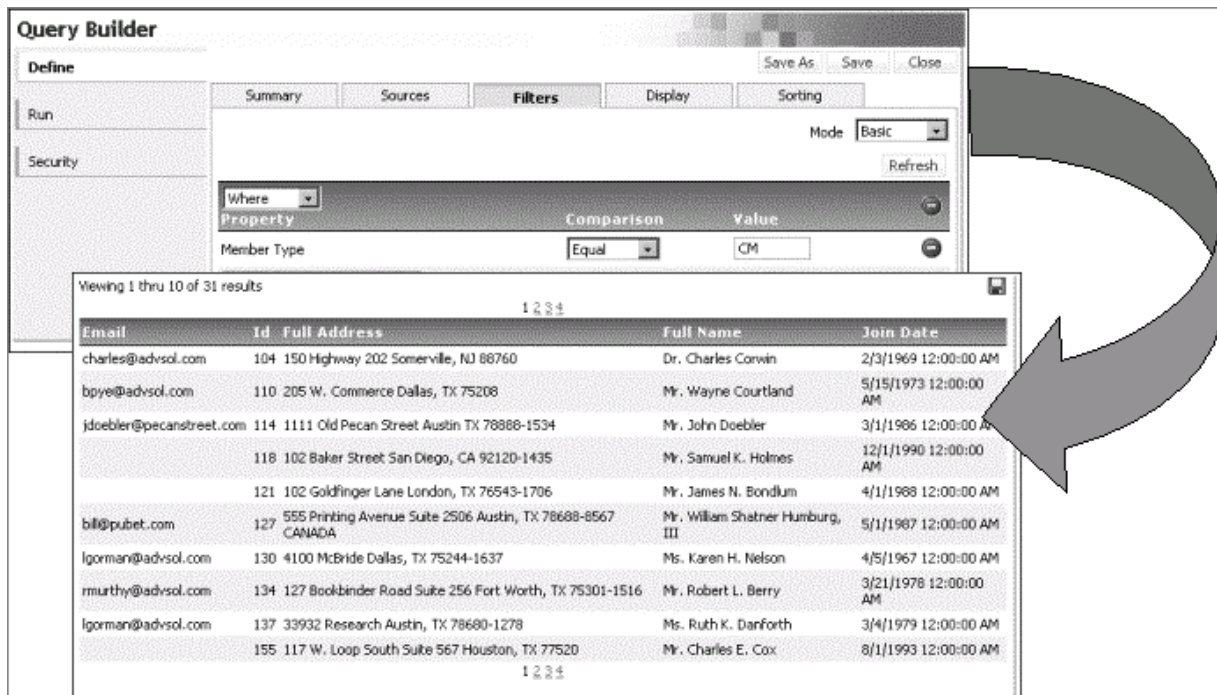
- Fields displayed from one or more business objects, including the ability to display concatenated or calculated fields.
- The sort order for displaying rows in a list.
- The selection criteria to locate rows to display, including the ability to prompt the user for runtime criteria. For example, you can specify that the user can enter an invoice number to locate an invoice.

- Which page to display if it is appropriate to show additional information for the record being viewed. For example, you can specify that the Invoice Detail window should open if a user clicks on an invoice number link in the list.

And you can design a query once and use it in many locations throughout the system.

Task by role: IQA

The tasks a user performs depend on their security authorization, which is role-based. Use the security controls and display options to make sure the correct query results and the access to them are appropriate for each type of user. Typically, an administrator would set permissions and security, an authorized user would define the query, and a lower-level user would run and export the available queries.



Example of a query definition and its results

Understanding iMIS queries

Queries are a central concept in iMIS. They are used to extract data from the database, but they also drive many application elements. For example, queries are used as the source for many user interface elements, especially for the display of data to users. Queries are also used as sources for reports.

The data sources for queries can be other queries or iMIS Business Objects. Queries can be simple, using a single source; or they can be complex, with multiple sources and different types of joins. For example, a simple query can gather and display all contacts from the province of Ontario. A complex query might organize donors by giving levels and frequency of gifts to generate a detailed report.

Query definitions are stored in the Document System. Access to queries are granted through security settings.

Outputs

You can generate a variety of outputs from IQA:

- Webpage display – Queries can deliver results in a quick list view (**Run**) or in a formatted webpage that enhances your organization's website.

- iPart display – Queries drive the data displayed to users in many iParts. See Displaying query results in iParts for details.
- Mail merge file
- Reports – Combine query results with report formats in Microsoft SQL Server Reporting Services (SSRS) to create, access, modify, and share reports.
- File

Tour: Intelligent Query Architect

You must have the SysAdmin role to perform this quick tour.

1. Select **Tools > Intelligent Query Architect**.

The Intelligent query architect page appears displaying the full Document System folder tree, filtered to display only query objects.

2. Navigate to **Common > Examples > Query Example**.

3. In the **Query Example** folder contents area, select **Example Query**. Click **Edit**.

The IQA page appears.

4. Click the **Sources** tab. Use the **Mode** dropdown list to toggle between **Advanced** mode and **Basic** mode.

Notice how the **Advanced** mode exposes more functionality.

5. Explore the remaining tabs and task list items.

Concepts and Terms: IQA

Business objects are collections of self-contained data that represents an entity or process, and shields the physical data. You can use business objects to build the query definition, or you can base the query on an existing query.

Use *joins* to specify which fields are equivalent so the files can relate to each other correctly. The most common joins in iMIS center on member ID numbers.

Store the query in the *Document System*, iMIS's server-side file system.

Define the results display with *iParts*, web part controls that allow you to create and edit website content.

Administering IQA

Getting Started with IQA

The steps to set up and use IQA include:

1. Administrator defines security permissions and global settings for queries.
2. An authorized user builds the query definition using Business Object data and/or other queries, with appropriate joins between the data. The user defines the results display or report format and stores the query in the Document System.
3. An end user selects a query and supplies any required parameters. The user runs the query and views the results in a webpage or a report.

Accessing IQA

If you are an administrator or a user who is allowed to set up queries, the **Tools** tab displays. Select **Tools > Intelligent query architect**.

Building a library of queries

Best practices for building your library

- Plan for a folder structure and naming convention for queries, because multiple users will create queries and it may become difficult for a user to find the query they need.
- Establish a review of all queries to delete incorrect or unused queries. Consider a policy of allowing the user to copy or borrow another user's query but not to modify the original query.
- Use the **Summary** tab to track the author (based on the user's *iMIS* login name) and created/update dates.
- Make sure that any user defined tables have been previously published.
- If your query is for a merge output process and you want your query to be accessible to users via **Home > Generate Reports**, you must create your query in the **Tools> Common> Reports View** folder. You can navigate to that folder from **Tools > Intelligent query architect**, or from **Home> Generate reports**.

Queries in the Document System

The Document System (**Tools> Document System**) offers a complete administrative tool for managing folders, security, and storage of queries. You can implement an entire library of queries that can be used in *iMIS* modules to best meet your users' needs.

Creating links to reports in the Document System

You can create links in the Document System that place the queries in the **Generate Reports** menu for certain areas.

Each area's DefaultSystem folder contains three sub-folders:

- Queries
- Reports
- ReportsView – link to these queries to display them in the **Generate Reports** menu for each area.

To create a custom folder in the Document System

1. Select **Tools > Document System**.
2. Select a folder from the document system directories.
3. Click **New Folder**.
4. Enter a folder name, for example **Custom Queries**.
5. (Optional) Select **Allow only the following type(s) of objects in this folder** and select the type of objects from the list.
6. Click **Save**.

Administering security for IQA

Whether *iMIS* users can see the **Advanced Query** links on the **Home** page or on the **Customers**, **Events**, and **Orders** tabs is dependent only on their *iMIS* authorization levels, *not* on their security groups. However, whether users can view the rows returned by queries that reference Event, Fundraising, or Order business objects is dependent on their security groups.

You must therefore ensure that your *iMIS* administrator assigns users to the **EventUser**, **FRUser**, and **OrderUser** security groups as needed.

The IQA predefined queries that are exposed to *iMIS* users through the **Advanced Query** links in *iMIS* modules require that *iMIS* users be assigned to the following security groups:

- **FRUser** - assigned to all the Fundraising objects (**CsDonations**, **CsGifts**, **CsPledges**) and predefined queries that filter on Fundraising objects.
- **OrderUser** - assigned to all Order objects (**CsInventory**, **CsOrderHistory**, **CsOrderLines**, **CsOrders**) and predefined queries that filter on Order objects.
- **EventUser** - assigned to all Event objects (**CsEvent**, **CsEventHistory**, **CsFunction**, **CsFunctionFees**, **CsRegFunctions**, **CsRegistrantClasses**, **CsRegistration**) and predefined queries that filter on Event objects.

Integrating queries throughout *iMIS*

Users can access IQA queries through various locations within *iMIS* that expose Document System folders, such as the **Advanced Query** and **Generate reports** task list items in functionality such as **Customers** and **Billing**. IQA queries also drive the data displayed to users in many iParts used in WCM-generated websites: see *Displaying query results in iParts for details*.

Returned rows that contain columns from Event, Order, or Fundraising business objects are hidden unless the user belongs to the corresponding EventUser, OrderUser, or FRUser security groups.

Creating links to iMIS modules from query results

Queries that run from the **IQA** link on the **Home** page or from **Customers**, **Events**, and **Orders** can display a link from each returned row to the corresponding module. *For example*, if you run the **Contacts > Last Name** query, you can click the ID number in a returned row to load the corresponding customer profile in **Customers**.

The following technique only works on queries that are created in the specific **Document System** folder for each **Advanced Query** link, as follows:

- *Contacts:* **ContactManagement > DefaultSystem > Queries > Advanced > Contact**
- *Events:* **EventManager > DefaultSystem > Queries > Advanced > Event**
- *Orders:* **OrderManagement > DefaultSystem > Queries > Advanced > Order**
- *Prospects:* **ContactManagement > DefaultSystem > Queries > Advanced > Prospect**

Enabling queries on user-defined tables

To build a business object for a user-defined table

You must build a business object for each new user-defined table you create; until you do, the table cannot be used as a source in a query definition.

1. Create the user-defined table.
2. From **Tools > User defined tables**, click **Build All**.
3. The business object is built and prefaced with Cs (such as CsSurvey).
4. If you need binary data types (such as a character field greater than 255 characters) to display in the field list, add each type manually.

To add a binary field to the View list

When the business object is built, any character fields with a length greater than 255 characters are converted to binary data type. Fields with binary data type do not display when you select **All** from the **View** list on the **Display** tab in IQA. You must manually add fields of this type to the list.

1. Make sure you are in **Advanced** mode.
2. On the **Display** tab, select **All** from the **View** list.
3. Scroll to the bottom of the **Display** page.
4. In the **SQL Expression** field, enter the name of the field.
5. (optional) Enter an **Alias** for the field.
6. Select **Add**.

Building Queries

IQA provides two modes for query definition: **Basic** and **Advanced**. The general steps for defining a query are the same in either mode, but additional functionality is available in **Advanced** mode. Use **Basic** mode for querying and displaying simple lists of results from one or more sources with optional filters to narrow the results. Use **Advanced** mode for more complex queries and displays.

Note: iMIS starts you in **Basic** mode, but it remembers the last mode you were in, even after you log out.

Basic Mode	Advanced Mode
<ul style="list-style-type: none"> ▪ Define sources and (optional) filters ▪ Specify display details 	<ul style="list-style-type: none"> ▪ Use calculations, such as sums and averages ▪ Use queries in iMIS searches ▪ Use SQL expressions in queries ▪ Use complex filters, such as displaying only unique results ▪ Allow or require end user to supply parameters at run time ▪ Aggregate data and display ▪ Assign aliases to field names for display ▪ Link a display property to another page

See [Reporting in IQA](#) for information about using queries for reports.

Essential of query definition

1. *Define the query mode*

Define the query as Basic or Advanced, depending on complexity. Use Basic mode for simple queries without calculations like sums and averages or SQL expressions.

2. *Name the query*

Follow a structured naming convention to make queries easier to locate. See [Building a library of queries](#) for guidelines.

3. *Add source(s) for the query*

Add one or more sources (business objects and/or queries) for the query. For example, you could set up a query based on the Contacts business object alone, or on both Contacts and Activities, or on a previous query with an additional source.

4. *Use existing relationships between sources or create new ones.*

If you have chosen more than one source for your query, there must be relationships among them. The most common relationships are used by default. However, you might need to create new ones. You can associate business objects and queries through fields that contain the same data.

To make user-defined tables available as sources in IQA, have your system administrator publish them in **Tools> User Defined Tables**. Whenever a new custom table is added or updated, the system administrator should re-publish the tables.

5. *Set filters to narrow query results*

Use logical operators (such as equal, not equal, and between) to refine query results.

6. *Select the columns to display*

You can select the columns you want to display from the sources you have selected and the order in which you want the columns to appear.

7. *Define the sorting order of the columns*

You can order and prioritize the properties in each column in ascending or descending order.

8. *Test the query*

It is important to test the query and edit it, if necessary, to make sure the desired results are returned.

9. *Modify security access to the query*

You can modify the security on a filter to assign read, write, and run privileges.

10. *Save the query to an appropriate folder*

To save a valid query, you must select at least one source and one column. If you select more than one source, the relationship between them must be defined. In most cases, a default relationship is inherited from your sources.

Tips for building queries

- Review information on Business Objects to help select the appropriate objects for your query.
- Base the structure and location for your query file/folder on the needs and access levels of your users. See [Building a library of queries](#) for information and hints.
- Start with a single source object and add additional objects as needed.
- Some attributes (relations, default columns, default column order) are inherited from the sources you select. You can modify these default settings during query definition/editing.

Creating or editing a query (Basic mode)

The following procedure shows how to define a new, simple query. To edit an existing query, you can follow the same procedure. In some cases, a system administrator can navigate to the webpage where the results are displayed and click **Edit Source Query**. See [Editing query-generated lists in iMIS](#) for more information.

To create or edit a query in Basic mode

If you have been granted access to an IQA folder, you can edit or create queries in that folder.

1. From **Tools > Intelligent Query Architect**, select **Edit> Query** or **New> Query**.
2. Make sure **Basic** mode is selected.
3. Enter a **Name** and (optional) a **Description** for the query. Do not use apostrophes (').

Tip: Use a naming convention that ensures that the query has a unique name. *iMIS* does not require uniqueness.


4. Click the **Sources** tab and click **Add Source**. Navigate to find a business object or query to use as a source for the query. (Most business objects are located in the **Common** folder.) Select the desired source and click **OK**.

Note: When you add a source more than once, the system automatically appends a numeric value (beginning with the number 1) to the second and subsequent sources to distinguish between the sources. For example, if you add the Contact business object three times in order to set up a variety of relationships, the instances would be labeled Contact, Contact1, and Contact2.

5. (optional) Select an additional source and click **OK**. Use the up and down arrows to reorder the data sources as needed.

If you select more than one source, you must define the relationships among the sources. Most sources have a common relationship as a default. Use the default, choose the desired relation from the list, or select **Custom** from the drop-down list to define a new one.

6. (optional) Click the **Filters** tab and define the filtering rules:

- ☐ Select the **Property** to be compared.
- ☐ Select the type of **Comparison**, such as **Equal**, **Between**, or **Empty**. Enter the **Value** or select a date for comparison.
- ☐ Click the  icon to add the filter.
 - When you select **Between**, the **Value** column changes to display two fields with the word "and" between them. The specified values are inclusive.
 - The pattern comparisons (**Contains**, **Not Contains**, **Starts With**, and **Ends With**) use a simple text field even for a **Property** that normally contains a discrete drop-down list of values.
 - The **Contains** comparison type performs a string comparison to find one string within another string. A partial match (for example, only a portion of a word) is required.
 - Enter multiple values for a pattern comparison (**Contains**, **Not Contains**, **Starts With**, and **Ends With**) by separating each value with a comma.
 - Click the calendar icon next to any **Date** field to select a date. If you need to specify a specific time on the selected date, first enter the time in the **Date** field, using 24-hour format (for example, enter 23:00 for 11:00 p.m.) then click the calendar icon to select the date.
 - When entering numbers for a comparison on a date field (**Within Days**, **Within Months**, **Within Years**), be aware that such comparisons are zero-based. For example, if you select the **Last Updated** column and select **Within Days**, you must enter zero in the **Value** field to get all records that were updated within one day or enter 1 to get records that were updated within two days.

7. Click the **Display** tab and define how results columns will be displayed:

- ☐ Select the columns you want to work with (**Selected**, **Defaults**, or **All**) from the **View** list.
- ☐ Select the **Only display unique results** option to prevent duplicate results from displaying. When the query includes a property with a display function such as **Count**, that property is used to determine unique results. If the query includes more than one display function, only the first function property displayed (defined by the display order) is used.
- ☐ Select the results columns to **Display** to users. Select the **Order** in which you want the columns to display to users (from left to right). The order is based on the **Order** column, not the order in which they were chosen. Subsequent sorting selections go at the end of the sort order list (per session) by order listed within each session.

Tip: If you are defining a query for a merge output process, make sure you select all columns needed for the merge.

8. (optional) Click the **Sorting** tab and specify the sort order for each column:

- ☐ Select the **Property** to sort by.

- ❑ Select the sort **Priority** for each **Property**.
- ❑ Select the **Direction** of data in each column: **Ascending** or **Descending**.
- ❑ Click the + icon to add the sort.

The user can sort columns in the output by clicking on a column header. A carat symbol (^) will display in the column header, indicating that the column is now a sort column. The user-selected sort overrides any sorting defined on the **Sorting** page and will change the sort definition in the query to reflect the current column sort.

9. Select **Run** to test the query. If necessary, select **Define** to edit the query.
10. Select **Security** and select the **Access Mode** option to assign access and privileges for the query and its results display. The default setting for a new query is “Authenticated Users Full Control”. Names of authorized users are listed in the **Current Access List**.

Access Key and Contact Key are important when you are linking to objects with security, such as a Campaign business object where a user must have certain security to be able to view data.

11. Click **Save**. Select the folder in which to save the query.
12. (optional) Click **Report** to save this query as a report definition. You can customize these reports and export them to PDF or XLS format. See [Reporting in IQA](#) for more information.

Query examples using Basic mode

Tip: If you're new to IQA, open the example query and explore the options available. Select **Tools > Intelligent Query Architect**, navigate to **Common > Examples > Query Example**, select **Example Query**, and click **Edit**.

Example: Find members by company and state

This query extracts those individuals whose companies are located in the state of Texas.

1. Browse to IQA.
2. Select **Query** from the drop-down list and select **New**.
3. Select sources:
 - ❑ Browse to the Common folder containing business objects.
 - ❑ Select CsContact twice.

Note: When you add multiple instances of a source, the system automatically appends a numeric value (beginning with the number 1) to the second and subsequent sources to distinguish between the sources. For example, if you add the CsContact business object three times, the system labels the second and third instances CsContact1 and CsContact2, respectively.

- ❑ In the **Relations** area of the **Sources** tab, make sure the custom relation is CsContact.Company Id Equals CsContact1.Id.
4. Define the filtering rules:
 - ❑ Select the **Filters** tab.
 - ❑ **Mode:** Basic
 - ❑ Filter on CsContact.MemberType.
 - **Property:** CsContact.MemberType
 - **Comparison:** Equals

- **Value:** Individual Member
 - Click the + icon to add the filter.
- Filter on CsContact1.StateProvince.
 - **Property:** CsContact1.StateProvince
 - **Comparison:** Equals
 - **Value:** TX
 - Click the + icon to add the filter.
- 5. Define the columns to display in the output:
 - Select the **Display** tab.
 - Select the following columns:
 - CsContact.Id
 - CsContact.Company
 - CsContact.MemberType
 - CsContact1.StateProvince

Note: A default list of columns displays when you select the **Display** tab. Deselect the columns you do not need. If a column you need is not in the default list, select **All** from the **View** drop-down list and scroll down the page to select the desired column.

- Using the **Order** drop-down list on the **Display** tab, assign:
 - CsContact.Id Order 1
 - CsContact.Company Order 2
 - CsContact.MemberType Order 3
 - CsContact1.StateProvince Order 4
- 6. Specify the sorting priority:
 - Select the **Sorting** tab.
 - Sort the results by CsContact.Id.
 - Click the + icon to add your selection.
- 7. Save your settings.
- 8. **Run** the query.

Example: Find purchases by amount and date

This query extracts customers who have purchased more than \$100 within a specific date range.

1. Browse to IQA.
2. Select **Query** from the drop-down list and select **New**.
3. Select sources:
 - Browse to the Common folder containing business objects.
 - Select the CsContact and CsActivityBasic business objects.

- Make sure the default join in the **Relations** area is `Contact.iMIS Id Equals CsActivityBasic.Id`.
- 4. Define the filtering rules:
 - Select the **Filters** tab.
 - **Mode:** Basic
 - Filter on `CsActivityBasic.Activity Type`.
 - **Property:** `CsActivityBasic.Activity Type`
 - **Comparison:** Equals
 - **Value:** ORDER
 - Click the + icon to add the filter.
 - Filter on `CsActivityBasic.Transaction Date`.
 - **Property:** `CsActivityBasic.Transaction Date`
 - **Comparison:** Between
 - **Value:** "1/1/2011","12/31/2011"
 - Click the + icon to add the filter.
 - Filter on `CsActivityBasic.Amount`.
 - **Property:** `CsActivityBasic.Amount`
 - **Comparison:** Greater
 - **Value:** 100
 - Click the + icon to add the filter.
- 5. Define the columns to display in the output:
 - Select the **Display** tab.
 - Select the following columns:
 - `CsContact.iMIS Id`
 - `CsActivityBasic.Amount`

Note: A default list of columns displays when you select the **Display** tab. Deselect the columns you do not need. If a column you need is not in the default list, select **All** from the **View** drop-down list and scroll down the page to select the desired column.

 - Using the **Order** drop-down list on the **Display** tab, assign:
 - `CsContact.iMIS Id` Order 1
 - `CsActivityBasic.Amount` Order 2
- 6. Specify the sorting priority:
 - Select the **Sorting** tab.
 - Sort the results by `CsContact.iMIS Id`.
 - Click the + icon to add the selection.
- 7. Save your settings.

- Run the query.

Example of Basic mode query (one source): Find all members in New York

Select Tools > Intelligent Query Architect> New > Query.

- Mode:** Basic
- On the **Summary** tab, enter the name and description for this query.
- On the **Sources** tab, add the source **Common> Business Objects> CsContact**.
- On the **Filters** tab, select:
Where
StateProvince **Equal** **New York**
MemberType **Equal** **Member**
- On the **Display** tab, **View > Selected columns**. Select the columns to display and the order.
- Click **Run**. Depending on your system's display settings, your results could display as:

<div> <div> 1 2 3 4 </div> <div> Page: 1 of 4 Go Page size: 20 Change </div> <div>Item 1 to 20 of 80</div> </div>					
show all 80					
iMIS Id	Member Type	Full Name	Company	City	State Province
10241	M	Ms. Allie L Thompson	Cardio Systems	New York	NY
10245	M	Mrs. Anne Q Buckley	Cardio Systems	New York	NY
10266	M	Mr. Charles Q Eisenhower	Cardio Systems	New York	NY
10306	M	Miss Gail H Redcay	Cardio Systems	New York	NY
10361	M	Mrs. Lynda P Washington		Rome	NY
10406	M	Ms. Sharon K Walker	Cardio Systems	New York	NY
10445	M	Ms. Anna Y Smith	Cardio Systems	New York	NY
10467	M	Mr. Carl Q Brown	Cardio Systems	New York	NY
10487	M	Mr. Craig W Ruise		Poughkeepsie	NY
10492	M	Mr. Dale J Gant	Cardio Systems	New York	NY
10515	M	Mrs. Donna S Grant	Cardio Systems	New York	NY
10517	M	Ms. Doris L Suggs	Cardio Systems	New York	NY
10538	M	Ms. Gail N Strecker		Staten Island	NY
10544	M	Mr. Gerry N Johnson		New York	NY

Example query results: Members from New York

Example of Basic mode query (two sources): Find all members in New York who attended an event

- Select Tools > Intelligent Query Architect> New > Query.
- Mode:** Basic
- On the **Summary** tab, enter the name and description for this query.
- On the **Sources** tab, add the sources **Common> Business Objects> CsContact** and **Common> Business Objects> Activity**.
- Use the default relation between the two business objects:
FK_Name_Activity (When CsContact.ImisId = Activity.Id)
- On the **Filters** tab, select:

Where

StateProvince	Equal	New York
CsContact.MemberType	Equal	Member
Activity.ActivityType	Equal	MEETING
Activity.TransactionDate	Greater Equal	1/1/2009

7. On the **Display** tab, **View > Selected** columns. Select the columns to display and the order. Select the **Only display unique results** option.
8. Click **Run**. The results are a subset of the list in the previous example:

iMIS Id	Member Type	Full Name	Company	City	State Province
11593	M	Mr. Matthew D Monreal		Spring Valley	NY
166	M	Mr. Douglas Cooper	International Medico	New York	NY
186	M	Mr. Michael H. Spryn	Spryn International	Rochester	NY

Example query results: Members from New York who attended the 2009 Conference

Editing query-generated lists in iMIS

You can edit the queries behind IQA-generated lists directly from the page on which the list appears. Authorized users can edit an existing query that drives an IQA-generated list directly from the pages on which they appear. When you see a link called **Edit Source Query** above such a list, you can click the link and change the query in place, without leaving the page or navigating the Document System. This ability means that you can make quick and easy changes to query filters, column display, and sorting.

If the link does not appear above a query-generated list, then you must navigate to IQA to edit the query. For example, you cannot edit query-generated lists from some iParts. Some IQA features are disabled from this view of the query: you cannot rename the query or Save As. Depending upon the list's implementation in *iMIS*, a list's **Edit Source Query** link may be hidden until the query is run for the first time.

Caution! Queries are not versioned in *iMIS*. If you are unsure about the changes you are about to make, navigate to IQA so that you can create a copy of the original query before making any edits.

To modify a query from a webpage

1. Navigate to the desired page.
2. Click **Edit Source Query**.
3. Modify the information for the query, including:
 - ☐ Renaming the query
 - ☐ Adding sources
 - ☐ Defining filters
 - ☐ Specifying columns and links to display
 - ☐ Selecting column sort order for display
 - ☐ Editing security settings
4. Click **Save**.
5. Run the query to check the results and the display.

6. (optional) Select **Report** and save this report definition to your workstation or to the Document System. Click **Save**.

Defining displays for users

The Display options in query definitions specify which columns and fields to display, and in what order. You can use iParts to define where and how you want to display the query results for your users. These iParts allow you to:

- Display query results in a simple form view: Summary Display iPart
- Merge query results into your site with whatever title, parameters, columns, labels, and sorting you need: Query Menu iPart
- Enable exports to Word, Excel, PDF, and CSV (comma-separated values): Query Menu iPart
- Allow users to select which query they want to view: Query Menu iPart
- Display query results in a chart, such as a pie chart or a bar graph: Query Chart Viewer iPart
- Display a group of profile pictures based on the results of an IQA query: Query Profile Picture List iPart.

For an example of using the Query Menu iPart for a results display, see [Example: Display completed orders](#).

Finding customer records with IQA

You can use two business objects to find customer records in an IQA query.

CsContact

CsContact represents a customer record in the traditional Customer Portfolio sense. Use this to see all of the main fields in **iMIS Desktop** (e.g. First Name, Last Name, Email address).

NetContact (recommended)

NetContact contains the same fields as **CsContact** with an additional field called **ContactKey**. **ContactKey** is a unique identifier used in some of the *iMIS* web features (Process Manger, Marketing Suite, WCM, etc.). This field is often used when filtering IQA results to a currently selected or logged in user (see [Adding dynamic filters to queries](#) for more details).

NetContact is also unique because what looks like one record in **iMIS Desktop** may actually have two entries in this business object. In a standard individual customer record or company record you only see one entry. But *combo records** have one entry representing the company and a second entry representing the individual. In this case, the iMIS ID of the individual record has a prefix of "P". If you join **NetContact** to another business object on the iMIS ID field, this limits the results of combo records to just the Company entry.

*What is a combo record?

A combo record is a Company record that also contains a first or last name. This case only occurs if customer portfolio is not set to **Suppress Individual Name Fields for Company Records** (see Customer Setup - Basic Options window for details).

Defining a query (Advanced mode)

The **Advanced** mode gives you powerful methods to query, filter, display, and report your results. The steps to build a query in Advanced mode are the same as in Basic mode, with additional options described in the following sections.

Use Advanced mode to define queries with calculations and/or SQL expressions, and to aggregate data. You can set up complex filters and assign aliases to field names for display.

To view examples of queries built in Advanced mode, see [Query examples using Advanced mode](#).

Advanced options for Summary

In Advanced mode, the **Summary** page provides a field to define any SQL statement for your query.

Advanced options for Sources

In **Advanced** mode, the following options are available on the **Sources** page:

- **Use FORCE ORDER option:** Require SQL Server to join the tables in a query in the order you specify.
- **Use NOLOCK locking hint:** Require SQL Server to ignore record locks.
- **Use join method for security enforcement:** If enabled, when users run the query, *iMIS* checks to make sure they have permission to read every source within the query before displaying the results, whether the source is a business object, another query, or both. When disabled, *iMIS* does not check the security for every source and instead only enforces the security setting for the main query.

Advanced options for Filters

Filters refine a query. You can limit your results by eliminating duplicates, using comparisons, setting parameters, and using logical operators.

- **Tips for filters**
 - If you installed *iMIS* on a case-sensitive SQL server, the filters you define are case-sensitive. You cannot define case-insensitive filters on queries when *iMIS* runs on a case-sensitive SQL Server.
 - Select the **Require user to provide at least one value** option when you want to require a value for every filter you define for a query.
 - Selecting the **Remove** icon for a filter set removes both the filter set and all related filters from the query.

Advanced mode options for Display

In Advanced mode, the following options are available on the **Display** page:

- **Function:** Allows the user to find **Count** and **Min** or **Max** on a field.
- **Alias:** Creates a label name for the field to be displayed to users. The alias entered can contain special characters.

Use `key_` or `code_` as a prefix in the **Alias** field to hide columns under certain conditions:

 - If you use `code_` as a prefix, this field will always be hidden from the initial result set.
 - If you use `key_` as a prefix, this field will be hidden if the current column is not a GUID.
- **Link:** You can add a link for each column listed in the **Display** tab so that the user can click on the link to go to a specified page for more details. See [Linking IQA results](#) for more information.
- **Subtotal:** Specify whether the property should be subtotaled in the display. You can display query results in a hierarchical grid of summary rows and detail rows by using the **Subtotal** option. See [Hierarchical grid display](#) for more information.

Developing filters

In **Advanced** mode, the following options are available on the **Filters** page:

- If you have selected multiple sources, you can select **Add Filter** to define additional filter rules using the **And**, **And Not**, **Or**, and **Or Not** connectors. Use the up and down arrows to specify the order in which to apply a filter.

Controlling joins between filters

Tip: When you define more than one filter, by default the join uses **And**, which narrows the results. However, if you add multiple filters on the same object **Property** (such as `StateProvince`), by default the filters join with an **Or** connective, which broadens the results. Therefore, to use the same object **Property** in an **And** join, create those filters separately. For example, to define a filter to obtain customer records in Texas and in Virginia, first create one filter (where `StateProvince = TX`) and then select **Add Filter** to define the second part (where `StateProvince = VA`).

- A **Multiple** checkbox is visible when the filter **Property** contains a discrete drop-down list of values. Selecting this checkbox changes the **Value** selector from a simple drop-down list that enables you to select only one specific value to a multi-select control that enables you to select multiple values. The selected values are used as an **Or** comparison. See [Defining a filter property with several values](#) for more information.

Tip: Even if the **Multiple** checkbox is not visible, you can still manually specify multiple values for any filter property by entering a comma-delimited list of quoted values. *For example*, you could specify the following multiple values for a **City** property: "Toronto", "Montreal", "Calgary"

- **Require the user to provide at least one valid value:** User must enter a valid filter value before the query can be run.

Adding runtime parameters

In Advanced mode, you can create a parameterized query, which allows (or requires) users to specify a value (such as `"state = FL"`) to narrow their search. This lets other staff members run a standard query, changing a runtime parameter value each time to get the results they need. Such queries are useful for organizations where limited number of users may create the actual queries.

Limiting the rows returned by a query

You can set an advanced filter on a query to set a hard limit or a default value for the number of returned rows.

To limit the number of rows returned by a query

1. Create or edit a query. (See [Building Queries](#).)
2. Select the **Filters** tab.
3. Select **Advanced** mode.
4. Select the **Limit the number of results returned** option.
5. Enter the **Value** for the maximum number of rows to display
6. (optional) Enter a **Prompt** for the user and specify the behavior:
 - **No:** Enforces a hard limit on the specified number of returned rows, which a user cannot change.
 - **Required:** Makes the specified number of returned rows a default value. The user can change the value up to the maximum defined in the `web.config` file. If the user specifies zero or a blank value, the query returns the maximum defined in the `web.config` file.
 - **Optional:** Makes the specified number of returned rows a default value. The user can change the value up to the maximum defined in the `web.config` file. If the user does not enter a value, filtering does not occur and the query returns all values.
7. (optional) Enter custom text for the prompt (default is **Maximum number of rows to display**).

Tip: To create a "top n records" query result, specify at least one property on the **Sorting** tab.

Defining a filter property with several values

When a filter **Property** contains a drop-down list of values, you can select a single value from the list or you can select more than one. The selected values are used as an **Or** comparison.

To define multiple values for a filter property

1. Create or edit a query. (See [Building Queries](#).)
2. Select the **Filters** tab.
3. Select **Advanced** mode.
4. A **Multiple** column displays between the **Comparison** and **Value** columns. For properties that have a discrete list of values, a checkbox displays in the **Multiple** column.
5. Select a property that has a discrete drop-down list of values, such as **State Province**.
6. Select the **Multiple** option.
7. A default **Value** displays. Browse to select another value.
8. From the **Available Values** list, select the values that you want to use in the filter. You can multi-select values by holding **Shift** or **Ctrl** while selecting values with your mouse.
9. Click **OK**.

The selected values appear in the **Value** column.

Adding dynamic filters to queries

You can dynamically filter your query results using the variables described below.

Note: You must enter the quotation marks where indicated when using the following variables.

- Filter by **ContactKey** and **UserKey** properties of a business object:
 - "@LoggedInUser" and "@Me": Both filter by the currently logged in user.
 - "@SelectedUser" and "@SubjectContact": Filters by a selected contact, such as contacts selected through On-Behalf-Of or user impersonation. These variables also honor ContactKeys sent via URL parameters. For example, set **NetContact.ContactKey** equal to "@SelectedUser".
- Filter by ID:
 - "@SelectedID": For authenticated users, this variable filters by a selected ID, such as contacts selected through On-Behalf-Of, user impersonation, or ID's sent via URL parameters. For example, set **CsContact.ID** equal to "@SelectedID".
- Filter by date properties:
 - @Date: Filters by the current date.
 - @Now: Filters by the current date and time.

Linking IQA results

IQA lets you design search results that contain live hyperlinks *within* the items that it returns. Using the **Link** feature on the **Display** tab, you can create hyperlinks for multiple columns in your query results. These links let users immediately click through to the records and content that they are seeking. In this example, users can click links to open specific contact profile and product pages.

Recent Orders			
Transaction Date	Full Name	Product Name	Quantity
1/5/2011	Mr. Charles P. Better, LLM	Waterbottle	9
5/6/2010	John Waitts	Video - Creating a New Business	1
5/6/2010	Sam Self	Video - Is Fast Food Franchising for YOU!	1
5/6/2010	Isaac Wilder	Video - Excelling through Service	1
5/6/2010	Fran Ramos	Video - Creating a New Business	1

You add this linking while you are editing a query: in **Advanced** mode on the **Display** tab, populate the **Link** field with parameters to generate the custom link. The link must have one of these forms:

a shortcut	~/MyShortcut
a content record	ContentCode=MyContentCode
a navigation item	NavigationCode=MyNavigationCode&URLParameter1Name=[PropertyName]
an ASPX page in your site	~/Webpage.aspx&URLParameterName=[AliasName]
a page dynamically populated based on the value of one or more URL parameters	~/MyShortcut&URLParameter1Name=[AliasName]&URLParameter2Name=URLParam2Value

Combining **Link** strings with **Alias** variables lets you create powerful queries that open the details that your users need. This is how **Alias** and **Link** values relate to the query results:

Summary

Sources

Filters

Display

Sorting

View Selected

Query Display Columns

☐ Only display unique results

Selected

Display	Property	Function	Alias	Link	Subtotal	Order
<input checked="" type="checkbox"/>	CsContact.Full Name	None		NavigationCode=accountpage&ID=[code_ID]		1
<input checked="" type="checkbox"/>	CsOrderHistory.Product Name	None		ContentCode=itemdetail&iProductCode=[code_Product		2
<input checked="" type="checkbox"/>	CsOrderHistory.Id	None	code_ID			3
<input checked="" type="checkbox"/>	CsOrderHistory.Product Code	None	code_ProductCod			4
<input checked="" type="checkbox"/>	CsOrderHistory.Quant					
<input checked="" type="checkbox"/>	CsOrderHistory.Trans					

code_ aliases are hidden but usable by links

Causes the **Product Name** to link back to the product item detail

Refresh

Completed Orders

1

2

Page: 1 of 2 Go Page size: 20

show all 40

Full Name	Product Name
Mr. Douglas A. Hunt, Jr.	Publication - A Planning Guide for Home Businesses
Mr. Douglas A. Hunt, Jr.	Video - Is Fast Food Franchising for YOU!
Mr. Douglas A. Hunt, Jr.	Video - Creating a New Business

For steps to set up a similar query, see [Example: Display completed orders](#).

Note: Where contact ID links go differs by platform. In Desktop, contact ID links using the **key_contact** alias open that contact's record in the **Customer** portfolio. On your site, contact ID links open that contact's page: **~/Core/AccountManagement/Personal.aspx**.

Guidelines for creating query links

- To build a link, you must first indicate whether it should point to a shortcut URL, a content record (**ContentCode**), a navigation item (**NavigationCode**), or an **ASPX** web page. Shortcuts and content record links display the published content record within an *iMIS* website, regardless of the sitemap definition. Links to a navigation item take the user to a particular page within an *iMIS* sitemap.

- **~/MyShortcut** – For the given property, a link is established to the shortcut specified (shortcuts are defined in **Site designer > Manage shortcuts**). For example, if you want to link query results to a **Products** shortcut you have defined, then enter **~/Products**.
- **ContentCode=MyContentCode** – For the given property, a link is established to the content identified by the **ContentCode** value. For example, if you want to link query results to a product page content record that has a **Content Code** of **Specials**, then enter **ContentCode=Specials**. To define or edit a **Content Code**, go to **Content designer > Manage content**, edit a content record, and expand the **Properties** pane.

Note: If the **Link** includes both a **ContentCode** and **NavigationCode**, only the **ContentCode** is used to build the link.

- **NavigationCode=MyNavigationCode** – For the given property, a link is established to the navigation item identified by the **NavigationCode** value. For example, if you want to link query results to a profile page's navigation item that has a **Navigation Code** of **ProfilePage**, enter **NavigationCode=ProfilePage**. To define or edit a **Navigation Code**, go to **Site designer > Manage sitemaps**, edit a navigation item, and expand the **Properties** pane.
- **~/Webpage.aspx** – For the given property, a link goes to an **ASPX** web page, relative to the root of your website. By default, the root corresponds to **C:\Program Files\ASI\iMIS\Net**. For example, **~/Party.aspx**.

Note: **Party.aspx** is a sample redirector page shipped with *iMIS* that checks the user's permissions to determine which content record to display. To see a sample query that uses this functionality, from IQA open **\$/ContactManagement/DefaultSystem/Queries/Directory/People search**.

- Using URL parameters, you can control the data displayed on the target page if it contains an iPart that accepts such a value. The URL parameter can either be hardcoded to a specific value or it can be dynamically generated based on the value of a particular **Property** or **Alias** of the query. You can add multiple URL parameters to the **Link**, separated by ampersands (&). URL parameters should be in this form:
 - **&URLParameter1Name=[PropertyName]** – Dynamically builds the link based on the value of the specified query property. When referencing a query property, do not include any spaces. For example, if you want to set the URL Parameter **iProductCode** (used by the *General Product Display* iPart) to the **Product Code** property value, enter **&iProductCode=[ProductCode]** (no space between **Product** and **Code**). By combining this example with the **Shortcut** example above, you can build a link that opens the shortcut populated with the product in the query results. The full **Link** would look like this:
~/Products&iProductCode=[ProductCode]

- `&URLParameter1Name=[Alias Name]` – Dynamically builds the link based on the value of the specified **Alias**. If you want to create a link for a query property and you have given it an **Alias**, then you must reference the **Alias** name in the **Link**, not the **Property** name. For example, if you want to set the URL Parameter **ID** (used in several contact iParts) to an **ID** property value in the query results, and you have given that property an **Alias** name of **iMIS User ID**, enter `&ID=[iMIS User ID]`. By combining this example with the **NavigationCode** example above, you can build a link that opens a particular user's profile page. The full link would look like this:

NavigationCode=ProfilePage&ID=[iMIS User Id]

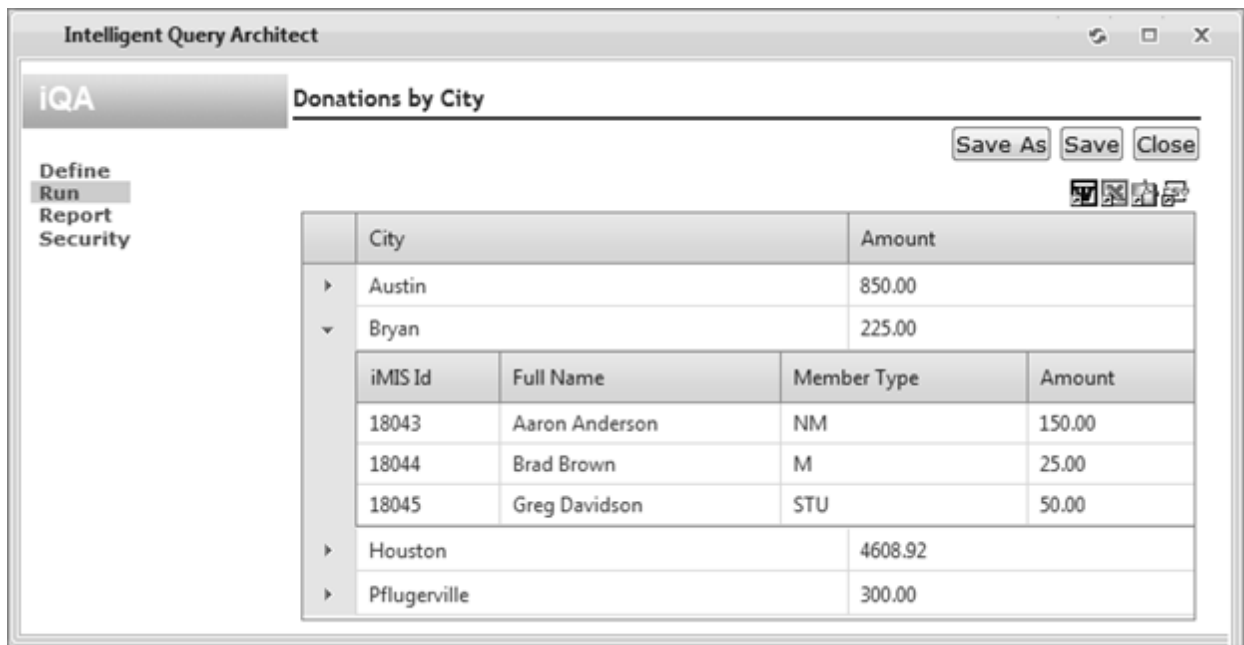
- `&URLParameter1Name=URLParameter1Value` – Sets the URL parameter to a hardcoded value in all of the results.
- Any properties used to build links must be selected for display in the query (**Display** tab). However, you may not want a user to see values for all of the properties required to build the links. You can hide columns from a user by giving the property an **Alias** prefaced with **code_**. In the example screenshot above, the **Full Name** column uses the value of an **ID** property to build the links, but the **ID** property is hidden by giving it an **Alias** of **code_ID**.

Troubleshooting tips

- If you get an error message after clicking a link in your query results, check your link entry for the following:
 - If you have an opening bracket, you must also have a closing one [].
 - If you provide an **Alias** for a property, then the original property name is no longer usable in the **Link** field. The **Alias** always overrides the original field name and will be the only column name available for reference in the results.
- If your query result links do not work as expected, try the following troubleshooting techniques:
 - If possible, find a place in *iMIS* where the target page is correctly displayed and compare the URL parameters that appear for that page to the ones you have identified in the **Link** text field. Are there additional parameters required that you have not provided?
 - Add the query to a content record in your website, so that you can view the query results like an end user would. After clicking a linked query result, examine the URL in your browser. Compare it to the **Link** you have built in IQA to determine if the URL is incomplete and if it contains everything you intended.

Hierarchical grid display

You can display query results in a hierarchical grid of summary rows and detail rows by using the Subtotal option. Subtotaled columns display as high-level items. Expanding one of these items displays the detailed (non-subtotaled) items.



Tips for creating a query displayed in a hierarchical grid

- If you select the **Subtotal** option for all properties in a query, the results will not be displayed in a hierarchical grid.
- Any properties that are not subtotaled are displayed in the detail rows only.
- To display a non-numeric property in the summary rows, select the **Subtotal** option.
- When any property in a query is subtotaled, then numeric, decimal properties (such as **Donations.Amount**, **Orders.Balance**, and **DuesHistory.Amount**) are automatically summed and displayed in the summary rows and also displayed in the detail rows. To display these properties in the summary rows only, select the **Subtotal** option.
- Non-decimal numeric properties such as **Contact.Date of Birth**, **Contact.iMIS Id**, and **Contact.Home Phone** are not automatically summed.
- If you select the **Subtotal** option for custom SQL expressions in your query, they are displayed in the summary rows. The subtotaled expression does not have any other effect on the query results.
- If the custom SQL expression is the only property subtotaled in your query, the query is not displayed in a hierarchical grid. You must select the **Subtotal** option for at least one property that is not a custom SQL expression to display a hierarchical grid.

Example: Hierarchical grid

This example illustrates a query that displays all of the donations you have received, organized by city.

1. Create a new query in IQA and name it **Donations by City**.
2. **Mode:** Advanced
3. From the **Sources** tab, add **CsDonations** and **CsContact**.
4. From the **Display** tab, select the following properties to be displayed:
 - ☐ CsContact.City
 - ☐ CsContact.iMIS Id

- ☐ CsContact.Full Name
 - ☐ CsContact.Member Type
 - ☐ CsDonations.Amount
5. Select the **Subtotal** option for **Contact.City**.
 6. **Run** the query.

The results display in a hierarchical grid. You can click to expand and collapse the rows. The summary rows list the city (because it is subtotaled) and the donation amount (automatically because it is numeric and decimal). All other properties display in the second-level detail rows.

Query examples using Advanced mode

Example: Find members by state or join date

This query extracts individual members who live in Texas or those who joined between 1993 and 1997, eliminating duplicates when the same rows are returned by the multiple subqueries.

1. Browse to IQA.
2. Select **Query** from the drop-down list and select **New**.
3. Select your sources:
 - ☐ Browse to the Common folder containing business objects.
 - ☐ Select CsContact.
4. Define the filtering rules:
 - ☐ Select the **Filters** tab.
 - ☐ **Mode:** Advanced.
 - ☐ Filter on MemberType:
 - **Property:** MemberType
 - **Comparison:** Equal
 - **Value:** Member
 - Click the + icon to add the filter.
 - ☐ Filter on StateProvince:
 - **Property:** StateProvince
 - **Comparison:** Equal
 - **Value:** TX
 - Click the + icon to add the filter.
 - ☐ Select **Add Filter**.
 - ☐ Select operator **Or** from the drop-down list.
 - ☐ Filter on MemberType equal to Member:
 - **Property:** MemberType
 - **Comparison:** Equal

- **Value:** Member
 - Click the + icon to add the filter.
- Filter on Join Dates:
 - **Property:** Join Date
 - **Comparison:** Between
 - **Value:** "1/1/1993","12/31/1997"
 - Click the + icon to add the filter.
- 5. Define the columns that display in the output:
 - Select the **Display** tab.
 - Select the **Only display unique results** option.
 - Select the following columns: Id, StateProvince, Join Date.

Note: A default list of columns displays when you select the **Display** tab. Deselect the columns you do not need. If a column you need is not in the default list, select **All** from the **View** drop-down list and scroll down the page to select the desired column.

- Using the **Order** drop-down list, assign:
 - ID Order 1
 - StateProvince Order 2
 - Join Date Order 3
- 6. Specify the sorting priority:
 - Select the **Sorting** tab.
 - Sort the results by ID.
 - Click the + icon to add your selection.
- 7. Save your settings.
- 8. **Run** the query.

Example: Find total number of pledges by amount

This query extracts the total number of members who have made a pledge of \$50 or more.

1. Browse to IQA.
2. Select **Query** from the drop-down list and select **New**.
3. Select your sources:
 - Browse to the Common folder containing business objects.
 - Select the business objects:
 - CsContact
 - CsActivityBasic
4. Define the filtering rules:
 - Select the **Filters** tab.

- **Mode:** Advanced
 - Filter on CSGlobalActivityBasic.Activity Type:
 - Property: CSGlobalActivityBasic.Activity Type
 - Comparison: Equal
 - Value: PLEDGE
 - Click the + icon to add the filter.
 - Filter on CSGlobalActivityBasic.Amount:
 - Property: Activity.Amount
 - Comparison: Greater
 - Value: 50
 - Click the + icon to add the filter.
5. Define the columns that display in the output:
- Select the **Display** tab.
 - Display Contact.iMIS ID
 - **Property:** CsContact.iMIS Id
 - **Function:** Count
 - **Alias:** Pledges
 - **Order:** 1

Note: A default list of columns displays when you select the **Display** tab. Deselect the columns you do not need. If a column you need is not in the default list, select All from the View drop-down list and scroll down the page to select the desired column.

6. Save your settings.
7. **Run** the query.

Example: Find registrants of past (closed) events

This query joins two business objects to extract the registrants for a specified event. At runtime, the user supplies the event code.

1. Browse to IQA and browse to the folder in which you want to store a new query.
2. Select **New> Query**.
3. On the **Summary** tab, enter a **Name** and (optional) **Description** for the query.
4. Select the **Sources** tab and define the relation:
 - Click **Add Source**.
 - Browse to the Common folder containing business objects.
 - Select CsContact and CsEventHistory by pressing Ctrl to multi-select and click OK.
 - In the **Relations** area of the **Sources** tab, make sure the default relation is CsContact.iMIS Id Equals CsEventHistory.Id.
5. Define the filtering rules:

- ☐ Select the **Filters** tab.
 - ☐ **Mode:** Advanced
 - ☐ Filter on csEventHistory.Event Code.
 - ☐ **Comparison:** Equal
 - ☐ Select **Optional** or **Required** from the **Prompt** drop-down list and enter a prompt in the field located next to the field, for example, Event Code.
 - ☐ Click the + icon to add the filter.
6. Select the **Display** tab to define the columns to display in the output:
- ☐ Select the following columns: CsContact.iMIS Id, CsContact.Full Name, CsContact.Company, and CsEventHistory.Event.
-
- Note:* A default list of columns displays when you select the **Display** tab. Deselect the columns you do not need. If a column you need is not in the default list, select **All** from the **View** drop-down list and scroll down the page to select the desired column.
-
- ☐ Click **Refresh**.
 - ☐ Using the **Order** drop-down list, assign:
 - CsContact.iMIS Id Order 1
 - CsEventHistory.Event Order 2.
7. Specify the sorting priority:
- ☐ Select the **Sorting** tab.
 - ☐ Sort the results by CsEventHistory.Event.
 - ☐ Click the + icon to add the selection.
8. Save your settings.
9. **Run** the query.

Tips

If you want to show current registrants of open events, link to csRegistration instead of csEventHistory and set the default relation as CsContact.iMIS ID Equals csRegistration.Ship To ID.

The primary difference between Cs and non-Cs objects is that the non-Cs objects contain the .NET security in them, but Cs Objects are basically just views pointing to the underlying non-.NET tables. When you use a non-Cs object, you may notice additional fields like **Access Key** and **Contact Key**. These fields are important when you are linking to objects with security, such as a Campaign business object where a user must have certain security to be able to view data.

Example: Find registered members by city with award

This query shows individual members who registered for an event.

1. Browse to IQA.
2. Select **Query** from the drop-down list and select **New**.
3. Select sources:
 - ☐ Browse to the Common folder containing business objects.

- ☐ Select CsContact and CsActivityBasic.
- 4. Define the filtering rules:
 - ☐ Select the **Filters** tab.
 - ☐ **Mode:** Advanced
 - ☐ **Operator:** Where
 - ☐ Filter on CsActivityBasic.Activity Type.
 - **Comparison:** Equal
 - **Value:** AWARD
 - Click the + icon to add the filter.
 - ☐ Select **Add Filter**.
 - ☐ Select **And** from the drop-down list.
 - ☐ Filter on CsContact.Member Type.
 - **Comparison:** Equal
 - **Value:** Member
 - Click the + icon to add the filter.
- 5. Define the columns to display in the output:
 - ☐ Select the **Display** tab.
 - ☐ Select the following columns:
 - CsContact.iMIS Id
 - CsContact.Full Name
 - CsContact.City
 - CsActivityBasic.Description
 - CsActivityBasic.ProductCode
 - ☐ Using the **Order** drop-down list, assign:
 - CsContact.City Order 1
 - CsContact.Last Name Order 2
- 6. Specify the sorting priority:
 - ☐ Select the **Sorting** tab.
 - ☐ Sort the results by CsContact.iMIS Id.
 - ☐ Click the + icon to add your selection.
- 7. Save your settings.
- 8. **Run** the query.

Example: Dynamic filter

In this example, the query finds all of the contacts created this year using the @Now variable to [dynamically filter the query](#).

1. Select **IQA > New > Query**.
2. Enter the **Summary** information.
3. On the **Sources** tab, add **CsContact**.
4. On the **Filters** tab, select the **Date Added** property.
5. Select the **Between** comparison type.
Two date fields display in the **Value** column.
6. In the first **Value** date field, enter the first day of the year.
7. In the second **Value** date field, enter @Now. Click the + icon to add the line.
8. From the **Display** tab, customize the fields to display.
9. **Save** the query.

When you run the query, it lists all of the contacts created so far this year.

Example: Display completed orders

This example uses the Query Menu iPart and the [Link](#) feature to display completed orders to users.

1. In IQA, create a new query and name it **Completed Orders**.
2. **Mode:** Advanced
3. From the **Sources** tab, add **CsOrderHistory** and **CsContact**.
4. From the **Display** tab, select the following properties to be displayed:
 - ☐ **CsContact.Full Name**
 - ☐ **CsOrderHistory.Transaction Date**
 - ☐ **CsOrderHistory.Id**
 - ☐ **CsOrderHistory.Product Name**
 - ☐ **CsOrderHistory.Product Code**
 - ☐ **CsOrderHistory.Quantity**
5. Give the following properties an **Alias** prefaced with **code_**, so that the column value is hidden in the query results but can still be used as a reference in the **Link**.
 - ☐ **CsOrderHistory.Id**, Alias **code_ID**
 - ☐ **CsOrderHistory.Product Code**, Alias **code_ProductCode**
6. For the **CsContact.Full Name** Display Property, enter the following **Link**:
 - ☐ **~MyAccount&ID=[code_ID]**

Note: This **Link** assumes that you have a shortcut named **MyAccount** pointing to a content record containing Contact iParts that can use the **ID** URL parameter.

7. For the **CsOrderHistory.Product Name** Display Property, enter the following for the **Link**:
 - ☐ **~/ItemDetail&iProductCode=[code_ProductCode]**

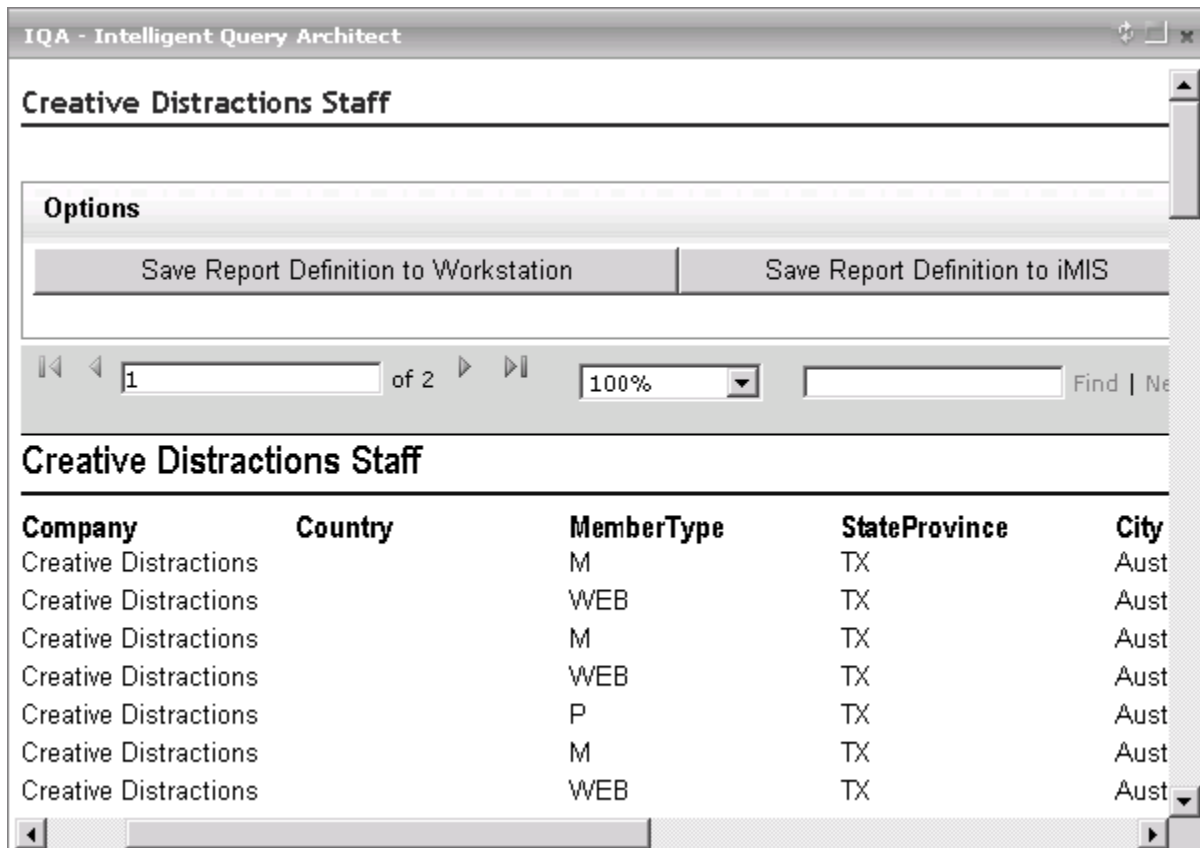
Note: This **Link** assumes that you have a shortcut named **ItemDetail** pointing to a content record containing the **General Product Display** iPart.

8. From the **Sorting** tab, select the **CsOrderHistory.Transaction Date** Property and sort **Descending**.
9. **Save** the query.
10. From **Content designer > Manage content**, add the **Query Menu** iPart to a content record.
11. For the iPart's **Source query or folder**, select the **Completed Orders** query.
12. Click **OK**, then **Save** and **Publish** your content record.
13. From **Site designer > Manage sitemaps**, add the content record to a navigation item.

When the query results are displayed in your website, the results in the **Account** and **Product** columns are linked to the pages you defined in your query.

Reporting in IQA

This Report view is a fast and easy way to create and print new *iMIS* reports and to generate starter reports for later development. SSRS reports are always bound to a single query.



IQA reporting presents on-demand report generation, plus the ability to save as iMIS reports and RDL templates.

IQA reporting lets you:

- Export rendered reports to .PDF format, for archiving, sharing, and printing, and to .XLS format, for spreadsheet usage

- Customize the generated reports: totals, subtotals, summaries (**Total Only**), parameters (associated in the query)
- Save the reports into the Document System, which automatically adds the new template (.RDL) and its matching output process (binding query, template, and security to a report name you choose)
- Save the generated template file (.RDL) locally, to customize later in SQL Server Business Intelligence Studio

Quick facts: IQA reporting

- *iMIS* integrates with the Microsoft SQL Server Reporting Service (SSRS)
- *iMIS* also harnesses it to bring dynamic reporting capability to *iMIS* queries.
- IQA reporting makes it possible to turn any query into an SSRS report:
 - Filtered and auto-formatted
 - Customized with sub-totals and layout settings
 - Easily saved back into the Document System
 - Easily saved to your workstation as an .RDL
 - Free report customization in Business Intelligence Studio

Report from every query

- Every working query in *iMIS* can render a report in one click, without any modification
- Create reports on the fly without having to learn a report designer
- Reports inherit whatever filters the query contains
- Changes to the query show up in IQA reports immediately
- Built-in report navigation: start, end, next/previous page, jump to page

Auto-formatting

- Query result columns become report columns
- Formatting adjusts to fit the number of columns
- Change column order just by reordering them in the query

Simple saving

- No garbage: if you just create, view, and close a report, no files save or accumulate
- You save your query changes separately from the report
- **Save to iMIS** creates the report and template pair wherever you choose in the Document System
- Saved reports can be exposed and shared throughout *iMIS* as any other report
- **Save to Workstation** creates the report template (.RDL) on your file system, for offline editing
- Exports report data to Excel (XLS) format
- Exports formatted report to Adobe PDF

Subtotaling

- On the **Display** tab of queries, columns can be subtotaled and totaled

- Sort order controls order of subtotalling
- Use **Totals Only** to create a summary view, of subtotals without data lines

Customizable layout

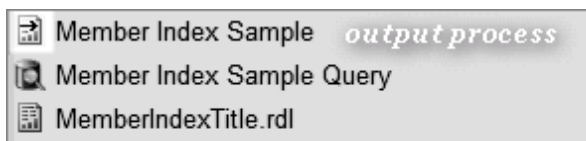
- **SystemConfig** table holds SSRS parameters that set layout and formatting of all IQA reports
- Control page size (such as A4 versus Letter) and lay out headers and footers
- Control fonts, background and foreground colors, shading and separator lines
- Set report language and unit of measure

Creating and saving IQA reports

For all of your queries, the **Report** option in the IQA Editor lets you generate formatted reports on demand, as well as reusable objects: SSRS template files and matching output processes. Your queries from prior releases can leverage the **Report** command: no upgrading is needed to make them compatible.

To save reports from IQA

1. Select **Save Report Definition to iMIS** to save the reports to the Document System, which automatically adds the new template (.RDL) and its matching output process:



The output process binds query, template, and security to a report name you choose.

2. Select **Save Report Definition to Workstation** to export the generated template file (.RDL).
3. You can customize the RDL in SQL Server Business Intelligence Development Studio.
4. Select the **Acrobat** and **Excel** icons to export the report to standalone PDF or Excel files.
5. You can **Open** these exports directly in the application or **Save** them to your file system.

To create a report from a query

1. **Edit** a query and click the **Report** link in the IQA navigation.
2. The report generates in memory and displays, fully formatted, immediately.
3. Reports default to the actual page size specified by your *global parameters* (see [Changing the default layout for SSRS reports](#)), so use the scroll bars to preview the entire area.

Note: If the report is too large to fit in portrait orientation, it renders in landscape. If it is too large for landscape, the columns are narrowed to fit.

4. If your query includes filters (which appear in the **Options** area above the report display itself), enter a value in any or all of the filters, as needed, and click **Refresh**.

The report regenerates based on the filter.

5. Adjust the filters and **Refresh** as needed.

Printing IQA reports

IQA handles printing with printer-ready layout through its facility to export to .PDF. You must have [Acrobat Reader](#) installed on your workstation to support this. When you export by clicking one of the output icons, you're prompted to **Open** or **Save**.

When you select **Open** (or you later open the .PDF file from Windows Explorer after saving it), the exported .PDF displays in Acrobat Reader.

To print PDF reports

1. Verify that Acrobat Reader is installed on your workstation.
2. Open the PDF report, from either IQA or the file system on your workstation.
3. In Acrobat Reader, open the **Print** dialog, using the toolbar icon or **File > Print**.
4. Select the printer you want, and click **Properties** if you need to change the paper or orientation.
5. Select the print range, page handling, and advanced settings you want.
6. Click **OK**.

Subtotaling and ordering IQA reports

You can apply one or more subtotals in your query definition. In Reporting Services terms, subtotals are “groups”. When you enable **Subtotal** for a **Display** enabled field, a group is added. The groups nest in the **Order** you specify after **Subtotal**.

Troubleshooting tip: If you see ReportViewer errors, you might have an older control. To get the newer version, search the web for Microsoft Report Viewer Redistributable 2005 SP1 (Full Installation), which is available for free download from several sites.

In the output, group headers appear for the first group only; group footers, with a count and the value being grouped, print for *all* groups.

The screenshot shows the 'Activity List' configuration window. The 'Display' tab is selected. Under 'Query Display Columns', the 'Only display unique results' checkbox is unchecked. A table lists the columns to be displayed:

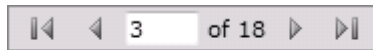
Display	Property	Function	Alias	Subtotal	Order
<input checked="" type="checkbox"/>	CsActivity.Id	None		<input checked="" type="checkbox"/>	1
<input checked="" type="checkbox"/>	CsContact.Full Name	None		<input type="checkbox"/>	2
<input checked="" type="checkbox"/>	CsActivity.Activity Type	None		<input checked="" type="checkbox"/>	3
<input checked="" type="checkbox"/>	CsActivity.Description	None		<input type="checkbox"/>	4

The 'Subtotal' checkbox for 'CsActivity.Activity Type' is checked, and the 'Order' dropdown is set to 3. A 'Refresh' button is located to the right of the 'Selected' label.

Using subtotals in the definition of a simple Activity List query

Example of subtotaled results

Below is the third page of the generated report. The Report Viewer provides navigation controls on its toolbar to let you jump to the first page, last page, next page, previous page, and specific page number:



In this example, ID 108 has 9 activities (separate Activity Types): 1 meeting, 3 orders, 4 dues, and 1 gift:

Id	Full Name	Activity Type	Description	Amount
107	Ms. Paula D. Caller, CPA	CERTIFICAT	Certified Government Accounting Specialist - Initial	0.00
Count of CERTIFICAT: 2				0.00
107	Ms. Paula D. Caller, CPA	Gift	General Distribution	50.00
Count of Gift: 1				50.00
107	Ms. Paula D. Caller, CPA	DUES	Basic Membership Dues	115.00
107	Ms. Paula D. Caller, CPA	DUES	Basic Membership Dues	115.00
107	Ms. Paula D. Caller, CPA	DUES	Basic Membership Dues	115.00
107	Ms. Paula D. Caller, CPA	DUES	Basic Membership Dues	115.00
Count of DUES: 4				460.00
Count of 107: 7				510.00
108				
108	Mr. David F. Cookie, Jr.	MEETING	First Conference on Windows for Associations	50.00
Count of MEETING: 1				50.00
108	Mr. David F. Cookie, Jr.	ORDER	Video - Creating a New Business	78.00
108	Mr. David F. Cookie, Jr.	ORDER	Publication - Power Management	60.00
108	Mr. David F. Cookie, Jr.	ORDER	Video - Creating a New Business	78.00
Count of ORDER: 3				216.00
108	Mr. David F. Cookie, Jr.	DUES	Basic Membership Dues	75.00
108	Mr. David F. Cookie, Jr.	DUES	Basic Membership Dues	75.00
108	Mr. David F. Cookie, Jr.	DUES	Basic Membership Dues	75.00
108	Mr. David F. Cookie, Jr.	DUES	PAC Contribution	20.00
Count of DUES: 4				245.00
108	Mr. David F. Cookie, Jr.	Gift	General Distribution	50.00
Count of Gift: 1				50.00
Count of 108: 9				561.00
109				

Summing amounts in reports

In the example above, each Count row includes a sum of the Amount for that line. This happens automatically if your subtotaled query has a Display Property that includes the words **Amount** or **Amt** (the property name is not case-sensitive). You can sum other numerical display properties by giving it an Alias on the Display tab that contains **Amount** or **Amt**.

For example, if your subtotaled query includes the **CsOrders.Balance** property, you can sum the balance for any Count rows by changing the Alias to **Balance Amt** or simply **Amount** – both variations work.

Global layout control for IQA reports

IQA reporting layout is driven by global parameters that you control.

The Report view uses layout parameters stored in the iMIS SystemConfig table, so you can change parameters once (such as to assign corporate colors or A4 paper size) and have all IQA reports conform to your standards across the organization.

Requirements

This IQA-based reporting works with all of your queries, old and new. Everything you need for IQA reporting is distributed with *iMIS*. No additional licensing is needed for the ReportViewer control, which is a Microsoft redistributable component. Nor do you need to install Reporting Services on SQL Server, since the Report Viewer does all the needed processing.

Troubleshooting tip: If you see ReportViewer errors, you might have an old ReportViewer control. To get the newer version, search the web for Microsoft Report Viewer Redistributable 2005 SP1 (Full Installation), which is available for free download from several sites.

The optional applications are also free:

- Adobe Acrobat Reader, for opening and printing PDFs (install on workstations)
- SQL Server Business Intelligence Studio, for customizing RDL files externally, if needed

Creating links to reports in the Document System

You can create links in the Document System that place the queries in the **Generate Reports** menu for web-enabled features, including the **Home** tab, **Process Manager**, and **Marketing**. Adding links in the Document System make the end user interface simpler to use.

You can access the Document System from **Tools > Document System**. You can further drill down into areas by following the hyperlink on the folder. Area folders contain a **DefaultSystem** folder.

The module's **DefaultSystem** contains three folders:

- **Queries**
- **Reports**
- **ReportsView**

The **ReportsView** folder for each module is represented by the **Generate Reports** menu in each area. You can manipulate what appears in those menus by creating links to queries in these folders.

To create a custom folder in the Document System

1. From **Tools**, select **Document System**.
2. Select a folder from the document system directories.
3. Click **New Folder** from the tool bar.
4. Enter a folder name, for example "Custom Queries".
5. (Optional) Select **Allow only the following type(s) of objects in this folder** and select the type of objects from the list.
6. Click **Save**.

Using IQA

Users can access IQA queries through various locations within *iMIS* that expose Document System folders, such as the **Advanced Query** and **Generate reports** task list items in functionality such as Customers, Billing, Process Manager, and so on.

Running queries

You must have Authorization Level of at least 1 in:

- Customers to access the Contact folder through the IQA link.

- Events to access the Event folder through the IQA link.
- Orders to access the Order folder through the IQA link.
- Fundraising to access the Fundraising folder through the IQA link.

You must have a license for the Acquisition Management module to access the Prospect folder through the IQA link.

If you cannot access or run one of the predefined reports, ask your system administrator.

To run a predefined query from the Home page

1. From **Home**, select **IQA > Contacts** or **Prospects** or **Events** or **Orders** or **Fundraising**.
2. From the list of predefined queries, double-click the query that you want to run. You can also select the query and click **Run**.
3. If you are prompted for additional filter criteria, enter the values and click **Go**.

The query results are displayed. If the query definition includes a special key alias in the **Advanced Display** tab, each row contains a link that will open the corresponding customer profile, order, or event registration in the corresponding *iMIS* module.

To run a predefined query from Customers

1. From **Customers**, select **IQA > Contacts** or **Prospects**.
2. From the list of predefined queries, click the query that you want to run.
3. If you are prompted for additional filter criteria, enter the values and click **Go**.

To run a predefined query from Events or Orders

1. From **Events**, select **IQA**.
2. From the list of predefined queries, click the query that you want to run.
3. If you are prompted for additional filter criteria, enter the values and click **Go**.

To run a predefined query from Fundraising

You must have an Authorization Level of 1 or greater in Fundraising to access the Fundraising folder through the IQA link.

You must be assigned to the Reporting group in *iMIS* to run the Fundraising queries.

1. From **Fundraising**, select **IQA**.
2. From the list of predefined queries, double-click the query that you want to run. You can also select the query and click **Run** icon in the toolbar.
3. If you are prompted for additional filter criteria, enter the values and click **Go**.
4. (optional) Click on a row in the query results to load the donor's record in the Enter and edit gifts window (**Fundraising > Enter edit gifts**).

Caution! You *cannot* select and view a record if you run the query in IQA edit mode (**Fundraising > IQA > [query] > Edit > Run** in the left menu).

Accessing module based reports

Refer to this table to when accessing standard reports in the Document System.

Tab	Menu	Doc System Folder	Property to Alias for Link	Alias Value
Home Page	IQA > Contacts	ContactManagement > DefaultSystem > Queries > Advanced > Contact	CsContact.iMIS id	key_contact

			Or NetContact.iMIS ID	key_contact
	IQA > Prospects	ContactManagement > DefaultSystem > Queries > Advanced > Prospects	Prospect.Prospect ID	key_prospect
	IQA > Orders	OrderManagement > DefaultSystem > Queries > Advanced > Order	CsOrders.Order Number	key_order
	IQA > Events	EventManagement > DefaultSystem > Queries > Advanced > Event	CsRegistration.Order Number	key_event
	IQA > Fundraising	Fundraising > DefaultSystem > Queries > Advanced > DonationDetails	CsDonationsDetail.Transaction Number	key_FR
Customers	IQA > Contacts	ContactManagement > DefaultSystem > Queries > Advanced > Contact	CsContact.iMIS ID Or NetContact.iMIS ID	key_contact key_contact
	IQA > Prospects	ContactManagement > DefaultSystem > Queries > Advanced > Prospects	Prospect.Prospect ID	key_prospect
Events	IQA	EventManagement > DefaultSystem > Queries > Advanced > Event	CsRegistration.Order Number	key_event
Orders	IQA	OrderManagement > DefaultSystem > Queries > Advanced > Order	CsOrders.Order Number	key_order
Fundraising	IQA	Fundraising > DefaultSystem > Queries > Advanced > DonationDetails	CsDonationsDetail.Transaction Number	key_FR

Reporting in *iMIS*

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Reporting Essentials

The Reporting tools in *iMIS* can be used for a wide range of tasks. Reports span a broad range of outputs for all of the *iMIS* modules, including rosters, status summaries, letters, badges, and statistical reports. This section covers essentials such as:

- Creating reports from IQA
- Using and running reports
- The **Generate reports** window and its options

- Secondary reports windows with field definitions
- Output categories and **Report Destination** options
- Overriding report margins and sort orders
- Cloning reports

Using Standard *iMIS* Reporting Tools

The standard reporting functions available across all *iMIS* modules include the following:

- Run a report
- Modify a standard report
- Enter search selections, including adhoc searches
- Clone report specifications
- Run daily and month-end financial reports
- Export report data
- Generate and manage mass report activity records
- Generate letter reports with both Quickletter and the MS Letter System

The reporting features all require knowledge of some basic aspects of *iMIS*. You will need familiarity with these associated parts of the system:

- The report and output categories
- The **Report Destination** options
- The process for overriding report margins and sort orders
- The process for cloning a report
- The record selection options for various output types

Authorization Levels for Reports

What users can see and do in reporting depends on which authorization level they have set on the **Users** window for the module being used (select **System Setup > Security administration > Users**):

- Accessing the **Generate reports** task list item requires level two (2) authorization.
- Updating the report specifications requires a system management level eight (8) authorization.
- Viewing a complete list of reports available (**Utilities > Report Specs**) requires level eight (8) authorization.

iMIS Report Terms

Key concepts for determining the required report options include the following:

Format

The report format is the physical layout (appearance) of the report, which involves both the design and the content (what fields or data elements appear on the report). In a columnar detail report, each line contains certain data elements, such as a contact name, company name, city, state, and join date. The format also specifies column headings, the order in which data elements display on the line, the space allowed for printing and between elements, and so on. The format does not control which records are queried (selected) in the report.

Selection/Search

Some reports allow the selection of customer records to be used to generate the report. Selecting records does not control the format or the sort order. In a columnar detail report, the record selection controls the lines that print on the report, not the columns; each line typically corresponds to a specific record, while a column relates to a field in a record. Selections are generally based on field values; records are included in a report run if its contents match the selection criteria. Search criteria may be simple, such as “All Members,” or complex, as in an ad hoc search.

Sort Order

Dictates the order in which the details print on the report. Like the selection criteria, it is normally based on field values. However, it applies only to the records that were selected based on the search criteria, so you can specify a different field set for sorting the output. For example, you can first select records by customer type and then sort the results by ZIP code.

Standard Report

Includes preset *iMIS* report formats, which include rosters, labels, letters, and statistical reports. Most standard reports give you significant control in selecting the records and allow sort order overrides. However, pre-built standard reports have more limitations on the format or layout of the report.

Ad Hoc Report

Omnis facility used to build custom reports. The Ad Hoc Report Writer gives you total control over the entire report, including the format, record selection criteria, and sort order. Any customized report can be added to the Available Reports selection lists of any *iMIS* module.

Running a Standard Report

To run a standard report

Before running any preset *iMIS* standard reports, check your report destination.

1. From the *iMIS* module you are working in, select **Generate reports** to display the **Generate reports** window.
2. Select a report type from the **Report Types** list.
3. Select an available report from the **Available Reports** list.
4. Click **Run**. Depending on the report type, the report will run or a window will open, prompting you to select the date range for the report.
5. Enter or select the date range.
6. Click **OK**.

Modifying a Standard Report

You can make certain changes to the appearance or the order of the report output by making selections from the **Options** drop-down list on the **Generate reports** window. The list contains several options, and their availability varies from report to report.

To view report options

1. From the *iMIS* module you are working in, select **Generate reports** to display the **Generate reports** window.
2. Select a report type from the **Report Types** list.
3. Select an available report from the **Available Reports** list.
4. Click **Options**. The options available for selection will appear bolded. Use the **Options** list to make a one-time change at runtime, or you can save the report under a new name with the same parameters.
5. Click **Run**.

To adjust margins

The **Margins** option allows you to control the layout of your report or other output. You can perform the following tasks:

- Adjust margin settings to suit your printer.
 - **Top, Bot, Left Margin** - The actual print area and built-in margins vary among laser printers, so these settings may need to be adjusted. Margins are critical for output that must fit in a target area, such as labels.
- Specify a repeat factor to generate multiple reports for each address.
- Enter measurement settings (widths, space between, and margins) in decimal fractions of inches (*for example*, if you want 1-1/2 inches, enter 1.5 without units).

To make adjustments to the margins:

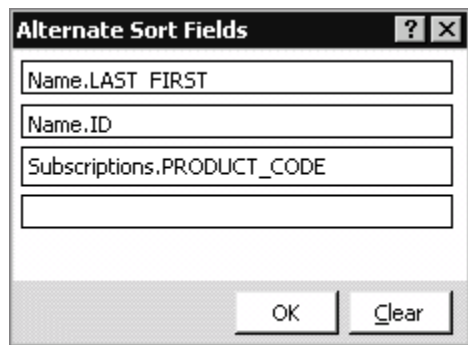
1. From the *iMIS* module you are working in, select **Generate reports** to display the **Generate reports** window.
2. Select a report type from the **Report Types** list.
3. Select an available report from the **Available Reports** list.
4. Click **Options** and select **Margins**. Use the **Options** list to make a one-time change at runtime, or you can save the report under a new name with the same parameters.
5. Change the margins and click **OK**.
6. Click **Run**.

To change the sort fields

The field format for entering data is **Table.FIELD**. The table name appears first in title case, followed by a period separator and the field name in all caps, *for example*, **Name.FULL_NAME**. The **Alternate Sort Fields** window allows you to enter the **Table.FIELD** name for a maximum of four sort fields. To specify a multiple-field sort, enter the first-order sort field in the first text box, working down to the lowest-level sort field in the fourth text box. The sort fields you enter must be selected from the tables used for the report.

Note: For some report types, the **Sort** option is grayed out (unavailable) on the **Options** list.

1. From the module you are working in, select **Generate reports** to display the **Generate reports** window.
2. Select a report type from the **Report Types** list.
3. Select a report from the **Available Reports** list.
4. Click **Options** and select **Sort Fields**. The areas you can change appear bolded. *For example*, using the data in the following window, your report sorts in the following order: last name, ID, and product code.
5. Change the alternate sort fields to new sort fields selected from the tables to be included in the report.
6. Click **OK** to change the sort order.



*Example of an **Alternate Sort Fields** window.*

Using Ad Hoc Searches

Ad hoc searches allow refinement of the standard report search criteria used to select specific records needed for a report. After the search is defined, the search instructions are saved in a list of predefined search formats for future use. Depending upon the selected report, you can define your search by using multiple tables.

You can specify selections based on multiple-field comparisons from one or more files. The files that are available for selection depend on the module and the menu function you choose.

Ad hoc searches can be as simple as one line searches that look for an exact match on values in a single field or as complex as a multiple-line item or multiple-group search. You can have up to 50 criteria for each selection. This search function supports extremely complicated queries, and supports Boolean logic statements as well as AND and OR connections.

Note: For selection between values, such as dates, combine the Greater than and Less than conditions.

To create an ad hoc search

Ad hoc searches allow refinement of the standard report search criteria used to select specific records needed for a report. After the search is defined, the search instructions are saved in a list of predefined search formats for future use. Depending upon the selected report, you can define your search by using multiple tables.

1. From the module you are working in, select **Generate reports** to display the **Generate reports** window.
2. Select a **Report Type** and related **Available Report**.
3. Click **Options** and select **Search Format** to display the **Select Search Instructions** window, where you can perform the following tasks:
 - ☐ Create a new ad hoc search, or;
 - ☐ Edit an existing ad hoc search.
4. Click **New** or select an existing search format and click **Edit** on the **Select Search Instructions** window. The **Search Instructions** window displays.
5. Enter a descriptive name for the ad hoc search in the **Search Name** field.
6. Select the ad hoc search criteria.
7. Click **Save** to accept the search instructions and close the **Search Instructions** window.
8. Click **OK** on the **Select Search Instructions** window.
9. Click **Run** to generate the report.

Modifying an Existing Ad hoc Search

1. From the module you are working in, select **Generate reports** to display the **Generate reports** window.
2. Select a **Report Type** and related **Available Report**.
3. Click **Options** and select **Search Format** to display the **Select Search Instructions** window.
4. Select the name of the search and click **Edit**. The **Search Instructions** window displays, allowing you to make changes to the search criteria.
5. Click **Save**.

Examples of Ad Hoc Searches

When you run the **Open Items by Product** report, you can enter search selection (search format) criteria to specify which line items will be listed. Any field contained in the Subscription, Name, or Product files can be used in the search criteria. Refer to the following examples from the Billing module for more information.

Example 1: To search by bill date

1. From **Billing**, select **Generate reports** to display the **Generate reports** window.
2. Select **Open Invoices** from the **Report Types** list.
3. Select **Open Items by Product** from the **Available Reports** list.
4. Click **Options** and select **Search Format** to display the **Select Search Instructions** window.
5. Click **New** to display the **Search Instructions** window.
6. Enter the new search instructions. *For example*, enter the following data to search for bills with a non-zero balance run on 10/1/01:

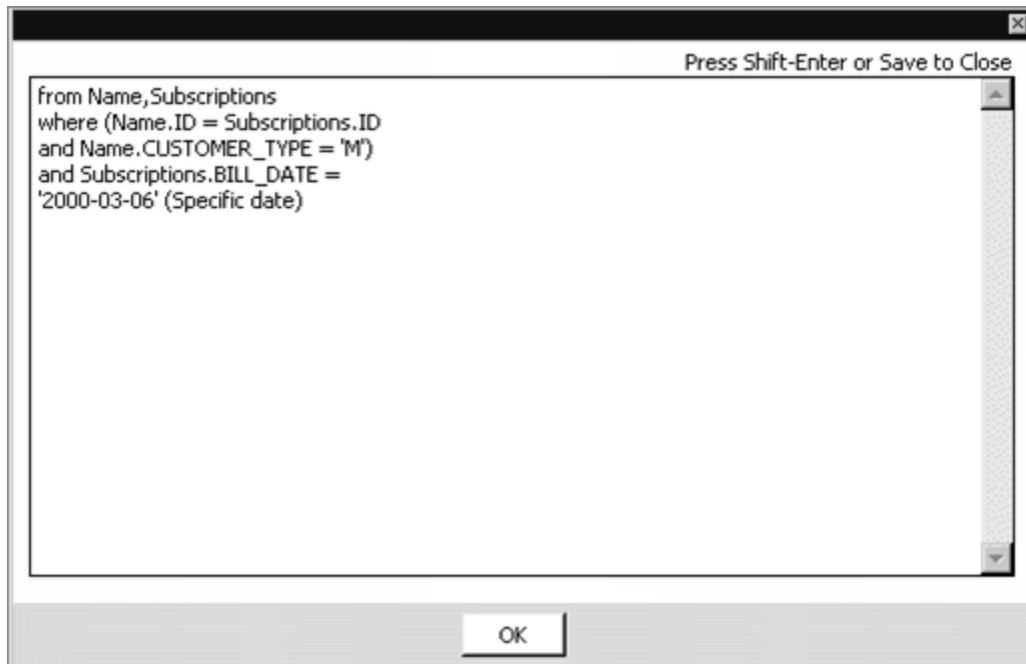
```
Subscriptions.BILL_DATE = 10/01/2001
Subscriptions.BALANCE <> 0
```

Note: BILL_DATE corresponds to the **Run Date** field on the **Process billing** window (from **Billing**, select **Process billing**). Make sure to consider whether the **Run Date** was overwritten.

7. Click **Save** to accept the search instructions and close the **Search Instructions** window.
8. Click **OK** to close the **Select Search Selections** window.
9. Click **Run** to generate the report.

If you select the **Calculation** mode, entering the following calculation expression on the Comparison Value window verifies that the Bill Date matches today's date.

```
from Name,Subscriptions
where (Name.ID = Subscriptions.ID
and Name.MEMBER_TYPE = 'M')
and Subscriptions.BILL_DATE =
'2000-03-06'(Specific date)
```

Example of the **Comparison Value** window.

If searching for multiple customer types, use the following command sequence:

```
From Name,Subscriptions.ID
  and Name.CUSTOMER_TYPE = 'M'
  or Name.CUSTOMER_TYPE = 'CM'
  and Subscriptions.BILL_DATE =
    '2000-03-06' (Specific date)
```

Caution! Any ad hoc search instruction must also include any filter that would already be inherent within the cycle and renewal printing process (for example, specific customer type and/or categories, printing flags, and specific products).

Example 2: To search for specific products

You can create meaningful searches to look at the status of open billing balances. *For example*, if you want to see the balances for specific products, set the PRODUCT_CODE equal to those codes only:

1. From **Billing**, select **Generate reports** to display the **Generate reports** window.
2. Select **Open Invoices** and select **Open Items by Product**.
3. Click **Options** and select **Search Format** to display the **Select Search Instructions** window.
4. Click **New** to display the **Search Instructions** window.
5. Enter the new search instructions.
 - To search for product codes with a balance:
Subscription.PRODUCT_CODE = BASIC,JOUR
Subscription.BALANCE <> 0
 - To specify comparisons for the codes to be excluded:
Subscription.PRODUCT_CODE <> PAC,SCHOL
Subscription.BALANCE <> 0p

- To print open items for an entire group or type of product, such as all open subscription lines:
 Product.PROD_TYP = SUB
 Subscription.BALANCE <> 0
- 6. Click **Save** to accept the search instructions, and close the **Search Instructions** window.
- 7. Click **OK** to close the **Select Search Selections** window.
- 8. Click **Run** to generate the report.

Example 3: To search by customer type

Any field in the Name table can also be used for searching. Customer type is a common search option.

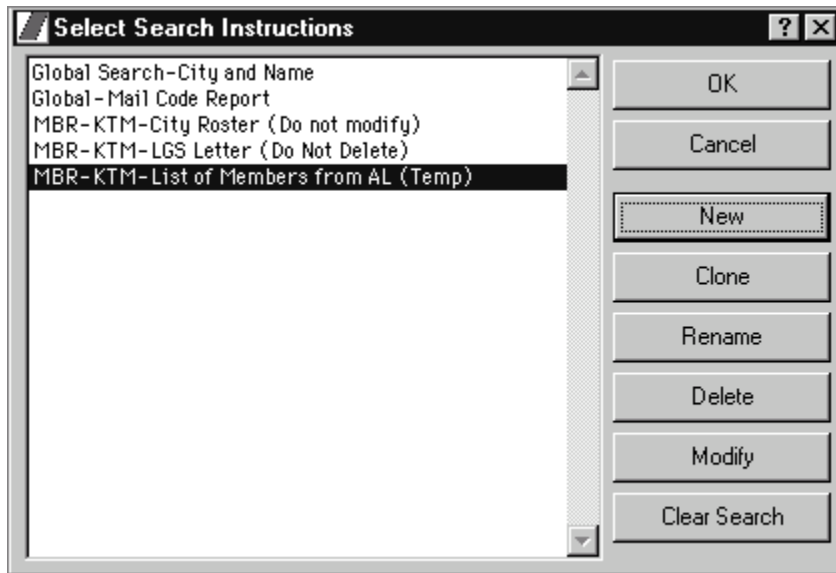
1. From **Billing**, select **Generate reports** to display the **Generate reports** window.
2. Select **Open Invoices** and select **Open Items by Product**.
3. Click **Options** and select **Search Format** to display the **Select Search Instructions** window.
4. Click **New** to display the **Search Instructions** window.
5. Enter the new search instructions with this criteria:
 Name.CUSTOMER_TYPE = M
 Name.STATUS Begins with A
 Subscription.BALANCE <> 0
6. Click **Save** to accept the search instructions, and close the **Search Instructions** window.
7. Click **OK** to close the **Select Search Selections** window.
8. Click **Run** to generate the report.

Managing Ad Hoc Searches

Since Ad Hoc searches are created globally in the system, there is the potential to build up a long list of ad hoc searches. When you create and use searches, consider these suggestions (based on client experience) to help manage them.

1. Create a naming convention that will assist in identifying the creator/owner of the ad hoc search. This could include the individual's initials or last name information, for example, KTM - List of Members by State.
2. Group the searches in a manner that will make them easy to find on the search list. For example, group them by organization department or search category, MBR - KTM - List of Members by State.
3. Include a note in the title not to modify or delete the ad hoc search if you do not want other's to change or update the search selection criteria. (For example, MBR - KTM - List of Members by State Do Not Modify).
4. Include a note in the title if the search is temporary with instructions when it can be removed. For example, MBR - List of Members from AL (TEMP-delete After 2/1/01).
5. Create a group of general searches that are commonly used by all staff members. (General - List of Members from the same Organization).

6. Review the list of Ad Hoc Searches every six months to remove duplicates or temporary searches.



Manage Ad Hoc searches in Select Search Instructions window

Cloning a Report (Permanent Report Modifications)

Cloning allows copying of the specifications from an existing report and modification of the cloned version. Cloning avoids duplication of effort when two similar reports are being run.

Note: To access the **Report Specifications** window (select **Utilities > Report Specs**), you must have an authorization level of eight (8) or higher set on the **Users** window (select **System Setup > Security administration > Users**).

Typical reasons for making modifications to report specifications include modifying sort orders and margins, adding additional fields, or adding message text.

Setting Report Print Options

The report **Options** field communicates various instructions to the dialog box and/or report that can affect the contents or appearance of the output or, in some cases, change the processing steps during the running of the report. The options fall into three main categories:

- Yes/No type options that may appear as checkboxes on the secondary selection dialog box. Typically, these are used to print or suppress the printing of certain types of information. These options typically appear as strings that are prefixed with “PRINT_” (option checkbox will default to on) or “NO_” (option checkbox will default to off). *For example*, PRINT_HOME_PHONE would set the default to print the home phone number while NO_HOME_PHONE would set the default to not print the phone number.
- Options that will enable a specific selection prompt to appear on the related report dialog box.
- Options that will force certain data updates to occur as the data is printed on a report.

Report Options by System/Category

There are many report options available for frequently used reports. For Yes/No type options, a positive option is prefixed with PRINT_ and a negative option is prefixed with NO_.

Below, options are grouped by system module and report category. Be aware that certain report options may not apply to all reports within the category and that obscure/specialty options (not embedded in the standard report specification table) can be added when cloning a report.

AR - Account Status (Trial Balance & Statements)

- **PRINT_PAID_INVOICES:** Option to print closed or zero balance invoice items.
- **PRINT_DEBIT_BALANCES:** Option to include customers who have an overall positive or debit account balance.
- **PRINT_CREDIT_BALANCES:** Option to include customers who have an overall negative or credit account balance.
- **PRINT_EXCLUDE_FUTURE:** Option to exclude transactions dated in advance of the Aging Date.
- **PRINT_SUMMARY:** Option to print only total balances per each customer as opposed to individual open items.

COMMITTEES/MEMBERSHIP - Various Report Options that print address data

- **ADDRESS_BUTTONS:** Enables the radio button address selection section to appear on the report's dialog box at run time. This lets the user select to print no address, preferred bill or preferred mail, or a specific address on the labels.
- **PRINT_BARCODE:** Option to print the USPS barcode at the top of each label.

COMMITTEES/MEMBERSHIP - Letters

- **EMAIL:** Send the letters by email as opposed to normal printing of the letters.
- **WORDOUT:** Produce normal, printed output.

COMMITTEES/MEMBERSHIP - Exports

- **PRINT_HEADER:** Print a header record with the output field names at the top of the export file (standard for Microsoft Word merge files).
- **PRINT_QUOTATIONS:** Print quotations around each output field (for example, comma delimited output).
- **EXPORT:** Create the output as an export file.

COMMITTEES - Rosters

- **PRINT_HOME_PHONE:** Print home phone number.
- **PRINT_EMAIL (Crystal Only):** Print e-mail address.
- **PRINT_WEBSITE (Crystal Only):** Print Web site address.
- **PRINT_DATE_APPOINTED:** Print date appointed to committee.
- **PRINT_TOTALS:** Print total number of people in roster.

COMMITTEES - Labels

- **ADDRESS_BUTTONS:** Enables the radio button address selection section to appear on the report's dialog box at run time. This lets the user select to print no address, preferred bill or preferred mail, or a specific address on the labels.
- **PRINT_BARCODE:** Option to print the USPS barcode at the top of each label.

COMMITTEES - Exports

- **PRINT_HEADER:** Print a header record with the output field names at the top of the export file (standard for Microsoft Word merge files).
- **PRINT_QUOTATIONS:** Print quotations around each output field (for example, comma delimited output).
- **EXPORT:** Create the output as an export file.

DUES - Renewal Notices

- **SUPPRESS_ZERO_ITEMS:** Suppresses zero balance line items from printing on the renewal or reminder notice.
- **PRINT_CHECKBOX:** The option to print a checkbox next to the line item so the customer can indicate for which items he is submitting payment.
- **PRINT_CARD:** For *iMIS* Authorized forms only, this option will cause the credit card string to print in the credit card area on the form.

MEETING - Registrations

- **PRINT_INCLUDE_CANCELLED:** Option to print the cancelled registrants (those with a status that begins with C) as well as the active registrants.
- **FORCE_MASTER:** Forces the registrant to print even if he/she has not registered for any functions. (Does not apply to Crystal Reports.)
- **REGISTRANT_TYPE:** Permit dialog box selection by Registrant Class.
- **FUNCTION_BUTTON:** Permit dialog box selection of a specific function within an event.

MEETING - Badges

- **PRINT_DESIGNATION:** Option to print the designation in the registrant's full name that prints on the badge.
- **PRINT_TITLE:** Option to print the registrant's title on the badge.
- **PRINT_COMPANY:** Option to print the registrant's company name on the badge.
- **NO_FULL_ADDRESS:** Option to print the full address, including the street address, on the badge.
- **PRINT_STATE:** Option to print the state as well as the city on the badge. When this option is not enabled only the city prints.
- **PRINT_ORG_NAME:** Option to print the organization or association's name at the bottom of the badge.
- **PRINT_REG_CLASS:** Option to print the registrant class code in very small letters in the lower right corner of the badge. This encoding is intended to indicate which color-coded badge cover to use with the badge (for example, blue for customers, green for exhibitors).

MEETING - Confirmations

- **MARK_CONFIRMED:** This option marks the registration data with the date and time of the confirmation printing, thereby preventing the confirmation from being printed in future print runs.
- **PRINT_REPRINT_ALL:** Option to print all confirmations, including the registrations that have already been confirmed.
- **PRINT_SHOW_DATE_RANGE:** Option to print the date or date range of the overall event in the top portion of the confirmation.
- **PRINT_DAY_FIRST:** (Crystal Report Only): Option to print the formal event date in non-US, day month year format when **PRINT_SHOW_DATE_RANGE** is enabled. (for example, Wednesday, 09 February, 2000)

- **PRINT_SHOW_FUNCTION_DATES:** Option to print the date & time range of each function. If enabled, the date/time range appears in a separate line underneath the respective function.
- **PRINT_HOTEL_LINE_ITEMS:** (Applicable to sites licensed for Hotel Block Management): Option to print (PRINT_) or suppress (NO_) the zero balance hotel registration lines from the confirmation. If printed, the hotel registration lines will appear at the bottom of the function section.
- **PRINT_NOTE:** Option to print the Notes field from the individual registration in the bottom section of the confirmation.
- **PRINT_ORG_LOGO:** Option to print the Organization's Name & Letterhead Style Address at the top of the Confirmation.
- **PRINT_MULTI_ENTITY:** (Crystal Report Only) In a multiple entity situation, option to print the name and letterhead style address of the specific entity that owns the event at the top of the Confirmation.
- **PRINT_CANDADIAN_INFO:** (Crystal Report Only): Option to print the breakdown of PST, GST, and the GST Remit Number at the bottom of the notice. This information will print if the tax is non-zero and this option is enabled.

MEETING - Invoices

- **PRINT_REPRINT_ALL:** Option to print all Invoices for selected event(s), even those that have been previously printed.
- **INVOICE_REGISTRATION:** This option will assign a sequential Invoice number and the appropriate Invoice date to each registration order for which an invoice has not already been printed.
- **PRINT_ADDL_MEETING_INFO:** Option to print the event title, date range and location immediately above the function details.

MEETING - Rosters - Preregistration List and Formal Meeting Roster

- **PRINT_FULL_ADDRESS:** Print full address.
- **PRINT_PHONE:** Print phone number.
- **PRINT_EMAIL** (Crystal Only): Print e-mail address.
- **PRINT_DESIGNATION:** Print designation.

MEETING - Tickets

- **MARK_TICKET:** Marks each ticket as being printed so that it will not be reprinted in future print runs unless reprinting is specifically requested.
- **PRINT_ALL_TICKETS:** Option to print all tickets for selected event(s), even those that have been previously printed.
- **PRINT_MEETING_NAME:** Option to print the event title on the ticket.
- **PRINT_TICKET_NUM:** Option that assigns a sequential number to tickets and prints the number on the ticket.
- **PRINT_ORG_LOGO:** Option to print the organization name on the ticket.

ORDERS - Shipping Papers and Invoices

- **PRINT_KIT_LINES:** Option to print the individual kit components as well as the main kit product on the documents.

To clone a report

Any new report you create displays with the other **Standard Reports** on the **Reports** menu. Before you begin cloning reports, create or find out your organization's naming convention that distinguishes the cloned report from the original.

1. Select **Utilities> Report Specs** to display the **Report Specifications** window, which contains a list of all *iMIS* standard reports, sorted by module and type.

Note: To access the **Utilities> Report Specs** option, you must have an authorization access code of eight (8) or higher.

2. Select a report to clone, and click **Clone**.
3. Change the **System** name if you cloned a report from another module.

Note: If you clone a standard report and put a period (“.”) at the beginning of the name of the cloned report, such as **.Badge**, it becomes the default for that report type and places the report at the top of the **Systems** list.

4. Click **Parameters** and make the necessary changes. These changes may include changes to the **Rpt File/Format**, the **Options** list string, or a message text in the **Parameters** text field. When changing an option, remember that most of the report options are already in the **Options** list. To enable an option that is disabled, change the first word of the option from NO to PRINT. *For example*, change **NO_FULL_ADDRESS** to **PRINT_FULL_ADDRESS**.
5. Click **Save**.

Hands-on exercise: Clone a report

In this exercise, you will create a new report by cloning it from an existing report.

1. Select **Utilities> Report Specs** to open the **Report Specifications** window.
2. Select the **REFERRAL - Invoice - Print New Invoices** report from the drop-down list.
3. Click **Clone**.
4. Change the name of the **Title** to **Print New Invoices - 032604**.
5. Click **Save** on the **Report Specifications** window to display the report you created with the other **Standard Reports** on the **Reports** menu.

Printing Bar Codes

The U.S. Postal Service (USPS) uses the POSTNET bar-coding scheme to sort letters at high speeds. The USPS high-speed scanners read the bar code during the sorting process.

iMIS allows you to pre-print the POSTNET bar codes on reports such as labels, badges, billing reminders, and accounts receivable notices so you can take full advantage of the large discounts offered by the USPS for mailings with pre-printed bar codes. Refer to the following example.

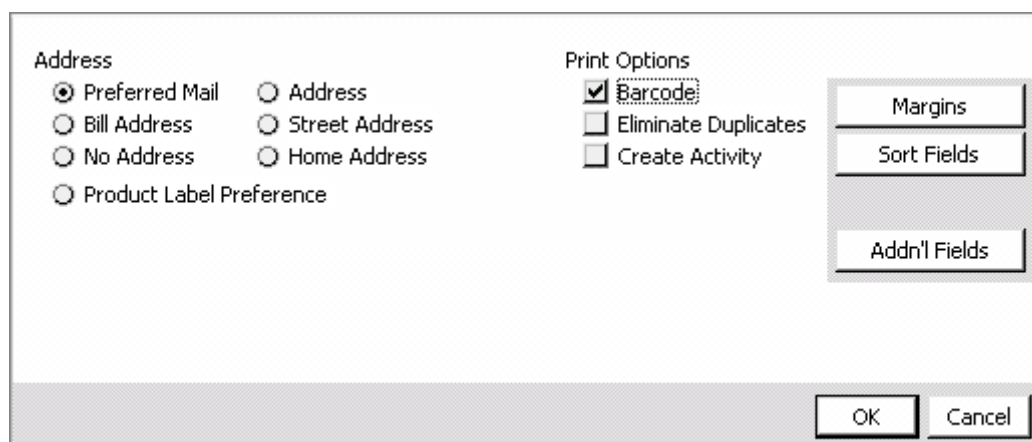
Current USPS regulations allow bar codes to be printed with the address, instead of requiring the bar code to be printed on the envelope. The *iMIS* bar code is compatible with both laser and dot-matrix printers.

Note: You must be licensed to use the *iMIS* postal bar code feature.

To include bar coding on a report

1. Include the ZIP code (ZIP + 4) in your *iMIS* customer records along with the address.
2. When you are generating a report that can use bar coding, such as most labels, you will see an option labeled **Barcode** on the bottom half of the **Selections** window under **Print Options**. Select the **Barcode** print option.

3. Click **OK**.



The bottom half of the **Selections** window.

Note: If **Barcode** does not appear under **Print Options**, it is not available for the current report.

When the bar codes print on the output, they automatically appear flush left above the mailing address and, by default, all of the output sorts by ZIP code.



Example of a properly aligned barcode.

If your bar code font appears wrong, check that the correct font is installed. Postal BarCode v.1.02 is located in a \FONTS directory in your \iMIS directory.

Note: To change the default setting for the **Barcode** option for a report you use frequently, change NO_BARCODE to PRINT_BARCODE (or the reverse) in the **Report Specification Parameters** field for that report format.

Exporting Report Data

You can export your iMIS data so that it can be read and used by outside applications, such as word processors, spreadsheets, and database packages. Most report windows throughout iMIS offer export formats for creating these files. Some formats automatically create files for popular word processing applications, filtering names, addresses, phone, date, and additional fields you specify. For these reports, you do not need to specify the export format because the format specifications are already built into the report.

To export a report to either MS Word or WordPerfect

1. Select **Generate reports** to display the **Generate reports** window.
2. Select **Exports** from the **Report Types** list if this report type is available. A list of **Available Reports** displays in the area on the right.
3. Select a report from the **Available Reports** list.
4. (optional) Click **Options** and select **Export Format** to open the **Export Format** window.
5. Select a **Format Type**, enter a file name, and click **OK**.
6. Click **Run**.
7. Enter or select report information and click **OK**. The **Set print file name** window displays.
8. Enter the file name.
9. Click **Save** to save the exported data in a file report.

You can select from several other export formats for your report, such as spreadsheet, dBase, and so forth. Select the additional formats from the **Export Format** window.

To export a report in other formats

1. Select **Generate reports** to display the **Generate reports** window.
2. Select **Exports** from the **Report Types** list if this report type is available. A list of **Available Reports** displays in the area on the right.
3. Select a report from the **Available Reports** list.
4. (optional) Click **Options** and select **Export Format** to display the **Export Format** window.
5. Choose one of the nine **Format Type** options to specify how *iMIS* should format the output file.
6. Enter the file name.
7. Click **OK**.
8. Click **Run**.
9. Enter or select report information and click **OK**.
10. The **Set print file name** window displays.
11. Enter the file name.
12. Click **Save** to save the exported data in a file report.

The QuickLetter System

To create a new letter template (QuickLetter)

1. From **Customers**, select **Generate reports** to open the **Generate reports** window.
2. Select **Letters** from the **Report Types** list.
3. Select a letter from the list of **Available Reports**.
4. Click **Options> Letter Text** to open the **Letter Text** window.
5. Place your cursor in the **Title** field, and enter a title for your new letter template.
6. Place your cursor in the letter text area, and modify the letter template as necessary.
7. Click **Save as Standard** to open the **Letter Name** window.
8. Enter a name for your new letter template.

9. Click **Save** to save the letter template.
10. Click **Close** to close the **Letter Text** window.

To edit a letter template (QuickLetter)

If you modify a template that was previously used to create activity records and you create new activity records based on the modified template, the letter text in the new activity records will show the original letter text before it was modified. If you want the new activity records to reflect the new text, create a new template.

1. From **Customers**, select **Generate reports**.
2. Select **Letters** from the **Report Types** column.
3. Select a letter from the list of **Available Reports**.
4. Click **Options> Letter Text** to open the **Letter Text** window.
5. Modify the letter as necessary.
6. Click **Save as Standard**. The **Letter Name** window opens.
7. Click **Save**. A message prompts you to replace the current letter.
8. Click **Yes**.
9. Click **Close** to close the **Letter Text** window.

To add additional fields to a template (QuickLetter)

Additional fields can be added to templates created in QuickLetter.

1. Select **Utilities> Report Specs** to open the **Report Specifications** window.
2. Select a QuickLetter template to edit (e.g., **MEMBERSHIP-Letters-Sample New Member Letter (QuickLetter)**).
3. Click **Parameters** to open the **Detail Report Parameters** window. The template name you chose displays in the **Rpt File / Format** field, and the **Report Type** is shown as **OMNIS**.
4. Click **Edit**.
5. (optional) Enter the table name in the **Main Tables** field.
6. (optional) Enter the table name in the **Search Files** field.
7. Enter the field name in the **Report Fields**, *for example*, Orders.INFORMAL.

Note: The table name is entered in upper/lower case while the field name is in all upper case.

8. Click **Save**.

To mass merge a letter (QuickLetter)

1. From **Customers**, select **Generate reports** to open the **Generate reports** window.
2. Select **Letters** from the **Report Types** column.
3. Select a letter from the **Available Reports** column.

Note: Sample MS Word templates cannot be used with QuickLetter.

4. Click **Run** to open the **Member/Contact Selections** window.
5. Click **OK** on the **Member/Contact Selections** window. The template opens with the text displayed.

To mass merge an e-mail (QuickLetter)

To ensure all letters are delivered by e-mail, verify that the **E-mail** field is populated on the **Manage customers** window's **Profile** tab for each customer.

Note: The subject line of e-mail letters created using QuickLetter defaults to "E-mail Letter." To modify the text that displays in the subject line of your e-mail letters, select **Utilities> Report Specs**, clone the report, click **Parameters**, modify the text that appears after "<Subject>" in the **Parameters** field, save your changes, close the **Report Specifications** window, and run the report.

1. Open your e-mail program.
2. From **Customers**, select **Generate reports** to open the **Generate reports** window.
3. Select **Letters** from the **Report Types** window.
4. Select the e-mail to merge.
5. Click **Run** to open the **Member/Contact Selections** window.
6. Enable the specific **Member/Nonmember** options.
7. Click **OK** to send the e-mail. The **View E-mail Results** window displays.
8. Verify that the information is correct, and click **Close**.

To delete a letter (QuickLetter)

1. Select **Utilities> Report Specs** to open the **Report Specifications** window.
2. Highlight the letter you want to delete.
3. Click **Delete**.
4. A message displays asking you confirm the deletion. Click **Yes**.

Note: When a report specification is deleted on the **Report Specifications** window, the template will not appear in the **Available Reports** column on the **Generate reports** window.

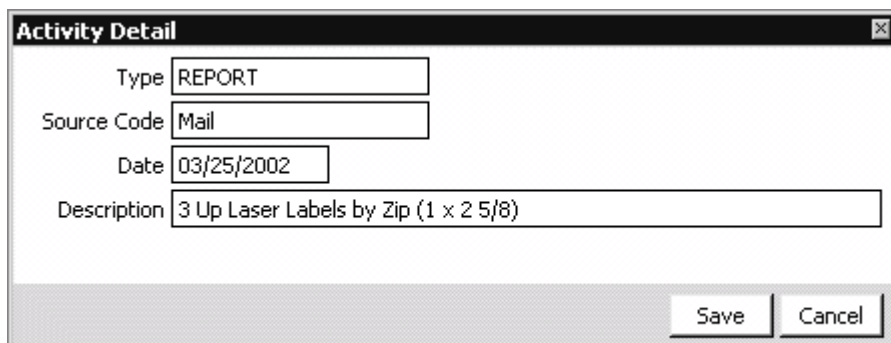
To view a letter or e-mail activity (QuickLetter)

Activities for a letter or e-mail can be viewed on either the **Letters** tab or the **Activities-All** tab.

1. From **Customers**, select **Manage customers** to open the **Manage customers** window.
2. Find a customer record with a **LETTER** or **EMAIL** activity record, *for example*, 105.
3. Select the **Activities-All** tab.
4. Select either the **EMAIL** or **LETTER** activity to open the **Activity Detail** window.

Key reporting windows

Activity Detail window



The screenshot shows the 'Activity Detail' window with the following fields and values:

Type	REPORT
Source Code	Mail
Date	03/25/2002
Description	3 Up Laser Labels by Zip (1 x 2 5/8)

At the bottom right of the window are two buttons: 'Save' and 'Cancel'.

From your selected module, select **Generate reports**, select **Report Type**, select report, click **Run**, enable **Create Activity**, and click **OK**

Type

(Required) Enter an activity type. Standard lookup **Ctrl+L** is available. Activities must be defined on the **Set up activity types** window (from **Customers**, select **Set up module> Activity types**) before using this enhancement. The **Type** field is validated for activity types when the **Allow user Edit** option is enabled. (Activity.ACTIVITY_TYPE)

Source Code

Specifies the code for the marketing program or mailing for this report. Standard lookup **Ctrl+L** is available. This field is validated from the **SOURCE_CODE** general lookup/validation table and is required if the **Force Source Coding** option is enabled on the **Customer Setup - Basic options** window (from **Customers**, select **Set up module> General**, and click **Basic Options**). (Activity.SOURCE_CODE)

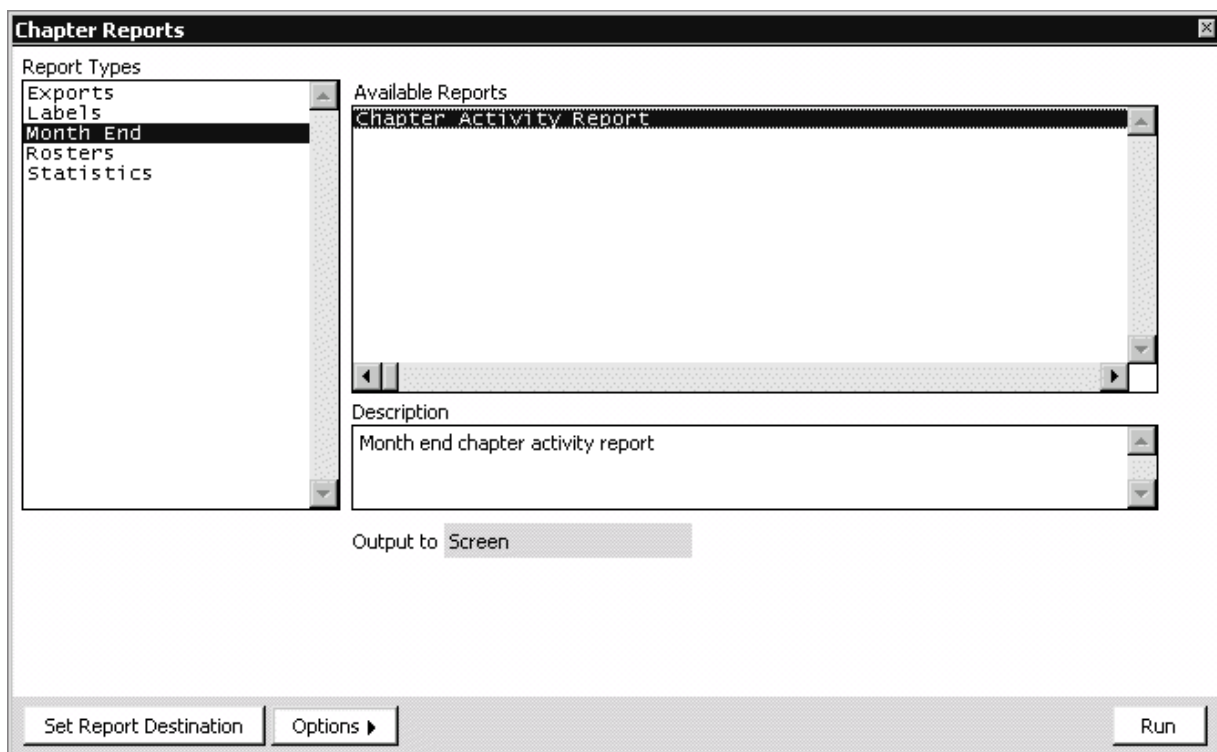
Date

(required) The system automatically enters the current system date. You can override the date by clicking in the field and entering a new date. (Activity.TRANSACTION_DATE)

Description

(required) The report title from the **Report Selection** window automatically fills in this field. Override this text as needed by clicking in the field and entering new text. (Activity.DESCRPTION)

Chapter Reports window



From **Customers**, select **Manage chapter rosters**, and click **Print**

From the **Chapter Reports** window, scroll through the **Report Types** list and select reports from the **Available Reports** list. The **Chapter Reports** window lists the individual types and the reports available for each type of report.

The following report types are available on the **Chapter Reports** window:

- **Export Reports** - Export to MS Word and to WordPerfect, both the complete set of Name file fields and the subset of Name and Address fields for the chapter members in the active list.

- **Label Reports** - Print a wide variety of labels for chapter members.
- **Month End Reports** - Print a month-end activity report for a chapter.
- **Roster Reports** - Print a Chapter Counts or Chapter Roster report.
- **Statistic Reports** - Print a detail or summary report of chapter dues payment information.

When you select a report and click **Options**, additional options such as **Margins**, **Sort fields**, **Export Format**, and **Additional Fields** display.

Chapter Selection window

From **Customers**, select **Manage chapter rosters**, click **Print**, select a report, and click **Run**

When you select a report and click **Run**, the **Chapter Selection** window opens. Use this window to customize your report by specifying the records to include by chapter and/or the term of the enrollments. The options in the **Chapter Selection** window include the following:

Chapter Selection

- **Current Chapter Only** - Select to include information for the current chapter only.
- **All Chapters** - Select to include information for all chapters.
- **Select Chapter(s)** - Select to specify the chapter to include in the report. When you enable this option, a text box opens allowing you to enter the name of the chapter. You can also use the lookup icon to select a chapter.

Term

- **Current** - Select to include only those members whose term includes the **Effective Date**.
- **All** - Select to include all chapter enrollments.
- **Future** - Select to include only future chapter enrollments.
- **Past** - Select to include only enrollments that have expired.

Effective Date

Enter a date from which to report. Reports will generate only for dates on and after that entered in the **Effective Date** field. Defaults to the current date. You can override this value.

From

Enter a beginning date.

Thru

Enter an ending date.

Address

- **Preferred Mail** - Select to select all customer records in the database.
- **Address** - Select to select all customer records with a customer type of Member.
- **Bill Address** - Select to select all customer records with a customer type other than Member.
- **Street Address** - Select to select all customer records for one or more customer types regardless of the Paid Thru date.
- **No Address** - Select to access other search formats to further define your record selections.
- **Home Address**

Print Options

The selections in the third column allow you to further define the records selected in the second column by restricting the records by their Paid Thru date:

- **Header** - Select to select all customer records regardless of their Paid Thru date.
- **Quotations** - Select to select only those customers who have a Paid Thru date that is equal to or after the date displayed in the **Effective Date** field.
- **Eliminate Duplicates** - Select to select only those customers who have a Paid Thru date that is before the date displayed in the **Effective Date** field.

Detail Report Parameters window

Specifications control the components that make the report run. You have some ability to change these controls:

- You can change some report formats
- You can change the defaults on certain print options (by prefixing PRINT_ and NO_)
- You can change the sort order and margins (on the **Options** drop-down menu, if “dark” and available)

Note: You cannot enable sorting on a standard report that does not support sorting; even though you can select the **Sort** box and the option appears to be available, it won't be.

From the menu bar, select **Utilities > Report Specs**, and click **Parameters**

Ctrl Procedure

This is the program procedure that derives the selection/report calculation for preparing a report. Some *iMIS* reports do not have a separate control procedure.

SearchDialog

With some reports, selecting **Run** opens a record-selection/search dialog box. The search entered determines which dialog box will appear.

Rpt File / Format

This is the *iMIS* procedure that controls the layout of the report output. The same control procedure (*for example, billing*) may have a variety of report format options.

Report Type

Select a report type from the drop-down list: Omnis or Crystal.

Save Report

(Displays when **Crystal** is selected from the **Report Type** drop-down list) Select to save the selected report type.

Main Tables

This is the name of the main *iMIS* table from which the report is run. This is present primarily when the same report control procedure can be used for different tables or sub-modules (*for example, Quick Letter*).

Search Files

The search files specify which tables to search when you run this report. Only these files appear in the **Ad Hoc** search window for selection.

Options

Allows you to access runtime options that can alter the output. These options vary between reports. See the following section for a list of report options.

Parameters

Some reports have the option of printing either text or field contents if entered here after a keyword (for example, after «message»).

Search

Allows you to specify an additional filter condition for the SELECT statement (*for example*, Name.MEMBER_TYPE = 'D').

Report Fields

A list of the report fields from *iMIS* tables that are used in the report output. If these are not specified, then the report fields are derived from all the columns of all the tables from Main Table.

Access Keywords

Specifies any access keywords you want to assign.

License Required

Links the report to an *iMIS* module requirement; the report only appears in the report listings if the system is licensed for a module in this license list.

Allow

Select from the following options for your report: **Proportional**, **Landscape**, **Letter Text**, **Fields**, **Margins**, **Search**, **Export**, and **Sort**.

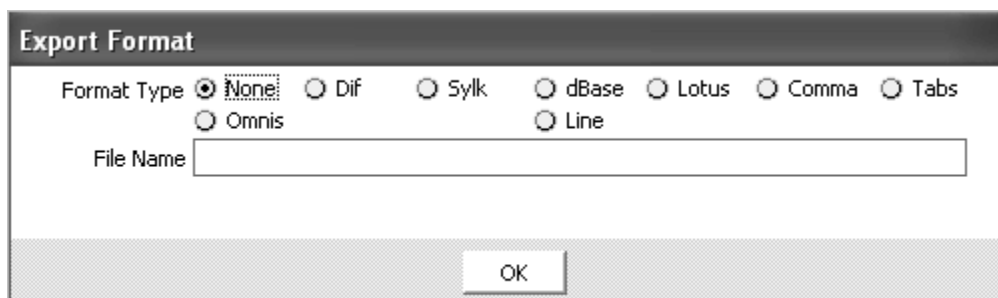
Options button

Used to display a menu of page setup options.

Crystal Params button

(Displays when **Crystal** is selected from the **Report Type** drop-down list) Opens the **Crystal Parameters** window.

Export Format window



From the module you are in, select **Generate reports**, select a **Report Type** and **Available Report**, click **Options**, and select **Export Format**

Note: The **Export Format** option is not available for all reports.

None

Enable to send output to a file without performing any formatting.

Dif

(Data Interchange Format) A common format accepted by many spreadsheet packages such as Microsoft Excel and supported by many software applications for data exchange.

Sylk

(Symbolic Link) Microsoft format used for spreadsheets. It organizes data as if it were entered in spreadsheet format with each row corresponding to an output record.

dBase

Select this option to send output to a file in the standard dBase database system import format.

Lotus

Select this format to send output to a file in the Lotus WKS format, which can be used to send data to be loaded into Lotus 1-2-3 as well as other packages.

Comma

Select this format to insert commas as separators between fields and start records on new lines. This file format is used by many software packages (including Microsoft Word for Windows) for importing data files for mail merge purposes.

Tabs

Select this format to insert tabs as separators between fields and start records on new lines. This file format is used by many packages such as WordPerfect and MS Word for Windows. It is used primarily for importing data fields for mail merge purposes. This is the most common format.

Omnis

(Omnis Internal Format) Select this format to send data to another Omnis application.

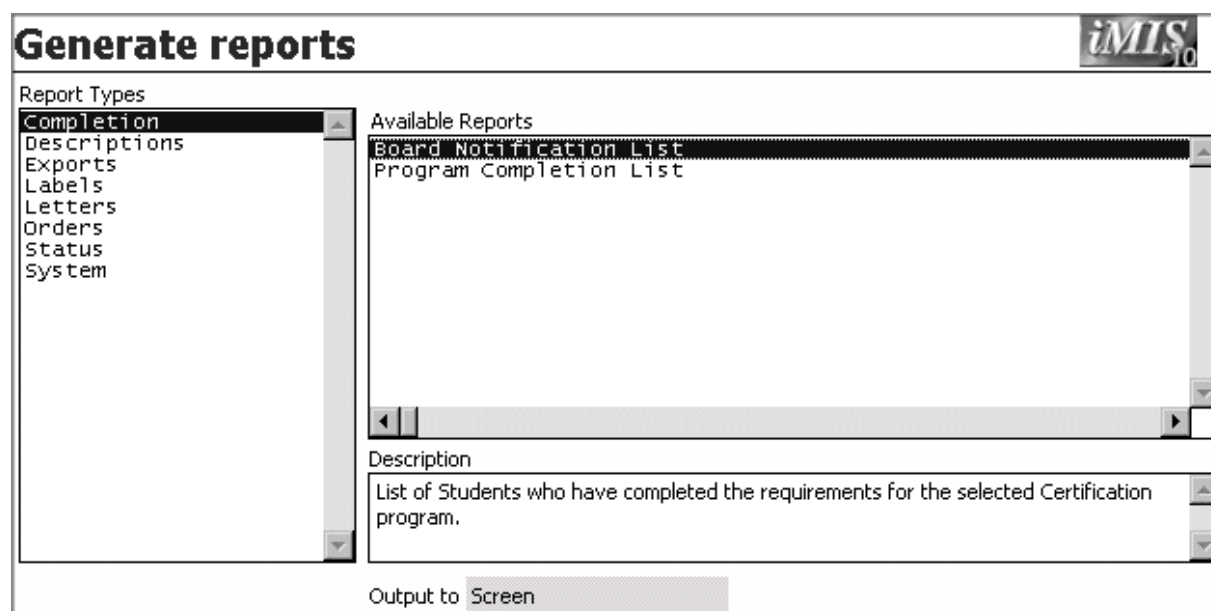
Line

Select this option to output one field per line. This format is useful for exporting one data element or field. Although not used very often, some older database packages still use this format.

File Name

Enter the path and filename for the output file in this field.

Generate reports window



From the module you are in, select **Generate reports**

Report types

A list of all available report types for that module.

Available Reports

A list of all available reports for that module displays in this area of the window when a **Report Type** is selected.

Description

A description of the selected report displays in this area of the window.

Output to

(read only) Displays the print option selected.

Set Report Destination button

Displays the **Report Destination** dialog box, used to specify the output device for your report, and to select a device for printing individual address labels.

Each time *iMIS* is launched, the default report destination resets to **Printer** (the Microsoft Windows default printer).

Note: To avoid printing reports unnecessarily, set the report destination to **Screen**.

Note: To print a report, select the **Printer** option rather than selecting the **Screen** option first, and then printing from the screen. The printed reports will not be aligned exactly as they appear on the screen; printing only from the **Printer** option will avoid this problem.

Note: The label printer destination is for printing individual address labels only, and is independent of the overall report destination.

Note: The label printer destination only works from the address section of the manage customers window.

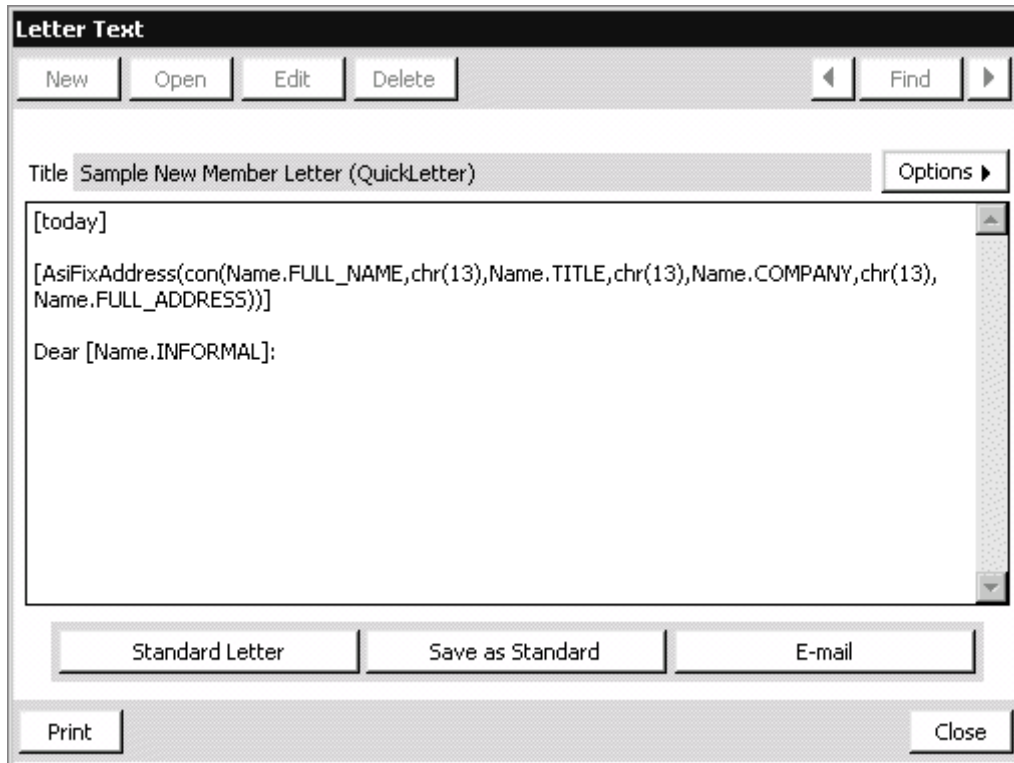
Options button

Opens a list of options for the selected report. This list includes report output formats for printing, exporting, saving, and sorting. Each available report displays in a new window. Options may not be available depending on which **Available Report** is selected.

Run button

Used to produce output that reflects your report search, format, and content choices.

Letter Text window



From **Customers**, select **Generate reports**, select **Letters** from the **Report Types** list, select a letter, and click **Options > Letter Text**

Title

Enter the name of the Standard Letter.

Options button

Opens a list of options for the selected letter:

Letter Format - Available letter formats. Corresponds to the six available letter report formats defined in the **Report Specifications** window.

Note: When you change the format for a letter, the selected format is written to the report description so that the next time the report is selected from the **Letter Text** window, the most recently selected format will be used.

Margins - Opens the **Margins/Page Layout** window that allows you to specify the layout settings for your letter.

Standard Letter button

Opens the **Find** window and select from the available letter reports.

Save as Standard button

Used to save a letter.

E-mail button

Used to send an e-mail directly to a customer (requires MAPI32-compliant e-mail application software and Internet access).

Print button

Used to generate a letter and send it to your report destination.

Standard Letters window

This window shows the list of Letter System templates that are available for a module, and provides options for managing the templates.

Note: The name of the window varies by module.



From **Generate reports**, select **Letters**, and click **Letter System**

This window shows the following information for each template.

- **Title** - The *iMIS* database name of the template.
- **Status** - The status of the MS Word files associated with the template.
 - ☐ **OK** - The template files are available in the template folder.
 - ☐ **Unavailable** - The template files are not available in the template folder, or the folder is not available.
- **Report file (.doc)** - The unique portion of the names of the template files.

This window provides the following buttons.

- **New** - Creates a template that can use the *iMIS* fields that are currently available for a module.
- **Edit** - Opens the selected template with MS Word.
- **Save As** - Creates a template by copying the existing, selected template. The new template can use the fields that were available for the module when the existing template was created.
- **Setup** - (if enabled) Opens the **Setup Standard Letters** window.

- **Merge** - Initiates the process of combining *iMIS* data with the selected template.

Setup Standard Letters window

This window defines the *iMIS* database fields that become columns in the data source table for this MS Word letter template, and the order in which the columns appear in the data source table.

Note: Your login must have authorization level 8 to use this window.

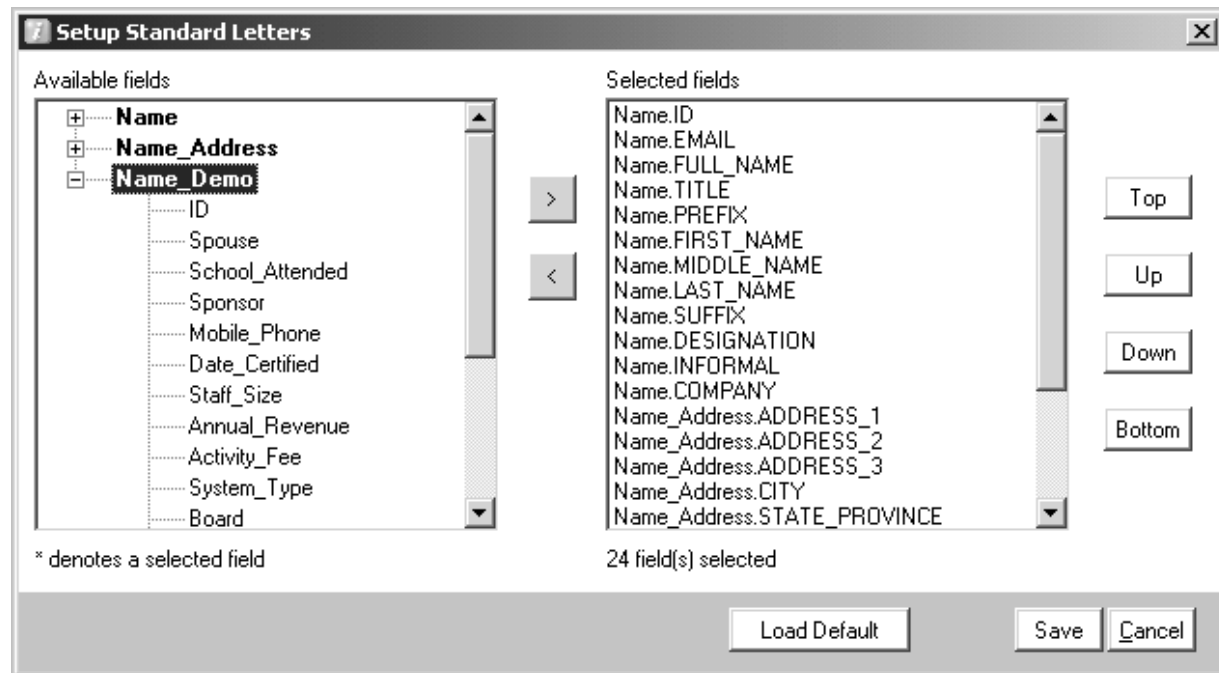


Figure 1: Setup Standard Letters

Setup Standard Letters window

Available fields

This area shows the *iMIS* tables and fields that are available for use as columns in the data source table for this letter.

To add a field to this letter's data source, select the field name, and then click >.

Note: Users with authorization level 8 can add fields from any *iMIS* table to the list of available fields, except fields that contain image data.

Selected fields

This area shows the *iMIS* fields that become columns in the data source table for this letter.

To remove a field from this letter's data source table, select the field name, and then click <.

- **Top** - Moves the selected field to the beginning of the list.
- **Up** - Moves the selected field one entry towards the beginning of the list.
- **Down** - Moves the selected field one entry towards the end of the list.
- **Bottom** - Moves the selected field to the end of the list.
- **Load Default** - Populates the list with the fields defined by ASI for this letter's *iMIS* module.

Report Specifications window

From the menu bar, select **Utilities > Report Specs**

Report scrolling area

This area contains a list of all *iMIS* reports.

Hide Omnis Duplicates button

Used to display Crystal-type reports for the specified **System** in the report scrolling area and hide the same reports that were created using Omnis.

Show Omnis Duplicates button

Used to display Crystal and Omnis report types for the specified **System** in the report scrolling area.

System

This field indicates where the report resides in the *iMIS* module, *for example*, **Expo**.

Category

This field indicates the report group/type, *for example*, **Product**.

Title

Displays the name of the report in this window and in the **Generate reports** window.

Hide from Menu

Enable to hide the report title on the **Generate reports** window.

Request Printer Setup

Enable for the system to automatically display a **Set Report Destination** window.

Description

This field contains a detailed description of the report.

Print button

Used to generate and send the selected report to your report destination.

Clone button

Used to produce an exact copy of the selected report.

Parameters button

Used to display the **Detail Report Parameters** window, where you can specify additional report specifications.

Options button

Used to display a drop-down list of report options available for printing, exporting, saving, and sorting the selected report format. Report options vary by report type.

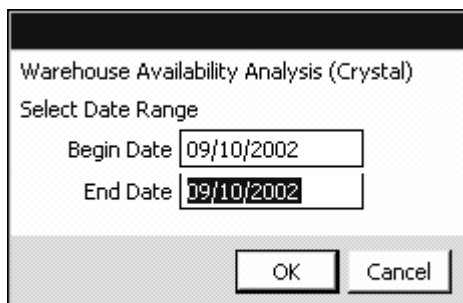
Run-time report selection windows

A run time window is a secondary selection window that allows you to specify the date range and data to be included in your output results. Only open items with a Bill Date or Run Date within the specified date range will print. Run time windows display when you click **Run** on the **Generate reports** window (from **Billing**, select **Generate reports**).

The window that displays depends on the search parameters entered for the selected report in the **SearchDialog** field on the **Detail Report Parameters** window (select **Utilities> Report Specs**, and click **Parameters**):

- If **DateRangeDia** or **CRTransDia** is entered in the **SearchDialog** field, then the **Select Date Range** window displays when you click **Run** on the **Generate reports** window.
- If **DuesPrintDia** is entered in the **SearchDialog** field, then the **Select Member Type** window displays when you click **Run** on the **Generate reports** window. The **DuesPrintDia** parameter generally is used when generating **Renewal Notices**.

Select Date Range window



An example of a **Select Date Range** run time window from the **Orders** module

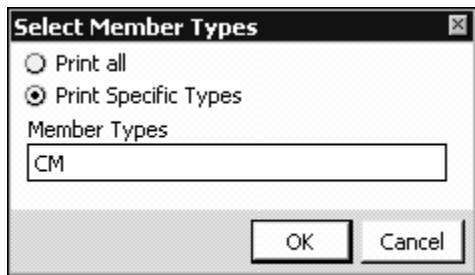
Begin Date

Specifies the beginning date of the reporting period.

End Date

Specifies the ending date of the reporting period.

Select Member Types window



*An example of the **Select Member Types** window*

Print all

Enable to print all of the customer types.

Print Specific Types

Enable to print specific customer types.

Member Types

(Displays when **Print Specific Types** is enabled) Specifies the specific customer types you want to print on your report.

Note: Set your **Report Destination** to **Screen**, and then enable all printing options you would like to try. Selectively disable the options, and observe their effect until you achieve the output you want to print.

Search Instructions window

Search Instructions

Search Name: Activity

File	Field	Mode	Value/Calculation
------	-------	------	-------------------

Insert
Remove

Mode

☒ Comparison
☐ Calculation
☐ AND
☐ OR

Comparison

File:
Field:

☒ Equal to
☐ Greater than or equal
☐ Contains
☐ Less than or equal
☐ Begins with
☐ Not equal

Comparison Value:

Print Save Cancel

From the **Select Search Instructions** window, select an existing search instruction, and click **Edit**

When you select the **New**, **Clone**, or **Edit** button, the **Search Instructions** window displays. In the **Search Name** field, you enter the name for the search instruction set. In the scrolling list, you can view the individual lines that make up the search instruction. In the **Comparison Value** field, you enter data to define those individual lines.

Search Name

Enter a unique name for search instructions so that they can be retrieved at a later date.

Search Instruction scrolling area

This section contains a list of the search instructions for the specified **Search Name**.

Insert button

Used to enter a new instruction.

Remove button

Used to delete an instruction.

Mode selection options

The mode specifies the calculation you will be performing for your search criteria. The following options can be specified:

Comparison - Compares a specified field to a given value. *For example*, you can specify that a field value equal the given value, be greater than, less than, and so forth. Comparison is the most commonly used string.

The fields in the **Comparison** area include the following:

- **File** - Name of the file (table) that contains the field you are comparing. *Comparison lines only.*
- **Field** - Name of the data field whose contents or value is being searched for the comparison. *Comparison lines only.*
- **Equal to** - (Default) Dictates that the field value must precisely match the value (or one of multiple values) specified in the **Comparison Value** field.

Note: For an **Equal to** comparison, you can enter multiple values separated by commas (no spaces) in the **Comparison Value** field. With multiple values, a record passes the comparison test if the field data matches any one of the comparison values (*iMIS* assumes a logical OR).

- **Contains** - Similar to **Equal To**, but instead of requiring an exact match of the entire field value, it requires that a continuous character string anywhere in the field match the comparison value. This option is typically used to find values in a list string field.
- **Begins with** - Looks for a continuous character string at the beginning of the field contents. It tries to match that string with the comparison value. *For example*, use **Begins with** to search for records whose last names begin with "W."
- **Greater than or equal** - Requires that the field value be greater than or equal to the comparison value. This type is used as one side of a two-part specification for a range of values. A typical use is for date fields.
- **Less than or equal** - Requires that a field's value be less than or equal to comparison value. This type also serves as the second half of a range specification. A typical use is for date fields.
- **Not equal** - Searches for records in which the contents of the named field do not match the specified comparison value (or any of the multiple values, separated by commas).

Note: For a **Not equal** comparison, you can enter multiple values if you separate them with commas (no spaces). With multiple values, a record passes the comparison test only if the field's data does not match any of the values (*iMIS* assumes AND).

- **Comparison Value** - For Comparison lines, this text box contains the value or character string you are comparing to the field contents. For Calculation lines, this area contains the full formula for the True/False evaluation.

Calculation - Allows you to enter a formula to compute. The calculation results are a true or false condition. A true condition result includes the record in the search results.

AND - Use between two search lines to require a record to pass both conditions before it is included in your search results. By default, AND is assumed between adjoining lines, except when the same field is specified in adjoining comparison lines and the mode is **Equal to**, **Begins with**, or **Contains**. In this case, OR is assumed.

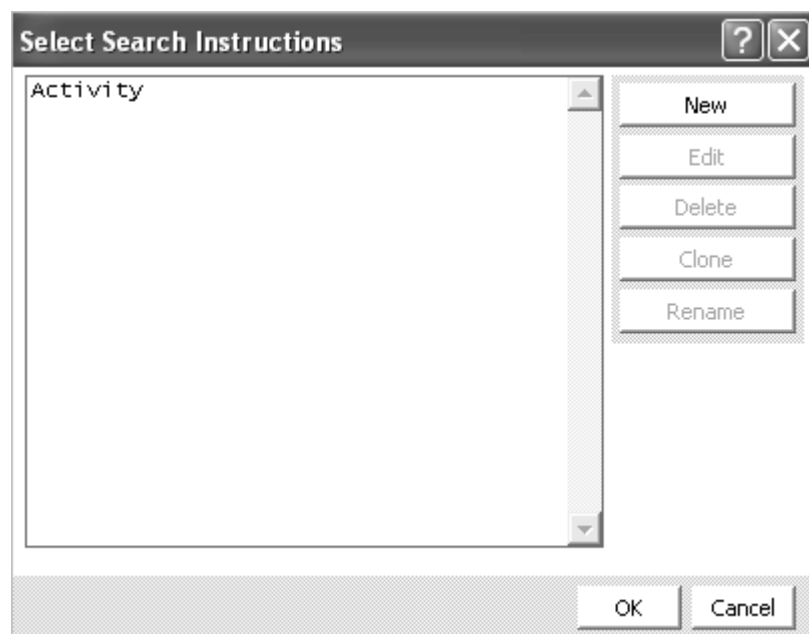
OR - Use between two search lines to require a record to pass only one of the two conditions. OR must be entered to specify anything other than AND. The exception is when the same field is specified in adjoining comparison lines and the mode is **Equal to**, **Begins with**, or **Contains**. In this case, OR is assumed.

Note: When you are entering a character string, you must enclose the string in single quotes.

Print button

Used to generate and send a search instruction report to your report destination.

Select Search Instructions window



From the module that you're in, select **Generate Reports**, select a report type from the **Report Types** list, select a report from the **Available Reports** list, and select **Search Format** from the **Options** drop-down list

When you first request an ad hoc search, an initial **Select Search Instructions** window displays. This window lists the titles of any preexisting search instructions.

Note: *iMIS* only displays the search definitions that relate to the active module or task list item.

The following command options display on the **Select Search Instructions** window:

Search instructions scrolling list

This list displays the current search instructions.

Clone button

Used to create a new set of instructions based on an existing set.

Rename button

Used to change the name of a search definition.

Advanced Reporting

Managing Crystal Reports in *iMIS*

Section Goal

The goal of this section is to give you an understanding of how to incorporate Crystal reports into *iMIS*.

After completing this section, you will be able to do the following:

1. Add a custom Crystal report to the *iMIS* menu
2. Clone an ASI standard Crystal report specification

3. Use the Crystal Print Manager
4. Add security to your reports

Adding Crystal reports to the menu

You can insert new Crystal reports or clone existing ASI standard Crystal reports so that the customized reports can be accessed from the *iMIS Reports* menu.

When you insert reports into the *iMIS Reports* menu, it is important to determine where the report is stored. If you enter a report name with no path shown, *iMIS* assumes the report is stored in the **stdrpts** folder or the **custrpts** folder. *iMIS* will look for the **stdrpts** folder or the **custrpts** folder in either:

- Your local workstation, if the *iMIS* libraries were installed locally
- A server, if the *iMIS* libraries were installed on a server

Note: Make sure to place custom or cloned reports in the **custrpts** folder. Make sure to rename cloned reports. The *iMIS* standard reports are kept in the **stdrpts** folder and are overwritten during an install or upgrade.

To clone an ASI standard Crystal report

Note: Make sure to place custom or cloned reports in the **custrpts** folder. Make sure to rename cloned reports. The *iMIS* standard reports are kept in the **stdrpts** folder and are overwritten during an install or upgrade.

Cloning allows you to copy the specifications from an existing report and modify the cloned version. Cloning saves time compared to creating a new report from scratch.

1. Copy the ASI Crystal report to the **custrpts** directory, and rename the report.
2. Select **Utilities> Report Specs** to open the **Report Specifications** window, which contains a list of all standard reports sorted by module (**System**) and type (**Category**).
3. Highlight the report to be cloned, and click **Clone** at the bottom of the window.
4. Enter the **System** and **Category** in which you want the report to appear, or leave the report in the same module and as the same report type.
5. Enter a name for the cloned report in the **Title** field. If you are creating a Crystal report based on a cloned Omnis report, add “Crystal” in parentheses (**Crystal**). Adding “Crystal” to the report name helps to identify the Crystal reports.
6. Enter a **Description** for the cloned report.
7. Click **Parameters** to open the **Detail Report Parameters** window.
8. Delete the displayed **Ctrl Procedure**.

Note: Prompts for search parameters will no longer be passed through *iMIS* if they were set up in the Crystal report unless the report file name is preceded by a “\$.” Otherwise, all search parameters must be set in *iMIS*.

9. To use Crystal parameters (or to prompt for values):
 - Tab to the **Rpt File / Format** field.
 - Enter the report name preceded by the \$ sign (**\$ReportName**).

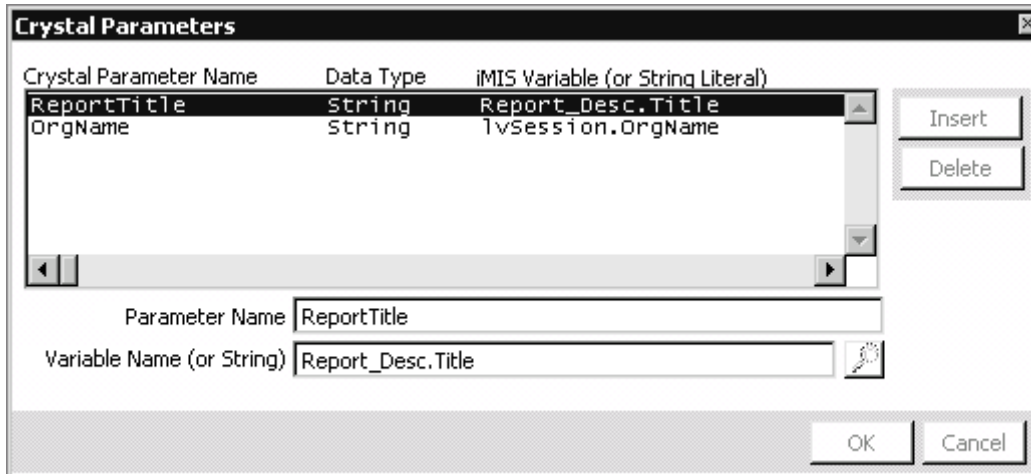
- Click **Save** on the **Detail Report Parameters** window to save the report specifications.

10. To map Crystal parameters to *iMIS* variables:

- Enter the report name in the **Rpt File / Format** field. The Crystal report should have an .rpt extension.
- Enter the complete directory path if the report does not reside in the **stdrpts** or **custrpts** folder.
Optionally, you can press **Ctrl+L** to browse to the report directory and select the file. This lookup option is available only when a **CRYSTAL** report type is selected. The report name displays without the directory path shown.
- Click the **Report Type** drop-down list, and select **CRYSTAL**. The **Report Type** names the tool in which the report was developed. The tools currently supported are the Omnis Report Writer and the Crystal Report Writer.

- If you have set parameters in the Crystal report:
 - Click **Crystal Params** to open the **Crystal Parameters** window.

The **Crystal Parameters** window allows you to map Crystal parameters to *iMIS* variables or to a string literal. You must map Crystal parameters to a corresponding *iMIS* variable for the data to pass into *iMIS* and to display in the report.



- Click **OK** to save the parameters and return to the **Detail Report Parameters** window.
- Click **Save** on the **Detail Report Parameters** window to save the report specifications.

To convert an older Crystal report

Convert older Crystal reports so they can use Crystal report functionality.

1. Prompts for search parameters will no longer be passed through to *iMIS* if they were set up in the Crystal report. All search parameters should be set up in *iMIS*.
2. In *iMIS*, select **Utilities> Report Specs**.
3. Select the report, and click **Edit**.
4. Click **Parameters** to open the **Detail Report Parameters** window.
5. Remove the \$ character from the report file name.
6. Click the **Report Type** drop-down menu, and select **CRYSTAL**.
7. If the following parameters are used in the Crystal report, click **Crystal Params**, click **Insert** on the **Crystal Parameters** window, and map the parameters to an *iMIS* variable. Click **OK** to save the parameters and return to the **Detail Report Parameters** window.
 - If the **OrgCode** or **OrgName** parameters are used, map **OrgCode** to the *iMIS* **lvSession.OrgCode** variable, and map **OrgName** to the *iMIS* **lvSession.OrgName** variable.
 - If the report uses the automatic **Report Title Set** feature, create a new Crystal parameter (for example, **ReportTitle**), place the parameter in the report layout, and map the Crystal parameter to the *iMIS* **Report_Desc.Title** variable.
 - If a formula was entered in the **Parameters** field on the **Detail Report Parameters** window, the formula must be migrated to Crystal using the Crystal formula editor. If the formula used a runtime *iMIS* variable value, the *iMIS* variable value must be passed in as a parameter.
8. Enable the **Save Report** option to store the Crystal report in the **Print Manager** so that it can be accessed or printed later.
9. When the **Save Report** option is enabled, the **For __ Days** field displays with the default number of days that was set on the **System Setup** window (**File> System Setup**). This is the number of days the report will be stored and displayed on the **Print Manager** window. Override the default days, if necessary.

10. **Tab** to the **Parameters** field. You can enter overlay text or a **Message** parameter. In general, parameters to be passed to Crystal reports must be specified on the **Crystal Parameters** window.
 - ❑ If a message parameter is used, a **Message** formula in the Crystal report must be created and placed into the report layout appropriately.
 - ❑ If the report uses **OrgCode** or **OrgName**, click **Crystal Params**, map **OrgCode** to the *iMIS* **lvSession.OrgCode** variable, and map **OrgName** to the *iMIS* **lvSession.OrgName** variable.
11. Click **OK**.

To add custom Crystal reports to the menu

1. Create the Crystal report.
2. (optional) Copy the Crystal report to the **custrpts** subdirectory.
3. Select **Utilities> Report Specs** to open the **Report Specifications** window, which contains a list of all standard reports sorted by module (**System**) and type (**Category**).

Report Specifications

New Open Edit Delete Find

MEETING-Meetings- Meeting Index, by Date
 MEETING-Meetings- Meeting Index, by Date (Crystal)
 MEETING-Meetings- Meeting Index, by Status
 MEETING-Meetings- Meeting Index, by Status (Crystal)
 MEETING-Meetings- Meeting Index, by Title
 MEETING-Meetings- Meeting Index, by Title (Crystal)
 MEETING-MenuRoomSetup- Room Setup
 MEETING-MenuRoomSetup- Room Setup (Crystal)

Hide Omnis Duplicates
Show Omnis Duplicates

System: MEETING Category: Meetings
 Title: Meeting Index, by Title (Crystal)

☐ Hide from Menu
☐ Request Printer Setup

Description
 Lists all defined meetings, sorted by title.

*This is an iMIS Standard Report

Print Clone Parameters Options Save Cancel

4. Click **New**.
5. Enter the name of the **system** module in which the report is to appear. *For example*, if the report is based on the Events module, enter **EVENTS** in the **System** field.
6. Enter the **category** in which you want the report to display on the module-specific **Reports** window. The **category** displays as **Report Types** on the module-specific **Reports** window. *For example*, if the report appears in the Events module, you could enter **Badges** in the **Category** field.
7. Enter a descriptive **Title** for the new report followed by “Crystal” in parentheses (**Crystal**). Adding “Crystal” to the report name helps to identify the Crystal reports.

8. Enter a **Description** of the report.
9. Click **Parameters** to open the **Detail Report Parameters** window.

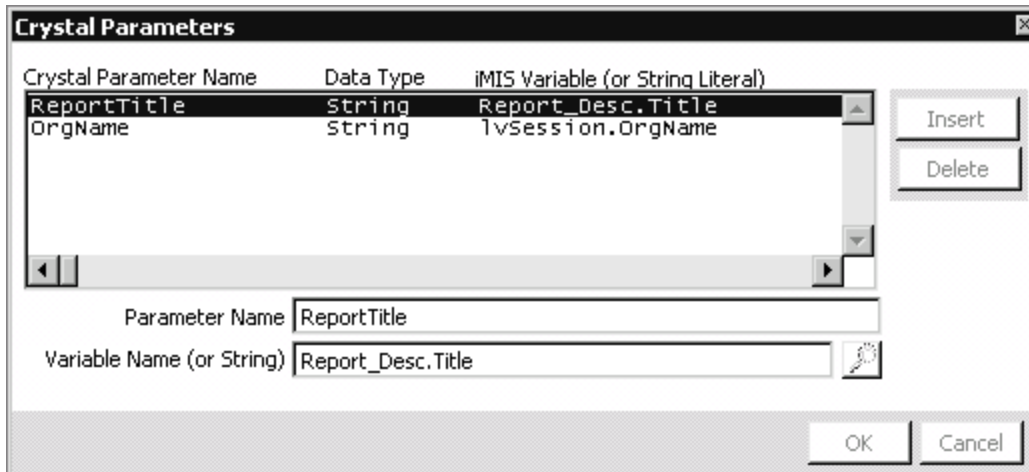
Note: Prompts for search parameters will no longer be passed through *iMIS* if they were set up in the Crystal report unless the report file name is preceded by a “\$.” Otherwise, all search parameters must be set in *iMIS*.

- To use Crystal parameters (or to prompt for values):
 - Tab to the **Rpt File / Format** field.
 - Enter the report name preceded by the \$ sign (\$ReportName).

- Click **Save** on the **Detail Report Parameters** window.
- To map Crystal parameters to *iMIS* variables:
 - Enter the report name in the **Rpt File / Format** field. The Crystal report should have an .rpt extension.
 - Enter the complete directory path if the report does not reside in the **stdrpts** or **custrpts** folder.
 Optionally, you can press **Ctrl+L** to browse to the report directory and select the file. This lookup option is available only when a **CRYSTAL** report type is selected. The report name displays without the directory path.
 - Select the **Report Type** drop-down list.
 Select **CRYSTAL**, the **Report Type** names the tool in which the report was developed.
 The tools currently supported are the Omnis Report Writer and the Crystal Report Writer.

- If you have set parameters in the Crystal report, click **Crystal Params** to open the **Crystal Parameters** window.

The **Crystal Parameters** window allows you to map Crystal parameters to *iMIS* variables or to a string literal. You must map Crystal parameters to a corresponding *iMIS* variable for the data to pass into *iMIS* and to display in the report.



- ❑ Click **OK** to save the parameters and return to the **Detail Report Parameters** window.
- ❑ Click **Save** on the **Detail Report Parameters** window to save the report specifications.

Hands-on exercise: Clone a Crystal report

In this exercise, you will clone the Member Index report and modify it so the report prints the Member Index information for the displayed customer's record.

1. Copy the MemberIndex.rpt file from the *iMIS stdrpts* directory to the *\...\custrpts* directory.
2. Open the *\...\custrpts\MemberIndex.rpt* in Crystal.
3. Rename the report as **MemberIndexforCurrentID**.
4. Select the **Field Explorer** icon.
5. Select the **Parameter** tab.
6. Click **New** to open the **Create Parameter Field** window.
7. Enter CurrentID in the **Name** field, and click **OK**.
8. Close the **Field Explorer** window.
9. Select the **Select Expert** icon.
10. Select **Name.ID**, and click **OK**.
11. Select the drop-down list, and select **is equal to**.
12. Select the second drop-down list, select the **{?CurrentID}** parameter, and click **OK**.
13. Open *iMIS*.
14. Select **Utilities> Report Specs** to open the **Report Specifications** window.
15. Scroll down, and select the **Membership-Rosters-Member Index (Crystal)** report.
16. Click **Clone**.
17. Enter **Member Index for Current ID (Crystal)** as the report **Title**.
18. Click **Parameters** to open the **Detail Report Parameters** window.
19. **Tab** to the **Rpt File / Format** field, and press **Ctrl+L**.
20. Navigate to the *\imis\custrpts* directory, select the **MemberIndexforCurrentID.rpt** file, and click **OK**.

21. Click **Crystal Params** to open the **Crystal Parameters** window.
22. Click **Insert**.
23. Enter `CurrentID` in the **Parameter Name** field, and press **Tab**.
24. Enter `lvSession.CurrentId` in the **Variable Name (or String)** field, and press **Tab**. Click **OK**.
25. Click **Save** on the **Detail Report Parameters** window to save the report changes.
26. Close the **Detail Report Parameters** window and the **Report Specifications** window.
27. Select **Customers> Manage customers** to open the **Manage customers** window.
28. Click **Find** to open the **Search** window.
29. Select **ID** from the drop-down list, enter **101** as the customer **Id**, and click **Go**.
30. Select **Customers> Generate reports** to open the **Generate reports** window.
31. Click **Set Report Destination**, and choose to print the report to **Screen**.
32. Select the **Rosters** report type, and then select the **Member Index for Current ID (Crystal)** report.
33. Click **Run** to open the **Member/Contact Selections** window.
34. Click **OK**. The report displays the information for customer 101.

Member Index for Current ID EDM Sciences			Tuesday, May 28, 2002 Page 1
ID	Name	Company	City, State
101	Mr. Douglas A. Hunt, Jr.	Prodigy Makers International	Newark, NJ
Total Records		1	

35. Run the original report, **Member Index (Crystal)**, to compare the original report to the modified report. Notice the original report shows the address for each customer selected while the report we modified only shows the address for the customer's record we have displayed.

Member Index EDM Sciences			Tuesday, May 28, 2002 Page 1
ID	Name	Company	City, State
194	Mr. Jon A. Ashford, Sr., COO	Southwest Avionics, Inc.	Midlothian, TX
161	Albert Bachman	Bachman Floral	Dallas, TX
156	Mr. Peter L. Bachman	American Business Services	Houston, TX
214	Mr. Jean Claude Beauregardere		Paris,
162	Mr. Duane D. Bell	Bell Cardiac Services, Inc	Minneapolis, MN
134	Mr. Robert L. Berry	International Book Publishers	Fort Worth, TX
123	Mr. Charles P. Better, LLM	Software Distributors	Dallas, TX
163	George Blackwood	Blackwood Electric	Ft. Worth, TX
121	Mr. James N. Bondhum	Spybreakers Ltd.	London, TX
120	Ms. Teri L. Boone	Organized Food Service, Inc.	Austin, TX
164	Mr. Theodore G. Brown	Universal Biotech Incorporated	Philadelphia, PA
107	Ms. Paula D. Caller, CPA	Acme, Inc.	Dallas, TX
165	Paula Clark	Clark Convention Decorators	Hurst, TX
153	Mr. John J. Colby, CPA	Foundation Support Systems	Somerville, NJ
108	Mr. David F. Cookie, Jr.	Acme, Inc.	Dallas, TX
166	Mr. Douglas Cooper	International Medico	New York, NY
104	Dr. Charles R. Corwin	Foundation Support Systems	Somerville, NJ
110	Mr. Wayne Courtland	Sailing Dreams, Inc.	Dallas, TX
155	Mr. Charles E. Cox	American Business Services	Houston, TX
167	Dr. Charles Crondon	Omaha Medical Supplies	Columbia, MD

Using the Crystal Print Manager

The Print Manager allows you to save a report for a specified period and to reprint the stored report.

To set the Print Manager system defaults

On the **System Setup** window, specify the location and default number of days for storing the report.

1. Open *iMIS*.
2. Select **File> System Setup** to open the **System Setup** window.
3. Click **Edit**.
4. Click **Choose Report Directory** to open the **Browse for Folder** window.

Note: Select a network drive that is mapped on all *iMIS* clients. If a local drive is selected, users on the network are not able to print the reports from the Print Manager.

5. Select the directory where the report will be stored, and click **OK**.
6. In the **Save Reports for _ Days** field, enter the default number of days to store the reports. If a different period is set on the **Detail Report Parameters** window for the report, the days set for the report override the **System Setup**.

The screenshot shows the 'System Setup' window with the following fields and options:

- License Control:**
 - System Name: iMIS Business Framework
 - Version: 10.4.27.117
 - Install Date: 06/01/1993
 - Serial #: 999999-00
 - Licensed To: iMIS Business Framework
 - Products: MEMBERSHIP, MEETINGS, DUES, CASH, BARCODE, CEU, FSI, DEFINC, SPEAKER, CHAPTER, FSIIMPORT, REFUND, SQL, FUNDR, EXPO, EXPORT, IMPORTUTIL, XTEN, EXHIBITION, CERT, NET, IBO,
 - Users Allowed: 3
 - Max Records: 350
 - Expiration: (empty)
- Preferences:**
 - 51177938
 - Date Format: (empty)
 - Auto Logout After: 6:00 PM
 - Lower Case Words: of and for the in a or on dba
 - ☒ Upper/Lower
- Report Settings:**
 - Choose Report Folder: C:\iMIS_10\Custrpts
 - Save Reports for: 30 Days
 - Choose MS Word Folder: (empty)
- ☐ Activity Attachments allowed
- Web Server URL: (empty)
- ☐ Do not retain printer destination (Terminal Server environments)

Buttons at the bottom: Print, System Defaults, Save, Cancel.

7. Click **Save**.

To save a Crystal report

To save a report to the Print Manager to be accessed or printed later, you must enable the **Save Report** option on the **Detail Report Parameters** window.

1. Open *iMIS*.
2. Select **Utilities> Report Specs** to open the **Report Specifications** window.
3. Select the Crystal report.
4. Click **Edit**.
5. Click **Parameters** to open the **Detail Report Parameters** window.
6. Enable the **Save Report** option. When this option is enabled, a new field displays.
7. When the **Save Report** option is enabled, the **For __ Days** field displays with the default number of days that was set on the **System Setup** window (select **File> System Setup**). This is the number of days the report will be stored and displayed in the **Print Manager** window. Override the default days if necessary.

The screenshot shows the 'Detail Report Parameters' window. The 'Save Report' checkbox is checked, and the 'For 30 Days' field is visible. The 'Report Type' is set to 'CRYSTAL'.

8. Click **Save**.

Hands-on exercise: Set the number of days to save a report

In this exercise, you will set the number of days to save the **Member Index** report in the **Print Manager**.

1. Open *iMIS*.
2. Select **Utilities> Report Specs** to open the **Report Specifications** window.
3. Select **MEMBERSHIP-Rosters-Member Index (Class)**.
4. Click **Edit**.
5. Click **Parameters** to open the **Detail Report Parameters** window.
6. Enable the **Save Report** option. When this option is enabled, a new field displays.
7. Enter 30 as the number of days for the **Print Manager** to store the report.
8. Click **Save**, and close the **Detail Report Parameters** window.

To run a saved Crystal report

When you run a Crystal report with the **Save Report** option enabled, the report displays on the **Crystal Preview** window, and the data is exported and stored to a file labeled **asi#.rpt**. The location of the stored report file (**asi#.rpt**) is designated on the **System Setup** window (select **File> System Setup**). All stored reports are kept in the **Job_Record** table.

1. Open *iMIS*.

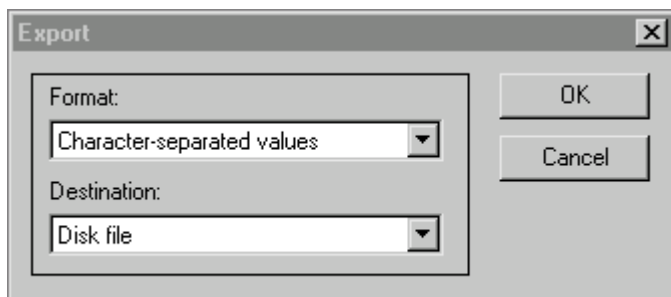
2. Select the report. For this example, we selected **Billing> Generate reports** to open the **Generate reports** window. We then selected the **Open Invoices** report type, and selected **Open Items by Name (Crystal)** from the **Available Reports** area.
3. Click **Set Report Destination**, select the appropriate destination, and click **OK**.
4. Click **Run**.
5. Select a date range.

The **Crystal Preview** window opens with the data displayed. While the data is exported to the **asi#.rpt** file, the system displays an **Exporting Records** window.

Brief descriptions of the buttons, menus, and items shown on the **Crystal Preview** window are shown in the following example.

Open Items by Name Advanced Solutions International, Inc.						Tuesday, May 28, 2002 Page 1
ID	Name	Member Type	Invoice Date	Item	Amount Due	Total
159	Acme e, Inc.	CM	5/1/2002	BASIC	266.67	266.67
			5/1/2002	PAC	20.00	
161	Backman Floral	NMC	5/1/2002	CHAPT/DALLAS	150.00	150.00
156	Mr. Peter L. Backman	M	5/1/2002	BASIC	75.00	135.00
			5/1/2002	PAC	60.00	
123	Mr. Charles P. Better, LLM	A	5/1/2002	ACT	15.00	56.67
			5/1/2002	CHAPT/DALLAS	41.67	
120	Ms. Teri L. Boone	A	5/1/2002	ACT	22.33	22.33
180	Brown & Brown	CM	5/1/2002	BASIC	250.00	270.00
			5/1/2002	PAC	20.00	
107	Ms. Paula D. Caller, CPA	CPA	5/1/2002	BASIC	100.00	285.00
			5/1/2002	CHAPT/DALLAS	125.00	
			5/1/2002	PAC	60.00	
189	Cardio Systems	CM	5/1/2002	BASIC	166.67	186.67
			5/1/2002	PAC	20.00	

- To print the report, click **Print**.
- To export the data to a specific format, click **Export**. The **Export** window opens to allow you to select the **Format** and **Destination** of the export file.



6. Close the **Crystal Preview** window.

Hands-on exercise: Run a saved Crystal report

In this exercise, you will run a Crystal report in *iMIS* that will store and save the report data to the **Job_Record** table.

1. Open *iMIS*.
2. Select **Customers> Generate reports**.
3. Select the **Rosters** report type.
4. Select **Member Index (Class)**.
5. Click **Set Report Destination**, and select **Screen**.
6. Click **Run** to open the **Member/Contact Selections** window.
7. Accept the defaults, and click **OK**. The report displays in the **Crystal Preview** window.

<p style="text-align: center;"><i>Member Index as of May 28th, 2002</i></p> <hr/> <p style="text-align: center;"><i>Advanced Solutions International, Inc.</i></p>			
Page 1			
Id	Name	Company	City, State
194	Mr. Jon A. Ashford, Sr., COO	Southwest Avionics, Inc.	Midlothian, TX
161	Albert Bachman	Bachman Floral	Dallas, TX
156	Mr. Peter L. Bachman	American Business Services	Houston, TX
214	Mr. Jean Claude Beauregardere		Paris,
162	Mr. Duane D. Bell	Bell Cardiac Services, Inc	Minneapolis, MN
134	Mr. Robert L. Berry	International Book Publishers	Fort Worth, TX
123	Mr. Charles P. Better, LLM	Software Distributors	Dallas, TX
163	George Blackwood	Blackwood Electric	Ft. Worth, TX
121	Mr. James N. Bondlum	Spybreakers Ltd.	London, TX
120	Ms. Teri L. Boone	Organized Food Service, Inc.	Austin, TX
164	Mr. Theodore G. Brown	Universal Biotech Incorporated	Philadelphia, PA
107	Ms. Paula D. Caller, CPA	Acme, Inc.	Dallas, TX
165	Paula Clark	Clark Convention Decorators	Hurst, TX
153	Mr. John J. Colby, CPA	Foundation Support Systems	Somerville, NJ
108	Mr. David F. Cookie, Jr.	Acme, Inc.	Dallas, TX
166	Mr. Douglas Cooper	International Medico	New York, NY
104	Dr. Charles R. Corwin	Foundation Support Systems	Somerville, NJ
110	Mr. Wayne Courtland	Sailing Dreams, Inc.	Dallas, TX
155	Mr. Charles E. Cox	American Business Services	Houston, TX
167	Dr. Charles Crondon	Omaha Medical Supplies	Columbia, MD

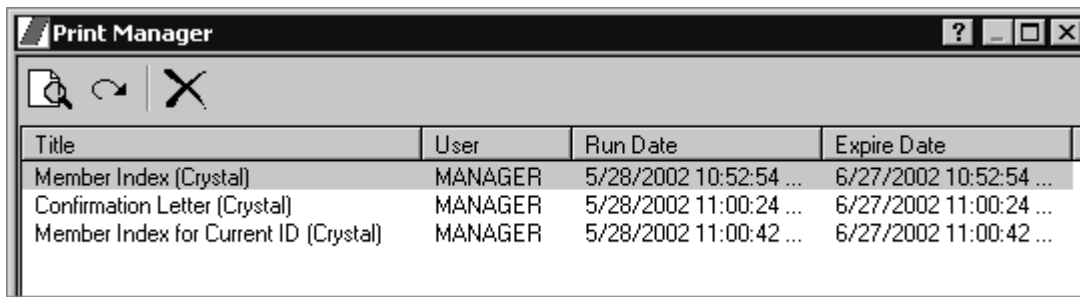
8. Close the report.

To view a report from Print Manager

All stored reports are kept in the **Job_Record** table and are assigned sequential numbers. The reports are saved in the directory designated in the **System Setup** window (select **File> System Setup**) and are stored in files labeled **asi#.rpt**. The **Print Manager** displays only those reports that the current user has run. Only users with a system management access level of eight or higher can view all reports.

1. Open *iMIS*.
2. Select **File> Print Manager**. The **Print Manager** displays a list of stored reports with the following columns:
 - ☐ **Title** (report title)
 - ☐ **User** (the user who ran the report)
 - ☐ **Run Date** (the date the report was run)

- **Expire Date** (the date the report will be purged from the **Print Manager**)



Title	User	Run Date	Expire Date
Member Index (Crystal)	MANAGER	5/28/2002 10:52:54 ...	6/27/2002 10:52:54 ...
Confirmation Letter (Crystal)	MANAGER	5/28/2002 11:00:24 ...	6/27/2002 11:00:24 ...
Member Index for Current ID (Crystal)	MANAGER	5/28/2002 11:00:42 ...	6/27/2002 11:00:42 ...

3. To view the report, double-click the report title, or select the report title, and click **View the report**. The **Crystal Preview** window opens. Print the complete report or select a range of pages to print.
4. To update the list, click **Refresh report list**.
5. To delete a report from the Print Manager, select the report, and click **Delete the report(s)**. To select multiple reports, hold down the **Shift** key (to select a range) or the **Ctrl** key (to select individually) on your keyboard.

Hands-on exercise: Run a report from the Print Manager

In this exercise, you will run a saved report from the **Print Manager** in *iMIS*.

1. Select **File> Print Manager**. The **Print Manager** window opens with a list of the current stored reports.
2. Double-click the **Member Index (Class)** report. The report opens in the **Crystal Preview** window.

Troubleshooting when reports are not being stored

1. Make sure the report directory where the reports are to be stored has been designated (select **File> System Setup**).
2. Make sure the **Save Report** option is enabled (select **Utilities> Report Specs**, select the report, click **Edit**, and click **Parameters**).
3. Check the Install CD to make sure the **Launch Data Access Setup** was selected during installation.

Implementing report security

The **Access Keywords** field on the **Detail Report Parameters** window allows you to set up global security measures to prevent users from running or printing a report.

1. You must perform the following steps to implement the *iMIS* report security measures:
2. Create the **ACCESS_KEYWORDS** lookup table.
3. Assign an access keyword(s) to reports.
4. Assign an access keyword(s) to users.

To create the **ACCESS_KEYWORDS** lookup table

The first step in implementing security measures is to create the **ACCESS_KEYWORDS** lookup table for the reports.

1. Open *iMIS*.
2. Select **Customers> Set up tables> General lookup/validation** to open the **Set up general lookup/validation** window.

Note: Unlike other General Lookup/Validation Tables, users must have an authorization level of 8 or higher to edit **ACCESS_KEYWORDS**.

3. Select the drop-down list, and select **ACCESS_KEYWORDS** or, if the **ACCESS_KEYWORDS** table does not exist:
 - Select **(New Table)** from the list of table types. The **Please Enter a New Table Type** window opens.
 - Enter **ACCESS_KEYWORDS** in the data entry field.
4. Click **New**.
5. Type the **Code** and **Description** for the access keyword.
6. Click **OK** to save the information.
7. Click **New** for each table entry you create, and click **Save** to save each entry.
8. Restart *iMIS*.

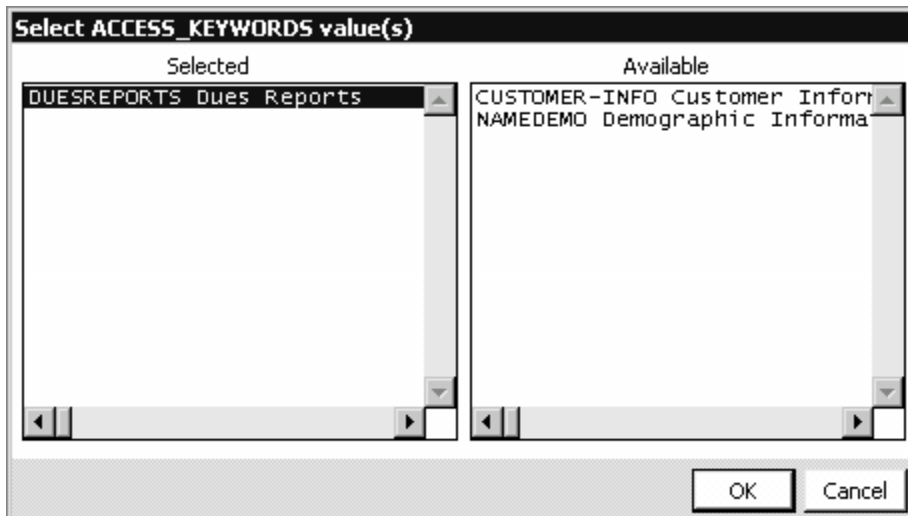
Note: If an access keyword is deleted from the General Lookup/Validation lookup table, the keyword must be removed manually from the **Detail Report Parameters** window and the **User Names** window where it is used.

To assign access keywords to reports

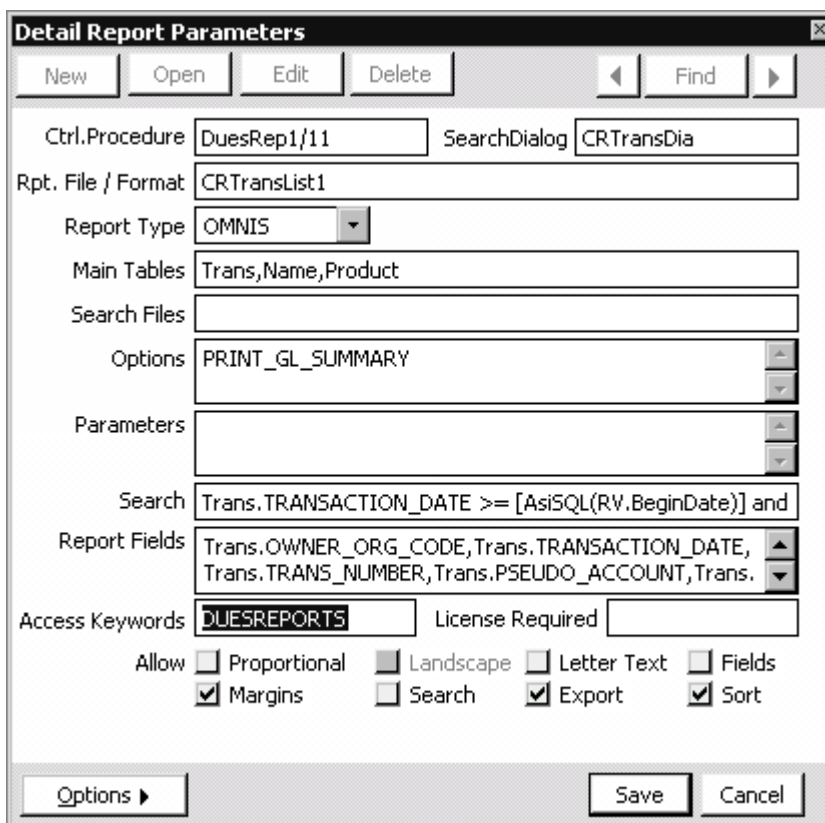
iMIS allows you to enter and assign access keywords that allow only certain users to see or to print a report. You can apply the access keywords to any report.

1. Create the access keywords in the **ACCESS_KEYWORDS** lookup table.
2. Select **Utilities> Report Specs**.
3. Select the report.
4. Click **Edit**.
5. Click **Parameters** to open the **Detail Report Parameters** window.
6. Place your cursor in the **Access Keywords** field, and press **Ctrl+L** to select from the available access keywords.

- Double-click the keyword to move the keyword from the **Available** area to the **Selected** area.



- Click **OK**. The selected keyword displays in the **Access Keywords** field.



- Click **Save** to save the information.
- If you have assigned access keywords to a report, give the appropriate users permission to view and print the report.

To assign access keywords to users

Now that you have defined the **ACCESS_KEYWORDS** values and assigned the keywords to reports, you are ready to assign access keywords to the individuals who will be using the reports.

1. Log on to *iMIS* as **MANAGER**.
2. From **System Setup**, select **Security administration > Users**.
3. Find a Full or Casual user and open their user record.
4. Enter an authorization level for each module in which the user has access.
5. Enter the access keywords, if any, for this user in the **Access Keywords** field. The access keywords grant the user access to areas of functionality associated with the designated keyword.
6. Click **Save** to save the information.
7. Restart *iMIS*.

Tips and Tricks: Crystal reports

Printing

- To print Crystal reports (which includes both Print to Screen and Print PDF file to Screen), you must have the free Adobe® Reader® installed on both the server and your workstation.
- If you are experiencing problems with your margins, you might want to check your print driver's default margins. The print driver's default margins will override all other margins.
- To cancel a print job, you must have permissions to the print server.

Can Grow Fields

- Crystal has an option that prevents data fields from being truncated. This prevents longer names from being cut off. This option should be set on all fields except date fields and numeric fields.
- To set the **Can Grow** option globally: Select **File> Options**, select the **Fields** tab, click **String**, select the **Common** tab, and enable the **Can Grow** option.
- To set the **Can Grow** option on a field: Highlight the field, right-click, select **Format Editor**, select the **Common** tab, and enable the **Can Grow** option.

Dates

Do not hard code date formats in the report. Instead, use the system default.

Suppress blank sections

Use different detail sections for fields that you wish to suppress based on selection criteria or, if there will be no data in those fields, for some records.

Report access

To access a module's reports, you must be assigned either to the module's group or to the **Reporting** group. You will see only folders and documents that match your permissions.

To see the Generate reports link on the *iMIS* Home page, you must be assigned to the **Reporting** group.

Runtime parameters

- An asterisk (*) next to a parameter name shows that it is required.
- With an optional parameter, either enter a parameter to narrow the search or leave it blank to obtain all records.
- In addition to default parameters (OrgName, ReportTitle, OperatorName, and DateTimeSubmitted), Crystal reports might use others: refer to the Crystal Report Specifications for report-specific parameters.

- If you see no default value (the field is empty), you can enter your own value. However, if a default value appears, you must select from among the values in the drop-down list.
- If you change the original parameters in preview mode, be sure to select **Change Parameters** before generating the report.
- If you expect parameters but see none, ask the creator of the output process to enable the **Show Parameters at Runtime** option.

Troubleshooting: Crystal reports

Validation errors

The following conditions will produce a validation error when creating a Crystal report output process:

- A required field has not been populated. The message will state which required field was not supplied.
- A parameter required for the template or query has not been supplied. The message will state which parameter was not supplied.
- The query assigned to the output process does not contain the business object driver object type as a source.

Printing errors

Problem: The error message "**Could not open print engine**" displays when trying to run a custom Crystal report from the **iMIS Generate reports** window.

Solution 1: Make sure the full version of Crystal is installed on your workstation. The error message may display if you are accessing the runtime dlls from the network instead of your workstation.

Solution 2: Check the printer setup.

1. Make sure all printers are set up in Windows with the actual PORT listed in front of the printer path. *For example, LPT1:\\SERVERNAME\\PRINTER* instead of *\\SERVERNAME\\PRINTER*. It is better to capture the printer port as shown in the following steps instead of manually entering the port in front of the printer path.
 - Double-check your printer setup. From the Windows Taskbar, select **Start> Settings> Printers**. Right click on the printer, select **Properties**, and select the **Details** tab.
 - Click **Capture Printer Port**. The first available port displays. Enter the path to the printer you wish to use, and select **OK**.
 - After the port has been selected, the **Details** tab displays. Select the **Print to the following port** drop-down menu, and select the new destination that was set up on the previous screen.
2. Also, some print drivers will cause this error. It usually is caused unexpectedly when you install new software. When this occurs, reinstall the original print drivers.
3. Also, note the following for general printing issues:

iMIS requires temporary storage on the local hard drive when sending reports to the screen. If you are unable to print reports to the screen, review the following:

 - The TEMP environment variable listed in your autoexec.bat file may be pointing to an invalid location. Check to make sure this variable is valid.
 - There may be no free space available on the local drive. Check to make sure you have at least a few megabytes available.
 - The TEMP environment variable may be pointing to a valid directory, but the directory may be filled. Check to see if the temporary directory is full. If so, delete unwanted files.

On Your Own

1. In which directory are the *iMIS* standard reports kept?
2. What is the purpose of the Print Manager?
3. Which *iMIS* table stores reports?
4. What are the three steps required to implement report security?

Advanced Report Customization

Tip: See [Security Administration](#) for details about limiting access to reports.

See International Taxation for details about customizing reports for Canadian and VAT taxation needs.

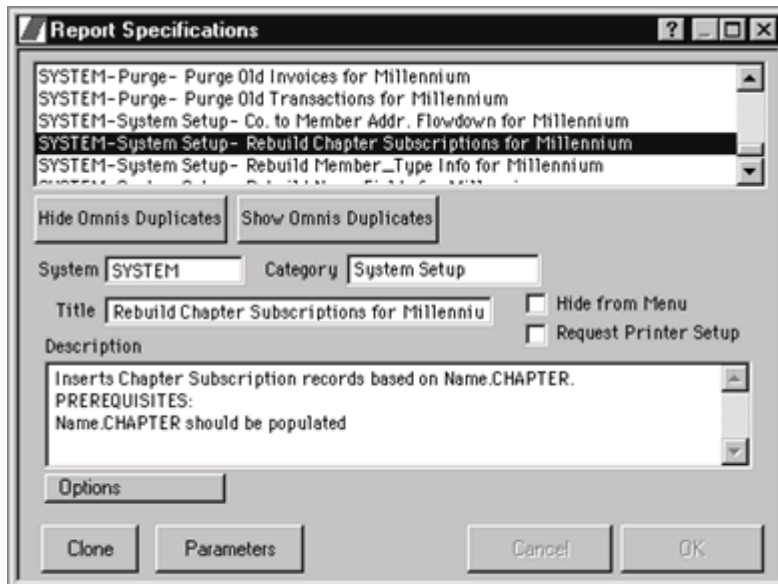
Adding Custom Scripts to System Reports/Queries

System administrators can execute custom SQL scripts by first setting up report specifications. The benefit of executing a SQL script in this method is that the script can be automated from the *iMIS* front-end and report driven.

1. Select **Utilities> Report Specs**.
2. Select a report from the **SYSTEM-System Setup** group to clone.
3. Click the **Clone** button.
4. Enter a System, Category, Title and Description.
5. Click the **Parameters** button.
6. Enter `SQLExec/240` in the Control Procedure box.
7. Enter `MUST_BE_DBO, SHOW_SQL` in the Options box.
8. Substitute the script in the **Parameters** box on the Detail Report Parameters window

Note: Place your cursor in the Parameters box and press **CTRL+Z** or click the **Zoom** button to open the parameters window.

9. Click **OK** to accept the changes. You can now execute the script from the **Utilities> Reports & Queries** window from within *iMIS*.
10. Click **Run** to execute the command. *iMIS* prompts you to confirm the action **Updates Functional Title**.
11. Click **Yes** to execute the script.



Report Specifications

SYSTEM-Purge- Purge Old Invoices for Millennium
 SYSTEM-Purge- Purge Old Transactions for Millennium
 SYSTEM-System Setup- Co. to Member Addr. Flowdown for Millennium
SYSTEM-System Setup- Rebuild Chapter Subscriptions for Millennium
 SYSTEM-System Setup- Rebuild Member_Type Info for Millennium

Hide Omnis Duplicates Show Omnis Duplicates

System SYSTEM Category System Setup

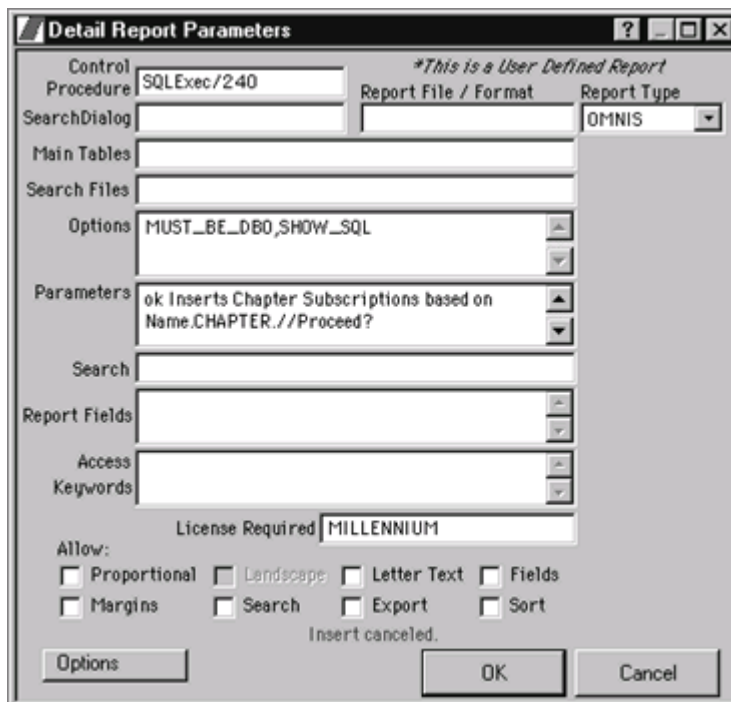
Title Rebuild Chapter Subscriptions for Millenniu ☐ Hide from Menu
☐ Request Printer Setup

Description
 Inserts Chapter Subscription records based on Name.CHAPTER.
 PREREQUISITES:
 Name.CHAPTER should be populated

Options

Clone Parameters Cancel OK

Example: Select a Report from the SYSTEM-System Setup.



Detail Report Parameters

Control Procedure SQLExec/240 *This is a User Defined Report
 Report File / Format Report Type OMNIS

SearchDialog

Main Tables

Search Files

Options MUST_BE_DBO,SHOW_SQL

Parameters ok Inserts Chapter Subscriptions based on
 Name.CHAPTER.//Proceed?

Search

Report Fields

Access

Keywords

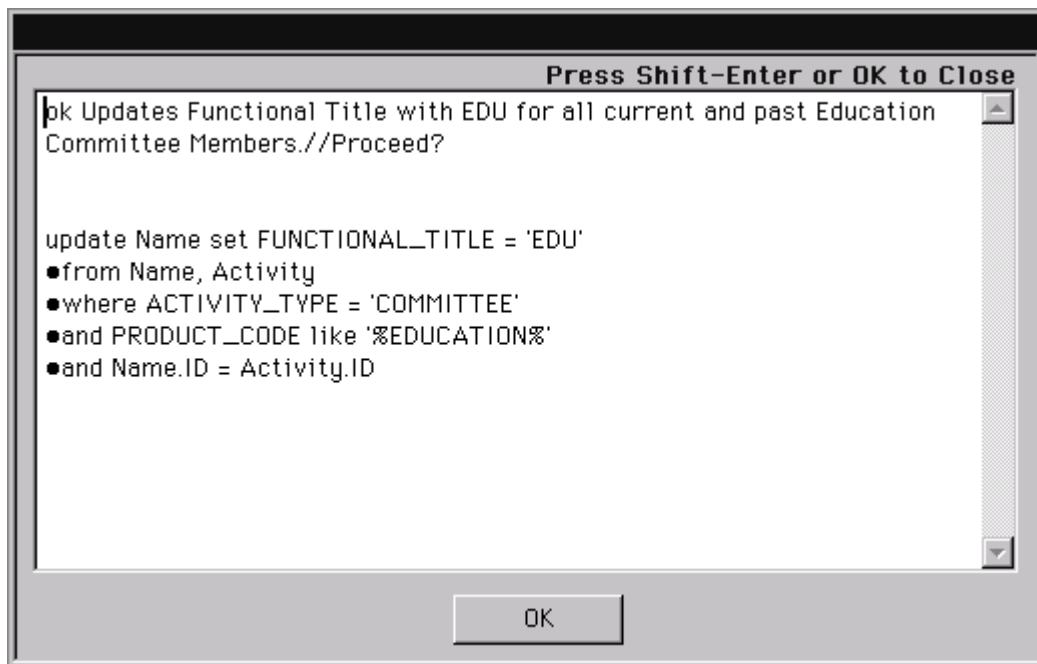
License Required MILLENNIUM

Allow:
☐ Proportional ☐ Landscape ☐ Letter Text ☐ Fields
☐ Margins ☐ Search ☐ Export ☐ Sort

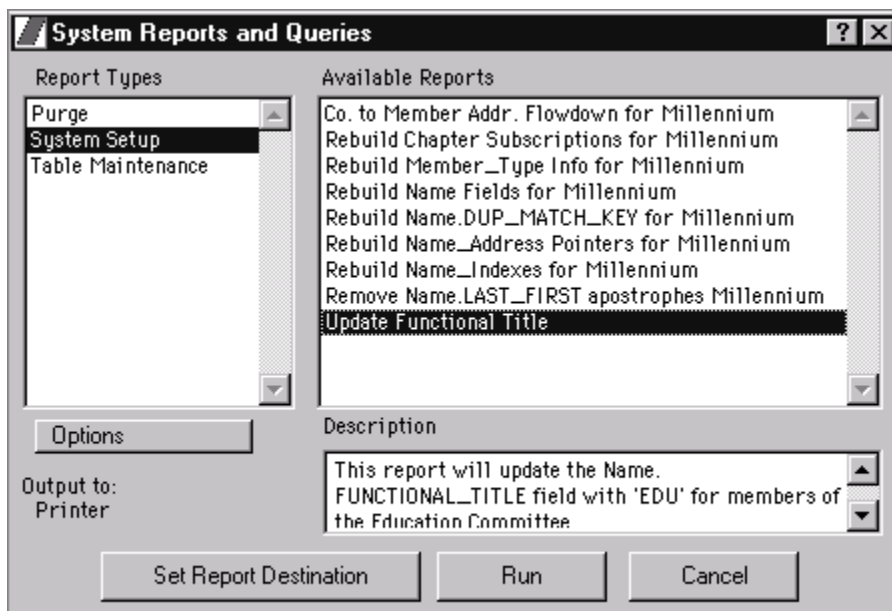
Insert canceled.

Options OK Cancel

Example: Enter MUST_BE_DBO,SHOW_SQL in the Options box.



Example: Substitute the script in the Parameters box.



Example: You can now execute the script.

Creating a Report Role with Restricted Rights

Some users will only need to perform certain functions for iMIS data. They should not be able to perform other tasks on the system. This prevents the user from viewing data that does not pertain to their reporting responsibilities.

You can create a role restricting users to specific tables, used in running reports, with SQL Server Enterprise Manager. All dbo owned tables and views except Users, System_Params, Security_Filters, Security_Groups, Security_Modes, Security_Tables are used in reporting.

For more information refer to the *Microsoft SQL Server Enterprise Manager* user documentation.

To add Access reports to the menu

1. Create the Access report.
2. Select **Utilities> Report Specs** from the to open the **Report Specifications** window.
3. Click **Insert** to enter a new report specification.
4. Enter the **System and Category** where you want the Access report to appear.
5. Enter a unique **Title** for the new report.
6. Click **Parameters** to open the **Detail Report Parameters** window.
7. Enter RunCommand in the **Control Procedure** field.
8. Enter the following data in the **Parameters** field to point to the sample report **NameMailAddressLabels** in the *iMIS* database:

(Enterprise database)

```
<<Command>> "c:\Program Files\Microsoft  
office\Office\MsAccess.exe"  
"c:\imis_ent\access\imis_ent.mdb";Report;NameMailA  
ddressLabels;Screen (or Printer)
```

To add one of your reports in your Access database, enter:

```
<<Command>> "c:\Program Files\Microsoft  
office\Office\MsAccess.exe" "full-path-to-yourdatabase-  
file";Report;your-report-name;Screen (or  
Printer).
```

Note: The << >> symbols are less-than and greater-than symbols, not chevrons.

9. Click **OK** on the **Detail Report Parameters** window.
10. Click **OK** on the **Report Specifications** window.

Generating and Managing Mass Report Activity Records

This standard feature allows the user to create mass activity records when running system-generated Omnis and Crystal reports. To enable this feature, the **PRINT_CREATE_ACTIVITY** option will need to be entered in the **Options** field on the **Detail Report Parameters** window. The default value for this field is **NO_CREATE_ACTIVITY**.

When **PRINT_CREATE_ACTIVITY** is entered in the **Options** field on the **Detail Report Parameters** window, the **Create Activity** option will be enabled on the **Selections** window. You can choose to not create activity records by disabling the option.

The **NO_CREATE_ACTIVITY** option should display in the **Options** field for the following report specifications:

- Certification - Labels, letters, and exports
- Fundraising - Exports, reminder notices, and letters
- Events - Badges, certificates, confirmations, exports, labels, letters, and tickets
- Customers - CEU Detail report, certificates, exports, labels, and letters
- Orders - Labels

To update report specifications

To update additional report specifications, edit the **Detail Report Parameters** window to add either **PRINT_CREATE_ACTIVITY** or **NO_CREATE_ACTIVITY** to the **Options** field.

1. Select **Utilities> Report Specs** to open the **Report Specifications** window.
2. Select a report.
3. Click **Edit**.
4. Click **Parameters** to open the **Detail Report Parameters** window.
5. Enter one of the following commands in the **Options** field:
 - Enter PRINT_CREATE_ACTIVITY to enable a **Create Activity** checkbox on the report request screen; or
 - Enter NO_CREATE_ACTIVITY to display a disabled **Create Activity** checkbox on the report request screen.
6. Click **Save**.



The **Options** field in the **Detail Report Parameters** window.

To create a report-specific activity type

Activities used as report activities must have the **Allow user Edit** option enabled.

1. From **Customers**, select **Set up module> Activity types** to open the **Set up activity types** window.
2. Click **New**.
3. Enter an activity name, *for example*, REPORT.
4. **Tab** to **Description**, and enter a description, *for example*, Report Generation Activity.
5. **Tab** to the **Description** prompt field, and enter a prompt, *for example*, Report Desc. This field will store the description of the report.
6. **Tab** to the **Source** prompt field, and enter a prompt, *for example*, Promotion Code.
7. Enable the **Allow user Edit** option.
8. Click **Save**.

To request a report and generate activities

1. From **Customers**, select **Generate reports**.
2. Select your **Report Type** and the desired report from the **Available Reports** list.
3. Select the appropriate **Report Destination**.
4. Click **Run**. The **Member/Contact Selections** screen appears.
5. Enable your desired member/contact selections for your report, making sure the **Create Activity** box is selected. Click **OK** to open the **Activity Detail** window.
6. Enter an **Activity Type**, or press **Ctrl+L** to select a value.
7. Enter a **Source Code**, or press **Ctrl+L** to select a value.
8. The **Date** field will default to the system date and can be changed if necessary.
9. The **Description** field will default to the report title on the **Report Selection** window.

Note: Clicking **Cancel** will cancel the activities, but the report will process.

10. Click **Save** to process the report.

11. A dialog box shows the number of activities to be inserted and asks if you want to run the procedures. Select **Yes**.

Member/Contact Selections

Report: 3 Up Laser Labels by Zip (1 x 2 5/8)

Output to: Screen

Member/Nonmember

☒ All ☐ All

☐ Members ☐ Company Only

☐ Non Members ☐ Individual Only

☐ Specific Types

☐ Adhoc Search

Address

☒ Preferred Mail ☐ Address

☐ Bill Address ☐ Street Address

☐ No Address ☐ Home Address

☐ Product Label Preference

Print Options

☐ Barcode

☐ Eliminate Duplicates

☒ Create Activity

Margins

Sort Fields

Addn'l Fields

The **Member/Contact Selections** Window

To view activities after report processing

After the report processing is complete, activity records can be viewed.

1. From **Customers**, select **Manage customers**.
2. Find a customer record for which a previous report was processed, *for example*, 105.
3. Select the **Activities-All** tab.
4. Select the activity created to open the **Activity Detail** window.

The Letter System (Word Merge)

iMIS uses the Merge feature of Microsoft Word™ to let Word be your organization's word processor for bulk mailings and 1-off letters, using the data in your *iMIS* database.

Word templates

Default templates are used as a starting point when creating a Word merge. When a user sets up a Word merge, the default template structure is copied to a new Word document. The default template contains a set of merge fields which come configured with *iMIS* but may be customized by an administrator.

Merged documents

Users can make changes to the the Word document that is used for a particular merge, but these changes will not affect the template on which the document was based.

Custom merge fields

Administrators chose the fields that are available to users for their Word merges. Users can add fields to their Word merge document, but these fields must be chosen from the fields that you make available to them when configuring Word merge for the module in question.

Reverting changes

If you have made modifications to the default template that no longer meet your needs, you can revert to the default template and available fields.

Implementing the Letter System

Authorizing access to the Letter System

To use the Letter System from the **Generate reports** window, users must have authorization level **2** or greater, except for these places where level **1** suffices:

- In **Customers**, the **Letters** tab (select **Manage customers**, find a customer record, select the **Letters** tab, and then click **New Letter**).
- In **Events**, select **Register a customer**, find a registrant, and then click **Letter**

To add fields to the list of available fields in the Letter System, and to define the fields that are available in the Letter System, you must have authorization level **8**.

Enabling the Letter System

No license key is required to use the Letter System.

To enable the Letter System

1. In **System Setup**, specify a folder (see below) for the Letter System's templates.
2. Grant user logons authorization level 2 or greater, which is generally required to use the Letter System.
3. Ensure that those client computers have Microsoft Word installed.
4. When installing *iMIS* Desktop on client computers, select the **Letter System** option.

To enable the Letter System, you must specify a folder its template files. All *iMIS* users must specify the same folder path, whether it's local or remote. The path you specify is stored in the *iMIS* **System_Params** table, as the **ParameterName** value of **System_Control.MSWordStoreDirectory**.

Note: Truncating the Report Specs table deletes the Microsoft Word template report specifications.

To specify a folder for Letter System template files

1. Log on to *iMIS*.
2. Select **File > System Setup**.
The **System Setup** window opens.
3. Click **Edit**.
4. Click **Choose MS Word Folder** (or enter a folder path in the field next to that button).

The **Browse for Folder** dialog box appears.

- ☐ Select a local or remote folder.

If you specify a remote folder, make sure that all users have permissions to access to the folder.

- ☐ Click **OK**.

5. In the **System Setup** window, click **Save**.
6. Log out of *iMIS*, and then log on again.

Related information

- *To disable the Letter System*

- *Authorization for the Letter System* (see "[Authorizing access to the Letter System](#)")
- *Troubleshooting the Letter System*

To disable the Letter System

1. Open a command prompt.
2. Navigate to your local system directory (*for example*, the `\\WINNT\system32` directory).
3. Unregister the **ASIWordInt.ocx** Active X control by typing:

```
regsvr32 ASIWordIntocx /u
```

4. Delete the **ASIWordInt.ocx** file.

Defining the fields available in letter templates

You can change and reorder the fields that are available in the Letter System.

Note: The changes you make with this procedure affects only *new* templates. Templates that you create by copying an existing template are not affected.

Related information

- *Creating a letter template*
- *To add fields to the list of available fields in a template* (see "[Adding a field to a Letter System template](#)")
- *Fields Available in the Letter System*

To define the fields that are available in letter templates

Note: You must have authorization level 8 for the module in which you wish to perform this procedure.

1. Log on to *iMIS*, and open the window of a module that includes the Letter System.
2. From the task list, select **Generate reports**.
3. From the **Report Types** list, select **Letters**.
4. Click **Letter System**.
The (module name) **Standard Letters** window opens.
5. Click **Setup**.
The **Setup Standard Letters** window opens.
6. Specify field properties for this module.
7. Click **Save**.

Fields available in the Letter System

The following *iMIS* fields are available in the Letter System, and display for each MS Word template in the **Report Fields** field on the **Detail Report Parameters** window (select **Utilities > Report Specs**, select a template, click **Edit**, and click **Parameters**):

Note: You can *add other fields to your MS Word templates* (see "[Adding a field to a Letter System template](#)").

Customer Management

```
Name.CO_ID
Name.COMPANY
Name.COUNTY
```

Name.DESIGNATION
 Name.EMAIL
 Name.FIRST_NAME
 Name.FULL_NAME
 Name.ID
 Name.INFORMAL
 Name.LAST_NAME
 Name.MIDDLE_NAME
 Name.PREFIX
 Name.SUFFIX
 Name.TITLE
 Name_Address.ADDRESS_1
 Name_Address.ADDRESS_2
 Name_Address.ADDRESS_3
 Name_Address.CITY
 Name_Address.COUNTRY
 Name_Address.CRRT
 Name_Address.FULL_ADDRESS
 Name_Address.MAIL_CODE
 Name_Address.STATE_PROVINCE
 Name_Address.ZIP

Events

Meet_Master.ADDRESS_1
 Meet_Master.ADDRESS_2
 Meet_Master.ADDRESS_3
 Meet_Master.BEGIN_DATE
 Meet_Master.CITY
 Meet_Master.COORDINATORS
 Meet_Master.COUNTRY
 Meet_Master.DIRECTIONS
 Meet_Master.END_DATE
 Meet_Master.NOTES
 Meet_Master.STATE_PROVINCE
 Meet_Master.TITLE
 Meet_Master.ZIP
 Order_Meet.ARRIVAL
 Order_Meet.DEPARTURE
 Order_Meet.MEETING
 Orders.BALANCE
 Orders.CO_ID
 Orders.COMPANY
 Orders.CRRT
 Orders.EMAIL
 Orders.FULL_ADDRESS
 Orders.FULL_NAME
 Orders.MAIL_CODE
 Orders.NOTES
 Orders.ORDER_NUMBER
 Orders.ST_ID
 Orders.TITLE
 Orders.TOTAL_CHARGES
 Orders.TOTAL_PAYMENTS

Exposition

Meet_Master.ADDRESS_1
 Meet_Master.ADDRESS_2
 Meet_Master.ADDRESS_3
 Meet_Master.BEGIN_DATE
 Meet_Master.CITY
 Meet_Master.COORDINATORS

```

Meet_Master.COUNTRY
Meet_Master.DIRECTIONS
Meet_Master.END_DATE
Meet_Master.NOTES
Meet_Master.STATE_PROVINCE
Meet_Master.TITLE
Meet_Master.ZIP
Order_Meet.ARRIVAL
Order_Meet.DEPARTURE
Order_Meet.MEETING
Orders.BALANCE
Orders.CO_ID
Orders.COMPANY
Orders.CRRT
Orders.EMAIL
Orders.FULL_ADDRESS
Orders.FULL_NAME
Orders.MAIL_CODE
Orders.NOTES
Orders.ORDER_NUMBER
Orders.ST_ID
Orders.TITLE
Orders.TOTAL_CHARGES
Orders.TOTAL_PAYMENTS

```

Fundraising

Fields are created from the view and will display the max and sum prefix.

```

max(Activity.ACTIVITY_TYPE)
max(Activity.DESCRPTION)
max(Activity.ORIGINATING_TRANS_NUM)
max(Activity.TAXABLE_VALUE)
max(Activity.TRANSACTION_DATE)
max(Name.CITY)
max(Name.CO_ID)
max(Name.COMPANY)
max(Name.COUNTRY)
max(Name.CRRT)
max(Name.EMAIL)
max(Name.FULL_ADDRESS)
max(Name.FULL_NAME)
max(Name.ID)
max(Name.MAIL_CODE)
max(Name.STATE_PROVINCE)
max(Name.TITLE)
max(Name.ZIP)
max(Name_Salutation.SALUTATION_TEXT)
max(Sender_Codes.SENDER_DESCRIPTION)
max(Trans.MERGE_CODE)
sum(Activity.AMOUNT)

```

Certification

```

Cert_Program.ID
Cert_Program.PROGRAM_TYPE
Cert_Program.TITLE
Cert_Register.BOARD_NOTIFIED
Cert_Register.CANCELED_DATE
Cert_Register.COMPLETION_DATE
Cert_Register.DEADLINE
Cert_Register.ENROLLED_DATE
Cert_Register.REGISTRATION_ITEM

```

```

Cert_Register.STATUS
Cert_Register.STUDENT_ID
Name.CITY
Name.CO_ID
Name.COMPANY
Name.COUNTRY
Name.EMAIL
Name.FULL_NAME
Name.INFORMAL
Name.STATE_PROVINCE
Name_Address.CRRT
Name_Address.FULL_ADDRESS
Name_Address.MAIL_CODE

```

Referral: Provider Letter

```

Name.COMPANY
Name.COMPANY_RECORD
Name.DESIGNATION
Name.EMAIL
Name.FIRST_NAME
Name.FULL_ADDRESS
Name.FULL_NAME
Name.ID
Name.INFORMAL
Name.LAST_NAME
Name.MIDDLE_NAME
Name.PREFIX
Name.SUFFIX
Name.TITLE
Name.WORK_PHONE
Orders.BALANCE
Orders.CO_ID
Orders.COMPANY
Orders.FULL_ADDRESS
Orders.FULL_NAME
Orders.ORDER_NUMBER
Orders.ST_ID
Orders.TITLE
Orders.TOTAL_CHARGES
Orders.TOTAL_PAYMENTS
Ref_Client.ADDRESS_1
Ref_Client.ADDRESS_2
Ref_Client.ADDRESS_3
Ref_Client.CITY
Ref_Client.CLIENT_ID
Ref_Client.COMPANY
Ref_Client.COUNTRY
Ref_Client.DATE_CREATED
Ref_Client.EMAIL
Ref_Client.FIRST_NAME
Ref_Client.LAST_FIRST
Ref_Client.LAST_NAME
Ref_Client.MIDDLE_NAME
Ref_Client.NOTE
Ref_Client.STATE
Ref_Client.ZIP
Ref_Provider.COMPANY
Ref_Provider.LAST_FIRST
Ref_Provider.PHONE
Ref_Provider.PROVIDER_ID
Ref_Provider.REFERRAL_COUNT

```

```
Ref_Provider.STATUS  
Ref_Provider.ZIP  
Referral.NO_SHOW  
Referral.REFERRAL_FEE  
Referral.REFERRAL_ID
```

Referral: Client Letter

```
Name.COMPANY  
Name.COMPANY_RECORD  
Name.DESIGNATION  
Name.EMAIL  
Name.FIRST_NAME  
Name.FULL_ADDRESS  
Name.FULL_NAME  
Name.INFORMAL  
Name.LAST_NAME  
Name.MIDDLE_NAME  
Name.PREFIX  
Name.SUFFIX  
Name.TITLE  
Name.WORK_PHONE  
Ref_Client.ADDRESS_1  
Ref_Client.ADDRESS_2  
Ref_Client.ADDRESS_3  
Ref_Client.CITY  
Ref_Client.CLIENT_ID  
Ref_Client.COMPANY  
Ref_Client.COUNTRY  
Ref_Client.DATE_CREATED  
Ref_Client.EMAIL  
Ref_Client.FIRST_NAME  
Ref_Client.LAST_FIRST  
Ref_Client.LAST_NAME  
Ref_Client.MIDDLE_NAME  
Ref_Client.NOTE  
Ref_Client.STATE  
Ref_Client.ZIP  
Ref_Provider.COMPANY  
Ref_Provider.LAST_FIRST  
Ref_Provider.PHONE  
Ref_Provider.PROVIDER_ID  
Ref_Provider.REFERRAL_COUNT  
Ref_Provider.STATUS  
Ref_Provider.ZIP  
Referral.NO_SHOW  
Referral.REFERRAL_FEE  
Referral.REFERRAL_ID
```

Creating Letter System templates

The Letter System allows you to create and edit *letter templates* for use with Word's **Merge** feature. The Letter System integrates Microsoft Word with many areas of *iMIS*:

- **Customers**
- **Events**
- **Exposition**
- **Fundraising**

- Certification
- Referrals
- Committees

For best results, customize the templates for your organization. An *iMIS* administrator can change which *iMIS* fields are available for use in letter templates. Create the content for each letter template, including the common text, styles, layout, and the fields that best suit each letter or email.

Tip: Customers can track Letter System communications as Activity records.

Creating a letter template

The fields that are available in the template depend upon whether you create a new template or copy an existing template.

- A new template can use the fields that are currently available for this module.
- A copy of an existing template can use the fields that were available when the existing template was created.

Related information

- *Defining the fields that are available in letter templates* (see "[Defining the fields available in letter templates](#)")

Before you begin

- Close other instances of MS Word, if any are running.
- Complete any edits in *iMIS*, if any records are open.
- Log on to *iMIS*, and open the window of a module that includes the Letter System.

To create a letter template

1. From the task list, select **Generate reports**.
2. From the **Report Types** list, select **Letters**.

Note: The **Available Reports** list is empty. Letter reports are selected on the (module name) **Standard Letters** window.

3. Click **Letter System**.

The (module name) **Standard Letters** window opens.

4. Create a new template or copy an existing template.

- ☐ To create a new template, click **New**.
- ☐ To copy an existing template, select the name of the template to copy, and then click **Save As**.

The **New Standard Letters** window opens.

5. In the **Report Title** field, enter a name for this letter template. *For example*, Established Member Letter.
6. In the **Report File** field, enter a file name for this letter template. *For example*, est_mem.
7. Click **OK**.

iMIS displays the new template information in the (module name) **Standard Letters** window, and starts MS Word with the new template file. You can edit the template and add *iMIS* database fields now or later.

8. Save the template file and exit MS Word.

Adding a field to a Letter System template

You can add fields from any *iMIS* table to the list of available fields in a Letter System template, within these limits:

- **Images:** You cannot add a field containing image data, such as `Name_Picture.PICTURE_LOGO`.
- **UDTs:** You cannot override the restrictions that are built into user-defined tables. *For example*, if you add a field to a template from a user-defined table that is restricted to a specific member type, the merge results can include only those records that match the member type. This is true even when the template does not use any of the fields from the table that is the source of the restriction.

To add a field to a report specification

Note: You must have authorization level 8 to perform this procedure.

1. Select **Utilities > Report Specs** to open the **Report Specifications** window.
2. Select a Word template to edit.
3. Click **Edit**.
4. Click **Parameters** to open the **Detail Report Parameters** window. The template file name displays in the **Rpt File / Format** field, and the **Report Type** is shown as **MSWORD**.
5. Edit the report properties.
 - (optional) In the **Main Tables** and **Search Files** fields, enter the table name.
 - In **Report Fields**, enter new field names after the existing field names. *For example*, `Name.FAX`.
6. Select and copy the new field name to the clipboard.
7. Select **Save**.
8. Now add the field to the header file (below).

To add a field to the Word template header file

1. Browse to the folder in which Letter System template files are stored.
2. Open the header file for the template you are editing. The file name for header files end in `_header.doc`.
3. At the end of the table, insert a new column.
4. Paste the new field name that you copied from the **Detailed Report Parameters** window into the new column.
5. *Important:* Verify that the new field appears in the same order as it does in its report specification.
6. Save and close the document.

When this template is used, the new field appears at the end of the list in Word.

+	N a m e I D	N a m e E M A I L	N a m e F U L L N A M E	N a m e T I T L E	N a m e P R E F I X	N a m e F I R S T N A M E	N a m e M I D D L E N A M E	N a m e L A S T N A M E	N a m e S U F F I X	N a m e D E S I G N A T I O N	N a m e I N F O R M A L	N a m e C O M P A N Y	N a m e A d d r e s s A D D R E S S 1	N a m e A d d r e s s A D D R E S S 2	N a m e A d d r e s s C I T Y	N a m e A d d r e s s S T A T E P R O V I N C E	N a m e A d d r e s s Z I P	N a m e A d d r e s s M A I L C O D E	N a m e A d d r e s s C R R T	N a m e C O U N T Y	N a m e A d d r e s s F U L L A D D R E S S	N a m e C O I D	N a m e F A X
---	----------------------------	---	--	---	--	---	--	--	--	---	--	---	---	---	---	--	--	---	---	--	--	--------------------------------------	---------------------------------

Sample of a _header.doc

Using Word field switches in Letter System templates

You can apply the switches available in Microsoft Word to the merge fields in your Letter System templates. These switches let you modify the format of the data that results from the merge fields you add to your letter. Refer to Microsoft Word documentation for more on using switches to change the format of merged data.

Note: The switch must be placed after the “MERGEFIELD” but before the curly bracket }. For example { MERGEFIELD Name * Caps }.

The numeric picture (`\#`) and format (`*`) switches are the two most common types of switches used in merging letters. The following are options available when using these two switches to modify your merge data:

\# - Numeric Picture

Use this switch to specify the display of a numeric result, including the number of decimal places and the use of currency symbols.

- 0 - (zero) Indicates the number of decimal places to display
- # - Indicates the number of spaces to display
- \$ - Indicates to include the specified character in the result
- . - (decimal point) Indicates the decimal point position
- , - (comma, digit grouping symbol) Indicates where to separates a series of three digits

For example, if the Annual Review merge field has a value of 100, changing the field to {MERGEFIELD "Name_DemoANNUAL_REVIEW \##,0.00} displays \$100.00 for the result.

* - Formats

Use this switch to specify number formats, capitalization, and character formatting; prevents changes to the format of the field results when a field is updated.

* **Charformat** - Apply the formatting of the first letter of the field type to the entire result

* **Caps** - Indicates the first letter of each word should display as a capital letter

* **FirstCap** - Indicates the first letter of only the first word should display as a capital letter

* **Upper** - Indicates all the letters should be capitalized

* **Lower** - Indicates all the letters should be lowercase

For example, if the {NameFULL_NAME} merge field results in a value of Ms. Jean D. Smythe, changing the field to {NameFULL_NAME * Upper} results in a value of MS. JEAN D. SMYTHE.

Converting checkbox values to text

When you add a checkbox field to a letter template, *iMIS* inserts the database value of the field, which is either 0, for no (not selected), or -1, for yes (selected). To substitute text for the database values, use an If-Then-Else field in MS Word. For example, { IF {MERGEFIELD Checkbox } = "0" "No" "Yes" }.

Troubleshooting the Letter System

Following are some examples of problems that may occur with the Letter System.

Blank lines in a MS Word letter or an e-mail message

Reason: A limitation in MS Word may allow blank lines to print even with the **Don't print blank lines when data fields are empty** option enabled on the **Merge** window.

Solution: Verify fields are populated.

Unable to activate **Merge** in MS Word

Reason 1: MS Word is open in another session.

Solution 1: Close all sessions of MS Word before performing a merge.

Reason 2: You have not chosen at least one merge field.

Solution 2: Make sure to select at least one merge field.

Problems while creating multiple templates and running merges within *iMIS*

Solution: Close MS Word and *iMIS*, then restart your *iMIS* application.

Message: "**A field calculation error occurred in record 1.**"

Reason: This error may occur in MS Word during a mass merge due to additions and deletions of the Normal.DOT template in MS Word.

Solution: Refresh the Normal.DOT originally supplied with MS Word, or regenerate it by deleting it and allowing Word to recreate it.

Message: "**GetMergeData - [Sybase][ODBC Driver][Adaptive Server Anywhere]Syntax error or access violation: near 'I' in ...ADDRESS,Name.CO_ID[I]from Name,Name_...**"

Reason: This error may occur during a single customer merge. Our testing has shown this may be due to additions and deletions of the NORMAL.DOT template in MS Word.

Solution: Refresh the NORMAL.DOT originally supplied with MS Word.

Message: "The messaging interface has returned an unknown error. If the problem persists, restart Outlook."

Reason: This message may occur when the Letter System in *iMIS* is open and you are trying to send an e-mail.

Solution: Close Outlook.

Message: "This template does not exist in the MS Word folder."

Reason: The template folder is invalid or unavailable.

Solution: If the template folder is located on the client computer, check the complete path to the folder. If the template folder is located on a remote computer, check your network connection.

Letter System is not working

Reason: The Letter System is not fully enabled. Follow these steps to perform additional troubleshooting:

1. Log on to *iMIS*.
2. Select **Help > About iMIS**.
The **About iMIS** window opens.
3. Click **System Info**.
The *iMIS* **System Info** window opens.
4. Check the value of the **ASIWordInt.ocx** property.
 - ☐ If the value is **not loaded**, the Letter System option was not selected when *iMIS* was installed on your client computer.
 - ☐ If the value is **not loaded (no MS Word)**, the Letter System option was selected when *iMIS* was installed on your client computer, but Microsoft Word is not installed.
 - ☐ If the value is **not loaded (no path)**, the Letter System option was selected when *iMIS* was installed on your client computer, and Microsoft Word is installed, but no folder was specified for template files.
 - ☐ If the value is **not loaded (path error)**, the Letter System option was selected when *iMIS* was installed on your client computer, and Microsoft Word is installed, but the folder that was specified for template files is invalid or unavailable.
 - ☐ If the value is a number, the Letter System is fully enabled. Contact Support.

Tables and fields used by the Letter System

The following tables and fields are used with the Letter System:

Activity_Attach

(stores merged MS Word documents as attachments)

ATTACH_SEQN	long integer	Primary key
TEMPLATE	varchar(255)	Name of the template used
ATTACH_TEXT	text	Text of the MS Word document as sent by the merge process
Activity		
ATTACH_SEQN	long integer	Used to store a reference to an associated record in the Activity_Attach table

Report_Desc

REPORT_OPTIONS

text

PRINT_CREATE_ACTIVITY (default) - The checkbox on the Report Selection window is enabled by default.

NO_CREATE_ACTIVITY - The checkbox on the Report Selection window is disabled by default

Reports and Output Processes

Understanding reports and output processes

iMIS Reports and Output Processes help you customize and manage reports, Microsoft Word merges, and email merges. These output processes use current *iMIS* database information and can be exported to a variety of output formats for maximum flexibility. With Reports and Output Processes, you can:

- Create and manage custom business data
- Use queries and business objects to generate output
- Customize report output
- Assign folder and document security
- Use templates to ensure consistency
- Export data to a variety of formats
- Use pre-built reports to assist non-technical users

Process

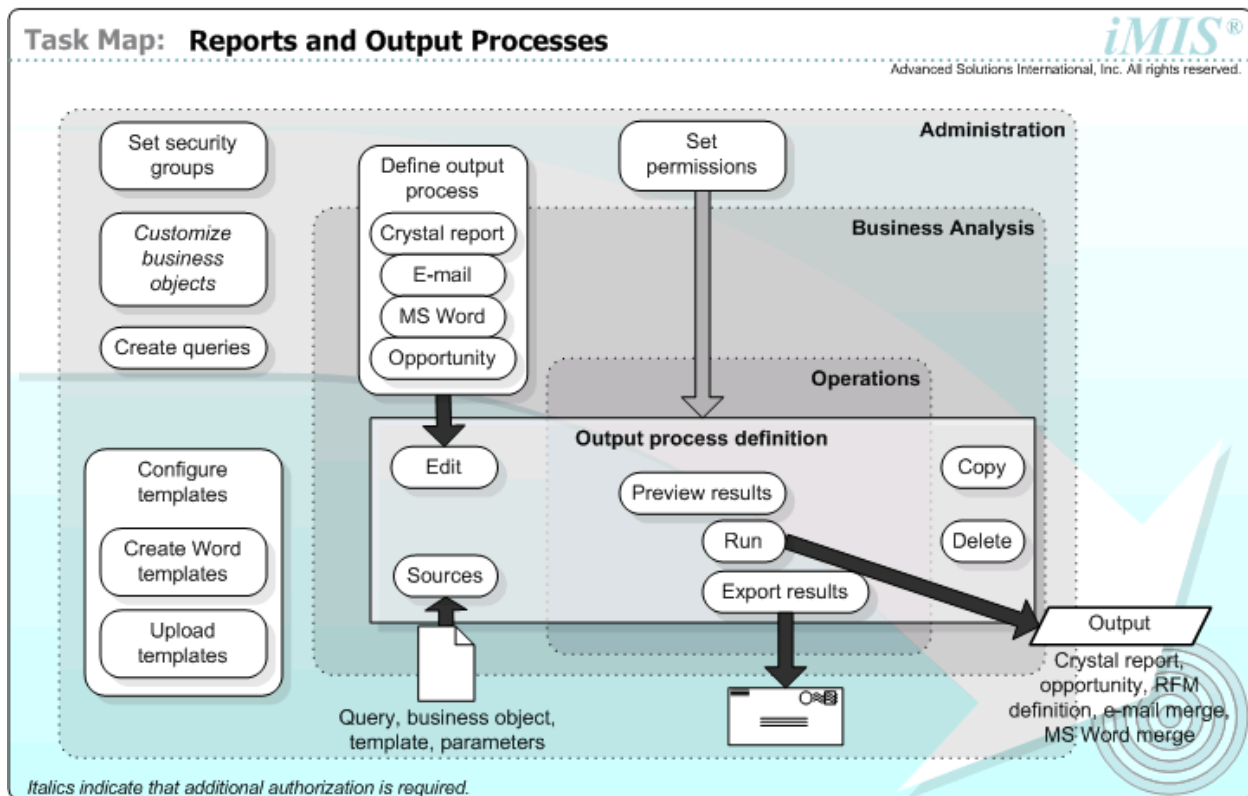
By using the flexible features, your staff can efficiently manage your organization's communications needs to meet your business goals. The process to set up and use Reports and Output Processes is:

- In **Tools**, administrators modify default output processes/reports or create new ones.
- When using an application, managers can modify items in the output processes/reports folders, within limits set by the administrators, and run reports and output processes.
- Users can run reports and output processes through a simple interface, inputting any required information specified the administrators.

In this tiered approach, managers and users do not have to know report setup or database schema to modify and run reports. Security settings determine the information each user can view.

Task Map: Reports and Output Processes

This diagram maps tasks for reporting and output processes, both by the approximate order they occur (top-left to bottom-right) and by the organizational area that performs them.



Task Map: Reports and Output Processes

Concepts and Terms: Reports and Output Processes

Asynchronous Process

A process that runs independently (in the background) of other processes. Other processes may be started before the asynchronous process has finished.

Bound Query

A query that is connected to an output process definition and cannot be overridden at runtime.

Driver Business Object

A business object that validates, at runtime, that a selected query will be able to drive an output process; *for example*, a driver business object for a report would create the required index.

Object

Self-contained element that consists of instructions to manipulate data; *for example*, a business object or query object.

Output Device

Method through which a user views the results of an output process; *for example*, a computer screen, printer, or PDF file.

Output Format

Format in which the data resulting from an output process displays; *for example*, comma-delimited, tab-delimited, Excel, HTML, MS Word, or XML.

Output Process

Process-oriented task; *for example*, a report, MS Word merge, or query.

Parameter

User-supplied value that dynamically customizes output. A parameter can be hard-coded or specified at runtime.

For example, a query that outputs the registrants for a closed event could require the user to supply the event code at runtime.

Process Definition

Set of runtime-specific instructions used to execute an output process.

For example, to create a report process definition you must specify a report template, associate a data source (query), determine the output destination, and specify any parameters necessary to guide the process execution.

Synchronous Process

A process that runs as a result of another process being completed.

Template

A document that dictates the format and/or style of the output of a process definition. Many templates are designed through third-party packages, which are tightly integrated with the *iMIS* output processing system to produce high-quality output; *for example*, Microsoft Word documents, email text files, and report file formats.

Creating output processes

Tips for creating output processes

Use output process templates for best efficiency. Some templates are designed through third-party packages which integrate with *iMIS*, such as Microsoft Word documents. Most output processes allow you to define and save the template while you build the process itself.

Before you begin

Before you create an opportunity output process, make sure **Process Mgr** is set up to receive it.

Process

The process to create an output process is:

1. Set up security groups.
2. Create queries and customize business objects, if not using existing queries.
3. Create templates, if not using existing templates.
4. Define output processes and set permissions.

Setting up security groups

Security groups are hard-coded in *iMIS*. You cannot create new security groups. You can only add one or more system-defined security groups to a user record to define general reporting access. See *Security Administration*.

After you create an output process, you can set permissions for that specific process. See *To set user permissions for an output process*.

Creating queries for output processes

The source that you should use for the query depends on the context in which the output process will be used.

Location of queries in the Document System

When defining an output process, users must browse to the appropriate query to use for the process. You should create all such queries in the **\$ > Common > Shared Documents** folder (or one of its sub-folders) of the Document System to ensure that it will be easy to find the query when defining an output process.

Query source for **Marketing** output processes

You must typically define two separate output processes for marketing inserts because source codes and job segments differentiate between contacts and prospects.

- Job segments are defined as a Contact Job or as a Prospect job.
- Source codes are designated as either Contact source codes or as Prospect source codes.

To send marketing inserts to both contacts and prospects, create two different inserts:

- One insert must use an output process whose query source is the NetContact business object.
- The other insert must use an output process whose query source is the Prospect business object.

Note: You should not use CSContact or CSProspect as the query source for any output process associated with marketing inserts. Use only the NetContact or the Prospect business object as appropriate, depending on the associated source codes and job segments.

Query source for action plans in **Process Mgr**

In **Process Mgr**, the appropriate query source for an output process depends on whether the process is being used in an action plan.

- If the output process is being used in an action plan, you must use the following query sources:
 - Donor action plans must use the OppDonorContact business object.
 - Sales action plans must use the OppSalesContact business object.
 - Member action plans must use the OppMemberContact business object.
- If the output process is not being used in an action plan, you can use any of the preceding three business objects for the query source, or you can use the NetContact business object.

Query source for other applications

If you are not using the query source for anything related to **Marketing** or **Process Mgr**, use the CsContact business object as a query source.

Customizing business objects

To validate that the query selected for the output process will indeed drive the process as you expect, you may need to customize a driver business object (usually the Contact business object). See [Editing an existing business object](#).

Using templates for output processes

Use output process templates for MS Word merges or email merges for greater efficiency.

To create a Microsoft Word template

Create the basic template in Microsoft Word. Upload it and add any *iMIS*-based merge fields when you create the output process.

1. Open Microsoft Word.
2. Create the base text and graphics for your template.
3. Save your template to a local or network drive.
4. Close Microsoft Word.

Defining output processes

The process for defining the types of output processes (MS Word merge, email merge, opportunity) are similar. After you define the process, you can set user permissions for that process.

To define a Microsoft Word mail merge output process

Before you begin

- ☐ Ensure that you have created an appropriate query, using the appropriate business object, to use as the query for this type of output process.
- ☐ If you are creating a query through **Tools > Intelligent query architect**, and you want it to be visible to users through **Home > Generate Reports**, you must save it to **Common > Reports View** folder.
- ☐ Templates from *iMIS* 10 versions may be incompatible. If you are using new search criteria for your Microsoft Word mail merge that includes something other than date criteria, you will need to recreate your template.

1. From **Tools**, select **Document system**.
 2. Navigate to (or create) the folder in which you want to create the MS Word merge process.
 3. Select **Organize > New > MS Word Mail Merge**.
 4. Define the output process:
 - ☐ In the **Summary** tab, enter general information.
 - ☐ In the **Sources** tab, browse to select the **Source Data Query**.
 - ☐ Leave the **Template Name** field blank.
-
- Note:* If you upload an existing template or browse to a template that has been uploaded, the template will not be saved as part of the Word mail merge process and you will need to add the merge fields. It is simpler to create a new template during the output process.
-
5. Create a new template in Microsoft Word (these instructions are for Word 2003):
 - ☐ Select **Edit Template**. A new Microsoft Word document appears.
 - ☐ Click Word's **Mail Merge** toolbar or consider using the Mail Merge wizard to create the template.
 - ☐ Create the letter and add merge fields using the **Insert Merge Fields** icon. (The merge fields are the fields from the query that is associated to the output process display.)
 - ☐ Select **Save**, which commits the changes to the Word template.

Note: The MS word template is embedded within the output process itself.

- ☐ (optional) Save a copy of this template outside of *iMIS* by selecting **Save As**.
6. Close Word.

The **Template Name** field remains blank because the template is embedded within the process itself.
 7. Execute your merge:

- From the **Process Engine Portfolio**, select **Run**.
- Select **Execute Merge**.

Note: You may need to click twice to activate this control.

- View the **Merge Details**.
- Open Microsoft Word to review, print, or save the output.
- Close Microsoft Word.

8. Save the output process to the appropriate folder location.

To define an email merge output process for email notifications

You can define an email merge process in which a query provides the merge data to be combined with an email template to create the output.

Notes

- Email merge processes should generally be stored in the **\$ > Common > Shared Documents > Processes** folder (or one of its sub-folders) of the Document System to provide for easy access by all users working with **Marketing** or **Process Mgr**. If they are stored in any other folder, users need to navigate through the Document System folder hierarchy to locate the process.
- You must associate a query that contains a field with the email addresses of the recipients and the sources for any fields you use in the email.
- The **From** address must be a valid email address.
- You can also define email merge processes directly from the **Processes** tab of any **Insert** definition window in **Marketing**.

Before you begin

Ensure that you have created an appropriate query, using the appropriate business object, to use as the query for this type of output process. See *Creating queries for output processes* in *iMIS Reference Reporting and Sample Reports* for more information.

1. From **Tools**, select **Document system**.
2. Navigate to (or create) the folder in which you want to create the email merge process.
3. Select **New > Email Merge**.
The **Define** window appears.
4. On the **Security** page, enter access information.
5. On the **Define** page, specify the email template:
 - On the **Summary** tab, define general attributes.
 - On the **Sources** tab, In the **Associated Query** area, choose whether the associated query should be:
 - **Bound** – a specific query is always used with the process. For email messages to be sent automatically when a stage is passed during a certification program, you want to choose **Bound**.
 - **Select at Runtime** – user selects the query each time the process runs.
6. In the **Query** area, click **...**, then use the Document System browser to select the bound or default **Query**. The query results determine the email addresses of the recipients and the variables that are allowed in the body of the email template.
 - In the **Recipient List** area, click **Edit** to specify which column in the query results contains the email address for the recipients.

Note: This area is disabled until a query is chosen. If you specify the **Select at runtime** option for the **Associated Query**, you will not be able to specify the column for the recipient email address information until the email merge process is run.

- ❑ (optional) Enter the text for the **From** and **Subject** fields and specify whether they can be modified at runtime.
- ❑ Select the **Email Format**.

Note: You must specify **HTML** if the body of the **Email Template** will contain an opt-out code. Opt-out codes in a **PlainText** or **Multi_Part_Mime** email will not direct recipients to the proper URL.

- ❑ In the **Email Template** area, enter the body of the message, using the following techniques:
 - Insert text variables in the format [businessObjectName.columnName]. Only columns that are present in the query results will be properly substituted at runtime.
 - To insert an opt-out code, insert a link to %OPTOUTURL%. From the **Type** drop-down list, select **Other** and click **OK**.
 - (optional) Browse to import an email template from another folder within the Document System, or click **Upload** to import an existing email template from outside the Document System.

Note: If you find some features of the HTML editor confusing, you can [download user documentation for the editor](#). Some features described in this external document have not been enabled for use when defining email merge output processes.

- ❑ (optional) In the **Attachment** area, click ... , then use the Document System browser to choose an attachment to the email message.

7. Click **Save**.

Note: If your merge produces any email address duplicates, they result from the query specified in the merge.

To define an opportunity output process

Create an opportunity output process to generate projects or opportunities from a marketing campaign or other project. The generated opportunities are stored in the Process Manager document system.

1. From **Tools**, select **Document system**.
2. Navigate to (or create) the folder in which you want to create the email merge process.
3. Select **Organize > New > Opportunity**.
4. Define the opportunity:
 - ❑ In the **Summary** tab, enter general information.
 - ❑ In the **Sources** tab, choose whether the associated query should be:
 - **Bound** – a specific query is always used with the process
 - **Select at Runtime** – user selects the query each time the process is run
 - Browse to select the bound or default query.
5. Click **Save**.

To set user permissions for an output process

You can grant specific users and/or groups access to an individual output process from the **Security** tab.

1. Define an output process.
2. Select **Security**.

3. Select an **Access** option:
 - ☐ **Share (Everyone)** – Grants everyone full control.
 - ☐ **Private** – Grants full access to the query owner only.
 - ☐ **Advanced** – Enables the **Access Mode** drop-down list and allows you to edit the access list. You can select one of the listed access areas or select **Custom** to select from a pre-defined list of security settings in which one or more roles and/or specific users have been granted access permissions.
4. Click **Save**.

Troubleshooting output processes

Email merges

The following validation errors will prevent the merge from completing correctly:

- A required field has not been populated. The message will state which required field was not supplied.
- A parameter required for the query has not been supplied. The message will state which parameter was not supplied.
- The query assigned to the output process does not contain the business objects referred to in the template.
- The template uses field names that do not correspond to a column on any of the query's sources.

A warning displays for each record for which no email address can be found (by searching through the **To** field).

MS Word merges

Error messages about missing components can prevent the merge from completing correctly, so ensure that all of these components are installed on the web server or workstation:

- Microsoft Word (or Office)
- Microsoft .NET Framework
- Microsoft interop assemblies

Tip: See System requirements to be sure you are installing supported versions.

Creating and modifying reports

Two reporting applications are available to help you create, manage, and deliver reports:

- Crystal Reports
- SQL Server Reporting Services

Default report templates are supplied with *iMIS*. The administrator or manager can modify these reports to meet your organization's needs.

To create a custom report

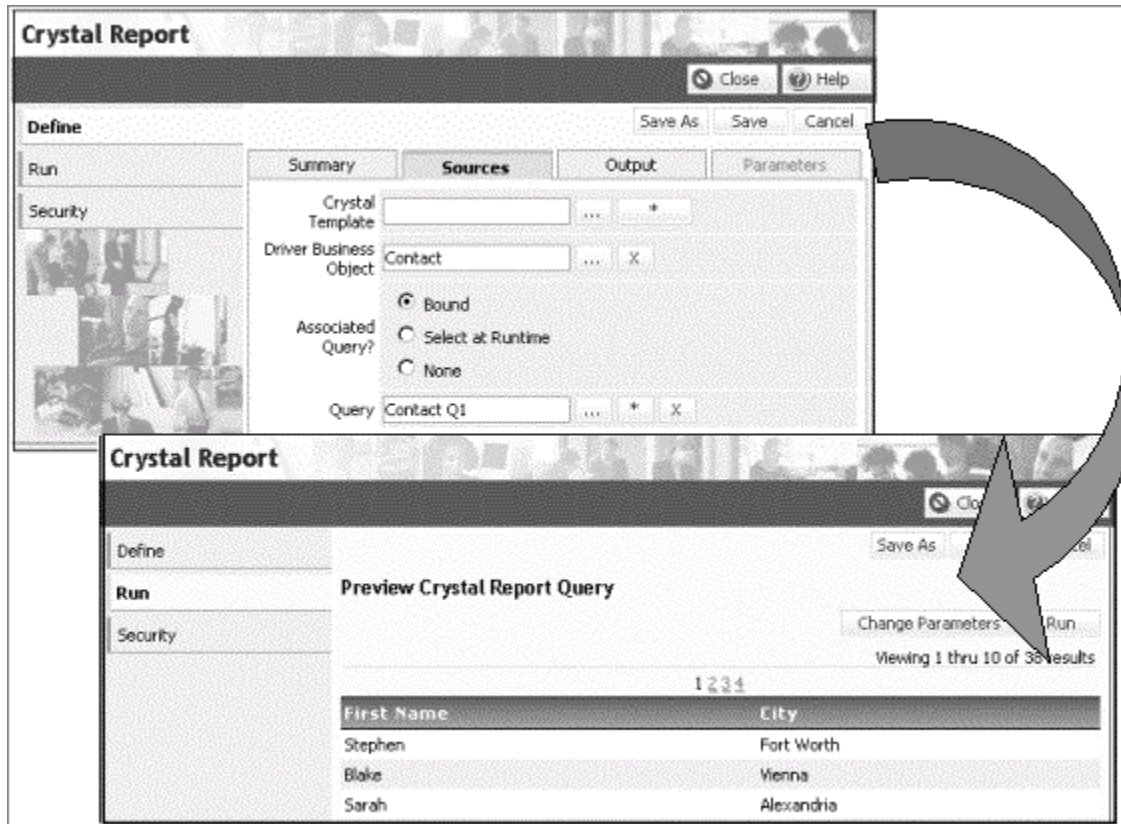
If you need custom reports that are not similar to the default reports, have your administrator:

1. Create a custom report.
2. Specify an associated query, as needed.
3. Define runtime information (such as adding parameters), as needed.
4. Store the report in an appropriate location in the Document System.

The manager, if granted access, has the ability to modify the report.

About Crystal Reports

Standard Crystal reports are supplied with *iMIS*. The administrator or manager can modify these reports to meet your organization's needs.



Example of a Crystal report definition and its output

If you need custom reports that are not similar to the standard reports, the administrator creates the custom report. The manager, if granted access, still has the ability to modify the report.

Process

The process to set up a Crystal report is:

1. Create or modify a Crystal report template.
2. Create a Crystal report output process.

To modify an individual Crystal report, change the associated output process.

Crystal Report Templates

The following default report templates can often be modified to meet your organization's needs:

- Mailing labels
- Invoices
- Badges
- Rosters

- AR/Cash Batch report
- AR/Cash Trial Balance
- Customer Profile
- Dues Renewal Notice
- Event Registration Confirmation
- Order Status
- Donor Profile
- Gift Receipt
- Campaign Performance
- Process Management Action report
- Process Forecast

To create a Crystal report template

1. From **Tools**, select Document System.
2. Navigate to (or create) the folder in which you want to create the report template.
3. Select **Organize > New > Crystal Report Template**.
4. Browse to the Crystal report (.rpt file) you want to save as a template.
5. (optional) Enter a **Description**.
6. Click **Upload**.

To create a Crystal report output process

Before you begin

Before you create a Crystal report output process, set up a Crystal report template (.rpt file). See *To create a Crystal report template*.

To create a Crystal report output process

1. From **Tools**, select Document System.
2. Select **Organize> New> Crystal Report**.
3. The **Process Engine Portfolio** displays.
4. Set up the report:
 - ☐ In the **Summary** tab, enter general information.
 - ☐ In the **Sources** tab, upload or browse to the desired **Crystal Template**.
 - ☐ (optional) In the **Sources** tab, define or select the query, if any, to be associated with the report and select the type:
 - **Bound** – The specific query is always associated with this report.
 - **Select at runtime** – User accepts the default query or selects another one when ready to run the report.
 - **None**
 - ☐ If you select an associated query for the report, browse to the desired **Driver Business Object**.

- In the **Output** tab, specify the output options, such as print location and settings. Specify whether these options can be changed by the user at runtime.
- (optional) In the **Parameters** tab, select the **Show Parameters at Runtime** option to request or require user input at runtime.

Note: If you do not select the **Show Parameters at Runtime** option, you must provide default values for the report to execute successfully.

5. (optional) Select **Security** and modify the security settings for the report.
6. Click **Save**.

Note: The business objects that start with a "Cs" prefix (such as CsContact, CsDonations, and so on) sometimes return more information in a Crystal report than they do in a query. For example, a report that is sourced from the CsPledges object, and which is defined to show information for only one specific fund might show the expected results when you preview the query results, but then display information for multiple funds when you run the report.

This behavior is caused because the Cs-prefixed objects might not have primary keys in their original data source, and in one-to-many relationships the query results can differ from report results because of the way that filters are currently implemented in reports.

Running reports and output processes

Managers and users can run reports and output processes from the related *iMIS* area, as designated in the Document System.

Users can also start the Word merge output process from **Home > Generate Reports** if the `lefthome.htm` file has been customized to include MS Word Mail Merge.

Clearing old query results

Periodically, the interim tables used by *iMIS* reports and queries should be cleared of old data. You can accomplish this by running the `sp_asl_ClearOldQueryResults` script.

To clear old data from the query results tables

1. From **Tools**, select **Utilities > Modify system tables**.
2. A message window opens and asks you to confirm that you want to run the script, and the **Run ClearOldQueryResults script** window opens. Click **Yes**.

The script is run and the number of rows fitting the deletion criteria is reported in **Run ClearOldQueryResults script** window.

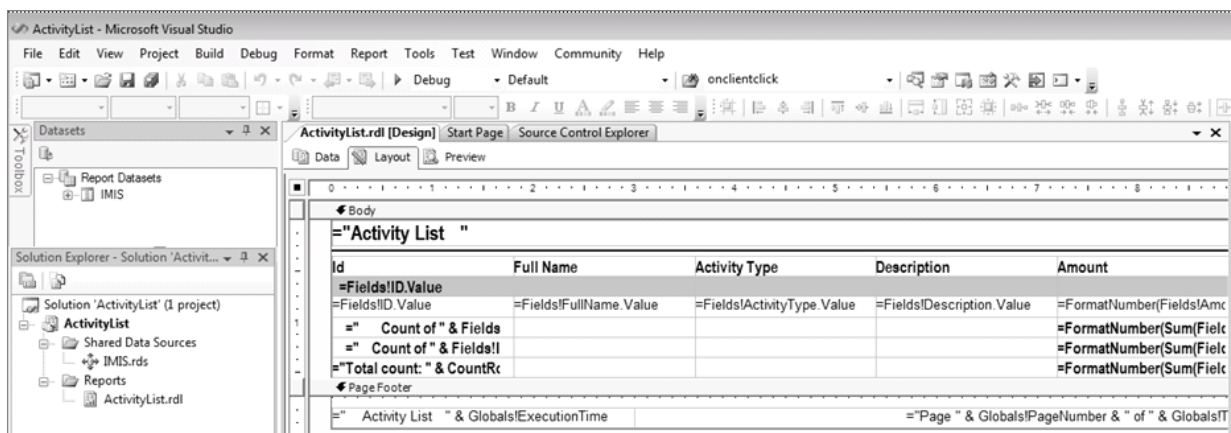
Reporting Services

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Quick facts: SSRS reports

iMIS natively supports SQL Server Reporting Services (SSRS) for both static and dynamic reporting capability with SQL Server databases. Reporting Services includes everything you need to create, distribute, and manage reports.

Important: *iMIS* supports Crystal Reports, but all new *iMIS* reports use SSRS.



What do I need to license or buy?

Nothing! *iMIS* installs the **SSRS Report Viewer** control for ASP.NET applications that comes with Microsoft Visual Studio. *iMIS* uses the Report Viewer control, which offers a document map, jump-to-page, zoom, and search. *iMIS* enables the control's built-in report navigation (pagination), parent report support, and export functionality, including Excel (XLS) and PDF formats.

- Microsoft freely distributes the Report Viewer control
- You can edit the XML-based report format in any text editor
- Visual report designers, [Report Builder](#) and [Business Intelligence Development Studio](#), are free for download




How do I run reports in *iMIS*?

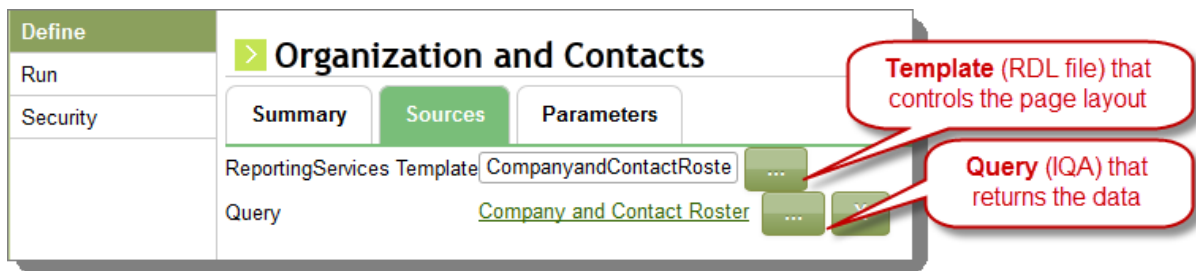
- Generate a default SSRS report on the fly using the **Report** command in IQA.
- Browse to a content record that has an **SSRS Report** iPart configured on it.
- Open a navigation item that lists all of the reports in a given folder, and select one.
- Run SSRS reports directly from the **Document System**.

Where to find samples: In the **Document System**, go to **\$\Samples\ReportingServices** to access example SSRS reports (each of which has a query, a template, and a run-time report).

Creating SSRS reports

To use SSRS reports natively in *iMIS*, you work with three associated objects:

1.  **Query** — provides the data needed for the report.
2.  **Template** (*Reporting Services Template*, the .RDL file) — provides the formatting to display the results, such as a matrix or pie chart. IQA uses a default template that you can generate from any query, either to save in the Document System or to export as an RDL, for editing and reimport.
3.  **Report** (the runtime report, an *iMIS* output process) — binds the query and the template, sets the name, parameters, and security, and makes the report usable from an iPart or list of reports.



You can generate a default table-based SSRS report just by using the **Report** command in IQA. These you can export so that you can craft production-quality page layouts or add charting and graphing.

Can't I just use IQA?

Yes, take advantage of queries and special iParts to filter and present *iMIS* data to your users. See [Displaying query results in iParts](#) for the growing number of query-based iParts available.

But some situations require the full power of Reporting Services. You might, for example, need

- a different type of chart or graph than is available
- to change the chart from listing counts to showing percentages



- to add special header/footer and page layout for production quality
- to output the records in list format, one per page

How hard is adding a report?

Faster than you can brew a cup of tea, you can publish a new report in *iMIS*. Suppose that you need a new report, and you want this report added to your site, for easy access. Without using report editors at all, you can achieve this in a few steps:

1. Create and save your query.
2. Click **Report** to generate the default report.


Tip: If you want to adjust any layout defaults, you can do so in **SystemConfig** table settings. See [Changing the default layout for SSRS reports](#).

3. Click **Save Report Definition to iMIS**. Select the name and location you want and click **Save**, which creates the template  and report  file, already bound to your query.
4. Add access to your new report by adding an SSRS Report iPart (**Utility** folder) to an appropriate content record. Enable Excel and PDF exporting as needed.

Tip: Most reports display best on content records that use single-column layouts.

What is the easiest way to change a report?



Suppose that you already added a default report to your site, but you now need to add a pie chart. The essential process is this:

1. Download the RDL template: edit the query, click **Report**, click **Save Report Definition to Workstation**, and **Save** it.
2. Edit it in your report writer.
 - [Tutorial: Adding a Pie Chart to a Report](#)
 - [How to: Display Data Point Labels Outside a Pie Chart](#)
3. Upload it to *iMIS* as a new template: in the Document Browser, select **New > Reporting Services Template**, and browse to your RDL file.
4. Update the report runtime to use it: edit the report  file, and browse to your new template.



See [Getting report layouts from iMIS](#).

Using *iMIS* to generate SSRS reports

You can take advantage of the dynamic reporting feature of IQA to generate many of the reports you need, without using any report editors:

1. In the **Document System**, browse to your query and choose **Edit**.
2. Click **Report** to generate a report that is dynamically formatted using the settings you control through **SystemConfig** parameters.
3. Under **Options**, select **Save Report Definition to iMIS**.
4. Browse to the save location you specified and edit the outputs as needed:
 - **Reporting Services Template:** , which exports as [QueryName].rdl
 - **Reporting Services Report:** , which exports as [Query Name] and binds template to query

For example, you might edit the report's **Parameters** tab to hide the report's parameters at run-time or to preset values (such as to make this report display Texas locations only).

5. Create a *content record* with an SSRS iPart to display your new report: 
 - ❑ In **Content Designer > Manage content**, open an appropriate folder to house your new report.
 - ❑ From the toolbar, select **New > Website content**.
 - ❑ For **add new content**, open the **Utility** folder and select the **SSRS Report iPart**.
 - ❑ Configure the iPart to point to the report () you just created.
6. Deploy the content into the site through a new navigation item, tagging, or other method.

Creating reports in SQL Server tools



1. Install the free report writing tool that works with your version of SQL Server:
 - ❑ [Microsoft SQL Server 2008 R2 Report Builder 3.0](#)
 - ❑ [Microsoft SQL Server 2005 Express Edition Toolkit](#), which installs SQL Server Business Intelligence Development Studio (BIDS)
2. Reuse or copy reports created in other editions. When you publish a report created in an earlier version of Reporting Services, it upgrades to the newer format.
3. Create reports using any Reporting Service features: drill-through reports, sub-reports, and parameterized reports that include charts, tables, matrices, and lists.
4. Publish to a report server. To make a published report available to users, use Report Manager to create role assignments that grant access to it.



Adding custom SSRS reports and subreports

If you have designed your own RDL source files, you can upload them into *iMIS* templates, create reports (which link templates to queries), and display those reports with SSRS iParts.

Note: In Reporting Services, subreports are stored as *separate* RDL files that the main report references. Therefore, you need to upload them into *iMIS* separately.




To add an SSRS report to *iMIS*

1. Import your *template* (RDL) into *iMIS* as a **Reporting Services Template**: 
 - ❑ In the **Document System**, open the **\Reports\Templates** folder for the target module.
 - ❑ From the toolbar, select **New > Reporting Services Template**.
 - ❑ Browse to the source RDL file on your file system.
2. Create a *report* that will bind a query to this template as a **Reporting Services Report**: 
 - ❑ In the **Document System**, open the **\Reports** folder for the target module.
 - ❑ From the toolbar, select **New > Reporting Services Report**. This object is a *process engine*.
 - ❑ On the **Sources** tab, specify which Reporting Services Template and IQA query to use.
 - ❑ On the **Parameters** tab, choose whether to show the report's parameters at run-time and whether to preset their values (such as to make this report display Texas locations only).

3. Create a *content record* with an SSRS iPart to display your new report: 
 - In **Content Designer > Manage content**, open an appropriate folder to house your new report.
 - From the toolbar, select **New > Website content**.
 - For **add new content**, open the **Utility** folder and select the **SSRS Report iPart**.
 - Configure the iPart to point to the report () you just created.
4. Deploy the new content into the site through a navigation item, tagging, or other method.

To add SSRS subreports to iMIS

Creating a report that has subreports is the same process, except that you also import the subreport RDL files into the same folder as the main (parent) RDL file.

1. Import your *template* (RDL) into iMIS as a **Reporting Services Template**: 
2. In the *same folder*, also create templates for *each* subreport RDL used by the main report. iMIS can run the subreports specified in the main report only if they are in the same folder.
3. Create a *report* that will bind a query to this template as a **Reporting Services Report**: 
4. Create a *content record* with an SSRS iPart to display the *main* report: 
5. Deploy the content into the site through a new navigation item, tagging, or other method.

Direct URL calls to run one-off reports

Content Management also supports *direct* calls to its reports from your web page code, so that you can create one-off reports you may need. This sample code for a **Print Detail** button on the **Batch details** page shows the process:

1. Call a content item (@/iMIS/Accounting/BatchDetailReport).
2. Pass it a parameter (Batch Number) as a URL parameter.

```
protected void PrintDetailClick(object sender, EventArgs e)
{
    Guid documentKey =
        DocumentSystem.DocumentKeyByPath("@/iMIS/Accounting/BatchDetailReport");

    Document d = DocumentController.Document(documentKey);

    Business.ContentManagement.Content content =
        Business.ContentManagement.Content.GetFromDocument(d);

    string url = string.Format(CultureInfo.InvariantCulture, "{0}?&Batch Number={1}",
        content.GetNavigateUrl(), Batch.BatchNumber);

    Response.Redirect(url);
}
```

Customizing SSRS reports

For a hands-on walkthrough of how to create a customized report template for use in iMIS, see [Tutorial: Customizing a report template](#).

Changing the default layout for SSRS reports

Your *iMIS* database stores configuration parameters that control the layout and design of reports generated through Reporting Service (SSRS). These parameters in the **SystemConfig** table control the look and feel of SSRS reports being created system-wide.

For example, if you have international customers, a helpful change might be to configure the reports for A4 format (21.0 x 29.7 cm).

Tip: Like Word templates, these configuration settings control *new* reports only; layout changes do not propagate to existing reports. Therefore, test and perfect your settings before creating new SSRS reports, to minimize rework later.

To change SSRS layout parameters

1. Use your favorite SQL query tool to access the **SystemConfig** table in *iMIS*.
2. Change the values as needed.

Tip: For valid color names and samples, search the web for `aspnet` named colors.

3. Restart IIS (or reboot the server) to clear the cache and apply the changes.

SSRS layout parameters

You can generate the table below using this query:

```
select ParameterName, ParameterValue, Description
from SystemConfig where ParameterName like 'SSRS%'
order by ParameterName
```

SSRS.[ParameterName]	Value	Description
.BodyReportItemsHeight	0.2	Body report items height (units only, no UOM) used when generating SSRS reports
.BottomMargin	0.5	Bottom margin (units only, no UOM) used when generating SSRS reports
.DetailFont	Arial	Detail font for generated SSRS reports
.EnableGreenBar	false	Turns on alternating background color in rows of generated SSRS reports
.FieldHeaderBackgroundColor	White	Named color used when generating SSRS reports
.FieldHeaderForegroundColor	Black	Named color used when generating SSRS reports
.FooterHeight	0.3	Footer height (units only, no UOM) used when generating SSRS reports
.GreenBarBackgroundColor	LightSteelBlue	Named background color used when EnableGreenBar is true for generated SSRS reports
.GroupHeaderBackgroundColor	LightSteelBlue	Named color used when generating SSRS reports
.GroupHeaderForegroundColor	Black	Named color used when generating SSRS reports
.HeaderFont	Arial Narrow	Header font for generated SSRS reports
.HeaderHeight	0.25	Header height (units only, no UOM) used when generating SSRS reports
.LandscapeTotalWidth	11	Total page width (units only, no UOM) for landscape orientation paper used when generating SSRS reports
.Language	en-US	Default language used when generating SSRS reports
.LeftMargin	0.5	Left margin (units only, no UOM) used when generating SSRS reports

SSRS.[ParameterName]	Value	Description
.PageFooterBackgroundColor	White	Named color used when generating SSRS reports
.PageFooterForegroundColor	Black	Named color used when generating SSRS reports
.PageHeaderBackgroundColor	White	Named color used when generating SSRS reports
.PageHeaderForegroundColor	Black	Named color used when generating SSRS reports
.PortraitTotalWidth	8.5	Total page width (units only, no UOM) for portrait orientation paper used when generating SSRS reports
.RightMargin	0.5	Right margin (units only, no UOM) used when generating SSRS reports
.SeparatorLineColor	DarkBlue	Color of the separator line for generated SSRS reports
.TableCellWidth	1.8	Width for table cells (units only, no UOM) used when generating SSRS reports
.TopMargin	0.5	Top margin (units only, no UOM) used when generating SSRS reports
.UnitOfMeasure	in	Unit of measure used when generating SSRS reports

Activity List				
Id	Full Name	Activity Type	Description	Amount
101				
CALL				
101	Mr. Douglas A. Hunt, Jr.	CALL		0.00
Count: 1				0.00
COMMITTEE				
101	Mr. Douglas A. Hunt, Jr.	COMMITTEE	Education Committee	0.00
Count: 1				0.00
DONORCLUB				
101	Mr. Douglas A. Hunt, Jr.	DONORCLUB	Ambassador Donor Club	0.00
101	Mr. Douglas A. Hunt, Jr.	DONORCLUB	Brick Donor Club	0.00
Count: 2				0.00
DUES				
101	Mr. Douglas A. Hunt, Jr.	DUES	Basic Membership Dues	950.00
101	Mr. Douglas A. Hunt, Jr.	DUES	PAC Contribution	20.00
101	Mr. Douglas A. Hunt, Jr.	DUES	Basic Membership Dues	950.00
101	Mr. Douglas A. Hunt, Jr.	DUES	PAC Contribution	20.00
101	Mr. Douglas A. Hunt, Jr.	DUES	Basic Membership Dues	950.00
101	Mr. Douglas A. Hunt, Jr.	DUES	PAC Contribution	20.00
101	Mr. Douglas A. Hunt, Jr.	DUES	Harris County	15.00
101	Mr. Douglas A. Hunt, Jr.	DUES	Basic Membership Dues	950.00
101	Mr. Douglas A. Hunt, Jr.	DUES	PAC Contribution	20.00
Activity List 2/20/2008 3:58:24 PM				
				Page 1 of 47

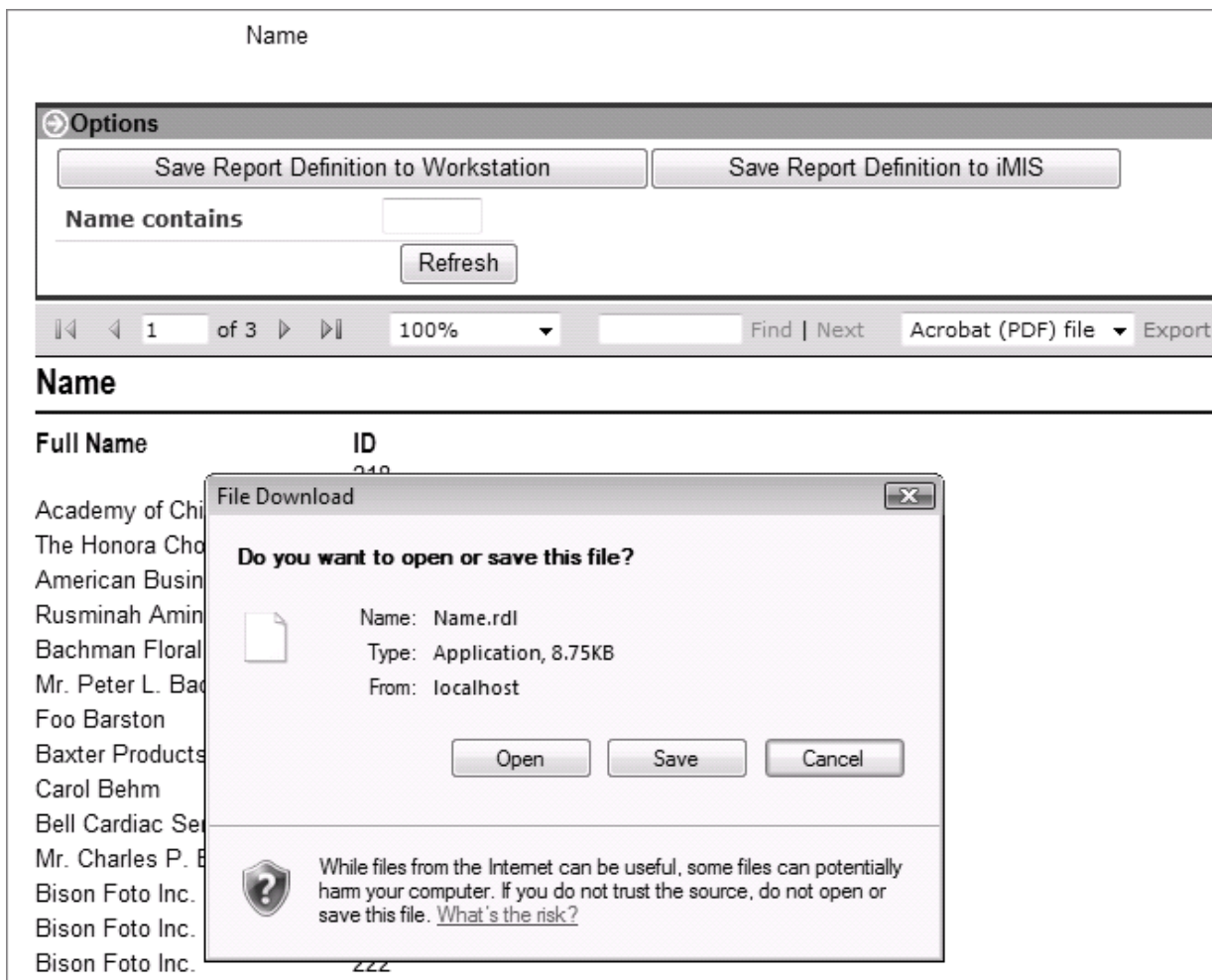
Example of an Activity List report using the EnableGreenBar feature to highlight alternating lines.

Getting report layouts from iMIS

The SSRS template file format is *Report Definition Language*, which uses an .RDL extension. These are much like Crystal .RPT files, but they are defined in XML. Because they are XML, you can edit .RDL files in *any* text editor; however, you need free tools available for your version of SQL Server to design the report visually and to preview your report layouts with data.

To generate RDL files from IQA

1. From the query definition, click **Report**.
iMIS generates the report in memory; nothing is saved to database or disk yet.
2. If the query results need adjustment, click **Define**, make your changes, and click **Report**.
3. When the results are good, save the report to a permanent format:
 - ❑ **Save Report Definition to iMIS** copies the report to the Document System, for future availability in *iMIS*.
 - ❑ **Save Report Definition to Workstation** copies the report to your file system, for editing outside of *iMIS*:
When prompted, choose **Open** to launch the file in the application is associated with the .RDL extension, or choose **Save** to copy the file to the locally.



To retrieve an .RDL from the Document System

1. Locate the .RDL template within the Document System.

Tip: Be sure you're selecting the template, not the output process!

2. Select the **Run** icon.
3. When prompted, select **Open**.

Tip: You can choose **Save** rather than **Open**, but be aware that BIDS will *copy* the file into its project location when you add it to a project, regardless. However, be sure to re-import your *edited* version, not the original!

4. Edit the file, and save it to your file system.
5. Import the edited file into the Document System, either as an updated version or as a new template.

Setting up SQL Server tools to edit iMIS reports

You can customize Reporting Services reports using free SQL Server tools:

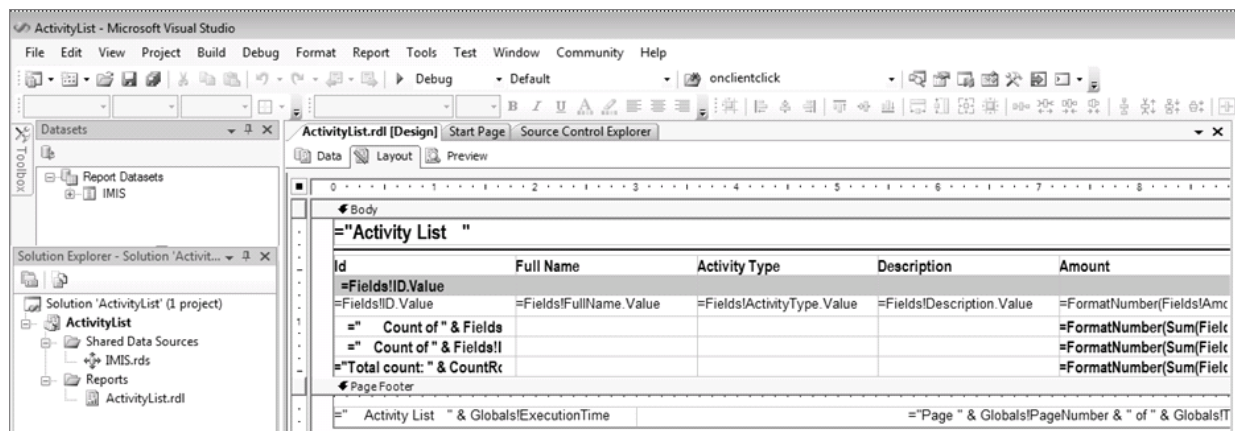
- [Microsoft SQL Server 2008 R2 Report Builder 3.0](#)
- SQL Server Business Intelligence Development Studio (BIDS) installs with the [SQL Server 2005 Express Edition Toolkit](#).

To prepare your environment

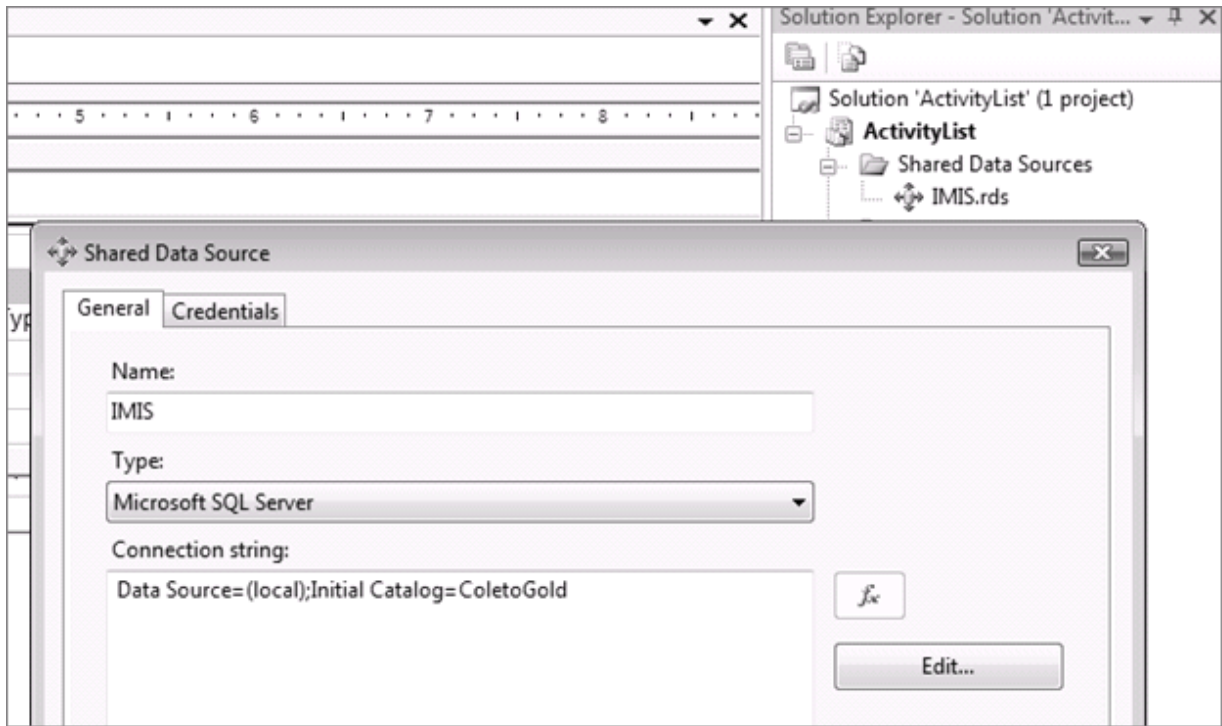
1. Uninstall any beta or Community Technology Preview (CTP) versions of SQL Server Management Studio Express.
2. Verify you have administrative rights and ample free space on the machine where you will be working with reports: 600 MB for the toolkit.
3. Install Microsoft .NET Framework 4.0.
4. Install your version of Microsoft SQL Server Express Edition.
5. Install your report tool using the links above.

To work with an .RDL in BIDS

1. Create a new Report Server project (File > New > Project > Report Server Project).



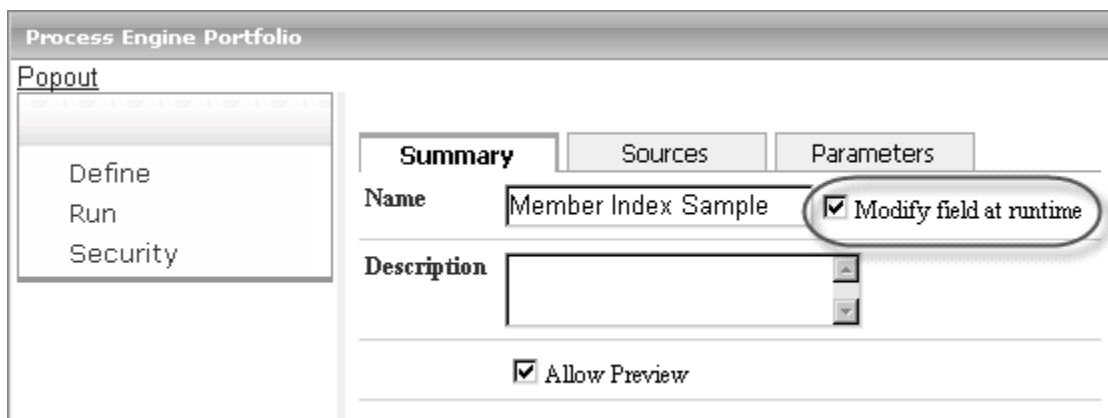
2. For the project, create a new **Shared Data Source**.
 - Name it IMIS.
 - Use **Edit...** to specify your server and database.
 - Select the **Credentials** tab to specify your SQL Server login.



3. In the Solution Explorer, right-click **Reports**, **Add / Existing Item**, and browse to the .RDL file downloaded from IQA.
4. Edit the report definition, and select **Save**.
5. Import the report back into the Document System, or use it in a separate SQL Server Reporting Services server environment, as needed.

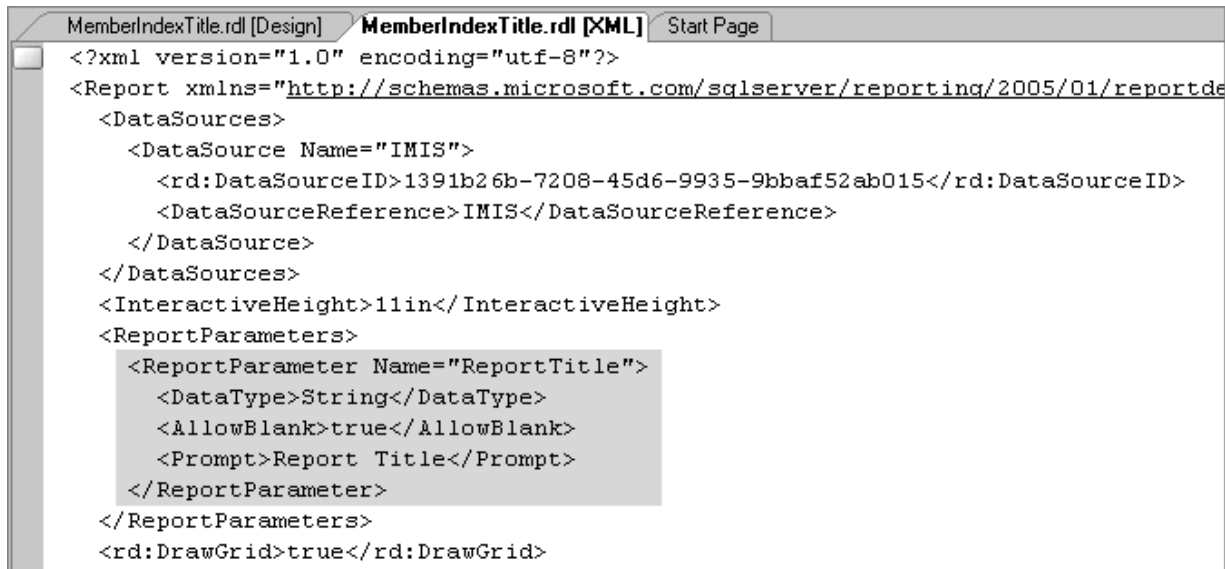
Making report titles editable at runtime

IQA adds a parameter to its SRSS reports to let users modify the report title at run-time, so that the title that displays on the report is changed just for that run. To prevent users from changing report titles at run-time, you just disable the **Modify field at runtime** checkbox on the reports you save.



*The availability of the **Modify field at runtime** option is controlled by report parameters in the .RDL.*

If you create any RDL files outside of *iMIS*, you can give them this functionality by adding the `ReportTitle` parameter on the XML tab:



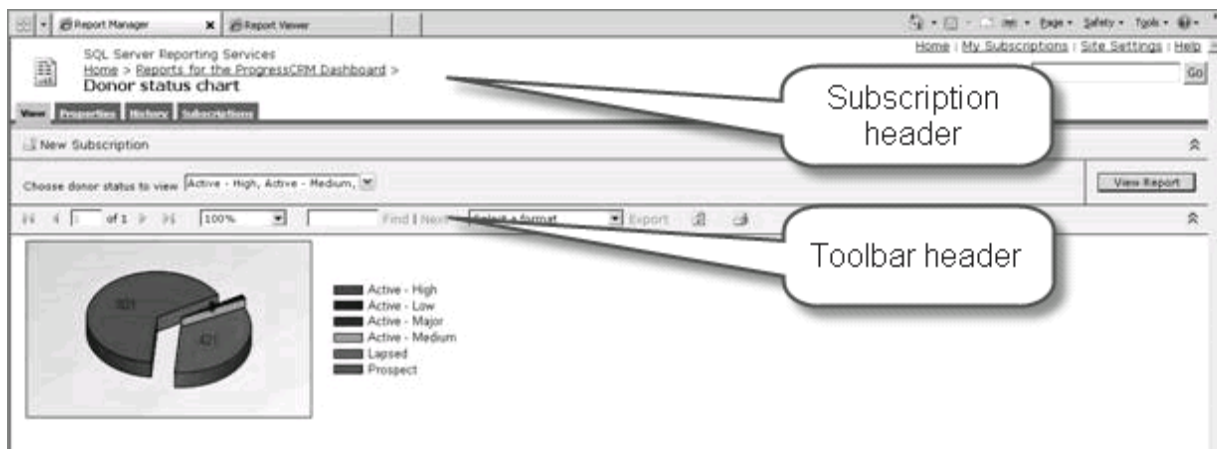
The "`ReportTitle`" parameter controls how users can affect the report's title, if at all.

Code for the `ReportTitle` parameter

```
<ReportParameters>
  <ReportParameter Name="ReportTitle">
    <DataType>String</DataType>
    <AllowBlank>true</AllowBlank>
    <Prompt>Report Title</Prompt>
  </ReportParameter></ReportParameters>
```

Customizing headers in SSRS reports

By default, Reporting Services reports output with two headers. When these headers are not useful or take up too much space in the page design, you can control it by changing the URL through which the report is run.



SSRS reports include two headers, *Subscription* and *Toolbar*.

To suppress the Subscription header

When you publish a report, Report Manager generates a URL that includes the Subscription header:

```
http://localhost/Reports/Pages/Report.aspx?ItemPath=%2fReports+for+the+ProgressCRM+Dashboard%2fDonor+status+chart
```

To run the report without the Subscription header, call a different command, formed like this:

```
http://localhost/reportserver?%2fReports+for+the+ProgressCRM+Dashboard%2fDonor+status+chart&rs:Command=Render
```

To suppress the Toolbar header

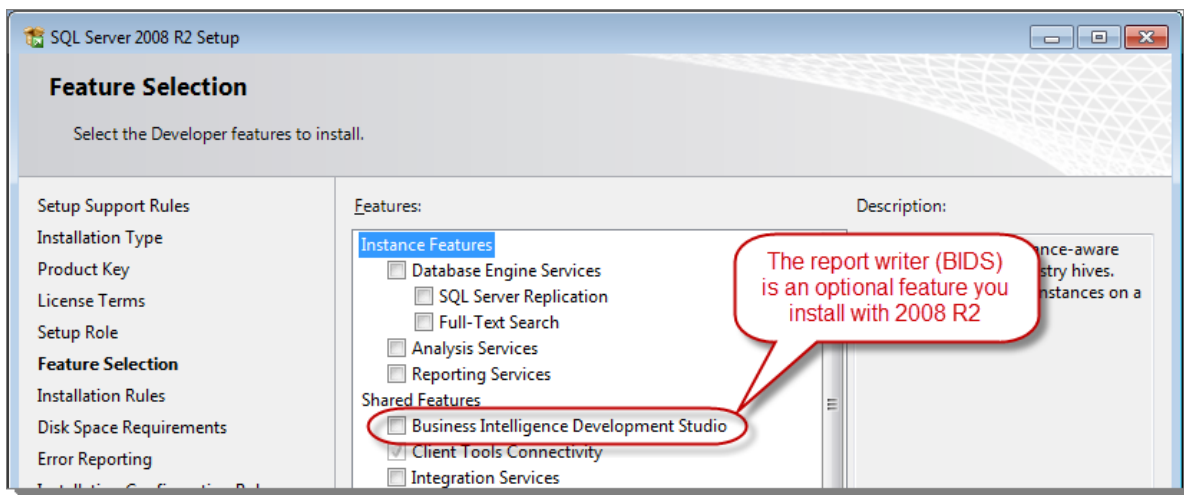
To run the report with the Toolbar header, which includes parameter and export options, add **&rc:Toolbar=false** to the end:

```
http://localhost/reportserver?%2fReports+for+the+ProgressCRM+Dashboard%2fDonor+status+chart&rs:Command=Render&rc:Toolbar=false
```

Tutorial: Customizing a report template

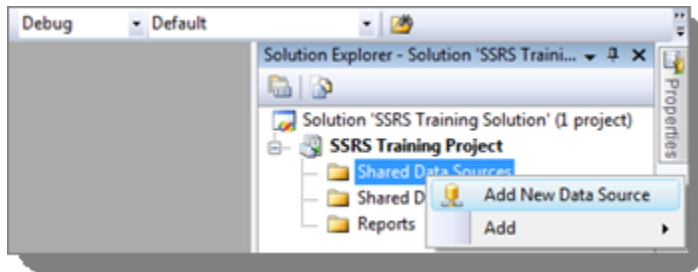
This demonstration walks you through the entire process of creating a reporting project, getting a report template from *iMIS*, editing it to add a pie chart, and getting the template back into *iMIS*.

1. If needed, install the Business Intelligence Development Studio (BIDS) feature.

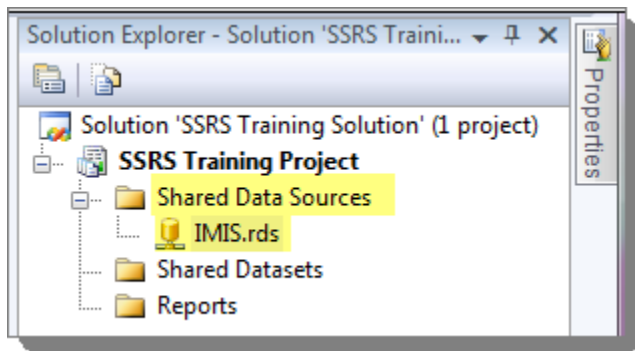


2. Open your report writer and create a new solution.
 - Open BIDS: go to **All Programs > Microsoft SQL Server 2008 R2 > SQL Server Business Intelligence Development Studio**.
 - Select **File > New > Project**.
 - Select **Report Server Project**.
 - *(Project name)* **Name:** SSRS Training Project
 - *(Default location)* **Location:** C:\...\Visual Studio 2008\Projects
 - **Solution Name:** SSRS Training Solution
 - Click **OK**.
3. Add **Shared Data Source** called *iMIS*.

- Right-click the **Shared Data Sources** folder inside the SSRS Training Project within the Solution Explorer and select **Add New Data Source**.



- Name the Data Source **IMIS** so that it will work with the RDL that you will export from *iMIS*.
- Click **Edit** and add the connection information for your local database.
- Select **Test Connection** to verify that it works.
- Note the new connection within the **Shared Data Sources** folder.



4. Create a data source and default report template (RDL) using IQA.

- Select **Manage > Intelligent Query Architect**.
- Browse to **\$/Samples/ReportingServices**.
- Create a new IQA that grabs the data you need for your report.

Sources: CsContact and CsMemberType business objects

Filters: CsContact.Is a Company

> Query Filters
 Add Filter
Refresh

Where	Function	Comparison	Multiple	Value	Prompt		
CsContact.Is a Company	None	Equal		(Any)	Optional		

Display: Defaults & CsMemberType.Description

Query Display Columns

☐ Only display unique results

Selected

Display	Property	Function	Alias	Link	Sub
<input checked="" type="checkbox"/>	CsContact.Company	None			<input type="checkbox"/>
<input checked="" type="checkbox"/>	CsContact.Country	None			<input type="checkbox"/>
<input checked="" type="checkbox"/>	CsContact.Member Type	None			<input type="checkbox"/>
<input checked="" type="checkbox"/>	CsContact.State Province	None			<input type="checkbox"/>
<input checked="" type="checkbox"/>	CsContact.City	None			<input type="checkbox"/>
<input checked="" type="checkbox"/>	CsContact.iMIS Id	None			<input type="checkbox"/>
<input checked="" type="checkbox"/>	CsContact.Full Name	None			<input type="checkbox"/>
<input checked="" type="checkbox"/>	CsMemberType.Description	None		MemberTypeDesc	<input type="checkbox"/>

- Go to the **Report** tab and click **Save Report Definition to Workstation** to export the default RDL file to your workstation.

iQA

Define

Run

Report

Security

SSRS Training

Options

Save Report Definition to Workstation

Is a Company Equals Yes

Refresh

1 of 128

Page Width

Find | Next

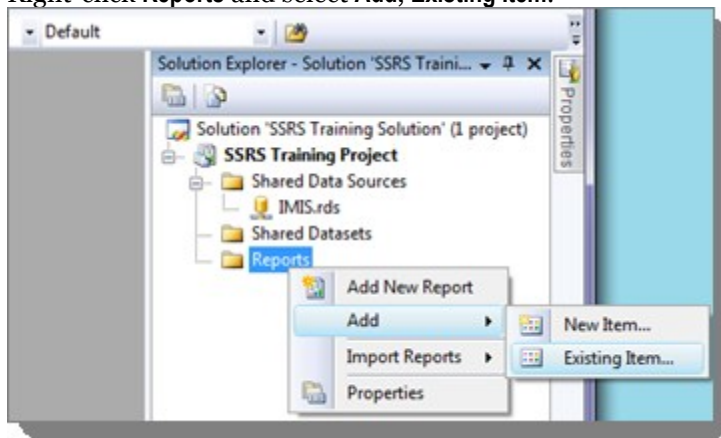
SSRS Training

Company	Country	MemberType	StateProvince	City	ID	FullName	Description
Prodigy Makers		CM	NJ	Newark	101	Mr. Douglas A. Hunt, Jr.	Company Member
International Foundation Support		CM	NJ	Somerville	104	Dr. Charles R.	Company Member

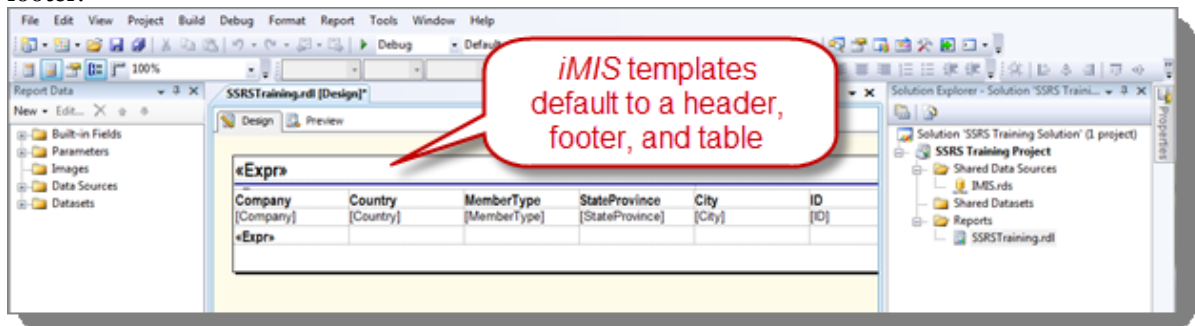
Saves the template as an RDL file

- Save the RDL to your project folder.
5. Add the exported template to your reporting project.
- Go back to BIDS and add the RDL to the **Reports** folder within the SSRS Training Project.

- Right-click **Reports** and select **Add, Existing Item**.

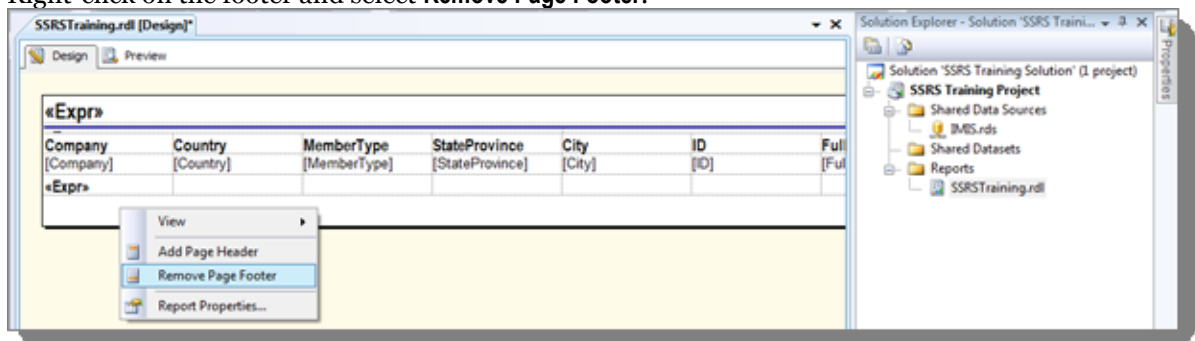


- Find the RDL you exported from IQA (note that name defaults to the name of the query).
- Double-click on the name of the report to open it for editing. You'll see the default template that IQA uses for all IQA report definitions which includes a header, a table to display the results set, and a footer.

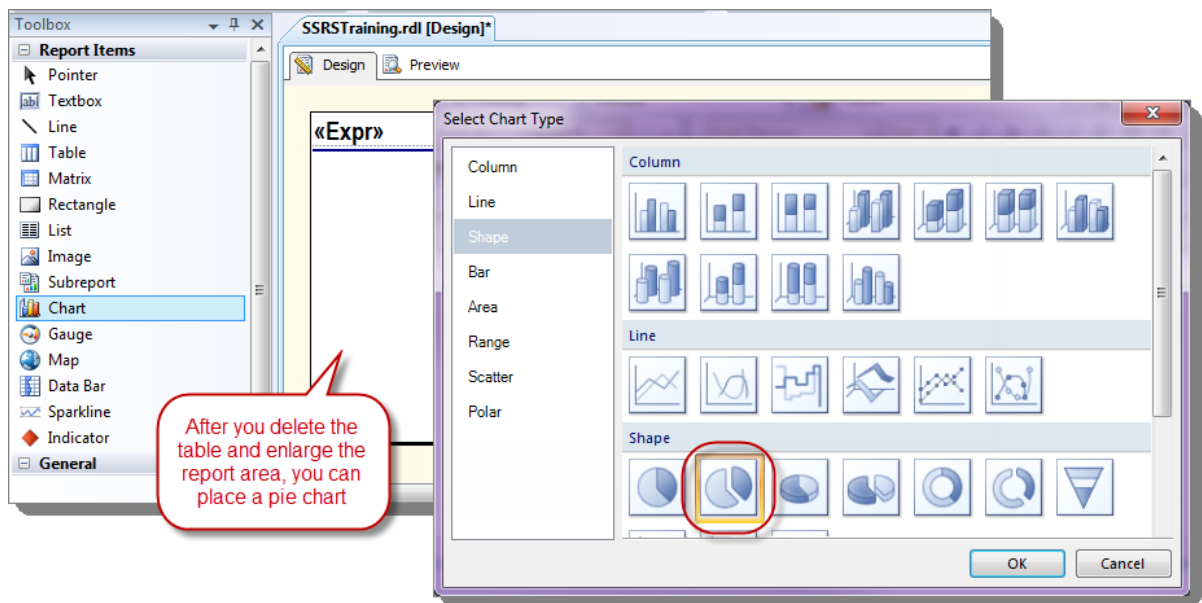


6. Change the report template into a pie chart that shows the percentage of members within a given member type.

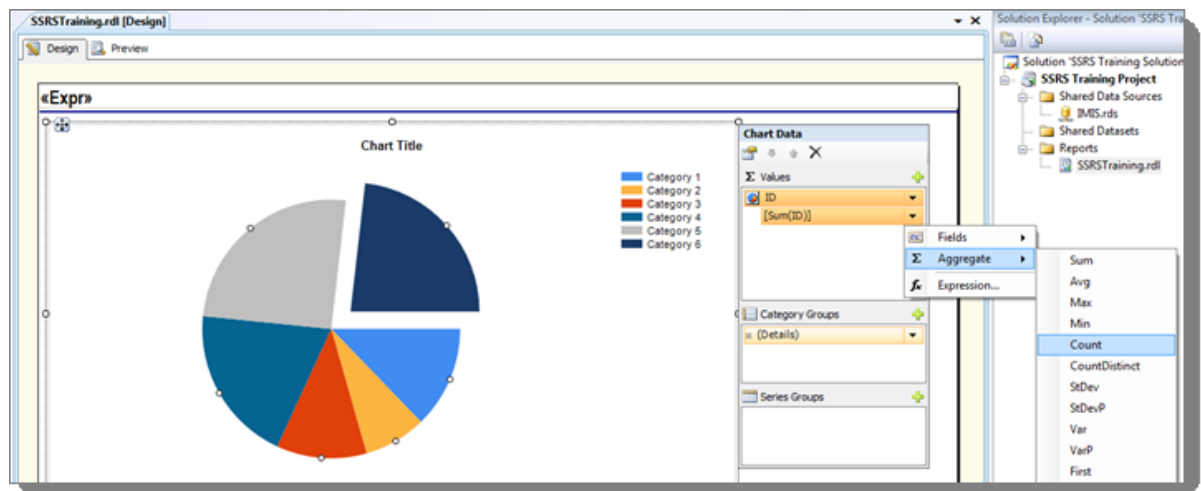
- Right-click on the footer and select **Remove Page Footer**.



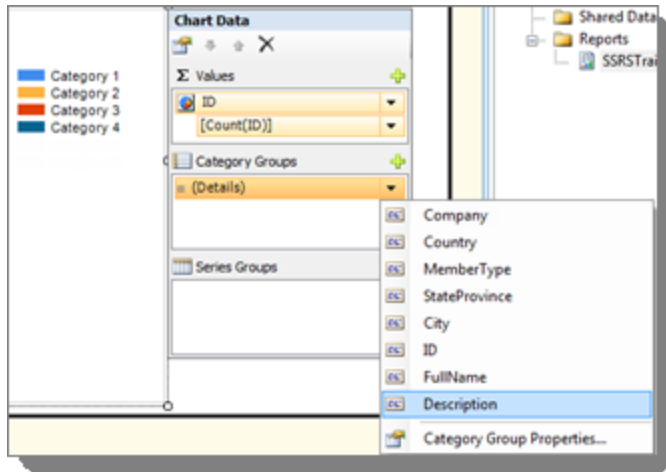
- Select the table, click the top left corner, and press the **Delete** button on your keyboard.
- Drag the bottom of the report to give yourself more room to add the chart.
- From the toolbox, drag and drop the **Chart** report item onto the body of the report.
- The **Select Chart Type** window opens.
- Select the exploded pie chart and click **OK** and expand the pie chart to fill in the area as needed.



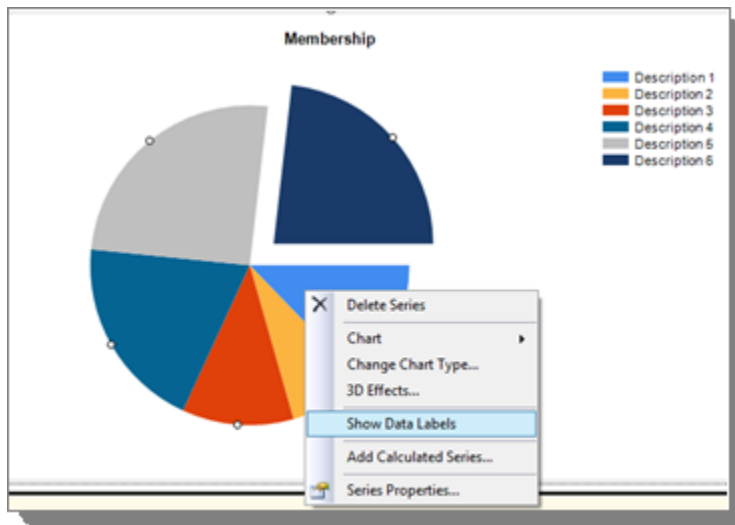
- Right-click on the chart itself to show its properties, which open in the **Chart Data** pane to the right of the chart.
 - In the **Value** section, select ID.
 - Change the **Aggregate** type from **Sum** to **Count**.



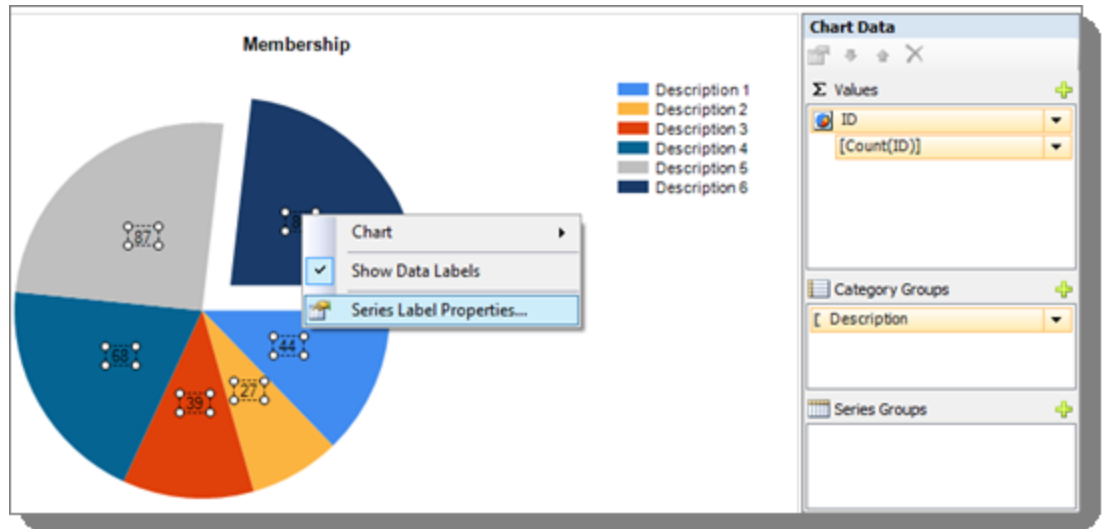
- In the **Category Groups** section, select **Description** (which is the Member Type Description).



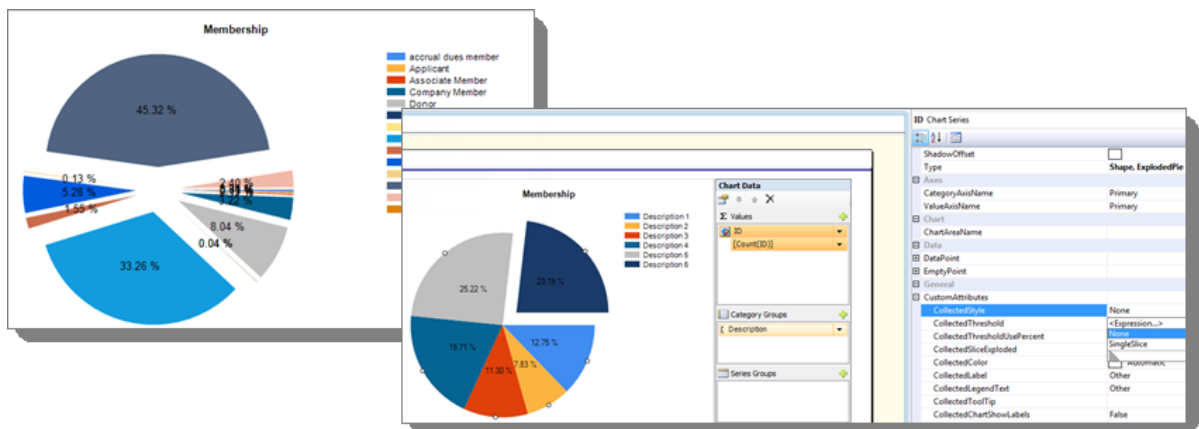
- Change the title of the report by clicking the area that says **Chart Title** and typing.
- Add labels that show the counts-per-member type by right-clicking on the chart and selecting **Show Data Labels**.



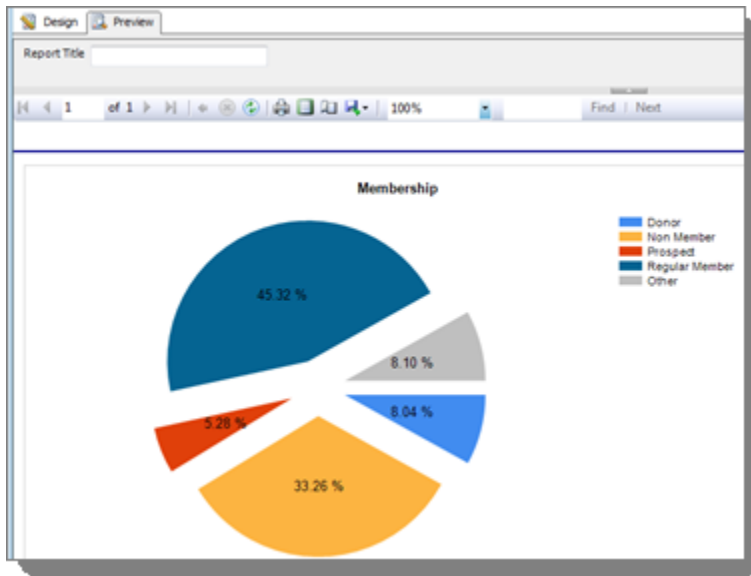
- Click **Preview** to see the new report (there is a default parameter for the report title – click the **View Report** button on the top right to preview the report).
- Change the chart to show percentages instead of counts.
 - Right-click on any of the labels in Design mode.
 - Select **Series Label Properties**.



- Add #PERCENT to the Label data field so that the labels show the percent instead of the count.
 - When prompted, *This property will not have effect unless UseValueAsLabel is set to False. Do you want to set the UseValueAsLabel to False?*, click **Yes**.
 - Click **OK**.
7. Combine all member types that have less than 5% into one pie slice called *Other*.
- Go back to the Design view by clicking the **Design** tab.
 - If you do not see the chart properties, select **View > Properties Window**.
 - Click a pie slice to select the chart area (you will see the **Chart Data** pane at right).
 - On the **Properties** menu to combine all of the less than 5% member types:
 - Find the **General** sub menu, double-click the **CustomAttributes** section, and find and set two properties:
CollectedStyle = SingleSlice
CollectedThreshold = 5

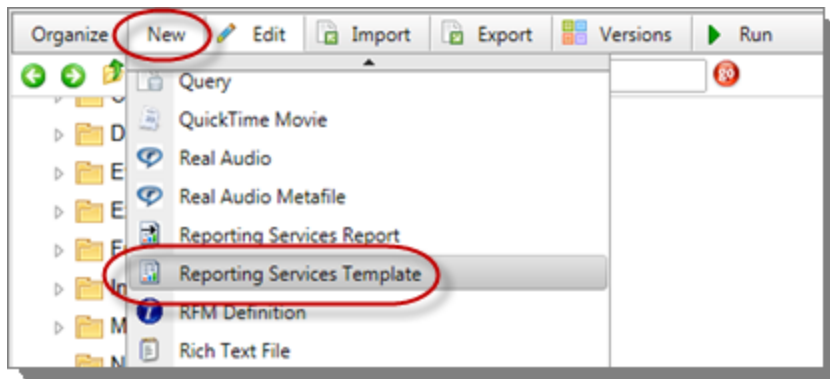


8. Preview, adjust as needed, and **Save**.

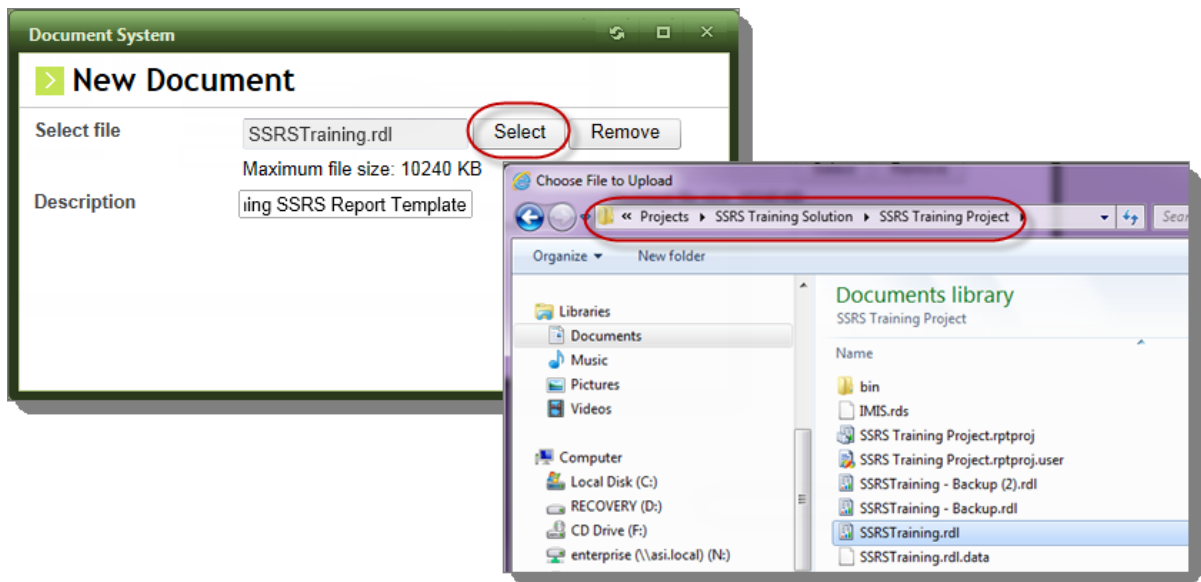



9. Add your template to your report in *iMIS*.

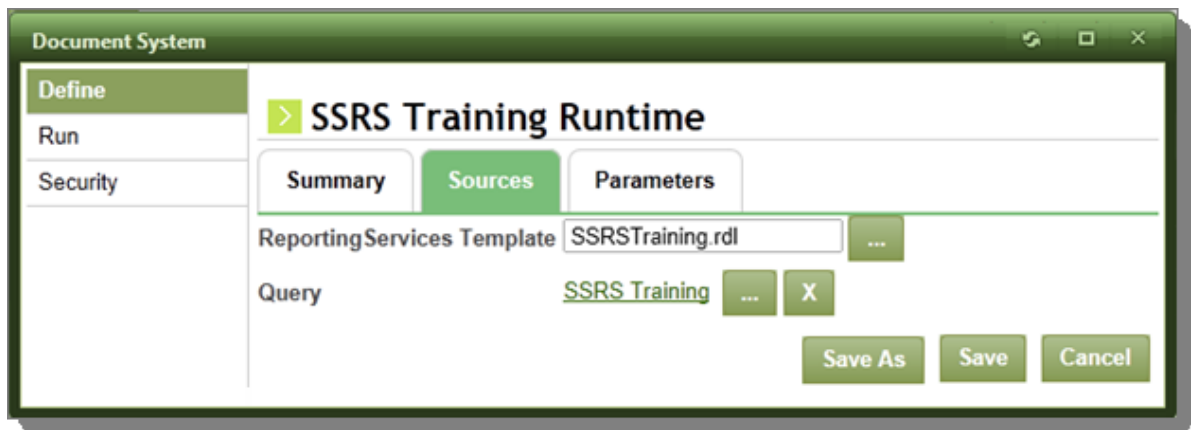
- On your Member site, open the Document System: select **Manage > Document System**.
- Browse to the location of the original template : **\$/Samples/ReportingServices**.
- Bring your template into *iMIS* as a new object: select **New > Reporting Services Template**.



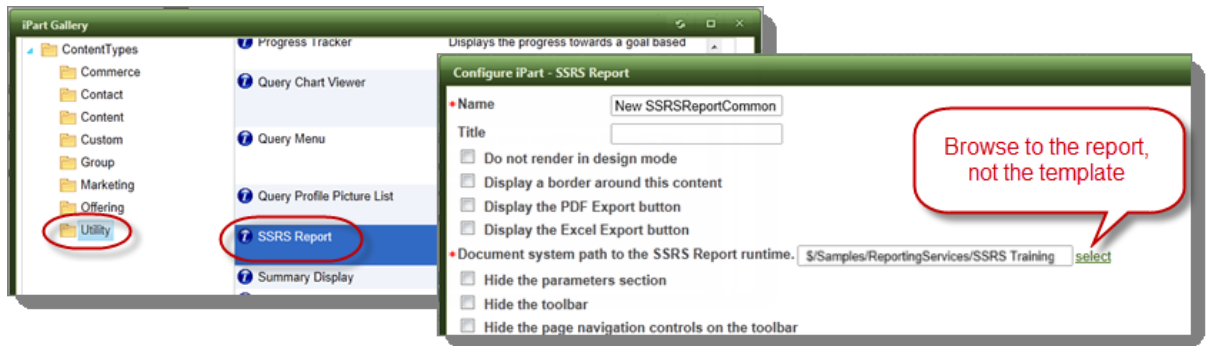
- Upload your RDL file: Click **Select** and browse to the file that you turned into a chart template: **..\Visual Studio 2008\Projects\SSRS Training Solution\SSRS Training Project**.



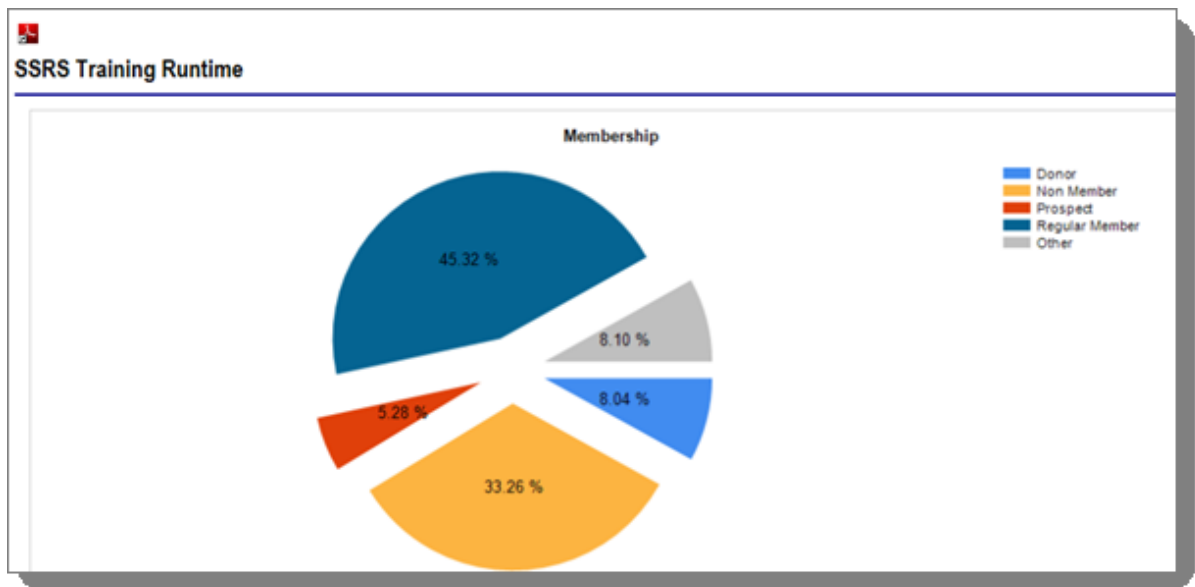
- ❑ Create a report runtime  to use your template with your query: select **New > Reporting Services Report**.
- ❑ On the **Sources** tab, use the browse buttons to select your template and your query.



- ❑ Click **Run** to preview the report.
 - ❑ When you **Save** the new report, verify the folder to which you are saving: **\$/Samples/ReportingServices**.
10. Publish your report using the SSRS Report iPart.
- ❑ Edit a new or existing content record.
 - ❑ Select **add content** and select the **SSRS Report**, in the **Utility** gallery.



- Select **Hide the toolbar**, since pagination isn't needed.
- **Save & Publish**, and view your report.



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This section describes the administration and security options in **System Setup**, as well as the options available through the administrative views (*Desktop View*, *Administrative Console*):

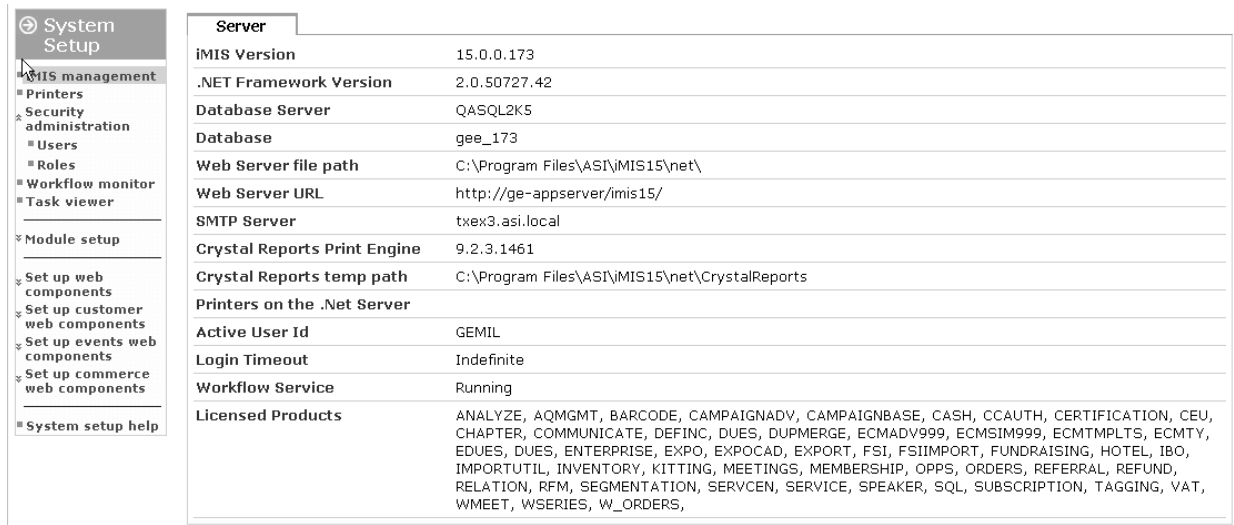
- The **File > System Setup** window
- The **Utilities** menu
- The Multi-instance Utility, available in the *iMIS \bin* folder

Note: To view and use this area, you must log on as a system administrator (the **SysAdmin** role).

System Setup tab

iMIS Management

The default window of *iMIS System Setup* displays system information.



The screenshot shows the 'System Setup' window with the 'Server' tab selected. The left sidebar contains a tree view with categories like 'iMIS management', 'Printers', 'Security administration', 'Users', 'Roles', 'Workflow monitor', 'Task viewer', 'Module setup', and 'System setup help'. The main area displays a table of system configuration details.

Server	
iMIS Version	15.0.0.173
.NET Framework Version	2.0.50727.42
Database Server	QASQL2K5
Database	gee_173
Web Server file path	C:\Program Files\ASI\iMIS15\net\
Web Server URL	http://ge-appserver/imis15/
SMTP Server	txex3.asi.local
Crystal Reports Print Engine	9.2.3.1461
Crystal Reports temp path	C:\Program Files\ASI\iMIS15\net\CrystalReports
Printers on the .Net Server	
Active User Id	GEMIL
Login Timeout	Indefinite
Workflow Service	Running
Licensed Products	ANALYZE, AQMGMT, BARCODE, CAMPAIGNADV, CAMPAIGNBASE, CASH, CCAUTH, CERTIFICATION, CEU, CHAPTER, COMMUNICATE, DEFINC, DUES, DUPMERGE, ECMADV999, ECMSIM999, ECMTMPLTS, ECMTY, EDUES, DUES, ENTERPRISE, EXPO, EXPOCAD, EXPORT, FSI, FSIIMPORT, FUNDRAISING, HOTEL, IBO, IMPORTUTIL, INVENTORY, KITTING, MEETINGS, MEMBERSHIP, OPPS, ORDERS, REFERRAL, REFUND, RELATION, RFM, SEGMENTATION, SERVCEN, SERVICE, SPEAKER, SQL, SUBSCRIPTION, TAGGING, VAT, WMEET, WSERIES, W_ORDERS,

Example of iMIS system information

Set up printers

You can configure printers for *iMIS* from **System Setup**.

Tips for configuring printers

- You must enter the printer server name and printer name (*for example*, \\PRNTRSRV\HP4650). You can copy this from the printer information and paste it in the printer field.
- *iMIS* does not perform any printer validation checking when you add a printer. Be sure that you enter the printer server and printer information correctly.
- You must have permissions on the printer server to cancel an *iMIS* print job.

Task Viewer

You can use *iMIS System Setup* to view, edit, delete, and add tasks.

Tips for managing tasks

- You can access the Task Viewer from your **Home** page or *iMIS System Setup*. To access tasks from your **Home** page, select **Home** and select **View tasks**.
- Any user can modify the status of any task at any time, even if the task has already been completed.
- By default, a task can only be seen by its creator, an administrator, or a user who has been assigned the task.
- By default, only tasks that are currently in progress display. You can view completed tasks if needed.

- When adding more than one task, you must save and close the window after adding each task.

Module Setup

You can set up Marketing and Process Manager from *iMIS* System Setup or in the features themselves. Setup tasks include configuring and administering security groups, as well as additional setup tasks for some features, such as setting options for Campaigns and creating types and action plans for Process Manager.

Note: The setup tasks for Marketing and Process Manager display in *iMIS* System Setup even if your system is not licensed for these features.

Security Administration

Security Administration provides options for administering user records and the roles you can associate with user records.

For more on how licensing relates to views of *iMIS*, see *Types of iMIS licenses and views* in the *Installation Guide*.

Note: To administer user records and roles, your **User Credentials** must include the **SysAdmin** role.

Creating *iMIS* user records

iMIS user records control what users can see and do in every view of *iMIS*. Each user record is linked to two others: a *contact record* (defined in **Customers**) and an ASP.NET *authentication record*.

- First, you create a contact record for a new user, with descriptive, address, and demographic information.

Caution! Never create contact records for Administrator or Manager: *iMIS* automates this for you.

- Next, you create a user record and link it to the new contact record, matching logon/password to that of the contact record under Name_Security.
- Lastly, creating the user record triggers *iMIS* to create the needed authentication record in the ASP.NET authentication store, to authenticate users when they log on to *iMIS*. (Because other ASP.NET applications share the authentication store, *iMIS* cannot *delete* authentication records.)

Troubleshooting tip: Remember that everything in *iMIS* that uses the keyword **logon** relates to the user records in the ASP.NET authentication store.

To create user records

You generally need to create user records only for **Full and Casual users** (see "Types of iMIS licenses and views").

Tip: To create multiple user records faster, use the **User Credentials** button in the **Manage Customers** window; this lets you create a new contact record and jump directly **User Credentials** without leaving **Customers**.

1. If you are creating a set of user records, back up your *iMIS* database.
2. Launch *iMIS* Desktop and log on as MANAGER.
3. From **Customers > Manage Customers**, define (or find) a contact record for the user.
When you click **Save**, the new contact record appears in the history area.
4. Click **User Credentials** to jump directly to **User Credentials** setup (**System Setup > Security Administration > Users**).

5. On the **Users** window, find the contact.
 - ☐ In the **View** drop-down list, select **Contacts**:
Select **Users** only to change an existing *user* record.
 - ☐ Enter search criteria and click **go**.
In the results list, the check in the **Public User**, **Casual User**, or **Full User** column marks which user class is currently assigned.
Upgrades from 10.6: Records are set to **Disabled** because you need to allocate your named licenses before enabling them.
 - ☐ Select the record from the results list, and click the **Select** icon.
6. If you are creating a new user record, add logon information.
 - ☐ In the **Logon** field, click the **Add** icon.
 - ☐ In the **Create User Logon** window, define a **Logon Name**, **Password** (minimum: 6 chars and one non-alpha), and **E-mail** address.
 - ☐ Click **Create User**.

An authentication record for this logon is created in the ASP.NET authentication store.
7. In the **User Class** field, choose the user class (**Public**, **Casual**, or **Full**).
(**Full** or **Casual**) *iMIS* opens the **User Access** area (for web permissions) and prompts you to save before continuing.

Note: Any **Full** user can see the **User Credentials** area if they have been granted Authorization level **4** or higher for **Sys Mgmt.**, and if they have been granted any relevant access keyword for **Name Internet Security Data** (*iMIS Customers* > **Set up module** > **General** > **Access Keys**). However, only **Full** users who are members of the **SysAdmin** role can see the **User Access** section.

8. Scroll to the bottom of the window and click **Save**.
 - ☐ *Success:* If the user class is *not* maxed out for named licenses, the user record is created and the **User Credentials** area expands.
 - ☐ *Failure* (error message): If the user class *is* maxed out, no user record is created. When you recreate a user record for this contact record (by picking a different class or increasing your license counts), be sure to click the **Link this contact...** icon in the **Logon** field and specify the logon that you created during the first attempt.
9. (**Full** or **Casual** only) Add role, group, module authorization, and access keywords as needed.
 - ☐ In the **User Information** area, add the user to a role or group.
 - ☐ In the **Staff Access** area, set authorizations, customer type restrictions, and any access keywords.
 - Set authorization levels for each listed feature. (See "[Authorization level privileges \(Desktop\)](#)")
 - (*optional*) In the **Specific Types** field, restrict the user's access by specifying a comma-delimited list of the only customer types that this user can edit in **Customers**. (See "Defining Customer Types" in *Customer Features*.)
 - (*optional*) Click ... next to the **Access Keywords** field and enter access keywords, if any. (See "*iMIS Desktop Access Keywords* (see "[Access Keywords in Customers](#)")" in *System Setup*.)
 - ☐ Click **Save**.

Note: How or whether user-specific authorization levels apply might differ between Web and Desktop features. For more, see [Security Administration](#).

10. Test the ability of this user to log on with the associated authentication record.

- ☐ Web: browse to iMIS (or iMISPublic) and log on.
- ☐ iMIS Desktop: choose **File > User Id** and log on.

User-level security: Roles and Groups

Together, security roles and security groups let you control access to the ASP.NET-based features of iMIS; in contrast, older features of iMIS are secured using *authorization levels* (see "[Authorization level privileges \(Desktop\)](#)"). Security role and group assignments are defined in *user records*.

- Security *roles* grant specific administrative privileges to user records. For example, one security role might let you use and edit an iMIS definition object in the Document System, while another role might let you use that object but not edit (or even see) its properties.
- Security *groups* control which iMIS features group members see and which capabilities within each feature they can use.

Tip: User-level security is separate from *object-level security* (see "Shared security sets, for object-level access"), which restricts objects (folders, queries, reports) in the Document System.

Roles: SysAdmin

The default **SysAdmin** role grants privileges much like those of the MANAGER user record. Only a Full user can be a **SysAdmin**. Each **SysAdmin** can:

- Edit user records, including logon names (unless that privilege is disabled in the **web.config** file for iMIS)
- Use **System Setup**
- Use **Tools** (*if licensed*)
- Administer **Issues** (*if licensed*)
 - ☐ **Start e-mail server**
 - ☐ **Set up module**

Groups

The following table describes the security groups that affects user privileges.

Group	Description	iMIS Feature
CampaignAdmin	Enables full-control access to the Campaign functionality and its objects	Marketing
CampaignMgr	Enables read/add/edit/delete access to the Campaign functionality, and read/edit access to its objects	Marketing
CampaignUser	Enables read-only access to the Campaign functionality and its objects	Marketing
Certification Admin	Enables full-control access to the Certification functionality and its objects	Certification
Certification Manager	Enables read/add/edit/delete access to the Certification functionality, and read/edit access to its objects	Certification
Certification User	Enables read-only access to the Certification functionality and its objects	Certification
EventUser	Controls security for IQA integration	Events

Group	Description	iMIS Feature
FRUser	Controls security for IQA integration	Fundraising
OpportunityAdmin	Enables full-control access to Process Manager and its objects	Process Manager
OpportunityCreator	In Process Manager, enables add privileges for projects, and read/edit/delete access to created projects, but read-only access to projects created by others	Process Manager
OpportunityMgr	Enables read/add/edit/delete access to Process Manager, and read/edit access to its objects	Process Manager
OpportunityOwners	Enables addition to a project's Owner or Contact group	Process Manager
OpportunityUser	Enables read-only access to Process Manager and its objects	Process Manager
OrderUser	Controls security for IQA integration	Orders
Reporting	Enables access to IQA query links	IQA
RFMAdmin	Enables full-control access to the RFM application and its objects	Marketing
RFMMgr	Enables read/add/edit/delete access to the RFM application, and read/edit access to its objects	Marketing
RFMUser	Enables read-only access to the RFM functionality and its objects	Marketing
SegAdmin	Enables full-control access to the Segmentation functionality and its objects	Marketing
SegMgr	Enables read/add/edit/delete access to the Segmentation functionality, and read/edit access to its objects	Marketing
SegUser	Enables read-only access to the Segmentation functionality and its objects	Marketing

Group membership controls web access

Group membership determines whether a user sees **Marketing** and/or Process Manager from a web client.

- To grant access to **Marketing**, place users in one of these groups:
 - ☐ **CampaignAdmin**
 - ☐ **CampaignMgr**
 - ☐ **CampaignUser**
 - ☐ **RFMAdmin**
 - ☐ **RFMMgr**
 - ☐ **RFMUser**
 - ☐ **SegAdmin**
 - ☐ **SegMgr**
 - ☐ **SegUser**
- To grant access to Process Manager, place users in one of these groups:
 - ☐ **OpportunityAdmin**
 - ☐ **OpportunityCreator**
 - ☐ **OpportunityMgr**

- OpportunityOwners
- OpportunityUser

Note: **Casual** licensing prevents access **Marketing** or Process Manager, regardless of group assignments.

Securing logons and authorization persistence

Following is information to help you control user logon behavior and troubleshoot logon issues.

Conflicts from shared Windows logins

iMIS employs the ASP.NET login controls and uses HTTP cookies for state information. If two different *iMIS* users share the same Microsoft Windows login on the same client system, *iMIS* features that use cookie data may appear to confuse one user with the other. To avoid this problem, always ensure that every *iMIS* user has a unique Windows login.

Authorization persistence: web clients

By default, web client users can make their authentication record authorization persistent. To disable this option, edit the **Web.config** file used for the *iMIS* application. *iMIS* Desktop users, by contrast, must always log on and be reauthorized each time.

Authorization changes: locating and disabling

By default, users are allowed to change their own logon name and password. To disable the option to change their logon, edit the **Web.config** file used for the *iMIS* application and change the **AllowUsernameChange** system parameter to **false**. The option to change their password cannot be disabled.

- *iMIS* Desktop users can change their own logon name and password through the **File > Change Password** option, which displays the **Enter new Logon or Password** window.
- **Full** and **Casual** users can change their own logon name and password through the **Contacts** tab.
- **Public** users can change their own logon name and password through the **My Account** tab in the Public view.
- **Full** users who belong to the SysAdmin role can change the logon name and password for other users through the **System Setup** feature of *iMIS* (From **System Setup**, select **Security administration > Users**).

About ODBC connections

The *iMIS* Desktop client uses information returned by an *iMIS* application server's ASP.NET authentication store to create an ODBC DSN for the database associated with that application server. So, *iMIS* Desktop users only need the URL of an application server with an instance of the *iMIS* application to ensure that they are using the correct *iMIS* database.

Removing user logon names

When you remove a logon under **User Credentials** by selecting the "-" button, then attempt to add the same login back using the "+" button, the contact gets two security records in *iMIS*. You can verify this problem by searching by username. When a contact has more than one record then they can not log on. If this happens, you must find the original username for the user and then select the play button for that user, then save the user record. This action deletes the records that need to be cleaned up and allows the user to logon again.

Users window

This window provides options for finding contacts or users, and creating and modifying *iMIS* user records.

Source (select a contact record)

Prompts you to select a contact, so that you can create or edit its user record.

System Setup > Security administration > Users

Source [Hide](#)

Select a Query Contacts ▼

iMIS ID Equals

Last Name Starts With

First Name Starts With


State Province Equals (Any)

Please enter your search criteria to view results

Once you select a contact record, which sections appear depends on whether you are editing its user record or creating it for the first time. Some sections are not available for certain User Classes, such as **Public User**.

User Credentials

Displays authentication record data from the ASP.NET authentication store. If the contact listed in the **Contact Information** area is not an *iMIS* user, the fields in the **User Credentials** area are empty.

System Setup > Security administration > Users	
Contact Information	
ID	10021
Full Name	Suzie Stephens
User Credentials	
Logon	<input type="text" value="SUZIE"/> 
Password	<input type="password"/> Confirm <input type="password"/>
Email	<input type="text"/>
Locked Out	This account is not locked out.
Last Logon On	5/17/2007 11:56:14 AM
Last Active On	5/17/2007 11:56:14 AM
User Class	<input checked="" type="radio"/> Public User <input type="radio"/> Casual User <input type="radio"/> Full User

- **Logon** - Displays this authentication record's logon name, or **No User Selected** when the authentication record is not linked to a user record.

- **Password/Confirm** - Input fields for changing an existing password.

Tip: By default, passwords must contain at least 6 characters. You can change the default password complexity requirements by editing the **Web.config** file for the **iMIS** application.

- **Email** - When you create a new authentication record, if the *iMIS* contact record includes an email address, *iMIS* populates the **Create User Logon** window with that address. However, the value that is displayed in this area of the **Users** window is always the value that is stored in the ASP.NET authentication store.

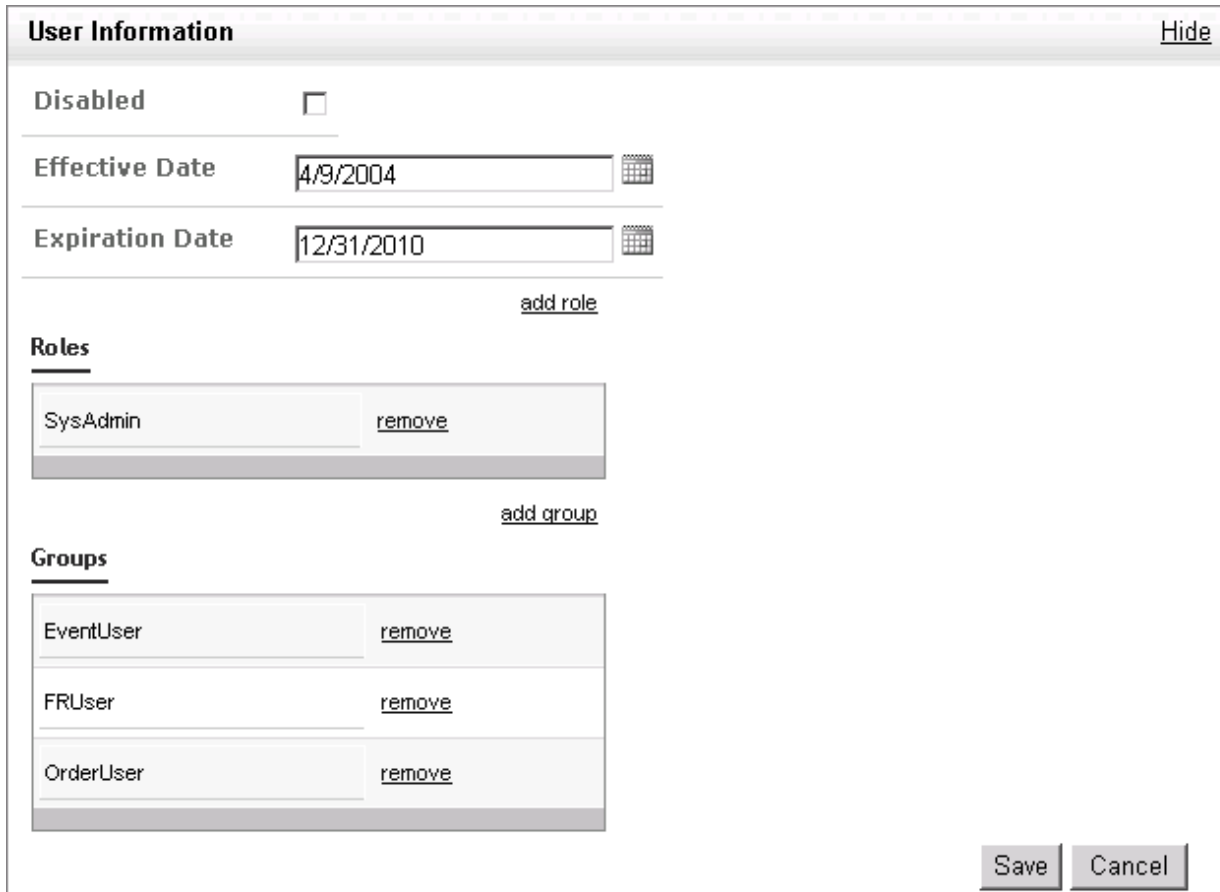
- **Locked Out** - Indicates whether this authentication record is temporarily blocked from gaining access to *iMIS*.

Tip: By default, *iMIS* locks out an authentication record after 5 failed attempts to log on. You can change the default by editing the **Web.config** file for the **iMIS** application.

- **User Class** - Specifies the *license* (see "Types of iMIS licenses and views") to apply to this user, which controls all subsequent authorization.

User Information

Sets membership dates and assigns ASP.NET *roles and groups* (see "[User-level security: Roles and Groups](#)") to the user record.



The 'User Information' dialog box is used for managing user settings. It includes a 'Disabled' checkbox, 'Effective Date' and 'Expiration Date' fields with calendar icons, and sections for 'Roles' and 'Groups'. The 'Roles' section shows 'SysAdmin' with a 'remove' button. The 'Groups' section lists 'EventUser', 'FRUser', and 'OrderUser', each with a 'remove' button. 'add role' and 'add group' links are also present. 'Save' and 'Cancel' buttons are at the bottom right.

User Information		Hide
Disabled	<input type="checkbox"/>	
Effective Date	4/9/2004	
Expiration Date	12/31/2010	
add role		
Roles		
SysAdmin	remove	
add group		
Groups		
EventUser	remove	
FRUser	remove	
OrderUser	remove	
Save Cancel		

Caution! Do not remove a user's **SysAdmin** role without also lowering the **Sys Mgmt level** (see "[About authorization levels \(Desktop\)](#)"): parts of the system that consider them an administrator will conflict with the parts that do not. Make sure they have both or neither.

Staff Access

Sets options for *iMIS* Desktop client users:

The screenshot shows a dialog box titled "Staff Access" with a "Hide" button in the top right corner. The dialog contains four sections: "Letter Closing" with a text input field and a vertical scroll bar; "Title, other" with a text input field and a vertical scroll bar; "Signature" with a text input field and a "Browse..." button; and "Check Tasks on Login" with an unchecked checkbox.

- **Letter Closing** - The text that closes letters sent by the user. *For example, Sincerely.*
- **Title, other** - The user's role, to use in letters. *For example, Certification Specialist.*
- **Signature** - An image of the user's signature, to use in letters. The image may be in one of the following formats:
 - Microsoft Bitmap (BMP)
 - Windows Meta File (WMF)
 - Graphics Interchange Format (GIF)
 - Portable Network Graphics (PNG)
 - JPEG Interchange Format (JPG)

iMIS converts the image into a BMP file before storing it in the database.

- **Check Tasks On Login** - Displays the user's **View activity tasks** window when they first log on. When cleared, displays the standard administrative view instead.

Sets *module authorization access* (see "Access control: Desktop-only features") for *iMIS* Desktop client users, which also affects some web client behaviors:

Module Authorization Levels			
*Customers	8 - System Setup	*AR/Cash	8 - System Setup
*Dues	8 - System Setup	*Sys Mgmt.	8 - System Setup
*Orders	8 - System Setup	*Fund Raising	8 - System Setup
*Certification	8 - System Setup	*Referral	8 - System Setup
*Events	8 - System Setup	*Exposition	8 - System Setup
		*Service Central	8 - System Setup
Specific Types		<input type="text"/>	
Access Keywords		select	

- **Specific Types** - Controls the customer types that the user can edit in **Customers**. The types listed in this field can be edited by this user. For example, if you only want the user to be able to edit records with customer type CM, add CM to the **Specific Types** field. The user will have read-only access to all other records. Separate customer types with spaces or commas.
- **Sys mgmt.** - Controls the availability of the **Utilities** menu on the *iMIS* Desktop menu bar, and the ability to define access keywords. The **Utilities** menu provides database maintenance and query commands. To enable *iMIS* Desktop *system management privileges* (see "[About authorization levels \(Desktop\)](#)"), specify level 8.
- **Access Keywords** - The *access keywords* (see "[Access Keywords in Customers](#)") that restrict the user from viewing secured windows, tabs, reports, or windows. Separate access keywords with spaces or commas.

Roles window

The **Roles** window provides options for creating new security roles.

- *iMIS* uses the **Everyone** and **SysAdmin** roles.

Caution! SysAdmin is linked to *Sys Mgmt. authorization* (see "[About authorization levels \(Desktop\)](#)"): do not remove one and not the other.

- Applications that integrate with *iMIS* may use additional roles.

System Setup > Security administration > Roles

Roles

Source Hide

Select a Query Default Filter

Add a Role

Name	Description	IsSystem	UpdatedOn
select CompanyAdministrator	Members of this role can administer the records of all contacts associated with the same company.	True	1/6/2009 7:14:56 AM
select Content Administrator	Member of a Master Admin Content Authority Group	True	1/6/2009 7:14:56 AM
select Everyone	Everyone	True	10/10/2003 10:02:53 AM
select Fundraising Users		False	2/11/2006 7:46:40 PM
select SysAdmin	Administrators	True	10/10/2003 10:02:53 AM

From **System Setup**, select **Security administration > Roles**

Enabling CAPTCHA security

iMIS uses CAPTCHAs for security when users create a new account and when users have forgotten their username or password. CAPTCHA is a program that can generate and grade tests that humans can pass but current computer programs cannot. For example, humans can read the distorted text below, but computers can't.

To enable CAPTCHA security

1. Create an account with [reCAPTCHA](#).
2. Follow reCAPTCHA's instructions to create your **Public** and **Private** keys.
3. On your production *iMIS* appserver host, open the **web.config** files for each *iMIS* application.
 - **iMIS** default location: C:\Program Files\ASI\iMIS\net
 - **iMISpublic** default location: C:\Program Files\ASI\iMIS\iMIS_public
4. If you have a license for Web Content Management and have the WCM application installed on one or more external web servers, open the **web.config** file for the WCM application on each external web server.
 - WCM default location: C:\Program Files\ASI\WCM\Net
5. In each **web.config** file, add the **Public** and **Private** keys generated by reCAPTCHA to the values of the following entries:


```
<add key="RecaptchaPublicKey" value=""/>
<add key="RecaptchaPrivateKey" value=""/>
```

6. Save the files.
CAPTCHA security is now enabled.

Access control: Staff views

Both **Full** and **Casual** users can use the staff views (*Web view, Staff site*).

Access control: Home page (staff views)

Task List Item	Required Conditions and Notes
All content	Full or Casual user

Access control: Directory

Task List Item	Required Conditions and Notes
All content	Full or Casual user + MEMBERSHIP license

Access control: Contacts

Your user class and your specific **Customers** authorization level affects the degree to which you can view or edit contact records:

- **Full** and **Casual** users can only view contact records - auth level 1
- **Full** and **Casual** users can create and edit contact records - auth level 3
- (*if enabled*) **Full** and **Casual** users can delete contact records - auth level 4
- A maximum of auth level 4 can be granted to **Casual** users.

Note: To enable the ability to delete contact records, use the Customer Setup - Basic Options window. (From **Customers**, select **Set up module > General** and click **Basic Options**.)

Your user class and your specific **Dues** authorization level affects the degree to which you can view or edit billing records:

- **Full** and **Casual** users can only view billing records - auth level 1
- **Full** users can create and edit billing records - auth level 3
- **Full** users can delete billing records - auth level 4
- A maximum of auth level 2 can be granted to **Casual** users.

Your user class and your specific **Orders** authorization level affects the degree to which you can view or edit orders:

- **Full** and **Casual** users can only view orders - auth level 1
- **Full** users can create and edit orders - auth level 3
- **Full** users can delete orders - auth level 4
- A maximum of auth level 2 can be granted to **Casual** users.

Your user class and your specific **Events** authorization level affects the degree to which you can view or edit event records:

- **Full** and **Casual** users can only view event records - auth level 1
- **Full** users can create and edit event records - auth level 3

- Full users can delete event records - auth level 4
- A maximum of auth level 2 can be granted to **Casual** users.

Task List Item	Required Conditions and Notes
Find contact	Full or Casual user + Customers auth level 1 + MEMBERSHIP license
Create account	Full or Casual user + Customers auth level 3 + MEMBERSHIP license
Contact management > Personal	<p>Full or Casual user + Customers auth level 1 + MEMBERSHIP license</p> <p>Read-only for all user classes unless:</p> <ul style="list-style-type: none"> ▪ The customer type of the contact record is not one of customer types listed in the Specific Types field of your user record (if any) ▪ You are viewing your own contact record <p>Name Status Edit <i>access keyword</i> (see "Access Keywords in Customers") might be required in your user record to specify a Member Type</p> <p>If your user record contains a list of Specific Types, you can choose only among those types when specifying a Member Type</p> <p>Name Address Edit <i>access keyword</i> (see "Access Keywords in Customers") might be required in your user record to specify E-mail, Work phone, Home Phone, Toll free phone, Fax, and Web site information</p>
Contact management > Address	<p>Full or Casual user + Customers auth level 3 + MEMBERSHIP license</p> <p>Read-only for all user classes unless at least one condition met from both of the following lists:</p> <ul style="list-style-type: none"> ▪ The customer type of the contact record is not one of customer types listed in the Specific Types field of your user record (if any) ▪ You are viewing your own contact record <p>AND</p> <ul style="list-style-type: none"> ▪ Name Address Edit <i>access keyword</i> (see "Access Keywords in Customers") might be required in your user record ▪ You are viewing your own contact record
Contact management > Logon & password	<p>Full or Casual user + Customers auth level 4 + MEMBERSHIP license</p> <p>Name Internet Security Data <i>access keyword</i> (see "Access Keywords in Customers") might be required in your user record</p> <p>Full users who belong to the SysAdmin role can always see this task list item</p>
Contact management > Orders	Full or Casual user + Customers auth level 1 + Orders auth level 1 + MEMBERSHIP and ORDER licenses
Contact management > Billing	Full or Casual user + Customers auth level 1 + Dues auth level 1 + MEMBERSHIP and DUES licenses
Contact management > Activities	<p>Full or Casual user + Customers auth level 1 + MEMBERSHIP license</p> <p>Read-only for all user classes regardless of auth level</p> <p>An activity type <i>access keyword</i> (see "Access Keywords in Customers") for each product type might be required in your user record</p>
Contact management > Call logs	<p>Full or Casual user + Customers auth level 1 + MEMBERSHIP license</p> <p>An activity type <i>access keyword</i> (see "Access Keywords in Customers") for the CALL product type might be required in your user record</p>
Contact management > Change logs	<p>Full or Casual user + Customers auth level 1 + MEMBERSHIP license</p> <p>Read-only for all user classes regardless of auth level</p>

Task List Item	Required Conditions and Notes
Contact management > Fundraising	Full or Casual user + Customers auth level 1 + Fund Raising auth level 1 + MEMBERSHIP and FUNDR licenses Read-only for all user classes regardless of auth level Fundraising History View <i>access keyword</i> (see " Access Keywords in Customers ") might be required in your user record
Contact management > User defined fields	Full or Casual user + Customers auth level 1 + MEMBERSHIP license
Register for event	Full or Casual user + Customers auth level 1 + Events auth level 1 + MEMBERSHIP and MEET licenses The Register button is available on an event's detail page only if the event's status is Active and one of the following conditions are met: <ul style="list-style-type: none"> You are the currently selected Contact You have the same Company (Organization) name as the selected Contact You are a Full user
Make a purchase	Full or Casual user + Customers auth level 1 + Orders auth level 1 + MEMBERSHIP and ORDER licenses Read-only for Casual users regardless of Customers auth level
Make a purchase > Cart	Full user + Customers auth level 1 + Orders auth level 1 + MEMBERSHIP and ORDER licenses

Access control: Events (staff views)

Your user class and your specific **Events** authorization level affects the degree to which you can view or edit event records:

- **Full** and **Casual** users can only view event records - auth level 1
- **Full** users can create and edit event records - auth level 3
- **Full** users can delete event records - auth level 4
- A maximum of auth level 2 can be granted to **Casual** users.

Task List Item	Required Conditions and Notes
All content	Full or Casual user + Events auth level 1 + MEET license The Register button is available on an event's detail page only if the event's status is Active and one of the following conditions are met: <ul style="list-style-type: none"> You are the currently selected Contact You have the same Company (Organization) name as the selected Contact You are a Full user

Access control: Donations

Your user class and your specific **Fund Raising** authorization level affects the degree to which you can view or edit fundraising records:

- **Full** users can create and edit fundraising records - auth level 3
- **Full** users can delete fundraising records - auth level 4
- A maximum of auth level 2 can be granted to **Casual** users, which effectively forbids **Casual** users from accessing **Donations**

Task List Item	Required Conditions and Notes
All content	Full user + Fund Raising auth level 3 + FUNDR license

Access control: Store

Your user class and your specific **Orders** authorization level affects the degree to which you can view or edit orders:

- Full and **Casual** users can only view orders - auth level 1
- Full users can create and edit orders - auth level 3
- Full users can delete orders - auth level 4
- A maximum of auth level 2 can be granted to **Casual** users.

Task List Item	Required Conditions and Notes
Browse categories	Full or Casual user + Orders auth level 1 + ORDER license
Search	Full or Casual user + Orders auth level 1 + ORDER license
Cart	Full user + Orders auth level 1 + ORDER or MEET or DUES license

Access control: Marketing

Task List Item	Required Conditions and Notes
Campaign management	Full user + Campaign... group + CAMPAIGN license
Campaign definition	Full user + Campaign... group + CAMPAIGN license
Inserts	Full user + Campaign... group + CAMPAIGN license
Record responses	Full user + Campaign... group + CAMPAIGN license
Generate reports (campaigns)	Full user + Campaign... group + CAMPAIGN license
View output	Full user + Campaign... group + CAMPAIGN license
Set up campaign module	Full user + CampaignAdmin group + CAMPAIGN license
Segmentation	Full user + Seg... group + SEGMENTATION license
Generate reports (segmentation)	Full user + Seg... group + SEGMENTATION license
Set up segmentation module	Full user + SegAdmin group + SEGMENTATION license
RFM Analytics	Full user + RFM... group + RFM license
Generate reports (RFM)	Full user + RFM... group + RFM license
Set up RFM module	Full user + RFMAdmin group + RFM license

Access control: Process Mgr

Task List Item	Required Conditions and Notes
Process manager	Full user + Opportunity... group + OPPS license
Tasks	Full user + Opportunity... group + OPPS license
Generate reports	Full user + Opportunity... group + OPPS license
Set up module	Full user + OpportunityAdmin group + OPPS license

Access control: System Setup

Task List Item	Required Conditions and Notes
iMIS management	Full user + SysAdmin role
Printers	Full user + SysAdmin role
Security Administration	Full user + SysAdmin role
Workflow monitor	Full user + SysAdmin role
Task viewer	Full user + SysAdmin role
Module setup > Campaign management	Full user + SysAdmin role + CAMPAIGN license
Module setup > Segmentation management	Full user + SysAdmin role + SEGMENTATION license
Module setup > RFM Analytics	Full user + SysAdmin role + RFM license
Module setup > Process manager	Full user + SysAdmin role + OPPS license
Set up web components	Full user + SysAdmin role
Set up customer web components	Full user + SysAdmin role + MEMBERSHIP license
Set up events web components	Full user + SysAdmin role + MEET license
Set up commerce web components	Full user + SysAdmin role + MEET or ORDERS or DUES license
Set up commerce web components > Billing configuration	Full user + SysAdmin role + DUES license

Access control: Tools

Task List Item	Required Conditions and Notes
Tools console	Full user + SysAdmin role
Document system	Full user + SysAdmin role
Intelligent query architect	Full user + SysAdmin role
User defined tables	Full user + SysAdmin role
Business object designer	Full user + SysAdmin role
Site Designer	Full user + SysAdmin role
All other content	Beta customers only

Access control: Content Management

Task List Item	Required Conditions and Notes
Content Management console	Full user + (SysAdmin role -OR- member of a content authority group) + WCM license
Site designer	Full user + (SysAdmin role -OR- member of a content authority group) + WCM license
Content designer	Full user + (SysAdmin role -OR- member of a content authority group) + WCM license
Tagging	Full user + (SysAdmin role -OR- member of a content authority group) + WCM and TAGGING license
Reports	Full user + (SysAdmin role) + WCM license
Maintenance	Full user + (SysAdmin role) + WCM license
All other content	Beta customers only

Access control: Administrative views

Both **Full** and **Casual** users can use administrative views (*Desktop view*, *Administrative Console*). Exactly what each user can subsequently see and do there can vary greatly depending on a combination of the following factors:

- The product license keys registered in the *iMIS* database
- The user class, roles, groups, authorization levels, and access keywords defined in each person's user record

Special restrictions for Casual users

Each *iMIS* feature has a maximum authorization level that may be granted to a **Casual** user:

- For **Customers**, a maximum authorization level of **4** enables **Casual** users to insert/edit/delete committee participants, tasks, and activity records.
- For **AR/Cash**, the maximum authorization level of **0** forbids all access to **Casual** users.
- For all other features of *iMIS*, the maximum authorization level of **2** enables **Casual** users to access reports but not financial transactions.
- You cannot assign the **SysAdmin** role to a **Casual** user record.

An authorization level of zero is the default for every **Casual** user that you create.

Existing **Casual** users that might have been granted higher authorization levels in early releases of *iMIS* 15 that allowed higher authorization levels will have their authorization levels adjusted down to the new maximum defaults during an upgrade to this release, but those pre-existing **Casual** users that had authorization levels lower than these maximum levels will remain unchanged.

Conditions required to expose each major feature and its task list items

This list summarizes the conditions needed to display each major *iMIS* feature and its task list items to a specific user; the details are described in *About authorization levels* (see "[Authorization level privileges \(Desktop\)](#)"). Access keywords also play a large role in what a user can see and do in *iMIS*: see "[Access Keywords in Customers](#)".

Note: At authorization levels 1 through 3, both **Full** and **Casual** users have restricted ability to modify information in most *iMIS* features.

Authorization level privileges (Desktop)

Authorization levels let you precisely control the *iMIS* Desktop privileges of individual users. A standard type of privilege (such as *Run reports*) is associated with each level, but specific windows and fields also become available at certain levels. Note that Casual records are limited: you cannot assign them authorization level 8 or the SysAdmin role.

All authorization level privileges are additive. For example, authorization level 3 automatically gets all of the privileges available at levels 0, 1, and 2.

Note: Access Keywords (see "[Access Keywords in Customers](#)") defined in various areas of *iMIS* constrain these authorizations. For example, one user's authorization level enables her to edit a particular window, but one sensitive field on that window might be read-only or even hidden from her unless her record also contains the specific access keyword that exposes it.

These are the *general* privileges associated with each authorization level:

Level	Common privilege type
0	No access

Level	Common privilege type
1	View information
2	Run reports
3	Create and edit records
4	Delete records
5	Maintain tables
6	Change reports
8	Configure features - SysAdmin (see " About authorization levels (Desktop) ")

About authorization levels (Desktop)

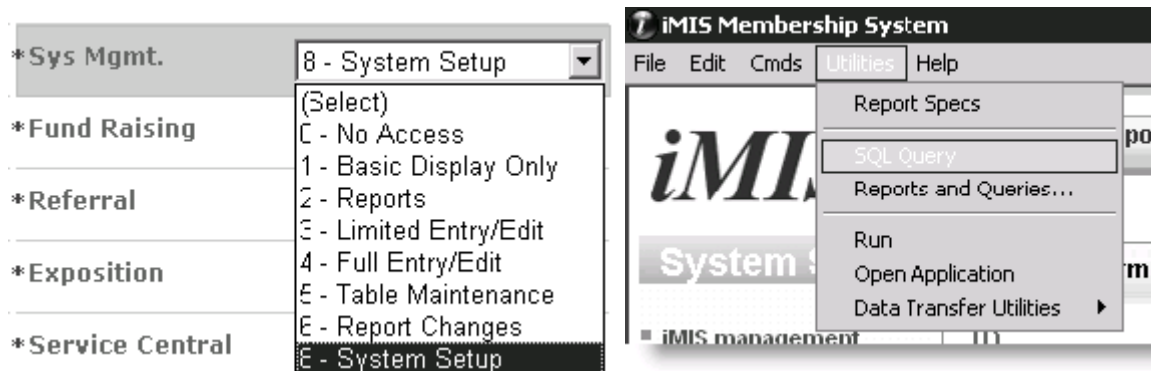
The **Sys Mgmt.** authorization level grants system administration on *iMIS* Desktop, as the **SysAdmin** role (see "[User-level security: Roles and Groups](#)") does across the other views. In fact, they are intrinsically paired: If you give a user Level 8 authorization for **Sys Mgmt.**, they *automatically* join the **SysAdmin** role; if you remove that Level 8, they *automatically* drop the **SysAdmin** role.

Caution! Do not remove a user's **SysAdmin** role without also lowering the **Sys Mgmt.** level: parts of the system that consider them an administrator will conflict with the parts that do not. Make sure they have both or neither.

(Upgrades from 10.6) All users who had authorization level 8 in **Sys Mgmt.** are granted the **SysAdmin** role.

How Sys Mgmt. levels affect *iMIS* Desktop access

The **Sys Mgmt.** authorization level controls what appears on *iMIS* Desktop menus:



The **Sys Mgmt.** authorization controls menu access

These are the menu bar privileges associated with each level:

Level	Effect on <i>iMIS</i> Desktop menus
0	No <i>iMIS</i> features appear
1	Licensed features of <i>iMIS</i> appear File > System Setup appears (Full users only)
2	No changes
3	No changes
4	No changes
5	On the File > System Setup window, Organization Names appears (Full users only)
6	No changes

Level	Effect on <i>iMIS</i> Desktop menus
8	Utilities appears (Full users only)

Casual access in iMIS Desktop and staff views

These are the areas across *iMIS* available for use by Casual users. See the Access Control topic for each *iMIS* Desktop area for complete details. The greatest possible access a Casual user can hold is authorization level **2** for all modules (except **AR/Cash**), level **3** for **Fundraising**, and level **4** for **Customer**.

Note: Assume authorization level [1] except where noted.

Casual Web	Casual Desktop
Contacts and Committees Find contact or committee Name maintenance [3] Address maintenance [3] Call Log activity creation [3] View activities User-defined maintenance User Logon / Password maintenance [4] View Change Log	Customers (see " Access control: Customers ") Find and view contact records Create and edit contact records [3] Delete contact records [4, if enabled] Manage committees Manage chapter rosters View activity tasks Find and print duplicates [4] Run reports, including Word merge [2] Import activities (requires [4])
Events View events for any contact Register any contact with the same Company ID	Events (see " Access control: Events (Desktop) ") Find and view registrations Run reports [2] Exhibition (see " Access control: Exhibition ") View event records Calculate years exhibited Run reports [2]
Orders View orders for any contact	Orders (see " Access control: Orders ") Find and view orders Set up warehouses Run reports [2]
Fundraising View donation history for any contact Enter gifts through Rapid Gift Entry	Fundraising (see " Access control: Fundraising ") Find and view gifts Find and view payments Find and view adjustments Find and view requests Run reports [2] Run executive reports [2]
Billing View or pay billing for self	Billing (see " Access control: Billing ") Find and view payments Process accrual dues Run reports [2]

Casual Web	Casual Desktop
	AR/Cash (see " Access control: AR/Cash ") none Certification (see " Access control: Certification ") Run reports [2] Service Central (see " Access control: Service Central ") View customer requests View payments [2] View billing records View orders View fundraising records View event records Exposition (see " Access control: Exposition ") View exposition records Run reports [2] Subscriptions (see " Access control: Subscriptions ") All content Referrals (see " Access control: Referrals ") View referrals Run reports [2] Leg. Tracking (see " Access control: Leg. Tracking ") All content Issues (see " Access control: Issues ") View and enter issues Run reports [2] Xtender (see " Access control: Xtender ") All content

Access control: Home page (Desktop)

Task List Item	Required Conditions and Notes
Welcome	Full or Casual user Default view if Check Tasks on Login is <i>not</i> selected in your user record
View activity tasks	Full or Casual user Default view if Check Tasks on Login is selected in your user record
Generate reports	Full or Casual user
View tasks	Full or Casual user
IQA > Contacts	Full user + Customers auth level 1 + Reporting group + MEMBERSHIP license
IQA > Prospects	Full user + Customers auth level 1 + Reporting group + MEMBERSHIP and AQMGMT license
IQA > Orders	Full user + Orders auth level 1 + Reporting group + ORDER license
IQA > Events	Full user + Events auth level 1 + Reporting group + MEET license
IQA > Fundraising	Full user + Fund Raising auth level 1 + Reporting group + FUNDR license

Access control: Customers

User class combined with licensing and the **Customers** authorization level determines what users can see and do in **Customers**. Casual users have extended capabilities in **Customers**, so the highest authority level they can have here is 4.

Note: The **Specific Types** field in the Staff Access area of the Users window affects what can be seen and done in the **Customers** feature, by limiting which customer types the user can edit.

What each user type can do

- **Full** and **Casual** users can find and view contact records - auth level 1

Note: Level 1 users select **Manage customers** to find and view those records.

- **Full** and **Casual** users can manage committees and chapter rosters - auth level 1
- **Full** and **Casual** users can run reports - auth level 2
- **Full** and **Casual** users can create and edit contact records - auth level 3
- **Full** and **Casual** users can delete contact records - auth level 4

Note: To disable contact record deletion, go to **Set up module > General, Basic Options**.

- **Full** and **Casual** users can find and print duplicate records - auth level 4
- **Full** and **Casual** users can import activities (requires keyword) - auth level 4
- **Full** users can merge duplicate records - auth level 8

What navigation items appear

Task list item	Required conditions and notes
Manage customers	Full or Casual user + Customers auth level 1 + MEMBERSHIP license
Manage committees	Full or Casual user + Customers auth level 1 + MEMBERSHIP license
Manage chapter rosters	Full or Casual user + Customers auth level 1 + MEMBERSHIP and CHAPTER license
View activity tasks	Full or Casual user + Customers auth level 1 + MEMBERSHIP license
Manage Accumail	Full user + Customers auth level 8 + MEMBERSHIP and ACCU license
Manage QAS	Full user + Customers auth level 8 + MEMBERSHIP and QAS license
Manage duplicates	Full or Casual user + Customers auth level 4 + MEMBERSHIP and DMM license
Generate reports	Full or Casual user + Customers auth level 2 + MEMBERSHIP license
Import activities	Full or Casual user + Customers auth level 4 + MEMBERSHIP license An access keyword (see " Access Keywords in Customers ") might be required in your user record
IQA > Contacts	Full user + Customers auth level 1 + Reporting group + MEMBERSHIP license
IQA > Prospects	Full user + Customers auth level 1 + Reporting group + MEMBERSHIP and AQMGMT license
Set up tables	Full user + Customers auth level 5 + MEMBERSHIP license
Set up tables > Relationship types	Full user + Customers auth level 5 + MEMBERSHIP and RELATION license
Set up module	Full user + Customers auth level 8 + MEMBERSHIP license
Set up fundraising	Full user + Customers auth level 5 + MEMBERSHIP and FUNDR license

Task list item	Required conditions and notes
Set up product label preferences	Full user + Customers auth level 5 + MEMBERSHIP license Use Product Label Preferences must be selected in the Customer Setup - Address and Notes window

Access control: Events (Desktop)

User class combined with licensing and the **Events** authorization level determines what users can see and do within **Events**. The highest authority level a Casual user can have here is 2.

What each user type can do

- Full and **Casual** users can find and view event records - auth level 1

Note: Level 1 users select **Register a customer** to find and view those records.

- Full and **Casual** users can run reports - auth level 2
- Full users can create and edit event records - auth level 3
- Full users can delete event records - auth level 4

What navigation items appear

Task List Item	Required Conditions and Notes
Register a customer	Full or Casual user + Events auth level 1 + MEET license
Define an event	Full user + Events auth level 5 + MEET license
Generate reports	Full or Casual user + Events auth level 2 + MEET license
IQA	Full user + Events auth level 1 + Reporting group + MEET license
Set up tables	Full user + Events auth level 5 + MEET license
Set up module	Full user + Events auth level 8 + MEET license

Access control: Billing

User class combined with licensing and the **Dues** authorization level determines what users can see and do within **Billing**. The highest authority level a Casual user can have here is 2.

What each user type can do

- Full and **Casual** users can find and view billing records - auth level 1

Note: Level 1 users select **Enter and edit payments** to find and view those records.

- Full and **Casual** users process accrual dues - auth level 1
- Full and **Casual** users can run reports - auth level 2
- Full users can create and edit billing records - auth level 3
- Full users can delete billing records - auth level 4

What navigation items appear

Task List Item	Required Conditions and Notes
Enter and edit payments	Full or Casual user + Dues auth level 1 + DUES license
Process billing	Full user + Dues auth level 4 + DUES license
Process accrual dues	Full or Casual user + Dues auth level 1 + DUES license + Accrual setup
Generate reports	Full or Casual user + Dues auth level 2 + DUES license

Task List Item	Required Conditions and Notes
Manage expired members	Full user + Dues auth level 8 + DUES license
Set up module	Full user + Dues auth level 5 + DUES license

Access control: Fundraising

User class combined with licensing and the **Fundraising** authorization level determines what users can see and do within **Fundraising**. The highest authority level a Casual user can have here is 2.

What each user type can do

- Full and Casual users can find and view gifts, payments, adjustments, and requests - auth level 1

Note: Level 1 users select **Enter and edit gifts**, **Process payments**, **Enter and edit adjustments**, and **Manage requests** to find and view those records.

- Full and Casual users can run reports and executive reports - auth level 2
- Full users can create and edit fundraising records - auth level 3
- Full users can delete fundraising records - auth level 4

What navigation items each user type can see

Task List Item	Required Conditions and Notes
Enter and edit gifts	Full or Casual user + Fundraising auth level 1 + FUNDR license
Rapid gift entry	Full user + Fundraising auth level 3 + FUNDR license Available only if Fundraising is configured to use rapid gift entry
Process payments	Full or Casual user + Fundraising auth level 1 + FUNDR license
Enter and edit adjustments	Full or Casual user + Fundraising auth level 1 + FUNDR license
Process premiums	Full user + Fundraising auth level 4 + FUNDR and ORDER license
Set up appeal expenses	Full or Casual user + Fundraising auth level 1 + FUNDR license
Manage requests	Full or Casual user + Fundraising auth level 1 + FUNDR license
Generate reports	Full or Casual user + Fundraising auth level 2 + FUNDR license
Generate executive reports	Full or Casual user + Fundraising auth level 2 + FUNDR license
IQA	Full user + Fundraising auth level 1 + Reporting group + FUNDR license
Set up tables	Full user + Fundraising auth level 5 + FUNDR license
Set up module	Full user + Fundraising auth level 5 + FUNDR license

Access control: AR/Cash

User class combined with licensing and the **AR/Cash** authorization level determines what users can see and do within **AR/Cash**. The highest authority level a Casual user can have here is 0 (none).

What each user type can do

- Full users can only view transactions - auth level 1
- Full users can create transactions, and can edit or delete the transactions that they have created, but not transactions created by other *iMIS* users - auth level 3
- Full users can edit or delete any transaction - auth level 4
- Full users can enter orders - **AR/Cash** auth level 1 + **Orders** auth level 3

What navigation items each user type can see

Task List Item	Required Conditions and Notes
Enter and edit transactions	Full user + AR/Cash auth level 1 + CASH license
Enter and edit transactions > Import transactions	Full user + AR/Cash auth level 1 + CASH and FSIIMPORT license
Manage batches	Full user + AR/Cash auth level 3 + CASH license Batch management has many complex restrictions; see below.
Credit card reporting	Full user + AR/Cash auth level 8 + CASH and CCAUTH license
Generate reports	Full user + AR/Cash auth level 2 + CASH license
Process month-end procedures	Full user + AR/Cash auth level 4 + CASH license
Print Transaction Journal	Full user + AR/Cash auth level 2 + CASH license
Set up tables	Full user + AR/Cash auth level 5 + CASH license
Set up module	Full user + AR/Cash auth level 8 + CASH license
Enter and edit Orders	Full user + AR/Cash auth level 1 + CASH license and <i>not licensed</i> for ORDER
Generate order reports	Full user + AR/Cash auth level 1 + CASH license and <i>not licensed</i> for ORDER

How authorization affects batches

The **AR/Cash** authorization level determines your privileges in working with batches that appear across *iMIS*.

Note: The following descriptions concerning batch management features assume that **AR/Cash** batch control is enabled. See "*AR/Cash Batch Control window*".

Note: For authorization levels 3 through 7, if batch management is configured to hide batches created by other users, the only batches that you can view and work with in the **Manage Batches** and **Open Batches** windows are your own.

■ **AR/Cash** auth level 0

If batch management is configured to hide batches created by other users, no batches are visible in the **Open Batches** window that appears in other features of *iMIS*. Otherwise, the following batch management privileges are globally available in the **Open Batches** window:

- ☐ View, select, and print batches that are open or ready.
- ☐ Filter batches by date.
- ☐ Switch to a different batch, if the batch is open.

■ **AR/Cash** auth level 2

If batch management is configured to hide batches created by other users, no batches are visible in the **Open Batches** window. Otherwise, you can view, select, and print closed batches in the **Open Batches** window.

■ **AR/Cash** auth level 3

Manage batches becomes available in the task list for **AR/Cash**, and you can perform the following batch management tasks from the **Manage batches** and **Open Batches** windows:

- ☐ You can create batches and change only your open/ready batches as follows:
 - Edit the **Descr** field.
 - Change the state from open to ready, or from ready to open, with **Set Ready/Open**.

- Additionally, if a batch is yours, is open/ready, and contains no transactions, you can:
 - Delete the batch.
 - Select a new value from the **Cash Table** list (which updates the **Cash Account** field).
 - Edit the following fields: **Date**, **Control Count**, **Control Amount**

■ **AR/Cash** auth level 4

You can perform the following batch management tasks from the **Manage batches** and **Open Batches** windows:

- You can change any open/ready batch as follows:
 - Post the batch.
 - Edit the following fields: **Date**, **Descr**, **Control Count**, **Control Amount**
 - Change the state from open to ready, or from ready to open, with **Set Ready/Open**.
- Additionally, if a batch is open/ready and contains no transactions, you can:
 - Delete the batch.
 - Select a new value from the **Cash Table** list (which updates the **Cash Account** field).

■ **AR/Cash** auth level 8

You can perform the following batch management tasks from the **Manage batches** and **Open Batches** windows:

- View, select, and print any batch, even when batch management is configured to hide batches created by other users.
- Change the status of any batch from open or ready to posted/closed with the **Posted/Closed** option.
- Change the status of any batch from posted/closed to open or ready with the **Open** or **Ready** options.
- Delete any closed batch that contains transactions.

Note: (if General Ledger is enabled) Before deleting a batch that contains transactions, you must export it to the General Ledger.

Access control: Orders

User class combined with licensing and the **Orders** authorization level determines what users can see and do within **Orders**. The highest authority level a Casual user can have here is 2.

What each user type can do

- **Full** and **Casual** users can find and view orders - auth level 1

Note: Level 1 users select **Enter and edit orders** to find and view those records.

- **Full** and **Casual** users set up warehouses - auth level 1
- **Full** and **Casual** users can run reports - auth level 2
- **Full** users can create and edit orders - auth level 3
- **Full** users can delete orders - auth level 4

What navigation items appear

Task List Item	Required Conditions and Notes
Enter and edit orders	Full or Casual user + Orders auth level 1 + ORDER license
Process orders	Full user + Orders auth level 4 + ORDER license
Manage inventory	Full user + Orders auth level 4 + ORDER license
Generate reports	Full or Casual user + Orders auth level 2 + ORDER license
IQA	Full user + Orders auth level 1 + Reporting group + ORDER license
Set up tables	Full user + Orders auth level 5 + ORDER license
Set up warehouses	Full or Casual user + Orders auth level 1 + ORDER license + set up for multiple warehouses
Set up module	Full user + Orders auth level 8 + ORDER license

Access control: Certification

User class combined with licensing and the **Certification** authorization level determines what users can see and do within **Certification**. The highest authority level a Casual user can have here is 2.

What each user type can do

- Full and Casual users can run reports - auth level 2
- Full users can create and edit certification records - auth level 3
- Full users can delete certification records - auth level 4

What navigation items appear

Task List Item	Required Conditions and Notes
Register a student	Full user + Certification auth level 3 + CERT license
Set up programs	Full user + Certification auth level 4 + CERT license
Set up Components	Full user + Certification auth level 3 + CERT license
Generate reports	Full or Casual user + Certification auth level 2 + CERT license
Set up tables	Full user + Certification auth level 5 + CERT license
Set up module	Full user + Certification auth level 8 + CERT license

Access control: Service Central

User class combined with licensing and specific authorization level determines what users can see and do within **Service Central**. The highest authority level a Casual user can have here is 2, but they are still forbidden from accessing AR/Cash transactions in **Service Central**.

What each user type can do

Service Central:

- Full and Casual users can find and view customer requests - auth level 1
- Full and Casual users can find and view payments - auth level 2
- Full users can create and edit customer requests and payments - auth level 3
- Full users can delete customer requests and payments - auth level 4

Dues:

- Full and Casual users can find and view billing records - auth level 1
- Full users can create and edit billing records - auth level 3

- Full users can delete billing records - auth level 4

AR/Cash:

- Full users can find and view transactions - auth level 1
- Full users can create transactions, and can edit or delete the transactions that they have created, but not transactions created by other *iMIS* users - auth level 3
- Full users can edit or delete any transaction - auth level 4

Orders:

- Full and **Casual** users can find and view orders - auth level 1
- Full users can create and edit orders - auth level 3
- Full users can delete orders - auth level 4

Fundraising:

- Full and **Casual** users can find and view fundraising records - auth level 1
- Full users can create and edit fundraising records - auth level 3
- Full users can delete fundraising records - auth level 4

Events:

- Full and **Casual** users can find and view event records - auth level 1
- Full users can create and edit event records - auth level 3
- Full users can delete event records - auth level 4

What navigation items appear

Task List Item	Required Conditions and Notes
Process customer requests	Full or Casual user + Service Central auth level 1 + SERVCEN license
Process billing	Full or Casual user + Service Central auth level 1 + Dues auth level 1 + SERVCEN and DUES license
Register a customer	Full or Casual user + Service Central auth level 1 + Events auth level 1 + SERVCEN and MEET license
Enter and edit gifts	Full or Casual user + Service Central auth level 1 + Fund Raising auth level 1 + SERVCEN and FUNDR license
Process sales transactions	Full user + Service Central auth level 1 + AR/Cash auth level 1 + SERVCEN and CASH license
Process orders	Full or Casual user + Service Central auth level 1 + Orders auth level 1 + SERVCEN and ORDER license
Enter and edit payments	Full or Casual user + Service Central auth level 2 + SERVCEN license
Generate reports	Full or Casual user + Service Central auth level 2 + SERVCEN license

Access control: Exhibition

User class combined with licensing and the **Events** authorization level determines what users can see and do within **Exhibition**. The highest authority level a Casual user can have here is 2.

What each user type can do

- Full and **Casual** users can only view event records - auth level 1

Note: Level 1 users select **Process orders** to find and view those records.

- **Full** and **Casual** users can calculate years exhibited - auth level 1
- **Full** and **Casual** users can run reports - auth level 2
- **Full** users can create and edit event records - auth level 3
- **Full** users can delete event records - auth level 4

What navigation items appear

Task List Item	Required Conditions and Notes
Process orders	Full or Casual user + Events auth level 1 + EXHIBITION license
Manage prospect list	Full user + Events auth level 4 + EXHIBITION license
Generate reports	Full or Casual user + Events auth level 2 + EXHIBITION license
Calculate years exhibited	Full or Casual user + Events auth level 1 + EXHIBITION license

Access control: Exposition

User class combined with licensing and the **Exposition** authorization level determines what users can see and do within **Exposition**. The highest authority level a Casual user can have here is 2.

What each user type can do

- **Full** and **Casual** users can find and view exposition records - auth level 1

Note: Level 1 users select **Process booth orders** to find and view those records.

- **Full** and **Casual** users can run reports - auth level 2
- **Full** users can create and edit exposition records - auth level 3
- **Full** users can delete exposition records - auth level 4

What navigation items appear

Task List Item	Required Conditions and Notes
Process booth orders	Full or Casual user + Exposition auth level 1 + EXPO license
Set up an exposition	Full user + Exposition auth level 5 + EXPO license
Manage prospect lists	Full user + Exposition auth level 4 + EXPO license
View exhibitor information	Full user + Exposition auth level 4 + EXPO license
Manage wait lists	Full user + Exposition auth level 4 + EXPO license
Manage booth preferences	Full user + Exposition auth level 4 + EXPO license
Process EXPOCAD	Full user + Exposition auth level 4 + EXPO and EXPOCAD license
Generate reports	Full or Casual user + Exposition auth level 2 + EXPO license
Set up tables	Full user + Exposition auth level 5 + EXPO license
Set up module	Full user + Exposition auth level 8 + EXPO license

Access control: Subscriptions

Task List Item	Required Conditions and Notes
All content	Full or Casual user + SUBSC license

Access control: Referrals

User class combined with licensing and the **Referral** authorization level determines what users can see and do within **Referrals**. The highest authority level a Casual user can have here is 2.

What each user type can do

- **Full** and **Casual** users can find and view referrals - auth level 1

Note: Level 1 users select **Manage referrals** to find and view those records.

- **Full** and **Casual** users can run reports - auth level 2
- **Full** users can create and edit referrals - auth level 3
- **Full** users can delete referrals - auth level 4

What navigation items appear

Task List Item	Required Conditions and Notes
Manage referrals	Full or Casual user + Referral auth level 1 + REFERRAL license
Generate reports	Full or Casual user + Referral auth level 2 + REFERRAL license
Set up module	Full user + Referral auth level 8 + REFERRAL license
Create referral orders	Full user + Referral auth level 5 + REFERRAL license
Delete expired...	Full user + Referral auth level 5 + REFERRAL license
Rebuild search indexes	Full user + Referral auth level 5 + REFERRAL license

Access control: Leg. Tracking

Task List Item	Required Conditions and Notes
All content	Full or Casual user + LEGTRACK license

Access control: Issues

User class combined with licensing determines what users can see and do within **Issues**.

Note: No specific authorization codes apply to this module.

What each user type can do

- **Full** and **Casual** users can view and enter issues
- **Full** and **Casual** users can run reports
- **Sysadmin** roles can start the email server and set up the module

What navigation items appear

Task List Item	Required Conditions and Notes
View and enter issues	Full or Casual user + SERVICE license
Generate reports	Full or Casual user + SERVICE license
Start e-mail server	Full user + SysAdmin role + SERVICE license
Set up module	Full user + SysAdmin role + SERVICE license

Access control: Xtender

Task List Item	Required Conditions and Notes
All content	Full or Casual user + XTEND license

Access Keywords in Customers

Many organizations want to limit the information their users can access. **Customers** allows you to define and establish parameters that limit the entering, editing, and viewing of confidential information to authorized users only.

User access and authorization are established using authorization levels, security models, and access keywords. Authorization levels provide general, module-wide access controls. Access keywords provide additional levels of security within modules and allow you either to hide information completely or to make information read-only, so that only authorized users are allowed to change information.

Creating Access Keywords

You implement access keyword security in three stages:

1. Create and populate the **ACCESS_KEYWORDS** general lookup/validation table.
2. Assign the access keywords to the customer information areas you wish to secure. The customer information areas to which access keywords can be assigned include:
 - ☐ Custom windows
 - ☐ Reports
 - ☐ Activity records
 - ☐ **Financial** tab within Customers
 - ☐ **Fundraising** tab within Customers
 - ☐ Customer address information
 - ☐ Customer status information
3. Assign one or more access keywords to each user to enable access to the protected information.

Note: You need a **Sys mgmt** authorization level of **8** and database owner privileges to assign access keywords.

To create access keywords

1. Create a general lookup/validation table named **ACCESS_KEYWORDS**.
2. Enter access keywords according to these restrictions:
 - ☐ Do *not* enter an **Expansion** for access keywords.
 - ☐ To hide custom windows from certain users, add the keyword **HIDDEN**.
3. Restart *iMIS* Desktop after creating the access keywords.

Limiting access to or hiding custom windows

Custom (user-defined) windows can store detailed information about your customers such as annual salary, major gifts, and political affiliations. However, you might not want all system users to view this information or to enter or edit information in the custom window.

The *iMIS* Desktop client allows you to assign access keywords that allow only certain users to view or to enter and edit information on custom windows. You can apply the access keywords to custom windows on a tab-by-tab basis.

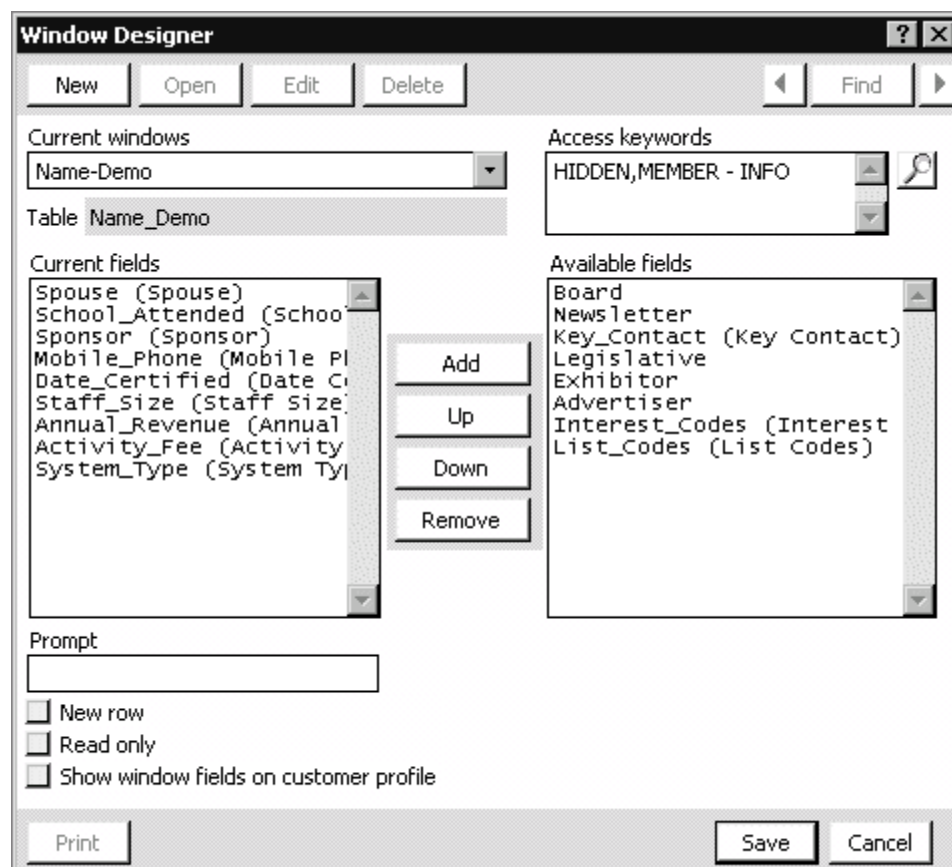
How access can be limited

- For single-instance user-defined tabs, if an access keyword has been set up for that tab (other than **HIDDEN**), and the user has no access keywords assigned, then the tab will display but will not allow editing or inserting.
- If the **HIDDEN** access keyword is setup for the tab, and the user has no access keywords assigned, then the tab will not display.
- If a multi-instance window has an access keyword associated with it, only users that have the matching access keyword and a **Customers** authorization level of three or higher will be permitted to edit the tab; the tab will display in read-only mode for users who do not have the matching access keyword. If the tab has more than one access keyword associated with it, the user must have at least one matching access keyword for the tab to display in enter/edit mode.
- If a multi-instance window has one or more access keywords associated with it, including the **HIDDEN** keyword, the tab will only be visible to users who have at least one of the access keywords. The tab will not display for users who do not have one of the assigned keywords in their profile.
- If a multi-instance window does not have any access keywords associated with it, any user is permitted to view the tab. If there are customer type restrictions on the underlying table, these will be honored as usual; the tab will be disabled if the current customer type does not have permissions to access the tab.

To limit access to or hide custom windows

1. Create keywords (see "[Creating Access Keywords](#)") in the **ACCESS_KEYWORDS** lookup table.
2. From **Customers**, select **Set up module > General**, and click **Additional Windows** to open the **Customer Setup – Additional Windows** window.
3. Click **Define Windows** to open the **Window Designer** window.
4. Select the desired user-defined window from the **Current windows** drop-down list.
5. Click the **Find** icon to the right of the **Access keywords** field to select from the available access keywords. You can assign access keywords to user-defined windows in three ways:
 - Assign one or more access keywords to the window, but not the reserved keyword **HIDDEN**. All users will be able to see the window, but only those with one of the access keywords will be able to enter and edit information in the window.
 - Assign both the reserved keyword **HIDDEN** and one or more access keywords to the window. The window will be hidden from all users except those who have one of the access keywords for the window.
 - Do not assign the reserved keyword **HIDDEN** or any access keywords to the window. Everyone will be able to see the window, and everyone will be able to enter and edit information in the window.
6. Double-click the selected keyword(s) to move the keyword(s) from the **Available** field to the **Selected** field.
7. Click **OK**. The selected keywords display in the **Access Keywords** field.
8. Click **Save**.

9. Assign the keywords to the user (see "[Assigning Access Keywords to users](#)").



Limiting access to reports

The *iMIS* Desktop client allows you to assign access keywords that allow only authorized users to see or print a report. A report that is assigned an access keyword will not display in the window unless you assign the user the same keyword.

Note: You must have a **Sys mgmt** authorization level of 8 or greater to assign keywords to reports.

To limit access to reports

1. Create the keywords in the **ACCESS_KEYWORDS** lookup table.
2. Select **Utilities > Report Specs** to open the **Report Specifications** window.
3. Select the report to which you want to assign an access keyword from the list of available reports.
4. Click **Edit**.
5. Click **Parameters** on the **Report Specifications** window to open the **Detail Report Parameters** window.
6. Place your cursor in the **Access Keywords** field on the **Detail Report Parameters** window. Press **Ctrl+L** to open the **Select ACCESS_KEYWORDS value(s)** window.
7. Select each keyword that you want to assign to the report in the **Available** field and double-click to move the keyword to the **Selected** field.
8. Click **OK**. The selected keyword(s) displays in the **Access Keywords** field on the **Detail Report Parameters** window.

9. Click **Save**.
10. Assign keywords to the user (see "[Assigning Access Keywords to users](#)").

Note: Make sure to assign the same keyword(s) to the users who will be authorized to access the report(s).

Example of a keyword assigned to a report

Limiting access to activity records

iMIS Desktop allows you to assign access keywords to activity records. Only authorized users are allowed to enter, edit, and view customers' activity records. Access keywords are assigned to activity records on the **Set up activity types** window.

To limit access to activity records

1. Create the keywords (see "[Creating Access Keywords](#)") in the **ACCESS_KEYWORDS** lookup table.
2. From **Customers**, select **Set up module > Activity types** to open the **Set up activity types** window.
3. Select the activity type that you want to assign an access keyword from the **Product Types** list.
4. Click **Edit**.
5. Click the **Find** icon displayed to the right of the **Keywords** field to open the **Select ACCESS_KEYWORDS value(s)** window.
6. Select each keyword that you want to assign in the **Available** field and double-click to move the keyword to the **Selected** field.
7. Click **OK**. The selected keyword(s) displays in the **Keywords** field on the **Set up activity types** window.
8. Click **Save**.

- Assign keywords to the user (see "[Assigning Access Keywords to users](#)").

Note: After the access keywords are assigned on the **Set up activity types** window, the activity will not display in a customer's activity window unless the user has been assigned at least one of the access keywords.

Limiting access to customer data

The Access Keys window provides the ability to configure access to the following customer data areas:

- Activity Importer functionality
- Financial data
- Address data
- Status data
- Fundraising History data

To assign access keywords to customer data

- From **Customers**, select **Set up module > General** to open the **Set up general options** window.
- Click **Access Keys** to open the **Customer Setup – Access Keys** window.
- Click **Edit**.
- Place your cursor in the field you want to modify.
- Click the **Find** icon to open the **Select ACCESS_KEYWORDS value(s)** window.
- Double-click the keyword in the **Available** field to move it to the **Selected** field.

- Click **OK** to save the information and return to the **Customer Setup –Access Keys** window.

The keyword now displays in the field you selected.

- Click **Save** to update the record.

To limit access to the Activity Importer

Unlike the other areas that you can control from the Access Keys window, access to Activity Importer functionality is controlled by a combination of three controls:

- Authorization level
- User-defined access keywords - Users who have one of the access keywords allowing access to the Activity Importer but who do not have the **SQLQuery** access keyword will have access to the Activity Importer, but will not be able to access its advanced features.
- The **SQLQuery** access keyword – an *iMIS* reserved word that controls whether the **Input from Query** and **Transformation Query** fields on the **Import activities** window are enabled.

Note: If a user has the SQL Query keyword and the appropriate authorization level, the **Transformation Query** field is automatically populated with SQL text and the current user's identifier (the UserID_Date value). This information must be present when the user clicks the **Optional Step 3 –Transform** button. If any part of the default information is missing, an error displays informing the user which part of the SQL script is missing.

Access to Activity Importer by Keyword and Authorization Level

Authorization Level (Customers)	Activity Importer access keyword (NONE)	Activity Importer access keyword (ASSIGNED)	SQLQuery keyword (NONE)	SQLQuery keyword (ASSIGNED)
0 – 3	Import activities task list item not enabled; user cannot use Activity Importer			
4 – 7	Import activities task list item displays but user cannot access Activity Importer	Import activities task list item displays and user can access Activity Importer	Import activities task list item displays; user can access Activity Importer but cannot use advanced query features	User can access and use all Activity Importer features
8	Import activities task list item displays and user can access Activity Importer		Import activities task list item displays; user can access Activity Importer but cannot use advanced query features	User can access and use all Activity Importer features

To limit user access to the Activity Importer, you must perform the following steps:

- Create or add keywords to the **ACCESS_KEYWORDS** general lookup/validation table (see "[Creating Access Keywords](#)").
- Assign access keywords to Activity Importer (see "Limiting access to customer data").
- Assign access keywords to users (see "[Assigning Access Keywords to users](#)").

Note: You must have a **Sys mgmt** authorization level of eight (8) or higher and database privileges to assign access keywords.

To limit access to customer financial data

The *iMIS* Desktop client allows you to assign access keywords that allow only authorized users to edit the customer financial information found on the **Financial** tab.

- Create or add keywords to the **ACCESS_KEYWORDS** general lookup/validation table (see "[Creating Access Keywords](#)").

2. *Assign access keywords to Financial data* (see "Limiting access to customer data").
3. *Assign access keywords to users* (see "[Assigning Access Keywords to users](#)").

Note: After the access keywords are assigned on the **Customer Setup – Access Keys** window, customer financial information cannot be edited unless the user has been assigned at least one of the access keywords. The financial information is read-only for users with **Customers** authorization level of 1 or higher.

To limit access to the Fundraising tab

iMIS Desktop allows you to assign access keywords that allow only authorized users to view and edit customer fundraising information. The Fundraising Access keyword does *not* control viewing of Fundraising invoices in Service Central.

1. *Create or add keywords to the ACCESS_KEYWORDS general lookup/validation table* (see "[Creating Access Keywords](#)").
2. *Assign access keywords to fundraising data* (see "Limiting access to customer data").
3. *Assign access keywords to users* (see "[Assigning Access Keywords to users](#)").

Note: After the access keywords are assigned on the **Customer Setup – Access Keys** window, customer fundraising data cannot be edited unless the user has been assigned at least one of the access keywords.

To limit access to customer address information

iMIS Desktop allows you to assign access keywords so that only authorized users can enter and edit customer address information.

The authorization limits entry and editing of customer addresses in the **Customers** feature.

The limitations also extend to the **Address**, **City**, **St/Prov**, **Zip**, **Home**, **Work**, **Fax**, and **E-mail** fields on the **Donor** tab of the **Enter and edit gifts** window and on the **Gift – Name/Address – Soft Credit** window and the customer congressional district information (**US Congress**, **St Senate**, **St House**) found in the **Other** tab (from **Customers**, select **Manage customers**, find the customer record, and select the **Other** tab).

The address access key prevents entry on the address fields on both the **Customers** and **Fundraising** tabs when entering or editing a gift. If the user does not have the address access keyword, the customer address is never updated even if the user has the update option set in **Customers**.

1. *Create or add keywords to the ACCESS_KEYWORDS general lookup/validation table* (see "[Creating Access Keywords](#)").
2. *Assign access keywords to Address* (see "Limiting access to customer data").
3. *Assign access keywords to users* (see "[Assigning Access Keywords to users](#)").

Note: After **Name Addresses Edit** access keywords are assigned on the **Customer Setup – Access Keys** window, customer address information cannot be entered or edited unless the user has been assigned the appropriate access keyword.

To limit access to customer status information

iMIS Desktop allows you to assign access keywords so that only authorized users can enter new donors and soft credits and edit the following:

- **Customer Type** field on the **Manage customers** window, **Donor** tab of the **Enter and edit gifts** window, and on the **Gift - Name/Address – Soft Credit** window (from **Fundraising**, select **Enter and edit gifts**, open an existing gift or pledge, and click the **Edit** button displayed to the right of the **Soft Credit** field).
- **Status** and **Category** fields on the **Manage customers** window
- **Join Date** and **Paid Through Date** fields on the **Status** tab on the **Manage customers** window

1. Create or add keywords to the **ACCESS_KEYWORDS** general lookup/validation table (see "[Creating Access Keywords](#)").
2. Assign access keywords to Financial data (see "Limiting access to customer data").
3. Assign access keywords to users (see "[Assigning Access Keywords to users](#)").

Note: After a **Name Status Edit** access keyword is assigned on the **Customer Setup – Access Keys** window, new donors and soft credits cannot be entered and the **Customer Type, Status, Category, Join Date, and Paid Through Date** fields cannot be edited unless the user has been assigned the appropriate access keyword.

Assigning Access Keywords to users

After the **ACCESS_KEYWORDS** table has been created and you have assigned access keywords for the windows and data to which you want to limit access, you can assign access keywords to the users that you want to allow to access customer information. Access keywords are assigned to users through *iMIS* System Setup.

To assign access keywords to users

You may *limit user access* (see "[Access Keywords in Customers](#)") to information in the **Customers** feature of the administrative view.

Note: You must create access keywords before you assign them to user records.

1. Log on to *iMIS* as **MANAGER**.
2. From **System Setup**, select **Security administration > Users**.
3. Find a Full or Casual user and open their user record.
4. In the bottom half of the **User Access** area of the **Users** window, enter one or more access keywords in the **Access Keywords** field, or click the **Find** icon to select keywords.

Note: If you create access keywords and apply them to specific areas in **Customers**, but do not specify the keywords in a user record, that user cannot enter or edit information in those areas of **Customers**.

5. Click **Save**.

Exit and restart *iMIS* Desktop.

System Setup (File menu)

The **System Setup** provides configuration options for a variety of *iMIS* features. You enter the license information here when you install *iMIS* for the first time, and you may need to modify the license information if you purchase additional *iMIS* modules or upgrades.

In addition to modifying the license control, the **System Setup** window is where you set **Organization Names** and **SQL Security**.

System Setup window

System Setup

New Open Edit Delete Find

License Control

System Name: iMIS Membership System Version: 15.0.0.171
 Install Date: 06/01/1993 Serial #: 999999-00
 Licensed To: iMIS for MS SQL Demo
 Products: ANALYZE, AQMGMT, BARCODE, CAMPAIGNADV, CAMPAIGNBASE, CASH, CCAUTH, CERTIFICATION, CEU, CHAPTER, COMMUNICATE, DEFINC, DUES, DUPMERGE, ECMADV999,
 Users Allowed: 20 Max Records: 350 Expiration: 04/01/2007

Organization Names
SQL Security Setup

Preferences

Date Format: Auto Logout After:
 Lower Case Words: of and for the in a or on dba ☒ Upper/Lower
 Company Sort: the and
 Excluded Prefixes:
 Choose Report Folder: Save Reports for 0 Days
 Choose MS Word Folder: C:\temp\WordMergexx
☐ Activity Attachments allowed
 Web Server URL http://GE-APPSEVER/iMIS15
☐ Do not retain printer destination (Terminal Server environments)

Print System Defaults Save Cancel

From **File**, select **System Setup**

License Control

The following information should be entered from the data on the license sheet that accompanies an order.

- **System Name** – The title you want displayed on the main *iMIS* window
- **Version** – The current version of *iMIS* installed
- **Install Date** – The date the current version was installed
- **Serial #** – The number located on the *iMIS* CD
- **Licensed To** – Company name in which *iMIS* is licensed
- **Products** – The list of current features installed
- **Users Allowed** – The number of users allowed to access *iMIS* at one time
- **Max Records** – The maximum number records allowed for the license
- **Expiration** – The license expiration date

Organization Names

Opens the **Organization Names** window where you can enter logos and addresses for each organization. This is also where the taxation method for the organization is selected.

SQL Security Setup

Opens the **SQL Security Setup** window where you can set database passwords.

Preferences

- **Date Format** – (defaults to D/M/CY) If needed, override the default date format.
- **Auto Logout After** – Specifies a time, such as the end of your normal business hours, when you want *iMIS* to automatically log out any logged-in but inactive users. The logout will not interfere with users in the middle of actions or procedures in *iMIS*; rather, it waits for a period of inactivity (no keystrokes, mouse movements) before logging off the user. Those wanting to work later than this “auto logout” hour can log back in and work undisturbed.
- **Lower Case Words** – Specifies a list of words that you do not want capitalized
- **Company Sort Excluded Prefixes** - The list of prefixes to ignore when sorting company names, which can include prefixes in foreign languages.
- **Upper/Lower** – Select this option to allow *iMIS* to automatically apply capitalization rules to name and address fields so that the text appears in Title (upper and lower) case. When you enter text into these fields, *iMIS* will capitalize the first letter of each word, except for the words listed in the **Lower Case Words** field. *For example*, if you entered “**the university of texas at austin**,” *iMIS* would format it as **The University of Texas at Austin**.
- **Choose Report Folder** – Used to enter the location where stored Crystal reports are saved and accessed through the **Print Manager (File > Print Manager)**.
- **Save Reports for __ Days** – Specifies the default number of days to store Crystal reports in the **Print Manager**. If a different period is specified in the **Detail Report Parameters** window of the report, the days set in the report overrides the System Setup.
- **Choose MS Word Folder** – Used to enter the location where MS Word templates are stored and accessed.
- **Activity Attachments allowed** – Select this option to enable the activity attachment feature that enables you to attach a file to an activity record and save it to the *iMIS* database. *For example*, you can attach a Microsoft Word document, PowerPoint slide presentation, spreadsheet, graphic, e-mail file, or HTML page. Once the file is saved to the *iMIS* database, you can open it on your system using the associated application and view, modify, or delete it from within *iMIS*.
- **Web Server URL** – Specifies the URL of your *iMIS* application server.
- **Do not retain printer destination (Terminal Server environment)** – Select this option if you do not want *iMIS* to store the path to your default printer in the database (*for example*, if you access *iMIS* through a Terminal Server or Citrix connection that may append a network identifier to the path to your default printer, causing *iMIS* to designate your printer setting as invalid), you can select the **Do not retain printer destination (Terminal Server environments)** option on the **System Setup** window (select **File > System Setup**). When you enable this option, *iMIS* does not save the path to your default printer destination to the database. You will still be able to print to your default printer when you select the **Printer** option on the **Report Destination** window. If when starting a subsequent session *iMIS* detects a conflict with your printer setting (*for example*, if you select a different default printer), an error message will display and you will be able to select a valid printer. You can also click the **Reset All** button to clear any existing report destination values.

Note: You must have a default printer specified on your workstation to access the **Print Setup** (select **File > Print Setup**) and **Report Destination** window.

System Defaults button

Used to **Change Font Tables** and access **Help Options** menu items.

When the **Help Options** menu item is selected, the **Help Options** window opens where you can select (enable) or deselect (disable) the following options:

- **Help bar on** – A dynamic, field-specific help line in the status bar at the bottom of the *iMIS* main window displays. This option must be enabled for the status bar to display. *For example*, when the cursor is positioned over the **Joined Date** field of the **Name Maintenance** window, the status bar displays **Date membership began** as additional information to help you know what to enter in the field.
- **Show help codes** – Internal help codes display the associated *iMIS* table and columns. *For example*, when the cursor is positioned over the **Join Date** field in the **Name Maintenance** window, the status bar displays the **Name.JOIN_DATE**.

Modifying license configuration

You must modify your license configuration whenever you purchase new *iMIS* features or add users to an existing license. Have your updated license sheet (license key information) handy.

To modify the license configuration

1. Select **File > System Setup** to open the **System Setup** window.
2. Click in the lower left corner of the window until the hidden control button appears.
3. Click **Edit**.
4. Enter the license information exactly as shown on the license key.

5. Click **Save**.

System Setup

New Open Edit Delete Find

License Control

System Name: iMIS Membership System Version: 15.0.0.252
Install Date: 06/01/1993 Serial #: 999999-00
Licensed To: iMIS for MS SQL Demo
Products: ANALYZE, AQMGMT, BARCODE, CAMPAIGNADV, CAMPAIGNBASE, CASH, CCAUTH, CERTIFICATION, CEU, CHAPTER, COMMUNICATE, DEFINC, DUES, DUPMERGE, ECMADV999
Users Allowed: 20 Max Records: 350 Expiration: 04/01/2007
30099684

Preferences

Date Format: Auto Logout After:
Lower Case Words: of and for the in a or on dba ☒ Upper/Lower
Company Sort: the and
Excluded Prefixes:

Choose Report Folder: Save Reports for 0 Days
Choose MS Word Folder: C:\temp\WordMergexx

☐ Activity Attachments allowed
Web Server URL: http://GE-APPSERVER/iMIS15
☐ Do not retain printer destination (Terminal Server environments)

Print System Defaults Save Cancel

Defining the date/time format for *iMIS*

The **Date Format** field in the System Setup window is blank by default, which causes *iMIS* to use the U.S. English short date and time formats used in most U.S.-based computers. For example:

- 11/16/2007 is the short date format that represents November 16, 2007
- 2:16:26 PM is the time format that represents 14:16:26

Tip: Use a format that displays the *entire* four-digit year so that users can verify the correct century. *iMIS* typically assumes a year of 29 or less to refer to the 21st century (30/3/22 = 30 March 2022) and 30 or higher as the 20th century (30/3/30 = 30 March 1930).

Formatting date/time outside the United States

Whenever you have the operating system of an **iMIS** server set for a region other than U.S. English, be sure to specify a *matching* **Date Format** in *iMIS*. The region is set through **Control Panel > Regional and Language Options, Regional Options**.

For example, if the server specifies **English (United Kingdom)** for the regional language, **16/11/2007** for the **Short date** format, and **14:16:26** for the **Time** format, you must make *iMIS* match by specifying **D/M/CY H:N:S** in *iMIS*.

To define the date/time format for *iMIS*

1. Log on to *iMIS* Desktop with the **MANAGER** logon.
2. Choose **File > System Setup**.
3. Click **Edit**.
4. In the **Date Format** field, specify a combination of variables that represents the **Short date** and **Time** formats used by the operating system of the *iMIS* application server. Examples:

- ☐ **m D CY H:N.S.s** returns "JUN 12 2008 15:45.00.00"
- ☐ **D m Y H:N A** returns "12 JUN 08 3:45 PM"
- ☐ **M/D/Y H.N** returns "06/12/08 15.45"
- ☐ **YMD** returns "080612"

Refer to the table below for details.

5. Click **Save**.
6. Restart *iMIS*.

Variable	Description	Example
Y	Year, 2-digit	99
y	Year with Century, 4-digit	1999
C	Century, 2-digit	19
M	Month, numeric	06
m	Month, 3-character abbr. In caps	JUN
D	Day of month, cardinal	12
d	Day of month, ordinal	12 th
W	Day of week, numeric, Sunday=0, Saturday=6	5
w	Day of week, full name	Friday
H	Hour of day, 24-hour format	0-23
h	Hour of day, 12-hour format	1-12
N	Minutes, 2-digit, with leading zero	07
S	Seconds, 2-digit, with leading zero	02
s	Hundredths of seconds, 2-digit	37
A	AM/PM, all caps	AM

Changing the font table

The font table controls the fonts that are used for reports in *iMIS*. The type and size of the font determines how the report will print both on the screen and on the printer. If the fonts are not properly set, the output may cause a reduction in printing speed, loss of quality, or missing components.

View the font table to make sure that it is properly set up and that all of the necessary fonts are installed.

Support for foreign language characters

iMIS runs a customizable stored procedure that replaces foreign characters (ASCII 128 to 256) with *standard equivalents* (see "[Foreign language character replacement map](#)") (ASCII 0 to 127) before it adds a name or address to a search index. Likewise, when you search for a name or address, *iMIS* runs the same stored procedure on the search text before it performs the search. The stored procedure works with all Microsoft SQL Server code page settings.

iMIS supports foreign language prefixes such as l' and d'.

- The lower-case word list accepts prefixes that contain an apostrophe.
- A customizable list (the **Company Sort Excluded Prefixes** list) can exclude prefixes that contain an apostrophe from the Name.COMPANY_SORT field.

Both lists are available on the **System Setup** window (in *iMIS* Desktop, select **File > System Setup**).

Foreign language character replacement map

This is how *iMIS* replaces foreign (high ASCII) characters before it adds a name or address to a search index:

Original	Replacement	Original	Replacement	Original	Replacement
Š	S	È	E	ä	a
€	E	É	E	å	a
Œ	C	Ê	E	Æ	a
Ž	Z	Ë	E	ç	c
™	T	Ì	I	è	e
š	s	Í	I	é	e
ž	z	Î	I	ê	e
ÿ	Y	Ï	I	ë	e
¥	y	Ð	D	ì	i
§	S	Ñ	N	í	i
©	c	Ò	O	î	i
ª	a	Ó	O	ï	i
®	R	Ô	O	ð	o
²	2	Õ	O	ñ	n
³	s	Ö	O	ò	o
µ	u	×	x	ó	o
¹	1	Ø	O	ô	o
¼	4	Ù	U	õ	o
½	2	Ú	U	ö	o
¾	3	Û	U	ø	o
À	A	Ü	U	ù	u
Á	A	Ý	Y	ú	u
Â	A	Þ	P	û	u
Ã	A	ß	s	ü	u
Ä	A	à	a	ý	y

Original	Replacement	Original	Replacement	Original	Replacement
Å	A	á	a	þ	b
Æ	A	â	a	ÿ	Y
Ç	C				

Organization Names window

Select **File > System Setup**, and click **Organization Names**

Org Codes

List of codes for the available organizations

Org

(required) Specifies a code for the selected organization

Default Organization

(optional) Select this option to identify the default organization. An asterisk displays to the right of the default organization in the **Org Codes** list.

Is Fund

(optional) Select this option to indicate that the organization is also a fund

Name

(optional) Specifies the full name of the organization. A maximum of 60 alphanumeric characters can be entered.

Invoice Mail Address

(optional) Specifies the organization's complete address where invoices and other correspondence are to be mailed. Used on reports where the name and address display as a block, such as invoices.

Logo

(optional) Use this field to past the organization's logo into this area of the window.

Letterhead like Single Line Address

(optional) Specifies the organization's letterhead is in a single line address. This information is used on reports where the address appears in single line, such as event confirmations.

Interest Code

(optional) This list contains the fields for entering the interest codes associated with each fund. The interest codes that display are defined on the **Set up interest codes** window (from **Customers**, select **Set up Fundraising > Interest codes**). The **Set up Fundraising** task list only displays if you are licensed for Fundraising.

Taxation Method

- **Default** - Enables the default taxation method set up in the AR/Cash module
- **Canadian** - Enables the Canadian taxation method which includes Goods and Services Tax (GST)/Harmonized Sales Tax (HST) and Provincial Sales Tax (PST) and may be used for other countries that calculate GST
- **VAT** - Enables taxation method for the European Union

Registration Number

Specifies the registration number associated with the organization or fund. Fundraising organizations must have a registration number (Canada) or tax identification number (United States) in order to claim and verify their tax-exempt status. This field only displays if you are licensed for Fundraising.

Setting Up Organization Names

You can enter your organization's logo to appear on your standard report headings. The company address you enter in the **Organization Names** window appears on standard invoices, confirmations, and other reports.

If you have multiple financial entities within your organization, you can define multiple entities within *iMIS* to track their financial records separately.

Note: Although you can have several organizations (entities) defined, you can have only one Default Organization. The default organization is used throughout the product and on printed standard reports.

Defining an organizational entity

Organization, Fund, and Entity, in the context of *iMIS* accounting, all refer to a business unit that maintains separate financial books. A "fund" is specific type of organization or entity whose purpose is to solicit donations.

To define an entity/organization/fund

1. Select **File > System Setup** to open the **System Setup** window.
2. Click **Organization Names** to open the **Organization Names** window.
3. Click **New**.
4. Enter a unique alphanumeric **Org Code** to represent the organization.

Note: If you plan to create separate GL interface files for each financial entity, be sure to use as few characters as possible when defining your org codes.

5. Select the **Default Organization** option if this is the default organization.

Note: You can set only one entity as the default entity for non-accounting reports and other standard uses. The default organization name and address data is used for all non-accounting oriented reports. It also becomes the accounting default in cases where no module-level or other override entity is provided.

6. Select the **Is Fund** option if this organization is also a Fund.


Note: You must identify the organization as a fund for it to serve as a fund in the Fundraising module.

7. Enter the full **Name** of the organization.
8. Enter the organization's **Invoice/Receipt Address**. Include the full mailing address.
9. Paste the company's logo into the **Logo** field.
10. Enter the **Letterhead like Single Line Address**.
11. Select the **Taxation Method**.
12. Select as many **Interest Codes** as applicable.
13. Enter the organization's **Registration Number**.
14. Click **Save**.

SQL Security Setup window

This window allows you to change the passwords of the SQL Server login accounts that perform transactions on behalf of *iMIS* Desktop users, and to enable *iMIS* to prevent data modification while reports are running.

Note: See *Resetting the system-level SQL authentication passwords* (see "Resetting system SQL authentication passwords") in the *Maintaining iMIS* section of *Installation*.



File > System Setup, then click **SQL Security Setup**

This window includes the following fields.

- **SQL User Password** - (optional) Enter text here to generate a new password for the IMISUSER_[dbName] SQL Server login. Enter the text again in the **Verify Password** field.

Note: *iMIS* uses the password text to generate an SHA-1 hash, so enter a reasonably complex string. For example, a text string of 6-10 characters, including 1 or more digits and 1 or more non-alphanumeric characters, will result in a hash that should prevent dictionary-based attacks.

- **SQL Manager Password** - (optional) Enter text here to generate a new password for the MANAGER_[dbName] SQL Server login. Enter the text again in the **Verify Password** field.
- **SQL Locking Control** - (optional) Enter noLock here to enable *iMIS* to prevent data modification while a report is running.

Note: To prevent data modification while a report is running, enter NOLOCK in the report's **Parameters** field.

- **Create SQL Logins** - Resets the SQL Server passwords for the IMISUSER_[dbName] and MANAGER_[dbName] logins. *iMIS* prompts you to enter the password for the SQL Server **sa** login.
- **Save** - For the SQL password fields, this button generates password hashes and then stores them in the System_Params table. For the NOLOCK keyword field, this button saves the keyword in the System_Params table.

Specifying a folder for Letter System templates

To enable the Letter System, you must specify a folder its template files. All *iMIS* users must specify the same folder path, whether it's local or remote. The path you specify is stored in the *iMIS* **System_Params** table, as the **ParameterName** value of **System_Control.MSWordStoreDirectory**.

Note: Truncating the Report Specs table deletes the Microsoft Word template report specifications.

To specify a folder for Letter System template files

1. Log on to *iMIS*.
2. Select **File > System Setup**.
The **System Setup** window opens.
3. Click **Edit**.
4. Click **Choose MS Word Folder** (or enter a folder path in the field next to that button).
The **Browse for Folder** dialog box appears.
 - Select a local or remote folder.
If you specify a remote folder, make sure that all users have permissions to access to the folder.
 - Click **OK**.
5. In the **System Setup** window, click **Save**.
6. Log out of *iMIS*, and then log on again.

Activity record file attachments

When you open an activity record and click the **Attachment** button on the **Activity Detail** window, you can attach a file to the activity record and save it to the *iMIS* database. *For example*, you can attach a Microsoft Word document, PowerPoint slide presentation, spreadsheet, graphic, email file, or HTML page.

Once the file is saved to the *iMIS* database, you can open it on your system using the associated application and view, modify, or delete it from within *iMIS*.

Enabling attachments on activity records

To enable the activity attachment feature, you must do the following:

- Enable the **Activity Attachments allowed** option on the **System Setup** window (select **File > System Setup**).
- Enter a value in the **Maximum file size (KB)** field on the **System Setup** window (displays when you enable the **Activity Attachments allowed** option). See *Specifying maximum size of activity attachments* for more information.
- Enable the **Allow user Edit** option on the **Set up activity types** window (from **Customers**, select **Set up module > Activity types**) for the activity for which you want to add an attachment.

Note: Some activity types are system-generated (for example, Order) and are not intended for editing. However, if you want to attach a file to one of these activity types, you must enable the **Allow user Edit** option.

To enable the Activity attachments

1. Select **File > System Setup** to open the **System Setup** window.
2. Click **Edit**.
3. Enable the **Activity Attachments allowed** option.
4. Enter a value in the **Maximum file size (KB)** field. (Displays when you enable the **Activity Attachments allowed** option.)
5. A message warns you that the maximum you specified may have adverse effects on performance. Click **OK**.
6. Click **Save**.

Specifying maximum size of activity attachments

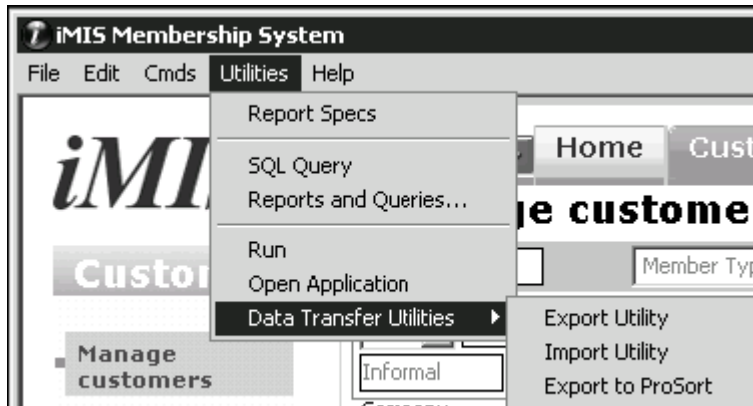
Although you can specify the maximum file size of activity attachments that can be stored in the database, the absolute maximum size is determined by many factors (*for example*, the maximum size of your database server). In most cases, specifying a small activity attachment size limit (*for example*, 500 for a 500 KB file) should be large enough. The maximum file size for a Word document, *for example*, is 32 MB.

Caution! Do not increase this value until you have verified through testing that performance of your system remains acceptable at the new value. Storing a large number of attachments will increase the size of your database very rapidly, affecting backup requirements and the available disk space on your database server.

Utilities (Utilities menu)

The commands on the Utilities menu help you maintain and monitor reports, tables, and data that are used throughout iMIS.

Note: As functionality moves to .NET, many of these utilities are being replaced by and incorporated into DB Maintenance and DB Upgrader, which are available from your *iMIS* program group.



The **Utilities** menu is only available from the administrative views.

Report Specs

Opens the **Report Specifications** window, where you can copy and modify standard reports.

SQL Query

Opens the **SQLQuery** window, where you can enter and execute SQL commands.

Reports and Queries...

Opens the **System Reports and Queries** window, where you have access to SQL scripts that can be run to manipulate your *iMIS* data.

Run

For developers: Executes an *iMIS* procedure.

Open Application

For developers: Opens a different Omnis library.

Data Transfer Utility

Opens a sub-menu of the following items, which appear only if licensed:

- **Export Utility** – opens the **Export Utility** window
- **Import Utility** – opens the **Import Utility** window
- **Export to ProSort** – opens the **ProSort Exports** window

Report Specifications

Each *iMIS* module contains a **Reports** menu item through which module-specific reports can be run. The specifications or details of all the *iMIS* standard reports can be modified or cloned (copied and renamed) through the **Report Specifications** window (select **Utilities** > **Report Specs**) and the **Detail Report Parameters** window (select **Utilities** > **Report Specs** and click **Parameters**). This is a powerful tool when used in conjunction with the Ad Hoc Search feature to create customized end-user reports with a minimum of time, energy, and expertise.

Note: To run a Crystal or Access report in *iMIS*, the report must be added to the list of reports in the **Report Specifications** window.

Report Specifications window

From the menu bar, select **Utilities > Report Specs**

Report scrolling area

List of all *iMIS* reports.

System

Indicates the *iMIS* system or module where the report resides. *For example*, if a report is listed in the **AR** system, you would access the AR system report by selecting **AR/Cash**, and selecting **Generate reports**.

Category

Refers to the report type. *For example*, if you access the AR/Cash **Generate reports** window (from **AR/Cash**, select **Generate reports**), there would be three report type categories: **Account Status**, **Deferred Income**, and **Transaction Lists**. Each category contains reports that are specific to the category.

Title

Indicates the report name that will display on the report and in the **Available Reports** area of the report window. *For example*, you would access the **A/R Statements** report by selecting **AR/Cash**, and selecting **Generate reports**, and selecting the **Account Status** report type.

Hide from Menu

If enabled, hides the report from displaying on the report window.

Request for Printer Setup

If enabled, the system automatically displays the **Set Report Destination** window so you can select the appropriate print destination.

Description

This is a detailed description of the report.

Options button

Drop-down menu items of current report format options that can be modified for the selected report. Options range from adjusting the margins, modifying the search criteria, changing the sorting option, exporting report records to another application, adding additional fields that are mapped to the specific parameters, and adding text to letter formats. Report options vary by report type.

Clone button

Used to create an exact copy of the selected report. Modify the title and some of the report properties to create a new report on the report menu.

Parameter button

Opens the **Detail Report Parameters** window. This window contains a detailed list of the report parameters.

Cloning reports

To avoid losing report specifications, it is best to clone a report and make the changes to the cloned version.

To clone a report

1. From the menu bar, select **Utilities > Report Specs** to display the **Report Specifications** window that contains a list of all standard reports, sorted by module and type.
2. Select the report you want to clone and then click **Clone**.
3. Enter in the **System** and **Category** where you want the report to appear.
4. Enter a name for the cloned report in the **Title** field and a new description in the **Description** field.

Note: If you use the cloned report as the standard report within its **Category** and the original report chosen for printing at the individual level, make sure the report name is first in the alphabetical report category. To simplify this task further, put a period “.” at the beginning of the name, such as **.Badge**, so it becomes the default for the report type. Not all options are available for all reports.

5. Click **Parameters** and make changes, if necessary.
This may include a change in the **Report Format** used to print the report, an addition or change of an option in the **Options** list string, or an addition of message text (for certain invoice and confirmation formats) in the **Parameters** text field.

Note: When changing an option, remember that most of the options available for a report are already in the Options list. However, you may need to either enable or disable the option depending upon the setting. To enable an option that is disabled, change the first word of the option from **NO** to **PRINT** For example, **NO_FULL_ADDRESS** to **PRINT_FULL_ADDRESS**.

6. Click **OK**. You have created a new report that appears with the other **Standard Reports**.

Common report tables and joins

These are the most common table and field layouts and joins that are used in *iMIS* reports:

Activity Reports

- Tables
- Name
 - Name_Address
 - Activity
 - Name_Fin
 - Org_Control
 - Product
 - Subscriptions
- Join Examples
- Name.ID=Activity.ID
 - Name.ID=Name_Fin.ID
 - Name.ORG_CODE=Org_Control.ORG_CODE
 - Activity.PRODUCT_CODE=Product.PRODUCT_CODE
 - Name.ID=Subscriptions.ID
 - Activity.PRODUCT_CODE=Subscriptions.PRODUCT_CODE
- See *Common Address Joins*

AR/Cash Reports

- Tables
- Name
 - Invoice
 - Trans
- Join Examples
- Name.ID=Invoice.BT_ID
 - Trans.BT_ID=Invoice.BT_ID
 - Trans.BATCH_NUM=Invoice.BATCH_NUM

Committee Reports

- Tables
- Name
 - Activity
 - Committee_Minutes
 - Committee_Position
 - Gen_Tables
- Join Examples
- Name.ID=Activity.ID
 - Activity.PRODUCT_CODE=Committee_Minutes.PRODUCT_CODE
 - Name.TITLE=Committee_Position.TITLE
 - Activity.DESCRPTION=Gen_Tables.DESCRPTION

Dues Reports-Invoices (Cash Method)

- Tables
- Name
 - Name_Address
 - Subscriptions
- Join Examples
- Name.ID=Subscriptions.ID
 - Name.BILL_ADDRESS_NUM=Name_Address.ADDRESS_NUM

Dues Reports-Invoices (Accrual Method)

- Tables
- Name
 - Name_Address
 - Invoice
 - Invoice_Lines
 - Trans
 - Subscriptions

- Join Examples
- Name.ID=Trans.BT_ID
 - Name.BILL_ADDRESS_NUM=Name_Address.ADDRESS_NUM
 - Invoice.REFERENCE_NUM=Trans.INVOICE_REF_NUM

Meeting Reports

Consist of Rosters, Badges, Confirmation Letters, and Invoices

- Tables
- Orders
 - Order_Badge
 - Order_Lines
 - Order_Meet
 - Order_Payments
 - Meet_Master

- Join Examples
- Orders.ORDER_NUMBER=Order_Lines.ORDER_NUMBER
 - Orders.ORDER_NUMBER=Order_Badge.ORDER_NUMBER
 - Orders.ORDER_NUMBER=Order_Payments.ORDER_NUMBER
 - Orders.ORDER_NUMBER=Order_Meet.ORDER_NUMBER
 - Order_Meet.MEETING=Meet_Master.MEETING

Membership Reports

- Tables
- Name
 - Name_Address
 - Name_Note
 - Name_Fin
 - Any User-Defined Custom Table

- Join Examples
- Name.ID=Name_Note.ID
 - Name.ID=Name_Fin.ID
 - Name.BT_ID=Name_Fin.BT_ID

See *Common Address Joins*

Orders Reports

- Tables
- Orders
 - Order_Lines
 - Order_Payments

- Join Examples
- Orders.ORDER_NUMBER=Order_Payments.ORDER_NUMBER
 - Orders.ORDER_NUMBER=Order_Lines.ORDER_NUMBER
 - Orders.PAY_TYPE=Order_Payments.PAY_TYPE
 - Orders.PAY_NUMBER=Order_Payments.PAY_NUMBER
 - Orders.CREDIT_CARD_EXPIRES= Order_Payments.CREDIT_CARD_EXPIRES
 - Orders.AUTHORIZE=Order_Payments.AUTHORIZE
 - Orders.CREDIT_CARD_NAME= Order_Payments.CREDIT_CARD_NAME
 - Orders.CASH_GL_ACCT=Order_Payments.CASH_GL_ACCT

Common address joins

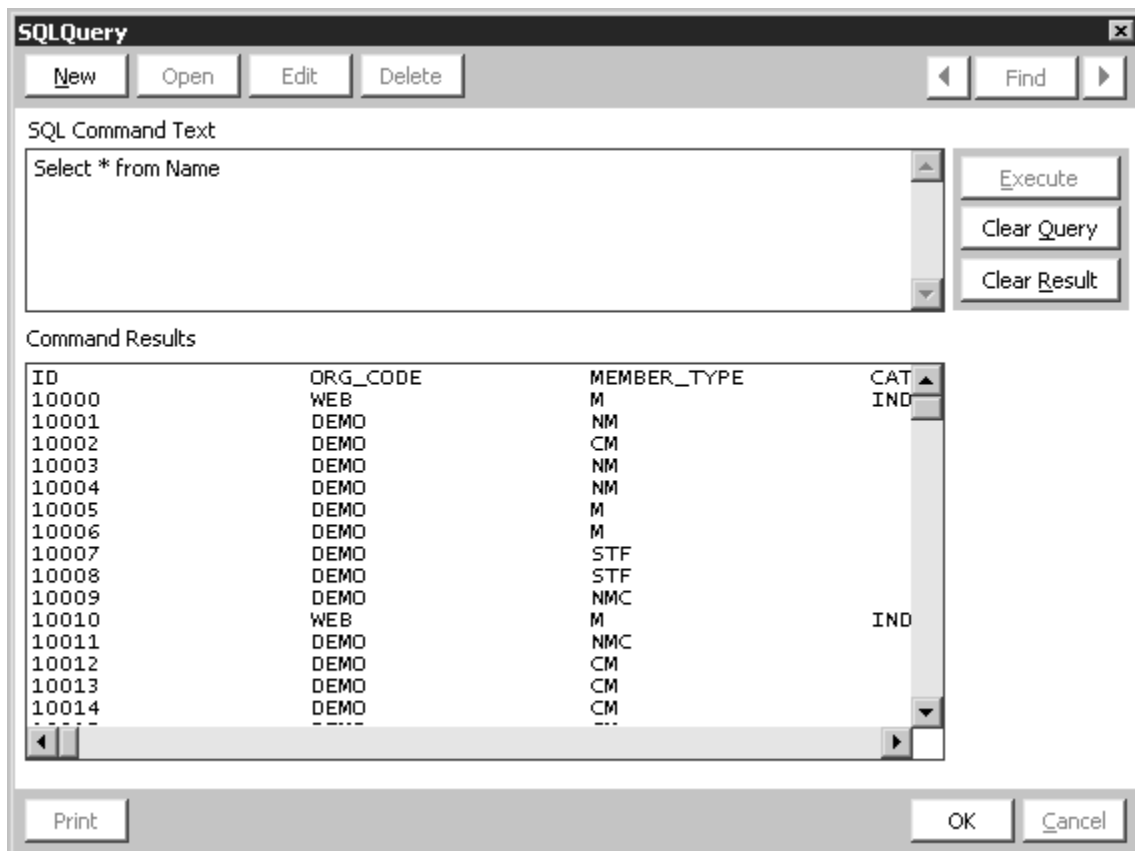
Reports using Address 1	Name.ADDRESS_NUM_1= Name_Address.ADDRESS_NUM
Reports using Address 2	Name.ADDRESS_NUM_2= Name_Address.ADDRESS_NUM
Reports using Address 3	Name.ADDRESS_NUM_3= Name_Address.ADDRESS_NUM
Reports using Preferred Bill Address	Name.BILL_ADDRESS_NUM= Name_Address.ADDRESS_NUM
Reports using Preferred Mail Address	Name.MAIL_ADDRESS_NUM= Name_Address.ADDRESS_NUM

Other Alternate Addresses	<p>For example, if you have more than three purposes:</p> <p>Name.ID=Name_Address.ID where PURPOSE=' ' (List purpose in between single quotes.)</p>
---------------------------	---

SQL Query

In *iMIS* you can run SQL queries to view the data in the tables.

1. From the menu bar, select **Utilities > SQL Query** to open the **SQL Query** window.
2. Click **New**.
3. Enter the SQL query in the **SQL Command Text** box. In the following example, we are selecting all the data from the **Name** table.
4. Click **Execute**. *iMIS* displays the results of the query in the **Command Result** box.
5. To clear the screen:
6. Click **Clear Query** to clear the SQL command.
7. Clear **Clear Result** to clear the results.

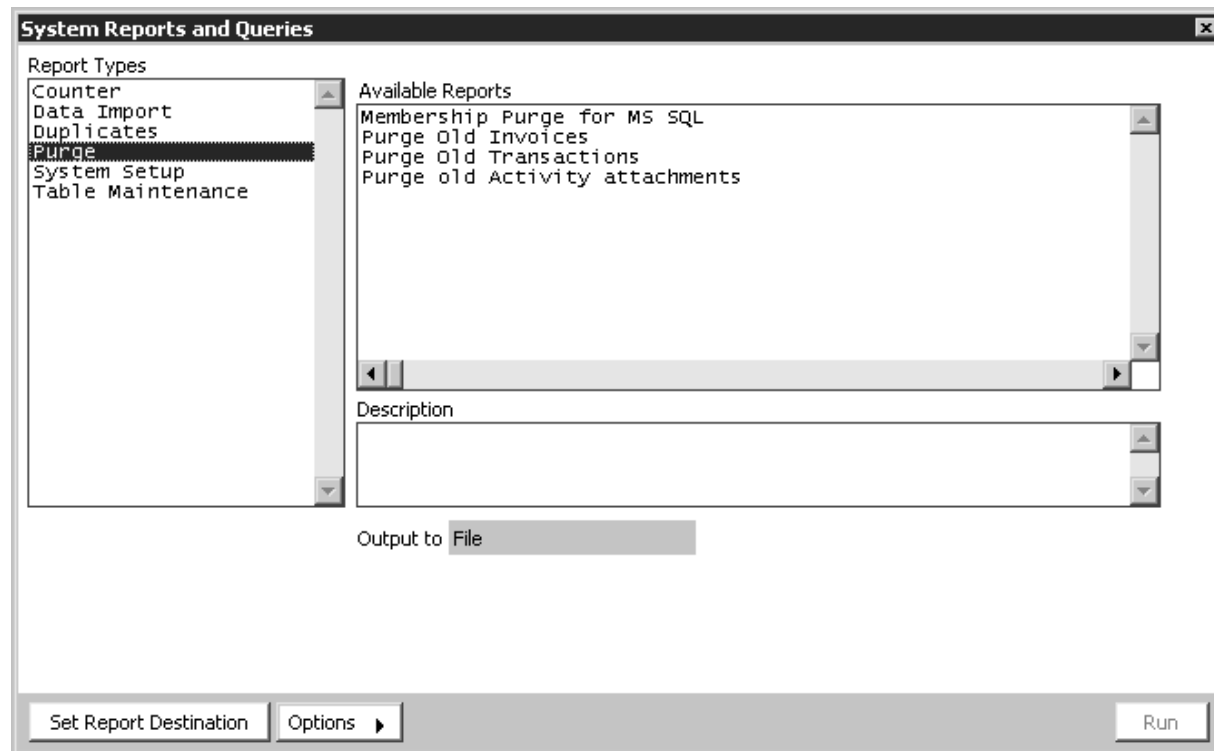


From the menu bar, select **Utilities > SQL Query**

Reports and Queries

iMIS provides several SQL scripts that can add or change data in the tables. The SQL scripts are stored as standard *iMIS* reports that you can clone and customize.

System Reports and Queries window



From the menu bar, select **Utilities > Reports and Queries**

Note: Run the System Setup routines only after the prerequisite conditions are met.

The following **Data Import**, **Purge**, **System Setup**, and **Table Maintenance** report types display with a brief description.

Data Import

Import Data into the Prospect Table: Imports prospect records from a tab-delimited file into *iMIS*.

Purge

Membership Purge for MS SQL: Deletes customer records with a status of “D.”

Purge Old Invoices: Deletes records in the Invoice and Invoice_Lines tables which have a zero balance, are dated before the retention months and in which there are no linked and unposted transactions remaining.

Purge Old Transactions: Deletes records in the Trans table where TRANSACTION_DATE is less than Trans retention months and are no longer associated with its corresponding invoice record.

Purge Old Activity attachments: Deletes activity attachments with a timestamp before a specified date.

System Setup

Co. to Member Addr. Flowdown: Populates a member’s first Name_Address record (the required one where PURPOSE = Membership Address1 Prompt) from the corresponding Name_Address record of the company ID (CO_ID). Only member records where ADDRESS_1 is blank are updated.

Prerequisite: This procedure requires that Name_Address.ADDRESS_NUM be populated and Name_Address.PURPOSE be populated to match the address prompts in **Customers > Set up module > General > Address and Notes** button.

Note: This script updates only the Name_Address record; it does not update user-defined fields within Advanced Flow Down.

Rebuild Chapter Subscriptions: (for optional Chapter Management) Inserts Chapter Subscription records based on Name.CHAPTER.

Prerequisite: Requires that Name.CHAPTER be populated.

Rebuild Member_Type Info: Populates Name.MEMBER_RECORD, COMPANY_RECORD, and CO_MEMBER_TYPE.

Prerequisite: Requires that you first complete Member_Type setup and create the Company_Index view.

Rebuild Name Fields: Rebuilds the index fields Name.LAST_FIRST, COMPANY_SORT, and FULL_NAME. To speed processing, select **Drop Indexes** first.

Prerequisites: (1) Requires that you first upload the Name table, (2) populate elements of member name (at least LAST and FIRST), and (3) populate Name.COMPANY.

Rebuild Name.DUP_MATCH_KEY: Rebuilds the Name.DUP_MATCH_KEY according to the following *iMIS* default formula. This formula checks for duplicates: the first five digits of the ZIP (postal code) field, the first four characters of the last name, and the first initial.

```
con (mid(Name.ZIP,1,5),mid(Name.LAST,1,4),  
mid(Name.FIRST,1,1))
```

The standard formula is used unless a custom formula has been entered in the **Duplicate Record Check Formula** field on the **Customer Setup – Advanced** window (from **Customers**, select **Set up module > General**, and click **Advanced**). If the **Duplicate Record Check Formula** field is blank, the default formula will be used.

Prerequisite: Requires that you first run Rebuild Name_Address Pointers (to populate ZIP in Name) and populate any other fields used in the dupmatch formula.

Caution! If you customize your dupmatch formula, you must populate the parameters of the report specification (select **Utilities > Report Specs**).

Rebuild Name_Address Pointers: Populates Name_Address.FULL_ADDRESS and Name's address fields, including MAIL_ADDRESS_NUM, BILL_ADDRESS_NUM, ADDRESS_NUM_1, ADDRESS_NUM_2, ADDRESS_NUM_3, and FULL_ADDRESS.

Prerequisite: Requires that you first populate the Name table with unique ID's, populate the Name_Address table with unique ID's that correspond to the Name table and populate the Name_Address.ADDRESS_NUM field with unique sequential numbers. From **Customers**, select **Set up module > General** and click **Address and Notes**, populate the **Address Usage** fields (Name_Address.PURPOSE) to match your setup, and make sure that you have at least one Name_Address record for each member, with a PURPOSE matching the first address prompt.

Post Processing: (1) Select **Utilities > Table Analysis** (2) Select Name table record, and (3) Click **Make Indexes**.

Rebuild Name_Indexes: Name_Indexes can be used to define auxiliary indexes on the Name table that will appear in the Name **Find** window's list of find criteria. These additional indexes are set up on the **Customer Setup – Indexes** window (from **Customers**, select **Set up module > General**, and click **Indexes**). This example script shows how to populate the Name_Indexes table when Name.STATE_PROVINCE is set up as additional index 1.

Prerequisites: (1) A column or Omnis expression using columns from the Name table must be defined as an additional index on the **Customer Setup – Indexes** window. In this example, Name.STATE_PROVINCE is defined as additional index 1. (2) To modify this script, clone it and substitute a SQL expression equivalent to the Omnis expression used in System Setup and the corresponding index number (1, 2, 3, or 4) where this script has Name.STATE_PROVINCE and 1, respectively. (3) This script truncates and rebuilds the whole Name_Indexes table, so if you have several additional indexes you should put all the updates in one script.

Remove Name.LAST_FIRST apostrophes: Removes apostrophes from the Name.LAST_FIRST field. It will run faster if it is done before Name indexes are added.

Prerequisites: (1) Name table is uploaded (2) Elements of member name are populated: at least LAST and FIRST (3) Rebuild Name script has been run to populate LAST_FIRST.

Table Maintenance

Remove Ref_Provided NULLs: Replaces NULLs in the Ref_Provider table with either a blank (' ') or a zero (0) depending on the datatype of the field being updated.

Set Activity type donor club: Updates Activity.ACTIVITY_TYPE = 'DONORCLUB'.

Set Activity.ORIGINATING_TRANS_NUM: Updates Activity.ORIGINATING_TRANS_NUM with its matching Trans.TRANS_NUMBER.

Set Product type donor club: Updates Product.PROD_TYPE = 'DONORCLUB'.

Set Product FR type donor club: Updates Product_FR.FR_TYPE = 'DONORCLUB'.

Set Product_Type type donor club: Updates Product_Type.PROD_TYPE = 'DONORCLUB'.

Customizing system reports

The System Reports can be customized to fit your company's needs.

To clone and customize a system report

1. From the menu bar, select **Utilities > Report Specs** to open the **Report Specifications** window that contains a list of all standard reports, sorted by module and category.
2. Scroll down to the **SYSTEM** module. The categories under **SYSTEM** are **Data Import, Purge, System Setup** and **Table Maintenance**.
3. Select the report you want to clone and then click Clone.

Note: Do not change the **System** and **Category** fields if you want the cloned report to display with the other reports.

4. Type a name for the cloned report in the **Title** field and a new description in the **Description** field.

Note: If you use the cloned report as the standard report within its **Category**, make sure the report name is first in the alphabetical report category. To simplify this task further, put a period "." at the beginning of the name, such as **.Badge**, so it becomes the default for that report type. *Not* all options are available for all reports.

5. Click **Parameters** to open the **Detail Report Parameters** window.
6. If you are entering an SQL command in the **Parameters** field, make sure that **SQLExec/240** is shown in the **Control Procedure** field.
7. Make the necessary changes to the report. This may include a change in the **Report Format** used to print the report, an addition or change of an option in the **Options** list string, or an addition of message text (for certain invoice and confirmation formats) in the **Parameters** text field.

Note: When changing an option, remember that most of the options available for a report are already in the **Options** list. However, you may need to either enable or disable the option depending upon the setting. To enable an option that is disabled, change the first word of the option from **NO** to **PRINT**, for example, **NO_FULL_ADDRESS** to **PRINT_FULL_ADDRESS**.

8. Click **OK**. You have created a new report that appears with the other **Standard Reports**.

Adding SQL queries to custom reports

You can add a new System Report with an SQL query.

To add an SQL query to a custom report

1. From the menu bar, select **Utilities > Report Specs** to open the **Report Specifications** window.
2. Click **New**.
3. Enter the **System**, **Category**, and **Title**.
4. Click **Parameters** to open the **Detail Report Parameters** window.
5. Enter SQLExec/240 in the **Control Procedure** field.
6. Add GO after your SQL statement.
7. Click **OK**.

Run iMIS Procedure Utility

Occasionally, ASI will develop procedures to fix *iMIS* data. The Run procedure utility is used to run an ASI procedure that the technical support department has determined is required.

To run an iMIS procedure

1. From the menu bar, select **Utilities > Run**.
The **Run Procedure** window opens.
2. Enter the procedure name and click **OK**.

Open Application Utility

The Open application utility allows you to open an Omnis-based library in *iMIS*.

To open a different library

1. From the menu bar, select **Utilities > Open Application**.
The **Select library** window opens.
2. Select the library you wish to use and click **Open**.

Data Transfer Utilities

Note: If you don't see these utilities, you may not be licensed for them.

Export Utility opens the **Export Utility** window, where you can export data from *iMIS* to another location or third party applications such as word processor, spreadsheet program, or compatible database application. (Required license: Export Utility)

The **Export Utility** window features a menu bar with **New**, **Open**, **Edit**, **Delete**, **Find**, and **Find** (with left and right arrows). Below the menu bar is a section titled **Available Exports** with a large empty list box. To the right of this list are input fields for **Name**, **Search** (with a dropdown arrow), **Delimiter** (with radio buttons for **Fixed**, **Comma**, **Tab**, and **Other**), and **Path**. Further right is a vertical stack of buttons: **Edit Search Criteria**, **Edit Calculations**, **Export**, **Import**, **Save As**, **Load**, and **Setup 'Select' Files**. Below these buttons is a checkbox labeled **Create Activity Record**. At the bottom of the window is a row of buttons: **Print**, **Schedule**, **Go**, **Save**, and **Cancel**.

Value	Length	Format	Calculation	Search
	0			

On the right side of the table, there are three buttons: **Add**, **Insert**, and **Remove**.

Import Utility opens the **Import Utility** window, where you can import data into the *iMIS* database. (Required license: Import Utility)

Import Utility [?] [X]

New Open Edit Delete Find

Import Name:

Import Type: (C)omma, (T)ab or (F)ixed Field

File to Modify:

☐ NRDS Import (Skip Header Records)

☐ Member Import ☐ Office Import OR:

Available Imports:

- ACTIVITYHIST
- COMPANY IMPORT
- COMPANY IMPORT AUS
- COMPANY IMPORT UK
- DONORS
- MEMBER ADDITIONAL
- MEMBER IMPORT
- MEMBER IMPORT AUS

Processing Codes:

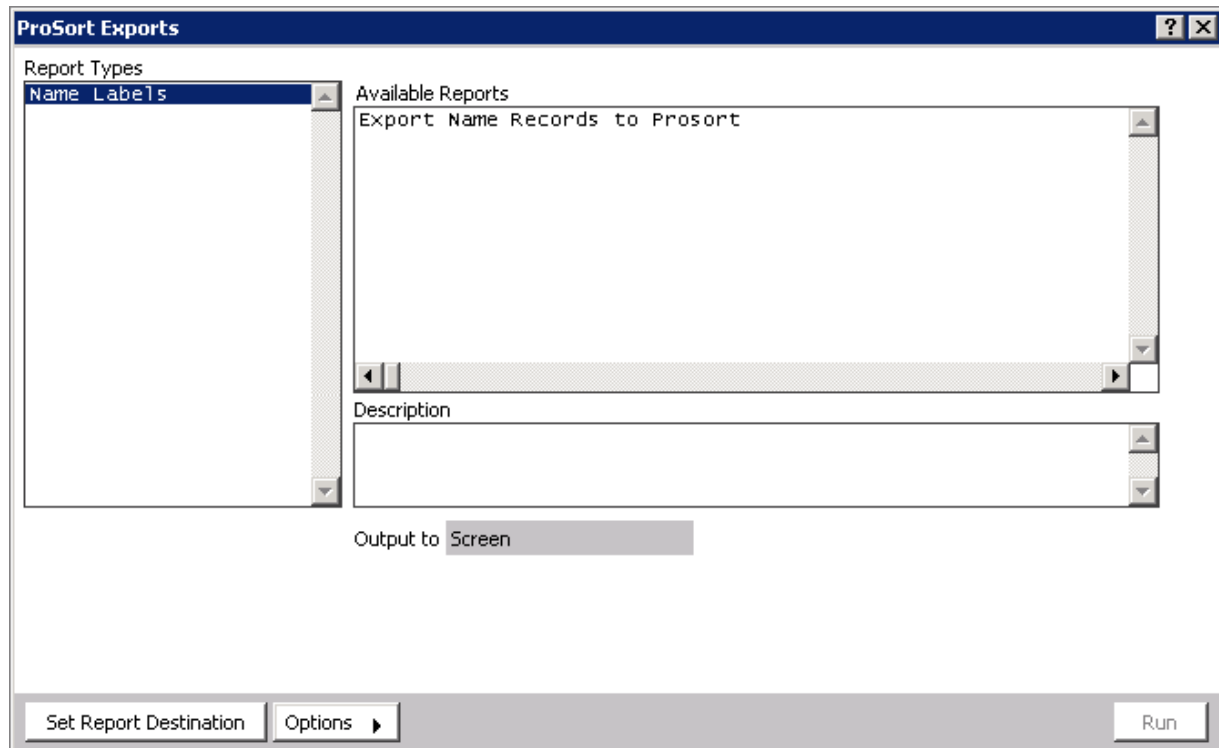
- N...Numeric, remove leading zeros
- N2..N + divide by 100
- A...Append Data to Field
- A,...Append w/ Comma
- A,S..Append w/ Comma &Space
- AS...Append w/ Space
- AC...Append w/ Carriage Return
- P...Phone Formatting
- D...Date Formatting
- U...Convert to Upper case
- C...Convert to Upper/Lower
- Y...Yes/No
- #1,#2,#3... Address Import
- %1,%2,%3... Preferred Mail Indicator
- L...Use Name.ID or Name.MAJOR_KEY
Insert new if no match is found
else update record.
- LX..Same as L, NO insert if not found
- *...Activity Records connected by
Name.MAJOR_KEY
- '....Literal Information follows
single quote, no end quote

Field Name	Excel	Position	Length	Processing

Add Insert Remove

Print Go! Save Cancel

Export to ProSort opens the **ProSort Exports** window, where you can use the name and addresses that have been verified through Accumail to prepare mailing labels. (Required license: ProSort)



Export Utility

The Export Utility is a powerful tool for exporting information from the *iMIS* system to another location or to a third-party software application such as a word processor, spreadsheet program, or compatible database application. The Export Utility gives you the capability to:

- Include information from multiple records of the same file on one export record
- Update fields in the *iMIS* database when the export is run
- Specify if/then processing of the output
- Create an activity record that records the date the export record was created and includes a copy of each member's export record
- Schedule the export execution time

To use the *iMIS* Export Utility, you must have the EXPORT license code in your system control file. Contact your authorized *iMIS* reseller to obtain an updated system control file.

Using the *iMIS* Export Utility

To export data using the *iMIS* Export Utility:

1. Create the export definition
2. Select the *iMIS* tables and fields to be exported
3. Specify the search criteria to be used
4. Specify the export field formats

5. Run the export

Creating an Export Definition

The first step to export data with the Export Utility is to create the basic export definition. The export definition specifies and formats the data to be exported.

To create the export definition

1. Select **Utilities > Data Transfer Utilities > Export Utility**.
2. Click **Insert**.
3. Type a name for the export definition in the **Name** field.
4. Select a **Delimiter** (character to be placed between fields):
 - ☐ **Fixed** – no delimiter
 - ☐ **Tab**
 - ☐ **Comma**
 - ☐ **Other** – specifies other delimiter in field that appears
 - ☐ **Quotes** – encloses text in double quotes. This is helpful if a comma delimiter is required and some text fields contain commas.

Note: This field displays only when a delimiter other than **Fixed** is selected.

5. (Optional) Enable the **Create Activity Record** option to record each export record as a member activity in the *iMIS* database.
6. Define the **Path** for the export file.

Tip: You can include an incremental sequence number in the name of the file by including a question mark in the name of the file. *For example*, if you enter `c:\Temp\national?.txt`, the file `c:\Temp\national1.txt` is created the first time you run the export, `c:\Temp\national2.txt` is created the second time, and so forth.

7. (Optional) Select the **Allow OverWrites** option to allow the file to be overwritten each time the export is run.

8. Click **OK** to save.

Selecting *iMIS* Tables and Fields to be Exported

After you create the export definition, select the *iMIS* tables and fields to be included in the export definition. These Select Files are the basis for the export. You can sort the export records based on a file/field value in the Select Files and you can define search criteria to designate data in the Select Files to be exported.

To select the *iMIS* tables and fields to be exported

1. Select **Utilities > Data Transport Utilities > Export Utility**.
2. Select an **Available Export**.

- Click **Edit**. Click **Setup 'Select' Files** to open the **File Export Utility - Select Records** window.

File Export Utility - Select Records

Export Name:

Select Search Files:

File 1:

File 2:

File 3:

Sort Fields:

Break: ☒

File Connections:

Field	Oper	Field
<input type="text" value="Name.ID"/>	<input "="" type="text" value="="/>	<input type="text" value="Name_Address.ID"/>
<input type="text" value="Name.CO_ID"/>	<input "="" type="text" value="="/>	<input type="text" value="Activity.CO_ID"/>

Main

- Select up to three *iMIS* tables as Select Files.
- (Optional) Select the **Sort Fields** for these files. This determines the order the records are exported.
- (Optional) Select the **Break** option if you want to create an export record each time the value in the **Sort Field** changes.

Tip: To eliminate duplicate member export records, specify the **Name.ID** field as a **Break** field. The Export Utility will create only one export record for each unique **Name.ID**.

- Define the joins for the Select Files (tables) in the **File Connections** fields.
- Click **Main** to return to the **Export Utility** window.
- Click **OK** to save.

Specifying Search Criteria

The next step is to specify the general search criteria for the export. The export will contain only the information in the **Select Files** that meets the search criteria.

To specify search criteria

- Select **Utilities > Data Transport Utilities > Export Utility**.
- Click **Edit Search Criteria** to open the **Select Search Instructions** window.

3. Click **New** to open the **Search Instructions** window.

Search Instructions

Search Name: Member

File	Field	Mode	Value/Calculation
Name	MEMBER_TYPE	=	CM

Mode:

☒ Comparison
☐ Calculation
☐ AND
☐ OR

Comparison: File: Name Field: MEMBER_TYPE

☒ Equal to
☐ Contains
☐ Begins with
☐ Greater than or equal
☐ Less than or equal
☐ Not equal

Comparison Value: CM

4. Enter the **Search Name**.
5. (Optional) Select the **Mode**. This option allows you to export only the files/fields that meet defined criteria (**Comparison**, **Calculation**, **AND**, **OR**).

Note: If the **Comparison Value** is a field value, enter an asterisk (*) before the field name.

6. Click **OK** twice to save and return to the **Export Utility** window.

Tip: You can specify search criteria from a record in a file that is not one of the three Select Files or from another record within a Select File. If you are pulling information from a file other than a Select File, you must relate the file to one of the Select Files in the search criteria.

Search Instructions

Search Name:

File	Field	Mode	Value/Calculation
Subscription	BT_ID	=	*1st(Name.ID)

Insert
Remove

Mode:

☒ Comparison
☐ Calculation
☐ AND
☐ OR

Comparison: File: Field:

☒ Equal to
☐ Contains
☐ Begins with
☐ Greater than or equal
☐ Less than or equal
☐ Not equal

Comparison Value:

Print Cancel Ok

You can use SQL statements to specify the Comparison Value. For example, if **Name** is a Select File and you want to bring in the **Home Address** record, enter **Name_Address.ID** to search for a specific address. For the Comparison File/Field and enter ***[ASISql(Name.ID)]** for the **Comparison Value**, as shown in the following example.

Search Instructions

Search Name:

File	Field	Mode	Value/Calculation
Name_Address	ID	=	*[ASISql(Name.ID)]
Name_Address	PURPOSE	=	Home Address

OK ✓
Cancel ✗
Insert +
Remove -
Print

Mode:

☒ Comparison
☐ Calculation
☐ AND
☐ OR

Comparison: File: Field:

☒ Equal to
☐ Contains
☐ Begins with
☐ Greater than or equal
☐ Less than or equal
☐ Not equal

Comparison Value:

Specifying Export Field Formats

Export field formatting is entered in the **Comparison Value** section of the **Export Utility** window. You can specify formatting for constants, *iMIS* field values, and Omnis calculations. You can also specify if/then processing of the output by formatting the export output with condition statements. This step narrows the general search criteria for specific fields.

To format export fields

1. Select **Utilities > Data Transport Utilities > Export Utility**
2. Select an **Available Export**.
3. Click **Edit**.
4. There are three types of values that can be exported: a constant, a value contained in an *iMIS* field, and an Omnis calculation. Enter the formatting in the **Comparison Value** field.
 - To specify the format for a constant (literal) value, type a double-quotation mark followed by the value. *For example*, if the first four characters of the export record must contain the value 0001, type "0001 in the **Comparison Value** field.
 - To specify the format for an *iMIS* field value, type the field name, *for example*, **Name.MEMBER_TYPE**.
 - To specify the format for an Omnis calculation, type an equal sign followed by the calculation. *For example*, if you want to export the area code of the home telephone number field, type `=mid(Name.HOME_PHONE,2,3)`. This statement exports the second, third, and fourth characters from the **Name.HOME_PHONE** field.
5. (Optional) Specify the desired **Length** of the field. This allows you to truncate or extend the field length.
6. (Optional) Enter a code in the **Format** field (see below).
7. Click **Add** to save the format.
8. After all formatting instructions are added, click **OK** to save the formats.

The following table lists the available Format Codes.

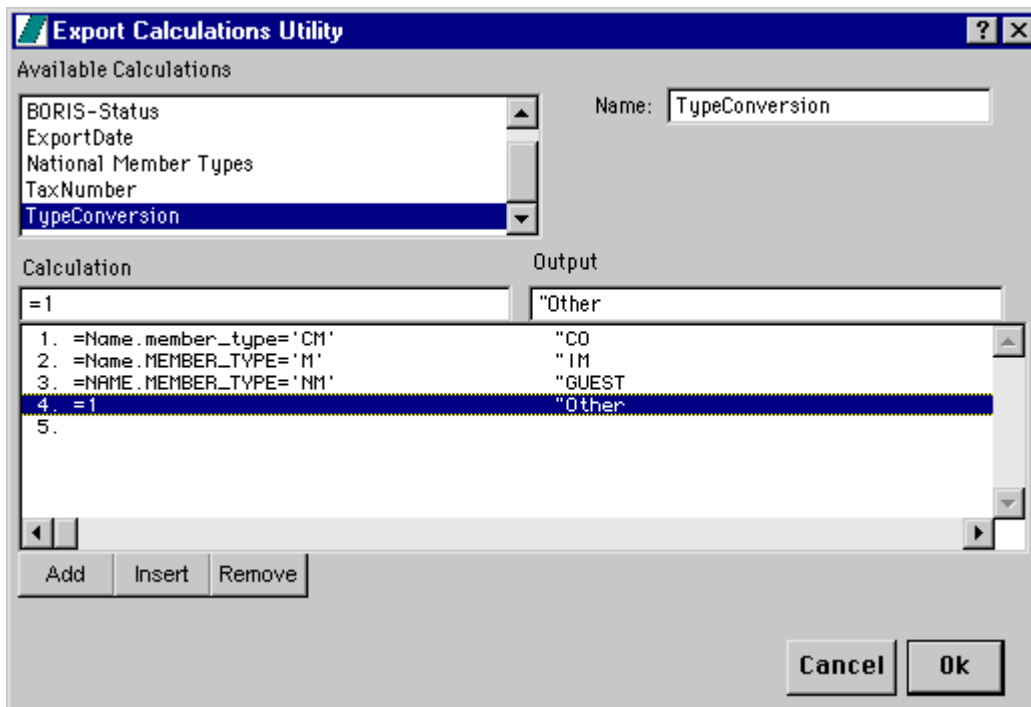
Code	Definition
1	Exports the value on the first record only (useful for header records). Must be in the first position of the Format field.
C	Formats the output to initial capital letters
D6	Exports the value as a date in the MMDDYY format
D6/	Exports the value as a date in the MM/DD/YY format
D8	Exports the value as a date in the MMDDYYYY format
D8/	Exports the value as a date in the MM/DD/YYYY format
F	Appends a LF (line feed) return to the end of the field
L	Formats the output to all lowercase letters
P	Pads the field to the length specified in the Length field with the character immediately following the P
P0	Pads the field without zeros
N	Specifies all blank or zero field values to be output as 'Null'
N2	Same as N except that the characters . - \$ () are saved
R	Appends a CR (carriage return) feed at the end of the field. <i>Note:</i> This code should be used with the last field of each format.
U	Converts the output to all uppercase letters
S	Skips the delimiter and concatenates with the next export column

Code	Definition
X	Updates data in the iMIS database. <i>Note:</i> You must include search criteria and a calculation with this format. The search criterion identifies the specific record to be updated. The calculation determines the value that is output in the export record.
6X	Indicates which record will be selected when searching extra records. <i>For example,</i> the code 62 will take the field value from the second record that matches the search criteria.
Y	Outputs a YES or NO. If the field value or calculation in the Value field evaluates True, a YES is exported. Otherwise a NO is exported.
y	Same as Y, except outputs a Y or N

To format output with condition statements

You can format the export output with condition statements by creating a series of IF statements with corresponding output values.

1. Select **Utilities > Data Transport Utilities > Export Utility**.
2. Select an **Available Export** and **Search**. Highlight an export **Value**.
3. Click **Edit Calculations** to display the **Export Calculations Utility** window.



4. Click **Insert** at the bottom of the window and click in the **Name** field to add a new name for the calculation.
5. Click **Add** to add a calculation or condition statement. In the **Calculation** field, type an equal sign followed by the calculation, *for example*, `=Name.MEMBER_TYPE='CM'`.
6. In the **Output** field, type a double quotation mark followed by the desired output value, *for example* "CO. In this example, every CM Member Type is exported as a CO value.
You can add as many calculations as you need. The utility exports the result of the last True calculation. The result can be an iMIS field name, a constant, or an Omnis calculation.
7. Click **OK** to save the calculation. The calculation is now listed as an **Available Calculation** on the **Export Calculations Utility** window.

To load record formats from other compatible software

To load records from compatible third-party software applications, the records must be comma- or tab-delimited. Each record to be loaded must contain the following fields in this exact sequence: **Value, Length, Format, Calculation, and Search.**

1. Open the **Export Utility** window: **Utilities > Data Transport Utilities > Export Utility**
2. Select an **Available Export**.
3. Click **Edit**.
4. Click **Load** to select the file to load into the export definition.
5. Click **Open** to start the import process.
6. Click **OK** to save.

Running an Export

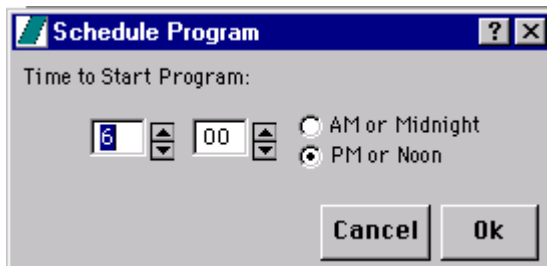
To run an export on demand

1. Select **Utilities > Data Transport Utilities > Export Utility**.
2. Select the **Available Export** to run.
3. Click **Go**.
4. When prompted to confirm the run, select **Yes**.

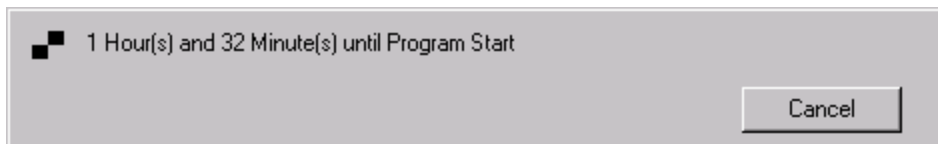
To schedule an export

The export should be scheduled after you have finished work for the day.

1. Open the **Export Utility** window: **Utilities > Data Transport Utilities > Export Utility**.
2. Click **Schedule** to open the **Schedule Program** window.



3. Select the time to start the export by using the up and down arrows.
4. Click **Ok**. The remaining time until program start displays.



Printing an Export Definition

You can print the export definition to a printer or to a file for use with a third-party software application.

To print an export definition to a printer

1. In **File > Report Destination**, set your report destination to **Printer**.
2. Open the **Export Utility** window and select the **Available Export** to print.
3. Click **Go**.

4. Click **Print**.

To print an export definition to a file

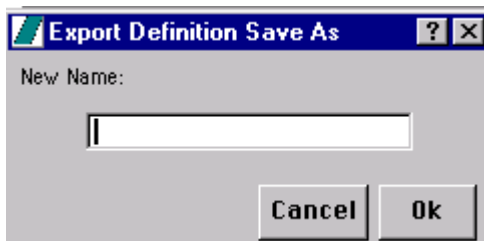
1. In **File > Report Destination**, set your report destination to **Screen**.
2. Open the **Export Utility** window; select the **Available Export** to print.
3. Click **Export**.
4. Enter the desired file path.
5. Click **Save**. The system exports the file to a print file (.prn) that can be read by compatible software applications.

Cloning an Export Definition

You can clone an existing export definition and make changes to create a new export definition.

To clone an export definition

1. Select **Utilities > Data Transport Utilities > Export Utility**.
2. Select an **Available Export**.
3. Click **Save As** on the **Export Utility** window to display the **Export Definition Save As** window.



4. Type the **New Name** for the export definition.
5. Click **Ok** to save the file with a new name.
6. Make changes in the new file and save.

Viewing the Activity Record

If the **Create Activity Record** option is selected in the **Export Utility** window, *iMIS* records the date the export record was created and saves a copy of each member's export record.

To view the activity record

1. Make sure the **Name** file is one of the Select Files in the export definition.
2. Create an activity named **EXPORT** in **Customers > Set up module > Activity Types**.
3. View the activity record in **Customers > Manage customers > Activity**.

Export Utility window

Utilities > Data Transport Utilities > Export Utility

Available Exports

List of user-defined export definitions

Name

Name of selected export definition

Search

Name of user-defined search criteria

Delimiter

Character placed between fields

- **Fixed** – no delimiter
- **Tab**
- **Comma**
- **Other** – specifies other delimiter in the field that appears
- **Quotes** – encloses text in double quotes. This is helpful if a comma delimiter is required and some text fields contain commas. (*Note:* This field displays only when a delimiter other than **Fixed** is selected.)

Create Activity Record

Option to record each export record as a member activity in the *iMIS* database

Path

Directory and file name for the export file

Edit Search Criteria

Opens the **Select Search Instructions** window

Edit Calculations

Opens the **Export Calculations Utility** window

Export

Opens the **Set print file name** window to save the selected export definition to a file

Import

Opens the **Select import file** window to import a file containing export data formatting information

Save As

Saves a copy of the export definition with a different name

Load

Opens the **Select import file** window where you can select and insert a record template from compatible third-party software applications such as MS Excel™. Each record template loaded must contain the following fields in this exact sequence: **Value**, **Length**, **Format**, **Calculation**, and **Search**

Setup 'Select' Files

Opens the **File Export Utility - Select Records** window

Allow OverWrites

Option to allow the file to be overwritten each time you run the export definition

Value section

Specific formatting information is entered here.

Value

The constant value, *iMIS* field value, or Omnis calculation to be formatted

Length

User-defined length of the **Value** field

Format

Code to specify data format

Calculation

List of available calculations

Search

List of available search names

Add

Adds a new line in the **Value** text box

Insert

Inserts a line between existing lines in the **Value** text box

Remove

Removes the selected line in the **Value** text box

Schedule

Opens the Schedule Program window

Go

Runs the export

File Export Utility - Select Records window

File Export Utility - Select Records

Export Name: BORIS-MaestroV2-OFFICE

Select Search Files:

File 1: Name

File 2: Meet_Master

File 3: Member_Types

Sort Fields:

Name.ID

Break:

File Connections:

Field	Oper	Field
	=	
	=	

Main

Utilities > Data Transport Utilities > Export Utility, click Setup 'Select' Files

Export Name

User-defined export definition name

Select Search Files

Select File(s) for the export definition

Sort Fields

Defines sort order

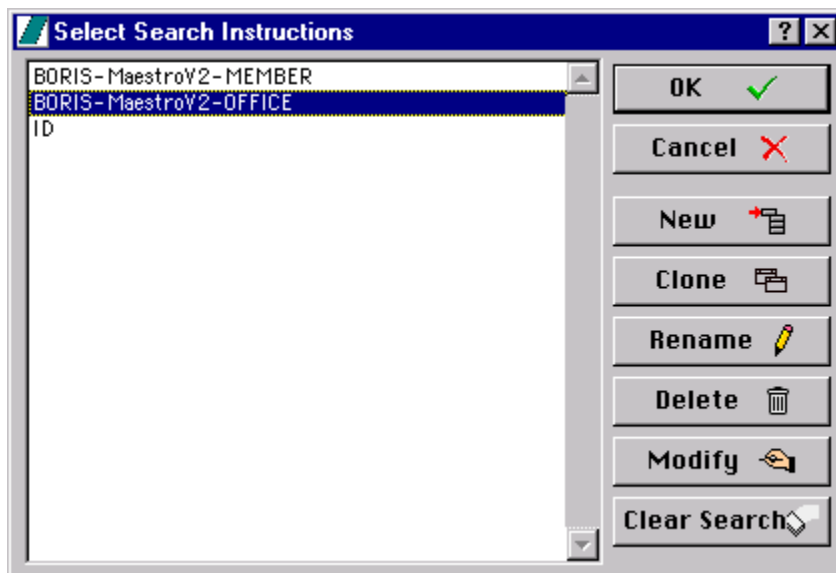
Break

Creates an export record whenever the value in the **Sort** field changes

File Connections

User-defined file/table joins

Select Search Instructions window for Export Utility



*Utilities > Data Transport Utilities > Export Utility, click **Edit Search Criteria***

OK

Saves changes made to the search record

Cancel

Closes the **Select Search Instructions** window and returns to the **Export Utility** window

New

Opens the **Search Instructions** window to create search instructions

Clone

Makes a copy of the selected search instruction

Rename

Allows you to rename the selected search instruction

Delete

Deletes the selected search instructions

Modify

Opens the **Search Instructions** window to modify the search instructions

Clear Search

Clears the window of any search instructions and returns to the **Export Utility** window

Search Instructions window for Export Utility

*Utilities > Data Transport Utilities > Export Utility, click **Edit Search Criteria**, click **New***

Search Name

User-defined name for search criteria

Mode

Allows you to export only the files/fields that meet defined criteria (**Comparison**, **Calculation**, **AND**, **OR**).

File

File (*iMIS* table) to be used for comparison

Field

Drop-down list of available fields in the selected file

Comparison Value

Value to be compared with selected field value

OK

Saves the search instructions

Cancel

Closes the window without saving new search instructions

Insert

Inserts a line in the **Comparison Value** text box

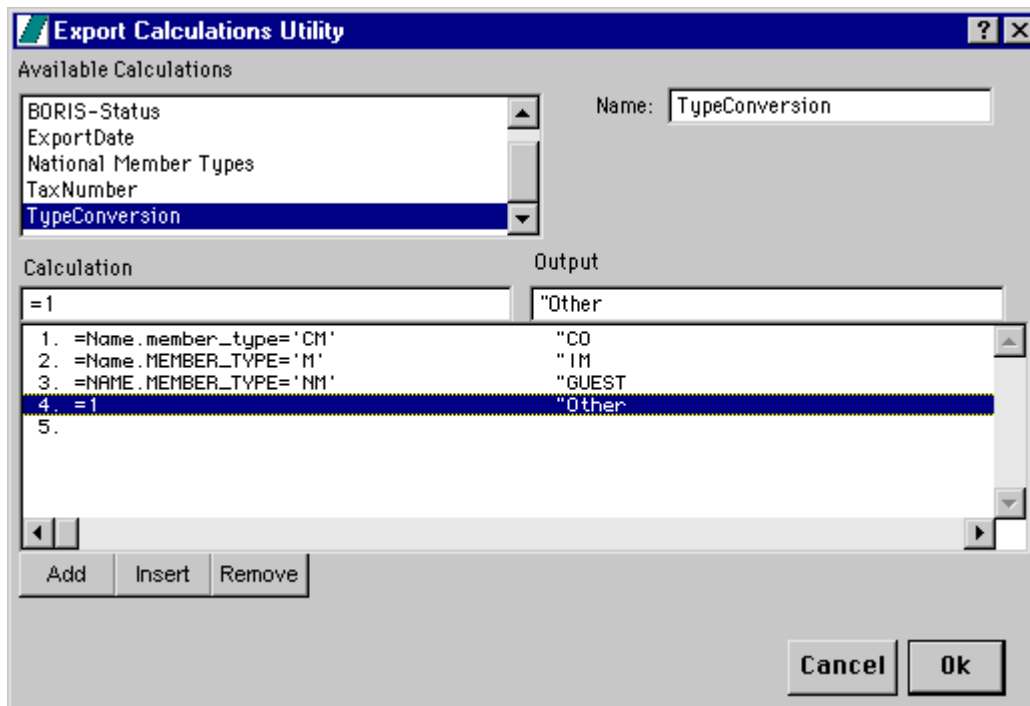
Remove

Deletes the selected line in the **Comparison Value** text box

Print

Prints a report of the comparison instructions

Export Calculations Utility window



Utilities > Data Transport Utilities > Export Utility, click Edit Calculations

Available Calculations

List of user-defined calculations

Name

Name of selected calculation

Calculation

Calculation or condition statement

Output

Desired output value when **Calculation** evaluates True

Add

Adds a line in the **Calculation** text box

Insert

Inserts a line between existing lines in the **Calculation** text box

Remove

Deletes the selected line in the **Calculation** text box

Cancel

Cancels editing of the calculation

Ok

Saves the calculation

iMIS Table/Field Formats

Table layout overview

The primary table (file) in *iMIS* is the **Name** table, which is the internal system label for the member/contact file. It contains name, address, categorization, and demographic information for each member/contact that you track through *iMIS*. All *iMIS* modules interact with and retrieve information from this table.

The other main table that supports membership processing is the general purpose **Activity** table. It contains records that track historical and participation details, such as meetings attendance, committee service, dues payments, product purchases, correspondence sent, and calls logged. The information in this table is commonly accessed for analysis or marketing reasons.

Another table you may want to use is the **Subscription** table, which tracks all dues and subscription line items billed and collected.

Referencing the fields

When you want to access or reference a field in *iMIS*, you can often select from a field list. To export *iMIS* fields, format the field names exactly, including precise capitalization and punctuation. Table (file) names appear with initial capitals (with underscores as needed), field names appear in all capitals (with underscores as needed), and the two parts are connected with a period.

iMIS files to use for export

The following are the recommended *iMIS* tables to use to export data:

- Name
- Activity
- Subscription
- Orders
- Order_Lines
- Trans
- Invoice
- Invoice_Lines

Avoid using other *iMIS* tables for export, because data in the other tables may not be easily linked to the primary tables.

Defining Joins for Select Files

Often, you will require data from more than one *iMIS* table for export. *For example*, you may need **FULL_NAME** and **COMPANY** from the **Name** table and **TYPE='DUES'** and **BALANCE** from the **Subscription** table. Since there is no membership data in the **Subscription** table, you must access the **Name** table. To use data from two or more tables, you must join them.

To join files (tables) is to specify which fields are equivalent so the files can relate to each other correctly, record by record. In effect, joining glues the files together for the export process. The most common joins in *iMIS* center on member ID numbers. A join across three tables might be:

```
Name.ID = Activity.ID  
Name.ID = Subscription.ID
```

Ordering the Joins

The order of your table joins can impact performance substantially. Although the optimal order depends on the report, the key *iMIS* joins are:

```
Name.ID = Activity.ID  
Name.ID = Subscription.ID  
Name.ID = Invoice.BT_ID  
Orders.ORDER_NUMBER = Order_Lines.ORDER_NUMBER  
Product.PRODUCT_CODE = Order_Lines.PRODUCT_CODE  
Name.ID = Orders.BT_ID
```

Troubleshooting Joins

If you experience problems such as too much data being returned, multiple records being returned, or endless data retrieval, you may not have joined the files correctly.

If you are experiencing performance problems with a report that uses a join, try these fixes:

- Switch the order of the files.
- Make sure that the files included in the join are Select Files in the export definition.

Tools

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Quick facts: Tools

The **Tools** console contains several tools and utilities for *iMIS* administrators. Only *iMIS* users who are members of the **SysAdmin** role can access **Tools**.

Tools provides access to files, objects, and queries which define your *iMIS* system. Through easy-to-use tools you can manage your *iMIS* system, access and modify underlying business objects and queries, and integrate to third-party applications. **Tools** features include:

[Document System](#)

- Is the web-based [document management system](#) for your entire *iMIS* system
- Unifies management, versioning, and security of your organization's content assets

[IQA Queries](#)

- Offer simple access to *iMIS* data for reporting, mailings, or letter and email merges
- Provide ability to create sophisticated queries against the *iMIS* database even if you have limited experience with SQL
- Use *iMIS* business objects and other queries as data sources
- Secure access to queries and the underlying data

[Business Object Designer \(BOD\)](#)

- Define and test *iMIS* business objects using a flexible design interface

[Workflow](#)

- Monitor the *iMIS* workflow engine and process engine

Utilities

- Manage all Document System folders and definition objects that support *iMIS* functionality
- Auto-create new business objects from user-defined tables created by the *iMIS* Customizer
- Check for updates to *iMIS*

[Reports](#)

- Easily identify reporting objects in the Document System

Terminology for Tools

Alias

An alternate name for a column (property).

For example, you could define **Postal Code** as the alias for the **Zip** column name.

Business Object

A collection of self-contained data that represents an entity or process, and shields the physical data.

For example, the CsContact business object can represent a view of a person or organization and the processes that a person or organization can perform.

Note: You can change the way a property is displayed in your query results by editing the property's display in **Business Object Designer**. For example, you can change the date display from a short date, like 2/10/2011, to a long date: Thursday, February 10, 2011. From **Tools > Business object designer**, open a business object and select the **Properties** tab. Select a property from the list, and then click the **Display** tab. The **Display Mask** drop-down list is shown if display options are available for the property.

Comparison Method

Specifies the method by which data is restricted for a column.

For example, to return orders for more than \$1000.00, create a filter set that uses the "Greater" **Comparison** operator and enter "1000" in the **Value** field.

Document System

A server-side file system containing documents and objects (business objects, query objects, and output processes).

Display Order

Refers to the columns that display in the results for a query.

Note: The default column sort order is derived from the first query source. You can override the sort order, if necessary.

Filter

One or more column-specific search conditions.

For example, if you wanted all contacts who live in Texas (CsContact.STATE_PROVINCE = "TX") or who subscribe to a journal (Subscriptions.PRODUCT_CODE = "JOUR"), you could define a filter set using the **Or** connector, so that only those contacts either from Texas or who subscribe to a journal return.

Function

Summarizes some characteristic of the current set of rows. The functions that are available depend on the data type of the column you selected.

Note: You must select only one column when using a function. *For example*, if you want the maximum ID, ID must be the only column listed on the **Display** tab.

Avg	Returns the average of the values in the specified column. (Numeric data type only)
Count	Returns the number of rows that are in the table or that meet certain conditions. (Any data type)
Max	Returns the maximum value found in the specified column. (Character and numeric data types)
Min	Returns the minimum value found in the specified column. (Character and numeric data types)
Sum	Returns the sum of all values found in the specified column. (Numeric data type only)

IQA

Intelligent Query Architect. The query-building tool used to extract data from the *iMIS* database.

Object

Self-contained element that consists of instructions to manipulate data; *for example*, a business object or query object.

Parameterized Query

A query that requires a value from the user at runtime.

For example, a query to obtain the registrants for a closed event may prompt the user at runtime to supply the event code of the closed event.

Example of a filter definition for a parameterized query

Example of a prompt that displays when a parameterized query is run

Priority

The order in which the data for a particular column is sorted.

Query

User-defined criteria used to retrieve a subset of data.

Relation

The part of a query definition that specifies a relationship between two or more sources, which effectively creates a new temporary table against which the query is run. Because the relationship pre-filters the data in the two sources, the query can run faster and with less impact on the system. If you specify multiple sources for a query but forget to define relationships among the sources, *iMIS* reminds you that one or more sources have not been related (and by default defines a CROSS JOIN relationship between the two sources).

For example, assume you are defining a query to return a list of only those members who have made orders over the amount of \$1,000. The information needed for this query is in two different sources: CsContact and CsOrders. By creating a relationship between the sources where CsContact.*iMIS* Id **Equals** CsOrders.Bill To Id, you are creating an INNER JOIN between the two sources, which makes the query run more efficiently. Other relationship operators besides **Equals** (=) can produce slightly different results because they would produce different temporary sources, as described in the next section.

Several default relations among business object sources are pre-defined in *iMIS*. These default relations are available to choose from a list when you have defined two or more query sources that contain the underlying default joins. You can use these default relations or you can define custom relations.

Default Relations Through Virtual Foreign Keys

In *iMIS* 10.x, the default list of relations available to an IQA query was manually defined on the **Related** tab of each *iMIS* business object definition. To enable better referential data integrity in custom extensions to *iMIS*, the list of available default relations in *iMIS* 15 is now populated automatically based on foreign key relationships among the tables used in each business object used as sources for the query.

The tables used by the **Cs...** objects, however, are still used by older OMNIS code in the product, and attempting to create foreign keys in any of the tables associated with the **Cs...** objects would have caused problems. To work around this temporary issue until *iMIS* no longer uses OMNIS code, we have hard-coded some *virtual* foreign keys for the tables used by the **Cs...** objects.

Because these are virtual foreign keys in our *iMIS* code and not actual foreign keys on the underlying tables, you will not always find a corresponding foreign key in the *iMIS* database for every default relation in an IQA query that uses a **Cs...** object.

These changes to the underlying manner in which the list of default relations for an IQA query is populated does not change IQA itself in any significant way. You should still see most of the default relations that were available in previous releases, and you can still manually create any **Custom** relations you need for a specific query.

Caution! You must not attempt to manually add foreign keys to any standard *iMIS* table, because this could compromise data integrity.

You *can and should*, however, define foreign keys on *custom* tables that you need to link to standard *iMIS* tables for referential integrity. When adding a foreign key to a custom table, you must include an ON DELETE CASCADE referential action to ensure that when *iMIS* deletes records from the referenced *iMIS* table, the corresponding record is also deleted from the referencing custom table.

Note: when you add such a foreign key to a custom table, a corresponding default relation will also be available in IQA queries that use the tables in the foreign key relationship.

Relationship (Join) Operator

The specific type of relationship between two sources. The following relationship operators are available in IQA. Each operator builds a different temporary source against which the query is run:

- **Equals** - Defines an INNER JOIN between the two sources in the SELECT statement that builds the query table.
- **Left Join** - Defines a LEFT OUTER JOIN between the two sources in the SELECT statement that builds the query table.
- **Exists** - Defines an EXISTS subquery in the WHERE clause of the SELECT statement that builds the query table. The subquery tests for matches between the specified columns in the two sources.
- **Not Exist** - Defines a NOT EXISTS subquery in the WHERE clause of the SELECT statement that builds the query table. The subquery tests for matches between the specified columns in the two sources.
- **Or Exists** - Defines an OR EXISTS subquery in the WHERE clause of the SELECT statement that builds the query table. The subquery tests for matches between the specified columns in the two sources.
- **Or Not Exist** - Defines an OR NOT EXISTS subquery in the WHERE clause of the SELECT statement that builds the query table. The subquery tests for matches between the specified columns in the two sources.
- Schema
- The structure of a database.
- Source
- Object that is available for building query definitions. Sources include both business objects and query objects. Query definitions can be created based on one or more sources.

Workflow

You can use the *iMIS* System Setup to view the workflow queue. You can view workflow queue items that are currently running or that are waiting to be run. You can also view failed workflow queue items and delete or reschedule any failed workflow queue items.

Note: If multiple workflow processes are queued, processing of these items will continue until all workflow services associated with the database are stopped.

Workflow Engine

Understanding Process Workflows

Throughout *iMIS*, there are many examples of workflow processes:

- Processing orders through order entry, confirmation, approval, shipping, shipping notification, invoicing
- Processing a member application
- Signing up an exhibitor and following and tracking the process through the various contracts and order requirements
- Processing opportunities
- Issue Management
- Marketing campaigns
- Timed responses to inactivity
- Multi-part mailings: Letters and labels to go with the letters

These are examples of what we will call “process workflow” and generally are thought of as “persistent workflows,” which may take a few minutes, days, or even months to complete.

Workflows typically:

- Have an ownership structure.
- Are related to a specific parent object, like an order, complaint, and so on.
- Has a set of tasks that must be executed according to business rules.

Workflow Engine components

To deal with this pattern of needs on a consistent basis, *iMIS* provides a Workflow Engine.

There are two primary components of the workflow engine:

- **Process Definition Rules.** Process definitions list all of the tasks for the workflow as well as the rules as to when the tasks are to be executed, and what the subsequent actions are to be initiated upon task completion. Tasks need not all execute serially. For instance, a workflow may have a step that requires approval from multiple sources, not necessarily sequentially.
- **Workflow Instances.** Workflow instances are the actual workflows in action. Workflows may carry their own process definition rules within, or may simply refer to the standard definition for the workflow type. When rules are carried by the workflow, they may be constructed or modified dynamically by applications. Workflow instances have one or more owners with specific roles.

How *iMIS* Workflows work

As workflows progress and workflow rules are interpreted, work items (or tasks) are generated. Tasks are generally assigned to specific individual or process queues. Automatic processes are executed without human intervention. People-oriented queues show as tasks to your users. Tasks are never deleted; only marked complete. Tasks record time and, in some cases, effort for completion. The analysis of task data performance data can be a good source of information for process improvement.

The workflow itself can carry state data, document attachments, references to customers and their roles.

Workflows can run totally off their static definitions, or be created or modified by runtime processes.

Workflows are always used for system processes like “print invoices”, print AR statements, and so on. Since workflows are extensible, field users can add or subtract steps to these processes. Workflows are used to move most all of the older hard-coded processes like “print invoice”, “convert order”, “do due billing run” from hard-coded processes to extensible processes and allow installers to mold these processes to customer needs in a consistent way.

Workflows can be executed in a number of environments. They can run silently in the background as queues of work are worked off by the workflow engine’s background and scheduled processes, or can be run interactively. In the interactive situation, a standard dialog, similar to an installer dialog, displays progress and asks for intervention as required.

An initial implementation of the workflow engine exists in Process Manager. However, that implementation did not implement business rules or automatic application execution.

Process Engine

Understanding list-based processes

Another common pattern in *iMIS* is the situation in which there is a list of objects (1-n), where you would like a particular process to be performed across the list. Examples of this pattern:

List	<—>	Process	Template
Subscription Group		Print a Crystal report	Report.rpt
IQA Query		Print an HTML Report	XSL template
Individual person		Print Labels	Labels.rpt

	Send an e-mail	Letter template
	Send best available of: report, fax, or e-mail	Customer parameters, report/letter templates
	Create a subscription group	Group, role, etc.
	Register people for a event	Event, standard functions
	Transmit to another site	Custom parameters
	Add list to a marketing campaign	Campaign information
	Render a web roster	XSL Template
	Exchange Export	Custom parameters
	Specialized exports	As Needed

Though there are many occurrences of this pattern, perhaps it would be helpful to isolate our study of this problem to the single situation of an ad hoc query tool. Typical tasks would be needing to:

- create a query that selects a particular group of customers
- send something to the list: perhaps an e-mail, a letter, a fax, or add them to a marketing campaign (a subscription group)
- name or edit our own letter or e-mail template
- schedule for subsequent execution

We would also like to be able to carry out these types of processes over time on or to new types of processes, without having to update our query selection tool constantly.

Process Engine services

Our implementations that deal with this pattern are known as Process engines. Process engines are generally services, encapsulated in objects that are subclassed upon the base Process Engine.

Process Engines must inherit the base process engine class and provide a few basic services (methods).

- On demand, they must supply a visual template editor which is subclassed from the Process Engine Template base class. The template editor interacts to select or define a template specific to the type of process. For instance:
 - Crystal reports template editor allows a user to specify the location of a crystal report and any parameters that will be needed to execute the report.
 - Mail merge process engines specify or define on the fly a mail-merge template.
 - A multi-output process engine may specify the rules about when to choose which media type and what letter templates will be used. (A multi-output process engine is an application that receives an initial input then delegates subsets of the input list downstream to other process engines.)
- Provides standard methods to execute a process, monitor progress, log errors, and report results.

Process Engine objects are frequently bound to query objects. Template Process Engine objects (such as a process engine for Crystal Reports but no report specified), and specific process engines (such as a process engine for a specific Crystal report), are generally persisted in document libraries with or without bound query objects that, in term, provides a catalog of available processes to users and administrators. In fact, process engines bound to query objects present a major part of the *iMIS* application to user, especially for the standard and ad hoc reports users use continuously.

Process Engine objects with bound query objects are frequently queued as tasks within a workflow for subsequent execution. Multiple process object tasks can be included into a single workflow for report sets or multi-step processes.

Example Process Engines

- Crystal reports
- XSL/HTML reports
- E-mail system
- Word Merge
- Create subscription group from query
- Add people to marketing campaign (same as above)
- Register people from query
- Multi-output process engine

Uses for Process Engines (with bound query objects)

- Data-oriented web pages
- Reports and the report catalogs
- Dues billing run definitions

Document System

The **Document System** is the web-based [document management system](#) for your entire *iMIS* system, providing unified management, versioning, and security of your organizational content assets. It lets you view and maintain the full range of *definition objects* for *iMIS*:

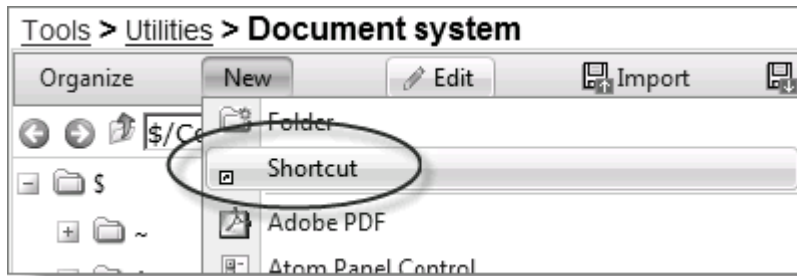
- Business objects, used by Business Object Designer (BOD)
- Queries, used by Intelligent Query Architect (IQA)
- Workflow definitions
- Reports
- HTML files and Microsoft Word files, used for mail merge output

Filtered views

When you use **Tools > Document System**, you see *every* type of object (document), but when you see the Document Browser throughout the rest of *iMIS*, the view is filtered to show you only what you need for that situation. For example, when working with IQA, the Document Browser only shows you queries. In the same way, toolbar commands such as **New** are filtered so that, when you are working in Business Object Designer, you can create only business objects.

Shortcuts

In the Document System, you can move and copy objects and folders to other folders. Beyond this, you can also create a virtual link (alias) in one folder that points to another object or folder, which keeps you from duplicating objects or folders that you want to share in different contexts.



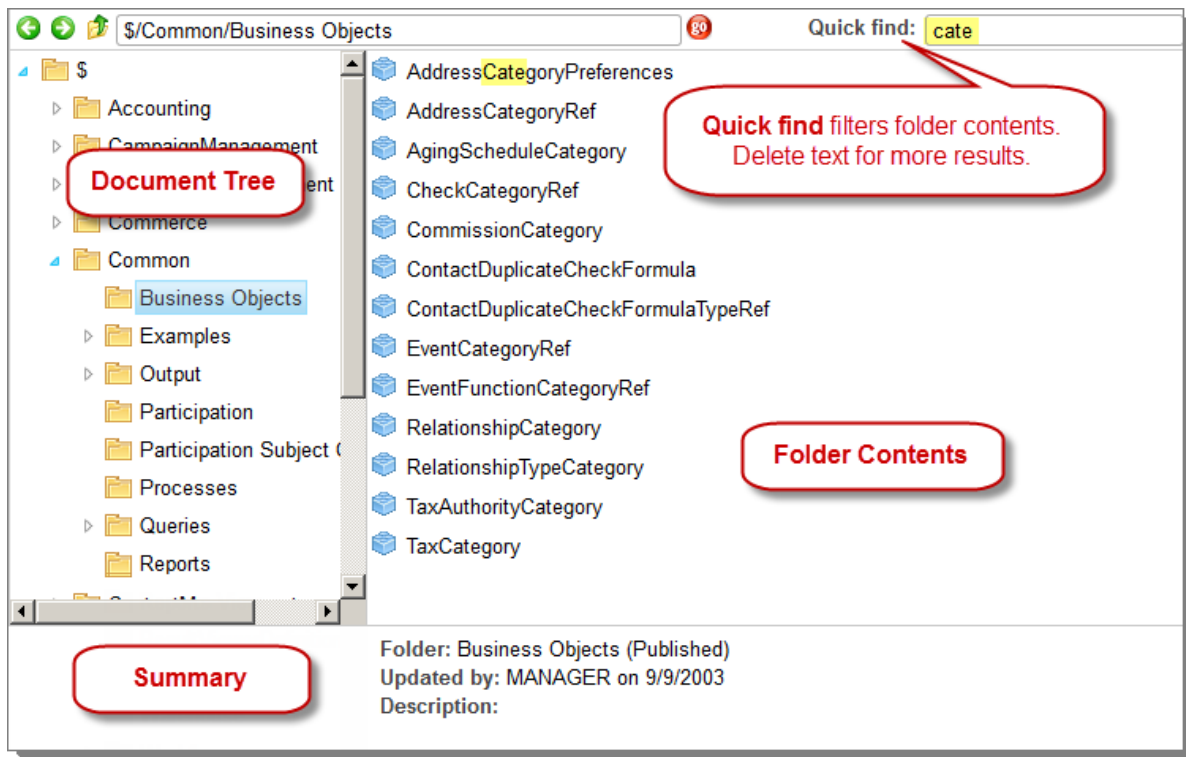
Security access

iMIS users that belong to the **SysAdmin** security role can see and maintain all definition objects that exist in the Document System. Users who do not belong to the **SysAdmin** role see a more limited set of definition objects that is determined by the *security privileges* (see "Setting security access for folders and objects") that are set on each object or on each folder that contains objects.

For example, you can limit the visibility of an entire folder and its definition objects to a specific user-defined security role such as **Fundraising Users**. Alternatively, you could define that same folder to be visible to **Everyone**, but limit a few definition objects in that folder to be visible only to **Fundraising Users**.

Document Browser

Selecting **Tools > Document System** opens the **Document System**, which has a toolbar at the top and the three-pane **Document Browser** below it:



The Document Browser also appears throughout *iMIS* for locating relevant objects, which it does by filtering the view so that you only see folders and objects that are appropriate for your current task. The Document Browser always appears with these three panes:

1. **Document tree** (left pane): displays all folders that are relevant to the context in which the Document System is displayed.
2. **Folder contents** (right pane): displays the contents of the folder that is selected in the document tree area. Folder contents can comprise definition objects, subfolders, or links to items that are located in a different folder.

Tip: The **Quick find** box dynamically filters the folder contents, to help you to find items quickly when there are large numbers in the folder. Delete text to see more results.

3. **Summary** (bottom pane): summarizes the basic properties of the item that is selected in the folder contents area. To show or hide the summary area, select **Organize > Display Summary**.

Managing document folders

The document tree area of the Document System lists the folders available in the current view of the Document System. The folders that are visible depend on the roles and groups assigned to your user record as well as by what feature of *iMIS* you are using. The full extent of the folders available in the Document System can be seen only by SysAdmins.

Multiple hierarchies, different roots

There are several Document System hierarchies, each used for different areas of *iMIS*:

- **\$/** — Business Object Designer (BOD) has its own hierarchy of business objects. The root is represented by a **\$** character.
- **@/** — Content folders and content records exist in their own hierarchy. The root is represented by a **@** character.
- **~/** — Sitemaps each exist as their own hierarchy. The roots are represented by **~** characters.
- **\$/** — All other definition objects exist in the main Document System hierarchy, portions of which are also exposed in other features of *iMIS*. The root is represented by a **\$** character.

Tasks that you can perform

- Click an item to select it for use with a toolbar command and to display a read-only summary of its basic properties in the summary area.
- Double-click a folder to open the folder and display its contents.

Toolbar behavior when folders are selected

When a folder in the document tree area is selected, the toolbar commands behave as follows:

- **Organize > Refresh** refreshes the document tree.
- **Organize > Cut**, **Organize > Copy**, and **Organize > Paste** enable you to copy or move entire folders, including all of their descendants. The cut or copied folder and all of its descendants are placed inside the folder that is selected when you use the **Organize > Paste** command.
- **Organize > Select All** selects all contents within the selected folder.
- **Organize > Delete** moves the selected folder and all of its descendants to the **Recycle Bin**.
- **Organize > Properties** shows a read-only summary of the selected folder's basic properties.
- **Organize > Display Summary** shows or hides the summary panel for the object selected.

- **New** displays a drop-down list from which you can choose a new folder or definition object type to create in the selected folder. When you select an object type, a properties window appears in which you can define the object. The object types shown in the drop-down list are determined by the properties of the selected folder, which you can examine by using the **Edit** toolbar command.
- **Edit** opens a window that enables you to edit the definition of the selected folder.
- **Import** imports an external XML file (created by the **Export** command on a *different iMIS* database) into objects in the Document System. (You cannot use **Export** and **Import** to make copies of objects within the same *iMIS* database.)

The **Upload** button reads the XML file contents and displays a list of the definition objects that were exported to the XML file. You can select which of the objects to import, and whether to overwrite objects with the same database GUID in the destination folder or to create new copies of the objects. You can also opt to import the objects to the folder from which they were originally exported, or to override that default destination with the selected folder.

For versioned document types, if a newer version of the object exists in the Document System, then the newer version is not overwritten during the import. Instead, the imported object is added as an archived version of the object. To replace the newer version of the object with the imported object, select **Versions** from the toolbar, choose the correct version, and click **Revert**.

- **Export** exports all selected folders and definition objects into a single XML file, which can later be used to import those objects into the same folder or a different folder in a *different iMIS* database. (You cannot use **Export** and **Import** to make copies of objects within the same *iMIS* database. To make copies, use **Organize > Copy** and **Organize > Paste**.)
- **Versions** displays a list of the existing versions of the folder, from which you can:
 - **Export** a specific version to an XML file.
 - **Purge** a specific version from the version list, removing all traces of that version from the system.
 - **Copy** a specific version to a new folder with a different name.
 - Create a new version based on any existing version by selecting the version, clicking **Revert** (which creates a new working version), and then publish the working version. If you make no changes to the working version you are effectively reverting to the state of the selected version, although technically it becomes a more recent version in the list of versions.
- **Run** cannot be used in this context. You must use this command from the folder contents area.
- **Publish** transforms all working versions of the descendant definition objects in the selected folder into published versions of those objects. Only the most recent published version (of a versionable object) is actively used by the system. You must select the **Publish children as well?** checkbox when publishing a folder.

To manage folders and objects in the Recycle Bin

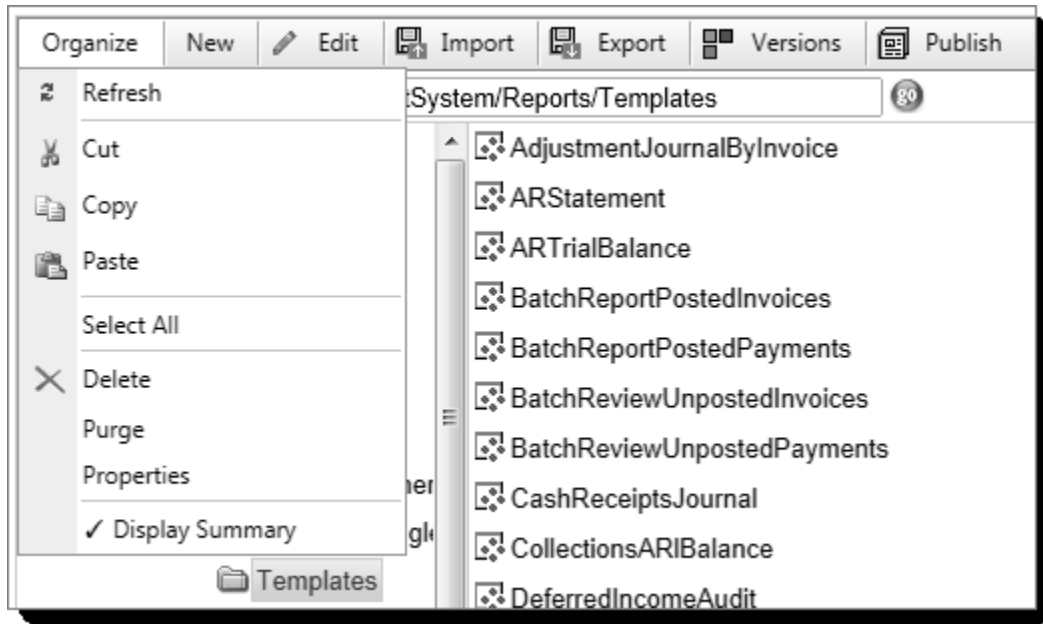
Folders and definition objects that have been deleted are moved to the **Recycle Bin** at the bottom of the Document System hierarchy.

- To permanently delete individual folders and definition objects that you do not think you'll ever need again, select an object listed in the recycle bin and from the toolbar choose **Organize > Purge**. To permanently delete the entire contents of the recycle bin, select the **Recycle Bin** itself and from the toolbar choose **Organize > Empty the Recycle Bin**.
- To restore a deleted definition object, select it and from the toolbar choose **Versions**. In the version history that appears, click the **Recycled** version at the top of the list and click **Revert**. The definition object is moved to its original parent folder in the hierarchy, and its status changes to **Working**. You must then re-publish the definition object to make it active again.

Note: If the definition object's original parent folder no longer exists, the restored object is placed in the root folder of the Document System hierarchy. You must move it out of the root into another folder before you'll be able to publish the object.

Managing folder contents

The *folder contents* area of the Document System lists the definition objects, subfolders, and links that are stored in the folder selected in the document tree area.



Example of the folder contents area of the Document System

Tasks that you can perform

- Click an item to select it for use with a toolbar command and to display a read-only summary of its basic properties in the summary area.
- Select multiple items for use with a toolbar command or right-click command by holding down **Shift** or **Ctrl** while clicking each item. The last object you select is the one whose properties are displayed in the summary area.
- Double-click a definition object to perform one of the following actions (depends on the type of object):
 - Open a properties window that enables you to edit the definition of the object.
 - Open the Document Utility.
- Double-click a folder to open the folder and display its contents.

Toolbar behavior when items are selected

When an item in the folder contents area is selected, the toolbar commands behave as follows:

- **Organize > Refresh** refreshes the document tree.
- **Organize > Cut**, **Organize > Copy**, and **Organize > Paste** enable you to copy or move the selected definition objects. The cut or copied objects are placed inside the folder that is selected when you use the **Organize > Paste** command.
- **Organize > Select All** selects all contents within the folder.

- **Organize > Delete** moves the selected objects to the **Recycle Bin**.
- **Organize > Properties** shows a read-only summary of the selected object's basic properties.
- **Organize > Display Summary** shows or hides the summary panel for the object selected.
- **New** displays a drop-down list from which you can choose a new folder or definition object type to create. When you select an object type, a properties window appears in which you can define the object. The object types shown in the drop-down list are determined by the properties of the folder in which you are working. You can examine these folder properties by selecting the folder in the document tree area, then choosing the **Edit** toolbar command.
- **Edit** opens a window that enables you to edit the definition of the selected folder, object, or of the object to which a selected link points.
- **Import** imports an external XML file (created by the **Export** command on a *different iMIS* database) into objects in the Document System. (You cannot use **Export** and **Import** to make copies of objects within the same *iMIS* database.)

The **Upload** button reads the XML file contents and displays a list of the definition objects that were exported to the XML file. You can select which of the objects to import, and whether to overwrite objects with the same database GUID in the destination folder or to create new copies of the objects. You can also opt to import the objects to the folder from which they were originally exported, or to override that default destination with the current folder.
- **Export** exports all selected folders and definition objects into a single XML file, which you can use later to import those objects into the same folder or a different folder in a *different iMIS* database. (You cannot use **Export** and **Import** to make copies of objects within the *same iMIS* database; to make copies, use **Organize > Copy** and **Organize > Paste**.)
- **Versions** displays a list of the existing versions of a versionable object, from which you can:
 - **Export** a specific version to an XML file.
 - **Purge** a specific version from the version list, removing all traces of that version from the system.
 - **Copy** a specific version to a new definition object with a different name.
 - Create a new version based on any existing version by selecting the version, clicking **Revert** (which creates a new working version), and then publish the working version. If you make no changes to the working version, you are effectively reverting to the state of the selected version, although technically it becomes a more recent version in the list of versions.
- **Run** executes a selected query, report, or other object types that are designed to be run. If the selected object is a .PDF, .DOC, or .XLS file, this command opens the file in its assigned editor.
- **Preview** displays a fully rendered view of the selected navigation item, content record, or other CM object types that are designed to be previewed.
- **Publish** transforms a working version of an object into a published version. Only the most recent published version (of a versionable object) is used actively by the system.

Virtual linking among folders

Many Document System folders in *iMIS* contain a default virtual link to the **Common > Shared Documents** folder, which is the central location for definition objects that are available without restriction to all staff users. These virtual links enable users who are given only limited access to the Document System functionality to easily navigate back to the top of the **Shared Documents** sub-tree.

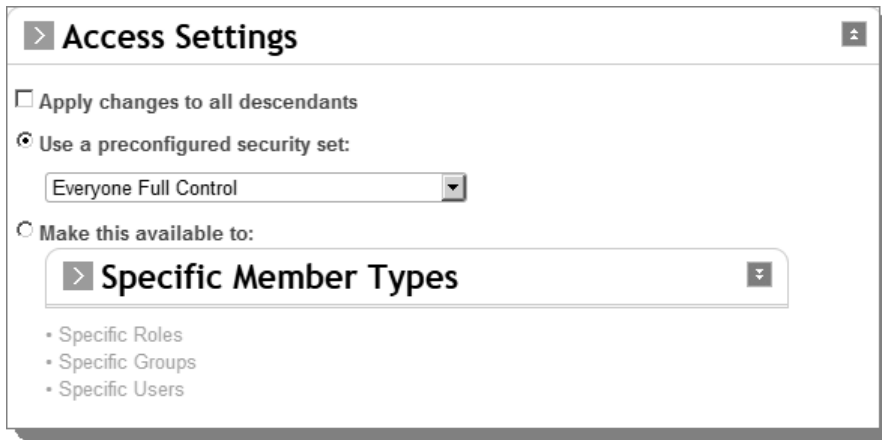
Caution! These default virtual links to the **Shared Documents** folder can be deleted by any user that belongs to the **SysAdmin** role.

There are also some hard-coded virtual links within the Document System, which exposes specific folders in various locations throughout the *iMIS* interface.

Document System Folder	Where Folder Contents Are Exposed
CampaignManagement > DefaultSystem > Reports View	Marketing > Campaign Management > Generate Reports
Common > Output	Marketing > View Output
Common > Shared Documents	Marketing > Campaign Management > select a source code > Source Lists tab > from Select Type drop-down list, choose Query Marketing > Segmentation > select a segment job > Definition tab > in Universe field click Shortcut to queries Marketing > Segmentation > select a segment job > Segments tab > select a segment > in Population field click Shortcut to queries Tools > Document system > New Object > Project Process Outputs > Definition tab > in Query field click ...
Common > Shared Documents > Processes	Marketing > Inserts > select an insert > Definition tab > in Output Process field click Browse for Process Engine Process Mgr > Set up module > Action Plans tab > select an action plan > select an email notification > in Process Name field click ...
Common > Shared Documents > ReportsView	Home page (Desktop view) > Generate Reports
ContactManagement > DefaultSystem > Queries > Advanced > Contact	Home page (Desktop view) > Advanced Queries > Contacts Customers > Advanced Queries > Contacts
ContactManagement > DefaultSystem > Queries > Advanced > Prospect	Home page (Desktop view) > Advanced Queries > Prospects Customers > Advanced Queries > Prospects
EventManagerment > DefaultSystem > Queries > Advanced > Event	Home page (Desktop view) > Advanced Queries > Events Events > Advanced Queries
OpportunityManagement > DefaultSystem > ReportsView	Process Mgr > Generate Reports
OrderManagement > DefaultSystem > Queries > Advanced > Order	Home page (Desktop view) > Advanced Queries > Orders Orders > Advanced Queries
RFMAAnalysis > DefaultSystem > ReportsView	Marketing > RFM Analytics > Generate Reports
RFMAAnalysis > DefaultSystem > Process Engines	Marketing > RFM Analytics
RFMAAnalysis > DefaultSystem > Process Engines > User Queries	Marketing > RFM Analytics > edit an RFM definition object > Definition tab > in Population Query or Transaction Query fields click Shortcut to queries
SegmentManagement > DefaultSystem > ReportsView	Marketing > Segmentation > Generate Reports

Using Access Settings

Access Settings give you a consistent way to apply security (grant permissions) to folders and objects throughout *iMIS*: entire websites, individual navigation items, content records, queries, business objects, and the wide array of objects that you can define, import, and store in the Document System.



Access Settings are immensely flexible: they let you tie an object's permissions to *iMIS* security roles, security groups, specific users, member types, or your organization's staff (licensed *iMIS* users).

Tip: You can meet most of your needs using the [preconfigured security sets](#) that ship with *iMIS*, so become familiar with those.

- **Apply changes to all descendants** – (*Document System folder objects*) Changes to this section, when saved, flow automatically to all descendant definition objects. When cleared, changes to this section apply only to the current definition object.
- **Use a preconfigured security set** - Specifies a preconfigured security configuration to use for this definition object, which is the default and preferred way to set permissions for definition objects. You can see the specific permissions that make up the security set in the **Make this available to** area.

Tip: If a preconfigured security set is close to what you need, select it and then select **Make this available to**, so that the permissions granted by the security set are copied for you to work from.

- **Make this available to** - Lists the roles, groups, users, member types, or authorization levels that may define or view rendered output from this object. If none of the preconfigured security configurations meets your needs, you can set custom permissions here.

The **SysAdmin**, **Content Administrator**, and **Everyone** roles are default system-defined security roles that are assigned to every definition object. The **SysAdmin** role is assigned in the definition of an *iMIS* user record, but the **Content Administrator** role is automatically assigned to every *iMIS* user who is a member of a *content authority group* (CAG) that is designated as a **Master Admin CAG**.

The permissions that can be assigned to each entry in the list are:

- ☐ **Full Control** - Enables all of the following permissions.
- ☐ **Read** - Enables users to see this object both in definition windows and as rendered output in websites, but they cannot change the object's definition.
- ☐ **Add** - Enables users to create new objects, or to paste or import an object into the Document System.
- ☐ **Edit** - Enables users to edit this object's definition, but not to delete the object.
- ☐ **Delete** - Enables users to delete this object.
- ☐ **Select** - Enables users to assign a tag to content folders and content records.

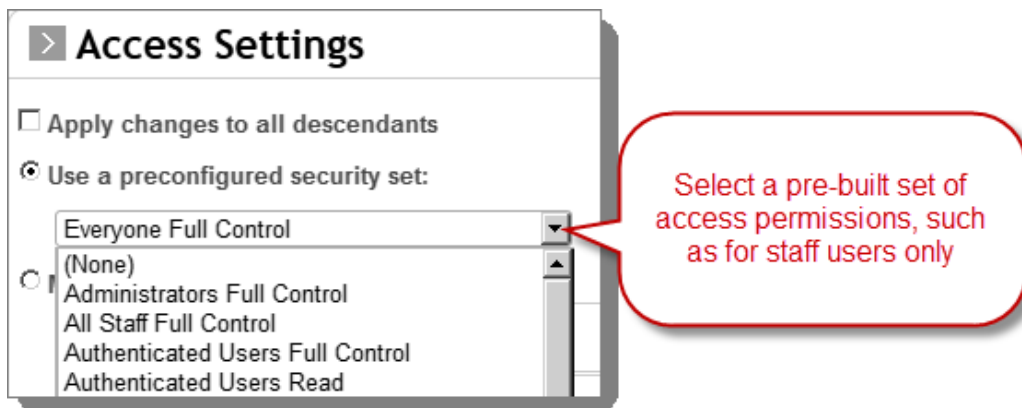
Custom security groups (use sparingly)

You can create a custom security group by tweaking a predefined group or building your own from scratch (using the **Make available to** radio button). While a custom security group offers great flexibility, it jeopardizes performance, because it adds several rows per object. If the security tables get too large (given that they are joined on every query), your system can slow significantly.

Caution! To minimize performance impacts, avoid using custom security groups where their effect multiplies: folders, Navigation items, and **all children the same** (unless you are using shared security, or it is mission-critical).

Preconfigured security sets

Throughout *iMIS*, whenever you configure **Access Settings**, you see a drop-down list of available security settings that you can apply to individual folders and objects. These security sets offer you easier control and faster *iMIS* performance than defining custom ones.



These are the key security sets you should use, from most permissive to least:

- **Everyone *** — no restrictions, including the public (*if* they can access this level/context).
- **Authenticated Users *** — restricts access to users who are signed in (both staff and public members).
- *** Staff *** — restricts access to users by licensing.
- **Administrators *** — restricts access to users with the SysAdmin role.

Tip: If you do not have the feature named in the security set (such as **Certification**), do not use the set.

iMIS ships with these pre-built security sets to cut down on the customization you need, for objects that should be neither unsecured (**Share**) nor locked for you alone (**Private**). Each security set contains a predefined Access List and permissions (**Full Control**, **Read**, **Add**, **Delete**, **Edit**) that are constant for all objects that use it. A **Select** permission is also available for tagged objects.

When you choose a set, the **Current Access List** below it updates to show the settings it includes. Look at those details to decide if the selected security set has the permissions you need.

Setting access for folders and objects

iMIS SysAdmins have **Full Control** access to all folders *and* objects in the Document System, so they can also define security privileges for every folder and object.

Caution

- **New folders have unrestricted access:** When a new folder is created, the **Everyone** role is granted **Full Control** by default.

- **Folder permissions are not the same as per-object permissions:** you can set **Control/Read/Add/Edit/Delete** privileges individually for most definition object types in the **Security** page of its properties window, independent of the folder.
- **IQA folders are special:** Certain folders within the Document System are exposed through the **IQA** task list item in **Customers, Events, Billing, Fundraising, and Orders**. These folders and all sub-folders that they contain behave differently when viewed from the **IQA** task list item:
 - You can create only queries in these folders even if the folder is defined to allow any type of definition object. Only members of the **SysAdmin** role who edit these folders from **Tools > Document System** can create the other types of allowable objects.
 - If any user modifies the folder definition to disallow the creation of **Query** objects, the folder and all of its contents become invisible from within an **IQA** task list item. Only members of the **SysAdmin** role who are viewing the entire Document System via **Tools > Document System** are subsequently able to see the folder.

To define security access for a folder

1. In the Document System, select a folder and click the **Edit** toolbar command.
 2. In the **Only allow certain types of objects in the folder?** area, specify the objects to be allowed in the folder.
Multi-select object types from the list by holding **Shift** or **Ctrl** while clicking items in the list.
 3. For the **Access Settings**, select **Private** or else select **Use a preconfigured security set** and select a set from the list, if any apply.
-
- Tip:* For best performance, use [Preconfigured security sets](#).
-
4. If you need custom access settings, enable **Make this available to** and complete the panel.
 - For **Specific Roles**, select the checkbox for each system-defined role that should have access to the folder. For each role, you can click the **Edit** icon next to the role name to define the specific privileges for that role.
 - For **Specific Groups** and **Specific Users** areas, add the groups and users that should have access to this folder, and click the **Edit** icon next to each entry to define the specific privileges for that entry.
 5. At the bottom of the folder security definition window, click **Save** to commit the changes.

Reports

The **Tools > Reports** feature provides a view of the Document System that filters out all definition objects except for reporting objects.

- [Document System](#)
- [Reporting in iMIS](#)

Web component setup (Public view)

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Where to set up Public view page options

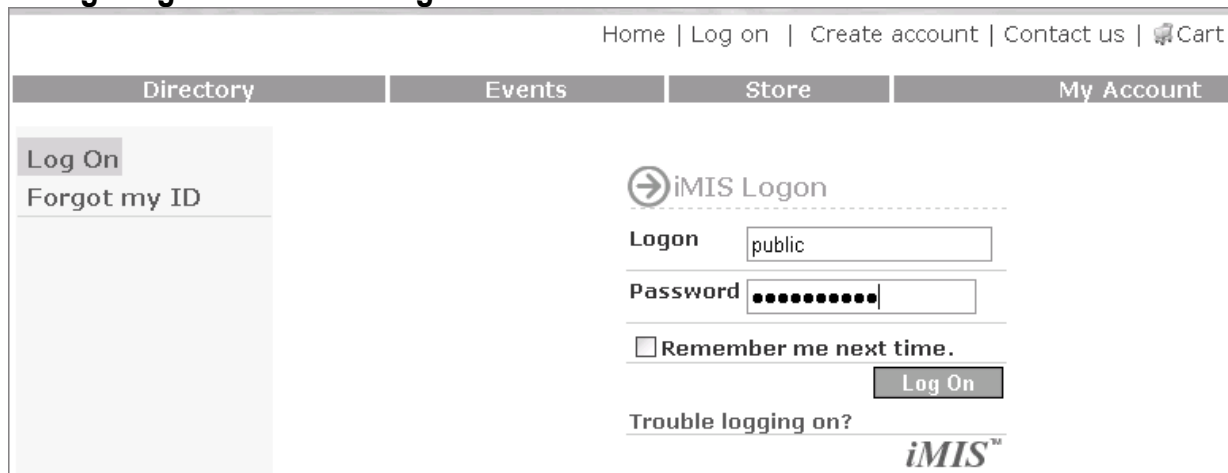
Because there are so many configuration pages in **System Setup** that control the Public view, this section maps specific pages in the Public view to the many configuration pages that affect them.

Use the tables below to locate the **System Setup** areas that control the Public view pages you want to change.

Tip: Keep in mind that when Full users access the Public view, they see what a Public user sees.

Note: Changes you make here affect not only the Public view of iMIS, but also all WCM websites that use standard pages to add functionality normally found in the Public view.

Configuring Public view - Log on




To customize this area of the public view, go to **System Setup** and choose the menu items indicated for each public page.

Public page	Set up web components	Set up customer web components
Log On	<ul style="list-style-type: none">General configurationOrganization configurationSSL configurationMisc label configuration	<ul style="list-style-type: none">Logon configuration
Forgot my ID	<ul style="list-style-type: none">Organization configurationMisc label configuration	<ul style="list-style-type: none">Forgot logon or password configurationReset password configuration
Contact us	<ul style="list-style-type: none">Contact us configurationOrganization configurationMisc label configuration	(none)

Note: To allow contacts to pay their bills (dues, subscriptions) on this site, you must use Cash billing.

Configuring Public view - Directory

Directory	Events	Store	My Account
<div>Directory</div> <div>Committees</div>	<div>Last name starts with</div> <div>First name starts with</div> <div>Company starts with</div> <div>Company contains</div> <div>City starts with</div> <div>State equals</div>	<div></div> <div></div> <div></div> <div></div> <div></div> <div>(Any)  </div>	

To customize this area of the public view, go to **System Setup** and choose the menu items indicated for each public page:

Public page	Set up web components	Set up customer web components
Directory	<ul style="list-style-type: none"> Misc label configuration 	(none)
Committees	<ul style="list-style-type: none"> Misc label configuration 	<ul style="list-style-type: none"> Committee configuration

To customize queries for the Directory and Committees areas of the Public view

Goal	\ContactManagement \DefaultSystem\ Queries	Area seen
To control which contact records display in the Directory	...\Directory \Contacts	Public view Directory > Directory Web view Directory > Find Contact
To control which contact records display	...\Contacts	Web view Contacts
To control which committees display	...\Directory \Committees	Directory > Committees
To control which committee members display	...\Directory \Committees \Members	Contacts > Committees and then select a committee

Configuring Public view - My Account

Directory	Events	Store	My Account
<div>Summary</div> <div>Personal</div> <div>Address</div> <div>Billing</div> <div>Order history</div> <div>ID & password</div>	<div>Hello Public Public,</div> <div>This is your place to manage your information. You can change your password and e-mail, and update your address information.</div>		

To customize this area of the public view, go to **System Setup** and choose the menu items indicated for each public page:

Public page	Set up web components	Set up customer web components
Create account	<ul style="list-style-type: none"> Organization configuration 	<ul style="list-style-type: none"> Create account configuration Create account page titles Create account settings User defined fields

Public page	Set up web components	Set up customer web components
Summary	(none)	<ul style="list-style-type: none"> Account management configuration
Personal	<ul style="list-style-type: none"> Personal label configuration 	<ul style="list-style-type: none"> Personal information configuration User defined fields
Address	<ul style="list-style-type: none"> Address label configuration 	<ul style="list-style-type: none"> Address configuration
Billing	(none)	(none)
Order history	(none)	(none)
ID & password	<ul style="list-style-type: none"> Misc label configuration 	(none)

Note: You must populate the prefix and suffix gen_table data in the **Expansion** field in order to see data in the **Prefix** or **Suffix** drop-down lists in the Public view.

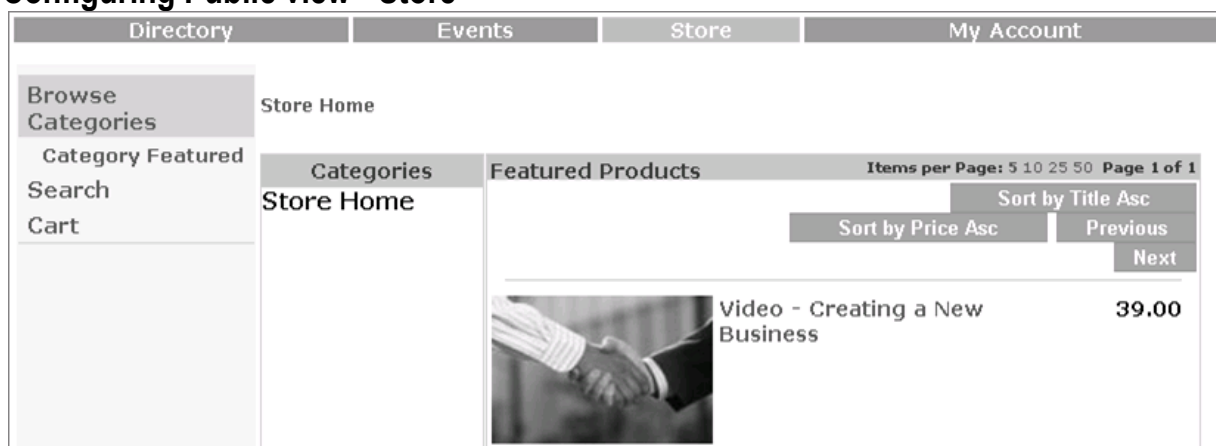
Configuring Public view - Events

To customize this area of the public view, go to **System Setup** and choose the menu items indicated for each public page:

Note: The Event list and Event search pages can be configured to list any type of event. Access the Public queries from the Document system (**EventManager > DefaultSystem > Queries**). The EventList and EventSearch folders contain the Public view queries that can be modified to filter on event Type. The event type *cannot* be filtered on the Event calendar.

Public page	Set up web components	Set up events web components
Event List	<ul style="list-style-type: none"> Misc label configuration 	<ul style="list-style-type: none"> Event setup Events configuration
Calendar	(none)	(none)
Search	(none)	(none)
Add to Calendar	<ul style="list-style-type: none"> Organization configuration Exchange settings 	(none)

Configuring Public view - Store



To customize this area of the public view, go to **System Setup** and choose the menu items indicated for each public page:

Public page	Set up web components	Set up commerce web components
Browse Categories	<ul style="list-style-type: none"> Image configuration Product label configuration 	<ul style="list-style-type: none"> Store home Store configuration Manage product attributes Manage master products
Search	(none)	(none)
Cart	<ul style="list-style-type: none"> General configuration SSL configuration Payment label configuration 	<ul style="list-style-type: none"> Checkout configuration Credit card label configuration Cart manager Billing configuration

Configuring Public contacts

Opening the Directory to anonymous access

By default, no unauthenticated site visitor who browses the Public view can see and use the directory. If this conflicts with your business needs, you can expose this information using .NET security: you can remove the authorization code that denies anonymous users all access to the **directory.aspx** page.

To open the directory to anonymous access, edit the **web.config** file found in *iMIS_Public* core folder (default: **C:\Program Files\AS\iMIS\iMIS_public\Core**). From your `<configuration>` section, remove the lines beginning with `<location>` and ending with `</location>`:

```
<configuration>
<appSettings/>
<connectionStrings/>
<system.web>
<pages autoEventWireup="true">
</pages>
</system.web>
<location path="directory.aspx">
  <system.web>
    <authorization>
      <deny users="?"/>
```

```

</authorization>
</system.web>
</location>
</configuration>

```

Adding user-defined fields in Public view

The user defined fields (UDF) setup page is part of the Customer administrative section.

From **System Setup**, Select **Set up customer web components > User defined fields**

To add fields to a page

The unassigned UDFs appear in a tree format by the table name. All unassigned UDF are listed in the **Unassigned Fields** section on the right. All UDFs assigned to a page are listed in the **Assigned Fields** section on the left in a tree format under the page name.

1. Choose a page by making a selection in the **Pick a Section** drop-down.

Once you add a field, it immediately appears on the page you have selected in the Contact Management list.

Note: By default, administrators can assign fields to the **Create Account** page or to the **PersonalInfo** page. You can also place an item in the **User defined fields** page by creating a new section.

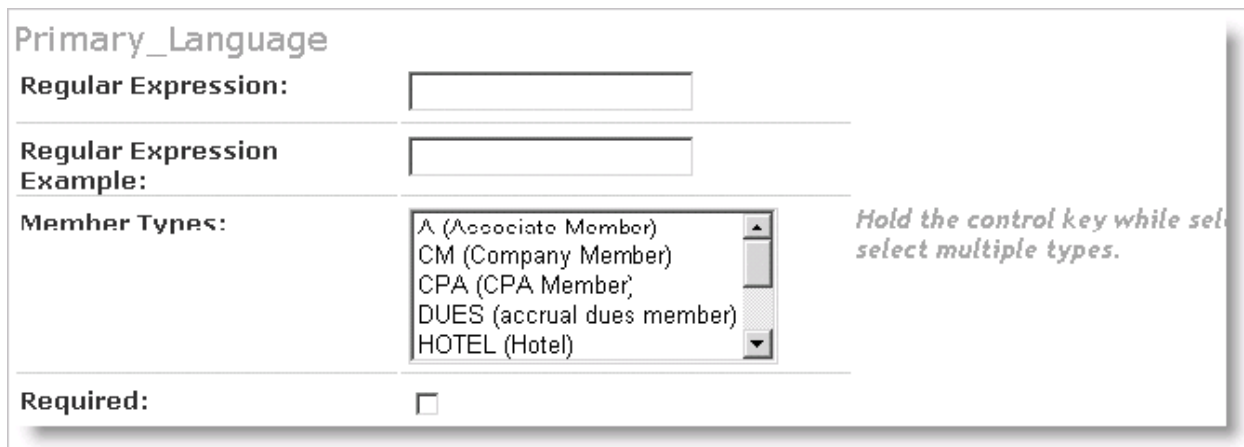
2. (Optional) Click the **Add New Section** link on the user-defined setup screen to add a new item on the User defined fields page. Once an item has been saved, it immediately appears in the User defined fields page in the Contact Management list.

Note: To enable the User defined fields page in the Public view, you must edit the *iMIS* site map for the Public view in the **C:\Program Files\ASI\iMIS\iMIS_public\web.sitemap** file to uncomment the line with the siteMapNode title="User defined fields". Once you enable this line, Public users can then view the new section's UD fields in the Public view.

3. Add a UDF to the page by dragging any unassigned fields from the right side onto the name of the page on the left side.

To set UDF properties

Set properties on the user defined field by clicking the **Edit** icon next to the field name in the assigned fields list. The **Setup** page displays the properties of the field.



Primary_Language

Regular Expression:

Regular Expression Example:

Member Types:

- A (Associate Member)
- CM (Company Member)
- CPA (CPA Member)
- DUES (accrual dues member)
- HOTEL (Hotel)

Required: ☐

Hold the control key while select select multiple types.

From **System Setup** > select **Set up customer web components** > **User defined fields** and click the **Edit** icon next to a field name in the **Assigned Fields** list

Regular Expression field - Administrators can force that data be entered in a specific format by entering in a regular expression. For example, if the field is a phone number field, then an administrator can enter in an appropriate regular expression here to for users to follow a specific phone number format before they can proceed.

Note: Public view will not validate that the regular expression is correct and administrators must be sure of their regex formula before entering it here.

Regular Expression Example field - The text entered into this field will appear when a user types in information that doesn't properly validate against the regular expression. It guides the user in formatting the value.
Example: Enter your mobile phone number in this format: (555) 555-1212.

Required option - Each UDF can be set up so that is required for a user.

Creating user defined fields for Public view in iMIS Desktop

The Public view administrators can setup user defined fields and pages in the **User defined fields** page (**System Setup** > **Setup customer web components** > **User defined fields**).

- You can add user defined fields to the **Personal information** page within account management and to the **Create account** page of the create account process.
- You can add user defined fields that have not been assigned to a page in Public view to the **User defined fields** page.

Note: A user defined field must be assigned to a window before it can be used on a Public view page.

Setup in *iMIS Desktop*

Before using this feature in Public view you must perform the setup of user defined fields in *iMIS Desktop* (**Customers** > **Set up module** > **General** > **Additional Windows** > **Define Tables**).

Note: The Public view does not support multiple instances.

Creating non-individual accounts in Web view

To help distribute workload throughout organizations, *iMIS* allows both Full and Casual users in the Web view to create accounts for non-individual records. In **System Setup**, you can configure the prompt for "non-individual" to best suit the needs of the organization.

When creating these accounts, users can choose whether to create an individual or a non-individual (company):

Contacts > Create account
(1 of 3) We would like to check to see if you already have an account.

* Account Type ☐ Individual ☒ Company **Non-individual**

* Organization

* City

* Zip/Postal Code

Continue Reset * Required Field

All three prompts can be changed

When users choose to create a non-individual account, *iMIS* changes which fields appear during account creation. Because these accounts are not for individuals, no confirmation emails are sent.

Duplicate checking: Account creation prompts users to search for existing records to prevent creation of duplicates. When duplicate-checking for non-individuals, the **Organization** (name) field uses a CONTAINS search (versus BEGINS WITH) with an 80 character limit. Likewise, when searching for a Parent Organization, the **Organization** (name) criteria also has an 80 character limit and uses a CONTAINS search.

Company flowdown: When users select a Parent Organization to associate with the new account, they are prompted to overwrite (flow down) information from that organization. Whether the address flows down is controlled by the setting **Customer > Module setup > Advanced, Disable Auto Flow Down of company address Information**.

Label configuration: Several prompts for this feature can be configured under **System Setup**:

- **Set up web components**
 - **Quick setup**
 - The default Customer Type to use when creating new organizations online
- **Set up customer web components**
 - **Create account configuration**
 - Account Type Label (*AccountTypeLabel*)
 - Individual Label (*IndividualLabel*)
 - Non-Individual Label (*NonIndividualLabel*)
 - **Create account search**
 - Title of the Company Search page for individuals (*CompanySearchMessage*)
 - Title of the Company Search page for non-individuals (*CompanySearchMessageNonInd*)
 - Text of the link which allows company selection to be skipped (*CompanySearchSkipText*)

Configuring Public events

Setting up the system for Public events

Complete the following items in **System Setup** *before* creating an event for the Public view.

To prepare for Public events

- Make sure the codes contain only letters, numbers, or an underscore – no special characters.
- Resolve any database issues identified by Public view "pre-queries" prior to implementing Public view.
- Set up the PayPal and internet merchant accounts.
- Set up the SSL certificate for secure processing.

Setting up Customers for Public events

Prepare your customer data before creating an event for the Public view.

To prepare customer data

1. Purge duplicate records.
2. Consider whether individual records have unique e-mail addresses or group e-mail addresses, such as info@company.com, where the event messages may not get to the right person.
3. Consider that each company record has to have a first name and last name in the record, and ensure that the names make sense in the context of sending event registration notices.

Setting up registration for Public events

Keep these tips in mind:

- Use the **Registrant Class Determination** option in the **Set up Event** wizard to specify which registrant classes require fees.
- The Public view does not support default pricing. Pricing must be defined for each registrant class.
- HTML codes entered in fields to format display will print on *iMIS* reports that include those fields.
- Using the **ViewAll** queries, you can configure **Event search** and **Event list** pages to list any type of event for Casual and Full users. To filter event types, access these queries from the Document system: **EventManager > DefaultSystem > Queries**.

To set up an event for Public registration

1. Create the event and functions in Desktop view (**Events > Define an event**).
2. Select the **Show this event/function on the Web?** and the **Allow online registration via the Web** options for *each* event and function to be accessed in Public view.

Note: Complete pricing and event definition before making the event available for Public and setting the status to "A" (Active); otherwise, users might register before pricing is set.

3. Save the event and functions.
4. Use the **Set up Event** wizard to configure the event's online components.

Tip: For help with the wizard, see Web setup wizard for events in Events Administration.

Troubleshooting

You must populate the **Default Terms Code** field in **AR/Cash > Set up module > Aging** with a value. If not, Events functions do not appear when users register on the Public view. You may also see the following error in the Error log: "COrder.TermsCode: The supplied value 'o' is not defined in the Financial Terms reference table."

Setting up guest registration

You can structure guest registrations to:

- Allow the user to add guests without additional charges and badge requirements
- Specify fees and/or badge information for guests

To allow users to add guests without fees or separate badge requirements

1. In the *iMIS* Desktop **Event Function Detail** window (**Events > Define an event > Define a function**), make sure the **Show on Web** option is selected and the **Guest Function** option is *not* selected.
2. In the **Max Registrations per Registrant** field, enter the maximum registrants allowed or an arbitrary large number if there are no limits. An empty or zero amount defaults to one maximum registrant.
3. Click **Save**.

The main registrant's name will print on all badges.

To specify fees and/or badge information for guests

1. In the *iMIS* Desktop **Event Function Detail** window (**Events > Define an event > Define a function**), enable the **Guest Function** option. The function will not display unless a guest is added during registration.
2. (optional) Use the Web Event Setup Wizard to specify the fees for the function.
3. (optional) Use the Web Event Setup Wizard to specify the required/enabled badge data fields to be included on guest badges.

Example: Specifying complex guest registration rules

In the following example, many registration options are presented to the user.

For the AABA conference, each registrant can register one spouse/significant other and up to six children. The spouse/significant other has the choice of two levels of participation/registration. Optional workshops and social functions can be purchased for any number of guests.

Main registration

1. In the *iMIS* Desktop **Define an event** page (**Events > Define an event**), enter the overall event registration fee.
2. Enter 1 for **Max Registrations per Registrant**.

Spouse/Significant other registration

The two levels of participation available for a registrant's spouse/significant other are:

- Conference package (150.00)
- Program and tours package (96.00)

The maximum number of registrants allowed is one.

1. In the *iMIS* Desktop **Event Function Detail** window (**Events > Define an event > Define a function**), define each package.
2. Select the **Guest Function** option.
3. Enter 1 for **Max Registrations per Registrant**.
4. (optional) Enter a **Conflict Code** or, if conflict codes have been defined, select the lookup icon to search for the code to ensure that only one package is selected.

5. (optional) In the Web Event Setup wizard, click **More > Badges** and define the enabled/required fields for guest badge information.

Child registration

The two registrations available for a registrant's children are:

- Conference Camp: age 3 to 11 years (250.00)
- Teen Scene: age 12 to 17 years (235.00)

The maximum number of registrants allowed is six.

1. In the *iMIS* Desktop **Event Function Detail** window (**Events > Define an event > Define a function**), define each function.
2. Select the **Guest Function** option.
3. Enter 6 for **Max Registrations per Registrant**.
4. (optional) Enter a **Conflict Code** or, if conflict codes have been defined, select the lookup icon to search for the code to ensure that only one function is selected for each child.
5. (optional) In the Web Event Setup wizard, click **More > Badges** and define the enabled/required fields for guest badge information.

Optional workshops and social functions

The main registrant may register for pre-conference workshops:

- One-day certification program: Cannot enroll for any other workshops due to schedule conflicts. (295.00)
- Project management: half-day (195.00)
- Roundtable: New Technology (2 hours, 50.00)
- Roundtable: Team Building Ideas (2 hours, 50.00)
- Roundtable: Industry Update (2 hours, 50.00)

The maximum number of registrants allowed is one.

1. In the *iMIS* Desktop **Event Function Detail** window (**Events > Define an event > Define a function**), define each workshop.
2. Enter 1 for **Max Registrations per Registrant**.
3. (optional) Enter a **Conflict Code** or, if conflict codes have been defined, select the lookup icon to search for the code to ensure that there are no scheduling conflicts.
4. (optional) In the Event Web Setup wizard, click **More > Badges** and define the enabled/required fields for guest badge information.

The registrant and any number of guests may register for optional social functions:

- Music tour: Tuesday afternoon (40.00)
- Five-star restaurant: Wednesday night (80.00 Members, 100.00 Non-members)
- Scavenger hunt: Friday afternoon (25.00)

Fees are assessed for each guest. There is no maximum number of registrants.

1. In the *iMIS* Desktop **Event Function Detail** window (**Events > Define an event > Define a function**), define each social function.
2. Select the **Guest Function** option.

3. Enter a large arbitrary number for **Max Registrations per Registrant** so that there is no reasonable limit on registrations.

Your event summary may look similar to this example:

Event Code	AABA101		Totals	
Title	AABA Annual Conference		Registrants	0
Type	CONF	Status	P	Pending
Begin Date	05/30/2008	End Date	06/03/2008	Attendees
Early Cutoff	03/15/2008	Reg. Cutoff	04/15/2008	0
Maximum	1	Entity Code	UNR	Cancellations
		Logo		0
<input type="checkbox"/> Suppress Confirm				Regis. Fees
				0.00
Code	Title	Status	Regis.	Activity
WORK101	Certification Program	A	0	NO
WORK102	Project Management	A	0	NO
SOC103	Scavenger Hunt	A	0	NO
WORK103	New Technology	A	0	NO
WORK104	Team Building	A	0	NO
WORK105	Industry Update	A	0	NO
CHIL0101	Child Conference Camp	A	0	NO
SPOUSE101	Spouse Conference Package	A	0	NO
CHIL0102	Child Teen Scene	A	0	NO
MAIN101	Main Registration	A	0	NO
SPOUSE102	Spouse Tours Package	A	0	NO
SOC101	Music Tour	A	0	NO
SOC102	Five-star Restaurant	A	0	NO

Insert

Edit

Delete

Example event with complex guest registration rules

Configuring Public commerce

Note: Web-based shopping carts need to persist cardholder data during the shopping and checkout processes, so *iMIS* always encrypts such temporary data to protect the cardholder. This encryption occurs even if you do not implement advanced *PCI compliance* (see "Implementing Advanced PCI Compliance options").

Creating new categories

You can perform the following tasks from the Orders Setup page.

- Create categories and subcategories
- Nest subcategories within existing categories
- Edit categories
- Delete categories

To create new categories

1. Go to **System Setup > Setup commerce web components > Store home**.
2. In the **Category** section at the top left of the **Orders Setup** page, click **Store Home**.
3. Expand the category list under **Store Home** until you can select the category under which you want to place a new category.

The selected category should appear should appear in **bold font**.

4. Click **New**.
5. Enter a category, title, and description on the **Create A New Category** section of the page.
6. Enable **Visible Online** to make the category visible to users.
7. Click **Add Category**.

If the category creation process was successful, the new category should appear beneath **Store Home**.

Store Home page layout


The **Store Home** page on the Public view displays product categories and featured products. The arrangement of the featured products and product categories are setup on the Orders Setup page (**System Setup > Set up commerce web components > Store home > Orders Setup**).

- **Product Categories** – You can arrange the products in categories using this setup page by creating categories and linking the products to categories. Product categories help the public user to browse the products quickly in an organized format.
- **Products** – Linking products with categories places them in separate categories on the **Store Home** page in the Public view.
- **Featured Products** – Featured products under the **Store Home** category appear on the **Store Home** page when it is first displayed. The Featured Product icon is the yellow star under FP column. Clicking on the icon turns it gold and changes it's status to featured product.

Note: The products under the **Store Home** column are a *special category* of featured products. The Store Home category is created and named by default. Designating products as featured products under this category gives them prominence by placing the products on the **Store Home** page in the Public view. Products under this category *must* be set as featured products using the **Featured product** icon on the **Order Setup** window, otherwise they will not appear on the **Store Home** page in the Public view.

Items		Items per page: 15, 25, 50, 100		Page 1 of 1	
		Link Products		Previous Next	
ID	Product	SOW	FP	Actions	
8	Video - Creating a New Business (V101)				

Featured product icon on the Orders Setup page

Store Home	
Categories	Featured Products
Store Home Apparel	<div>Items per Page: 5 10 25 50 Page 1 of 1</div> <div>Sort by Title Asc Sort by Price Asc Previous Next</div> <div>Video - Creating a New Business 39.00</div>

Store Home page with Featured Product

Linking products to categories

A product will not appear on the Public view until at least one of the following requirements are met:

- The product is linked to a category.
- The product is listed as a featured product. It will appear only on a featured products page and on the **Store Home** page (**System Setup > Set up commerce web components > Store home**).

Note: To enable a product to appear as a featured product under the **Store Home** column on the Public view **Store home** page, you must select it as a featured product by clicking on the **Featured Product** icon in the product list.

- The product is added to a cross-sell list. It will appear only as a recommendation after another product has been added to the cart.

To link a product to a category

1. Select parent category for the linked products.
2. Click **Link Products**.
3. From the list of available products, select a product.

Note: You can adjust the number of items (15, 25, 50 or 100) to view per page.

4. Link individual products by clicking **Add** icon.
The product will be associated with the category and removed from the list of available products.
5. To save changes, click **Exit Linking Process**.

Category details

On the Orders Setup page, (**System Setup > Set up commerce web components > Store home**) there are 6 columns:

- Product type
- ID
- Product
- SOW
- FP
- Actions

Column 1 (Product Type)

The red or blue dot in Column 1 (leftmost column) represent a product's status in the Public view database. Blue dots mean that the product was entered into *iMIS* as a normal product.

Public view allows administrators to offer master products. Master products will have a red dot in the leftmost column.

Column 2 (ID number)

Each product entered into the Public view database is assigned a unique identifier. These ID numbers assist in location in the product table. ID numbers are listed in Column 2.

Column 3 (Product)

The product title is located in Column 3.

Column 4 (SOW-Sell on Web)

Some administrators may not want a product to be available for sale online at the time of entry into the database. Column 4 offers three options concerning a product's viewing status:

- Sell on Web

- Show on Web
- None

If an administrator clicks the icon in Column 4, these options will appear with “cancel” as a fourth choice.

Column 5 (FP-Featured Product)

Each category in Public view Store may have any number of Featured Products. A featured product will be highlighted on a category's main page.

Every product listed possesses a small yellow star icon. To make an item a featured product, click the Featured Product yellow star icon. (It should be dark gold, not light-yellow).

Note: Clicking the Featured Product icon is required for products in the **Home Page** category. If a product is in the **Home Page** category, clicking the Featured Product icon will place the product under the **Home Page** column on the **Store Home** page in Public view. Otherwise, the product will not appear on the web page.

Column 6 (Product Management Actions)


Actions has four icons.


- **Arrow Up** moves the item up the list. (The up and down arrows will determine the order in which items are viewed by users.)
- **Arrow Down** moves the item down the list.
- **Edit** allows an administrator to edit the product. Clicking edit takes an administrator to a page where detailed information about the product can be modified.
- **Delete** removes a product from the category's list. This will *not* delete the item as it appears in Public view Orders.


Items






















Items per page: 15, 25, 50, 100

Page 1 of 1

 Link Products

 Previous

Next 

ID	Product	SOW	FP	Actions
 8	Video - Creating a New Business (V101)			   
 9	Video - Is Fast Food Franchising for YOU! (V102)			   
 4	Sailing, A Sport for Young and Old (P42)			   

Customizing product details for the Public view

You can make changes to the display of *iMIS* products on the Public view from **Store home > Product info**. These are products that were created on *iMIS* Desktop.

To edit product details

1. Go to **Store home**.
2. Expand categories in the column.
3. Select a product category.
The list of linked products is displayed.
4. Click the **Edit** icon next to the product.

5. On the **Product Info** page make your modifications.

Note: Place key search terms within the first 300 characters of the description. In the Public view, search truncates the description to 300 characters, so only text within that range yields search results for users.

6. Click **Next** to select Cross-Sell products from the **Cross-Sell Products** page.
7. Click **Finish** to return to the **Orders Setup** page.

The screenshot shows the 'Product Info' page with the following fields and options:

- Title:** A text box containing 'Traveling these United States' with up and down arrow buttons on the right.
- Description:** A large text box with up and down arrow buttons on the right.
- Product Image URL:** A text box with a 'Test URL' button to its right. Below it is a button labeled 'Upload a file' with a small 'NEW' icon.
- Product Thumbnail URL:** A text box with a 'Test URL' button to its right. Below it is a button labeled 'Upload a file' with a small 'NEW' icon.
- Product Web Options:** A group of three radio buttons:
 - ☒ Not on Web
 - ☐ View on Web
 - ☐ Sell on Web

Prompts that cannot be customized on Order summary Page

The following prompts cannot be customized in the Order Summary pages.

- Order Summary - OrderSummaryPageTitleLabel
- Error messages:
 - OrderSummaryPageExpiredErrorLabel
 - OrderSummaryEmailErrorLabel
 - OrderSummaryEventsErrorLabel
 - OrderSummaryProductsErrorLabel, OrderSummaryDuesErrorLabel

The following prompts cannot be customized on the Orders Summary page.

- Order Date - OrderSummaryOrderDateLabel
- Total Payment - OrderSummaryOrderTotalLabel
- Order Number - OrderSummaryOrderNumberLabel
- Quantity - ProductQuantityLabel
- Price - ProductPriceLabel
- Product - ProductLabel

- Shipping Address - ShippingAddressLabel
- Shipping Method - ShippingMethodLabel
- Shipping and Handling - ShippingHandlingLabel
- Tax - TaxLabel
- Sub Total - TotalLabel

Creating attributes for master products

Attributes help users view all of the distinguishing qualities of *iMIS* products grouped under one master product. You assign attributes to child products with codes.

- The attribute code is used only in the Public view as a way of distinguishing between similar attributes. Shoppers will never view this code.
- New attributes may only be created *before* child products are added. To create a new attribute after adding child products, you must remove every product/attribute association and add the attributes again.
- You cannot assign more than one child product the same set of attributes.
- Codes are established to differentiate when assigning attributes.

To create a new attribute







1. On the **Manage product attributes** page, select **Add Attribute (System Setup > Set up commerce web components > Manage product attributes)**.
2. Select the **Define New Attribute** link located beneath the drop-down menu.
3. Click **Add Attribute**.
 - Enter the new attribute title.
 - This title will be displayed to users in a drop-down menu (For example, Size).
 - Enter the attribute code.
 - Enter a description.

Viewers will not see the description; it is viewed by the administrator in the Product manager.

4. Click **Add**.

The new attribute is displayed the list of attributes.

Attribute Setup

Add Attribute			Add Attribute Value
Name		Actions	Attribute Values
Color	COLOR	 	Select An Attribute
Size	SIZE	 	
Length	LENGTH	 	

Changing attributes for master products

You can go back to add or delete attributes even after you have created the master product.

To change attribute title, code, or description

1. On the **Manager product attributes** page, select an attribute (**System Setup > Set up commerce web components > Manage product attributes**).
2. Click the **Edit** icon located in the Actions column at attribute setup.

Note: Clicking **Edit** will *not* allow an administrator to add *values* to attributes.

3. Edit the attribute's title, code, and description.
4. Click **Update Attribute** to save changes.

Name	Actions
Color	COLOR
Size	SIZE
Length	LENGTH

Adding values to master product attributes

Clicking **Edit** in the Actions column at attribute setup does not allow you to add *values* to attributes; use the **Add Attribute Value** command.

To add values to attributes

1. On the **Manager product attributes** page, click **Add Attribute** (**System Setup > Set up commerce web components > Manage product attributes**).
The **Attribute Setup** page is displayed.
2. Click **Add Attribute Value**.
 - Enter the value name.
 - Click **Add Attribute Value**.

The new value should appear at the bottom the list of values at attribute setup.

Add Attribute			Add Attribute Value	
Name		Actions	<input type="text" value="Small"/>	Add Attribute Value <input type="button" value="Cancel"/>
Color	COLOR		Size Values	
Size	SIZE		Actions	
Length	LENGTH		Add Value	

Renaming the term "cart" on the web

If you need to use a term such as *basket* instead of *cart* throughout your *iMIS* websites, you can do so by modifying these items:

- *iMIS* navigation labels (requires access and permissions for WCM)
- Labels in the database using a parameter in **System Setup**
- XML files
- Javascript files
- ASPX files

To change the System Setup navigation labels

See the *WCM Reference* for information about changing and publishing navigation items. The two navigation items to change are:

- **Store > Cart**
- **System Setup > Set up commerce web components > Cart manager**

To change the labels with the label parameter in System Setup

1. Navigate to one of these fields:
 - ☐ **System Setup > Set up web components > Misc label configuration - Label for shopping cart**
 - ☐ **System Setup > Set up web components > Address label configuration - Cart Item Label**
 - ☐ **System Setup > Set up commerce web components > Checkout configuration - Link for step 1**
 - ☐ **System Setup > Set up events web components > Events configuration - Message displayed when there is an incomplete item in the cart**
2. Ensure that the preferred term is used in the field.
3. Click **Save**.

To change specific XML files

1. On the appserver, go to C:\Program Files\ASI\iMIS\Net\bin\ and locate the files Asi.Business.Commerce.xml and Asi.iBO.xml, and locate C:\Program Files\ASI\iMIS\iMIS_public\web.sitemap, and C:\Program Files\ASI\iMIS\iMIS_public\Templates\MasterPages\Public.master.
2. Back up each file.
3. Search for the term cart and replace it with your preferred term in the text and title attributes of the files. Do not change the term in the URL attributes. For example, only change the term in the title of this line in web.sitemap:

```
<siteMapNode title="Cart" url="~/Core/cart/MyCart.aspx"></siteMapNode>
```

4. Save the files with the same names as before.

To change specific JavaScript files

1. On the appserver, locate the file `C:\Program Files\ASI\iMIS\iMIS_public\Core\Admin\CartManager\CartManager.js`.
2. Back up the file.
3. Search for the term `cart` and replace it with your preferred term for these two confirmation messages:
 - Line 32 - `var ans = confirm("Are sure you would like to remove all the cart items for this user?");`
 - Line 56 - `var ans = confirm("Are sure you would like to remove this cart item?");`
4. Save the files with the same names as before.

To change specific ASPX files

1. On the appserver, locate the file `C:\Program Files\ASI\iMIS\iMIS_public\Core\Orders\shoppingcart.aspx`.
2. Back up the file.
3. Search for this line and change to your preferred term:
 - `<asiweb:PanelTemplateControl runat="server" TemplateTitle="Shopping Cart" ID="CartPanel">`
4. Save the file with the same name as before.

Tips

The following information can be helpful when changing the term `cart` to another name.

- You do not need to restart the IIS server for any of these changes to take effect.
- While you can change the two left-hand navigation labels under **System Setup**, you are not changing the field labels themselves.

Master products

Defining master products allows you to sell different versions of a single product from one page in the Public view. For every master product, you can define attributes, add child products, and list cross-sell products.

For example, without a master product, shirts with different attributes are presented individually: small red shirt, medium blue shirt, etc. If you create a master product for all shirts, you can then define attributes so that your customers can go to one page and choose their preferred shirt color and size with a drop-down list.

Every product in the *iMIS* database can be added as a child product of a master product.

Managing master products

Here are the basic steps for managing master products.

Note: Defining master products and attributes can be done from **System Setup** or **Orders**.

1. Add the individual products that will be added later as child products under the master product (**Orders > Manage inventory > Manage products**). For example, add product TSHRTREDL for red shirts, size large. Be sure to mark the product as **Show on web**. See *Manage products window* for more information.
2. Add product attribute(s) that will present choices such as color or size without having to view each as a separate product (**System Setup > Set up commerce web components > Manage product attributes**). See *Creating attributes for master products* for more information.

3. Create a master product to allow a Public view user the ability to view a product and it's attributes on the same page
(**System Setup > Set up commerce web components > Manage master products**). See *Creating master products* for more information.
 - ❑ Add child products to the master product that represent the virtual group of products that would normally have to be multiple separate and independent products in *iMIS*. When adding child products, you can choose one to be the default child product that appears first as the Public view user browses the product listing. For example, a red shirt may be the default child product and other colors would be viewed using a drop down menu.
 - ❑ Choose cross-sell products that might sell with the master product.
4. Link the master product to a category that will appear in the Public view (**System Setup > Set up commerce web components > Store home**). Master products appear with a red dot to their left. See *Linking products to categories* for more information.

Creating master products

To create a master product, you combine two or more existing products, which become child products of the master.

To create a master product

1. On the **Manage master products** page, click **Add master product** (**System Setup > Set up commerce web components > Manage master products**).
2. Enter the product **Title**, **Description**, and **Product Web Options**.
3. Click **Next**.

The Edit page is displayed. You are prompted to add attributes to the master product.

4. Click **Add Attribute**.

You are prompted to choose attributes for the master product. You can select more than one attribute.

- ❑ Select an attribute from the drop-down list and click **Add Attribute**.
- ❑ Continue adding attributes as needed.
- ❑ When you are done click **Next**.

5. From the Child products page, click **Add Child Product**.

The *iMIS* Products list is displayed.

- ❑ Select an *iMIS* product from the list.

- Choose the attributes you want the Public view user to choose from.
You must select an attribute value for each attribute associated with the master product. A child product must have unique attributes. For example, there is only one small red polo shirt associated with the master product.
- Click **Save**.
The sub-product appears in the list.
- Continue adding child products as needed and click **Next** when you are finished.
- Select a default product from the list by clicking the green check mark next to the product in the list.

Note: At least one product must be selected as the default before an administrator will be permitted to continue.

The Cross-Sell page is displayed.

6. Select a cross-sell products from the available products list and click **Add**.
7. Click **Finish**.

The list of master products is displayed on the Manager master products page. You can continue creating Master products as needed.

Adding attributes to master products

You can add attributes after you have created a master product.

To add an attribute

1. On the **Manage master products** page, select a master product and page through to the attributes setup page (**System Setup > Set up commerce web components > Manage master products**).
2. Click **Add Attribute**.
The attribute drop-down is displayed.
3. Select a new attribute from the drop-down.
4. Click **Add Attribute** next to the drop-down.

The new attribute is displayed in the list.

Edit: Team Spirit

Add Attribute

Name	Actions
Color	COLOR

Attribute: Color - COLOR
Size - SIZE

Add Attribute **Cancel**

Previous **Next**

Adding child products

A group of child products are grouped under each master product. At the Child Products page, you can choose the *iMIS* products that make up a Master product. You can go back to add or delete child products even after you have created the master product. Deleting a child product will not remove it from the *iMIS* database or the Public view database. Instead, the child product is removed the master product.

To add child products

1. On the **Manage master products** page, select a master product (**System Setup > Set up commerce web components > Manage master products**).
2. Page through to the **Child products** page.
3. Click **Add Child Product**.
4. Select one desired child product in the **iMIS Products** list on the left side of the page.
5. Select the product's values from the drop-down menus in the **Attribute** section.
6. Click **Save**.

The product will appear in the list of child products.

7. (optional) In the **Actions** column of the **Child Products** list, select a checkmark to designate the default child product.
8. Click **Add Child Product** to add additional products.

Child Products for: iMIS 15 Blouse

Remove All

Add Child Product

iMIS Products

Is Fast Food Franchising for YOU?

Ladies - iMIS 15 Blouse - Large - Gift Wrap/None

Ladies - iMIS 15 Blouse - Medium - Gift Wrap w/Thank you!

Ladies - iMIS 15 Blouse - Small - Gift Wrap/Congrats!

Men's - iMIS 15 - Polo Shirt - Large

Men's - iMIS 15 - Polo Shirt - Medium - Gift Wrap w/Congrats

Men's - iMIS 15 - Polo Shirt - Small

New Business Kit

Nothing But Your Best

Power Management

Attributes

Color

Red

Size

Large

Gift wrap

No gift wrap

Save

Cancel

Child Products

Name	Color	Size	Gift wrap	Actions
Ladies - iMIS 15 Blouse - Small - Gift Wrap/Congrats! (C1)	Old lace	Small	Congrats!	<input checked="" type="checkbox"/>
Ladies - iMIS 15 Blouse - Medium - Gift Wrap w/Thank you!	Old lace	Medium	Thank You!	<input type="checkbox"/>

Selecting cross-sells for master products

You can select additional cross-sell products after you create a master product.

To select cross-sell products

1. On the **Manage master products** page, select a master product (**System Setup > Set up commerce web components > Manage master products**).

2. Page through to the **Cross-Sell products** page.
3. Select a cross-sell product from the **Available Products** list.
4. **Add** the cross-sell products to the **Selected Products** list.
5. Click **Finish** to save the products.
6. The **Manage master products** page is displayed.

Cross-Sell Products for: Team Spirit

Product(s) added.

Available Products	Selected Products
Bad Debt Expense Promotionals Publication - A Planning Guide for Home Businesses Sailing, A Sport for Young and Old The Complete Video Library Video - Creating a New Business Video - Is Fast Food Franchising for YOU?	Golf Shirt Traveling these United States

Add
Remove

Commerce Setup in iMIS Desktop

Orders setup for Public view

Setting up and troubleshooting freight calculation

On the shipping page, web-based views list the available shipping options for calculating freight charges. Automatic freight will not calculate if the freight by weight, total value, or total quantity is not set up correctly.

When these errors occur, the amount may be set to zero, but the user can proceed with the order without receiving an error message. These errors are logged and emailed to the system administrator.

To set up freight calculation

Freight calculations in the shipping page depend on setups in four areas:

- In *iMIS Desktop*, go to **Orders > Set up module > Set up tables**. Set up the tables for freight by weight, total value or total quantity.
- In *iMIS Desktop*, go to **Orders > Set up module > Add-on Charges**. Select Automatic Calculation of Freight Charge. Then select a type of Freight charge.
- Go to **System Setup > Set up web components > Organization Configuration**. In the **E-mail address to notify when a product is sold** (ProductSaleEmailTo) field, provide an email address for a staff member who performs setup in Orders.
- Go to **System Setup > Set up web components > Organization Configuration**. In the **Email displayed in the From: email field** (NoReplyOrgainizationEmailAddress) field, provide an email address for the staff member who performs setup in Orders.

To access logged freight errors

Go to **System Setup > Set up web components > Error log** to see freight calculation errors.

Setting up Customer's default tax authority

In order for Public view Orders to run properly, you must set up the *Customer's default tax authority* (see "Using a customer's default tax authority") option on the Web Order Options window (From **Orders**, select **Set up module**, and click **Web**).

Enabling backordering on the web

To allow out-of-stock items to be purchased in the web views, enable the **Allow purchase of out-of-stock items** checkbox (**System Setup > Set up commerce web components > Store configuration**).

The backordered purchase is processed as a pro forma order and created as if the item is in stock and will be shipped. However, the product inventory is not affected at the time of the order.

When an out-of-stock item is in the cart during checkout, the cart issues a message about the backordered state. The backorder quantity displayed is based on the product availability at the time the order is placed.

You can customize the out-of-stock and backorder messages that appear during the order process. The out-of-stock message appears on the Product Detail page. The backorder message appears on the **My Cart**, **Review**, and **Order Summary** pages, and in the **Order Confirmation** sent by email.

If the **Allow purchase of out-of-stock items** checkbox is cleared, orders containing out-of-stock items can not be processed in the web views.

To enable backorders in the web views

1. From **System Setup**, select **Set up commerce web components > Store configuration**.
2. Select the **Allow purchase of out-of-stock items** checkbox.
3. (Optional) Customize the out-of-stock and backorder messages.
Only one backorder message displays in the web views. The backorder message displayed is based on the backorder option selected on the *Backorder Processing window* (from **Orders**, select **Set up module**, and click **Backorders**).
4. Click **Save**.

Billing setup for Public view

Users can make payments for their dues and subscriptions in the Public view from **Contacts > Contact Management > Billing**. Depending on the accounting method you use for renewal billing, it varies which options you must select to allow this self-service functionality.

- *All renewal billing processed using the Cash method*: Enable the **Accept payments on the web** option for each billing product you want to enable for payment on the web (**Billing > Set up module > Products**). With this option, you can pick and choose which products you want to expose for payment.
- *All renewal billing processed using the Accrual method*: Enable the global System Setup option **Allow customers to make accrual dues payments on the web** (**System Setup > Set up commerce web components > Billing Configuration**). With this option, all accrual billed items are exposed for payment on the web, because accrual invoices must be paid in full.
- *A mixture of Cash and Accrual renewal billing*: Enable the global System Setup option **Allow customers to make accrual dues payments on the web**, which makes all accrual billings available for payment on the web. Then enable the **Accept payments on the web** option for each cash billing product you also want to be payable on the web.

Customer setup for Public view

In order for Public view Events to run properly, set up country names in *iMIS Desktop*.

Fundraising setup for Public view

You can collect donations online through a WCM website or through the Public view.

You can customize the online donations feature to suit your organization's needs.

Setting up online donations in iMIS Desktop

You must be licensed for **Donate** to use the online donations feature.

Follow these setup steps in iMIS Desktop to enable online donations. You may have already set up these features for other parts of your iMIS system.

1. Create a payment gateway. (**AR/Cash > Set up module > Credit Card Auth**).
2. Configure iMIS to use batch control. (**AR/Cash > Set up module > Batch Control**). Online donations are automatically placed in system-generated **Internet Gifts** batches that are created based on the date the transaction took place. All of the transactions from a single day are placed in a batch with the same date. If today's **Internet Gifts** batch is closed, and a new transaction takes place, a new batch is created with today's date.
3. Determine which distributions will be credited with online donations. Either *define a new distribution* (see "Defining distributions and premiums") or select from existing distributions (**Fundraising > Set up tables > Distributions and premiums**).
4. (optional) Set up a Donor Club. (**Fundraising > Setup tables > Donor clubs > Gift Amount**). A Donor Club used for online donations must be set up for *cash only* payment.

Contact records created by online donations

Clicking the donation link takes donors directly to the **I want to donate** page, where they can make an online donation in three different capacities.

- Current contacts who are logged on (authenticated users) – The information from the **I want to donate** page is submitted to the iMIS contact's existing record.
- Current contacts who are not logged on (unauthenticated user) – The information from the **I want to donate** page creates a duplicate contact record for existing contacts, but it does not create a new public user record. The new contact record is assigned the default contact type (**System Setup > Set up web components > Quick setup**).
- Public users who are not registered on the website (anonymous user) – The information from the **I want to donate** page creates a new iMIS contact record, but it does not create a public user record. The new contact record is assigned the default contact type (**System Setup > Set up web components > Quick setup**).

Removing the Donate link from the homepage

A link to the donation page appears on the Public view's homepage even if your organization is not licensed for the feature.

To remove the donation link, delete the following line of code from the Default.aspx file using a text editor. In a typical installation, the Default.aspx file is located in the local directory for the iMIS application - c:\Program Files\ASI\iMIS\iMIS_public\Default.aspx.

```
<li><a id="ctl00_TemplateBody_HyperLink6" href="Core/Donations/Gift.aspx">Donate</a> to our organization!</li>
```

Setting up credit card authorization for the Public view

Use the following steps to accept credit card payments in iMIS Public view:

1. Set up credit card authentication (**AR/Cash > Set up module > Credit Card Auth**). See AR/Cash Credit Card Authorization window.
2. Set up cash accounts for online registration credit cards (**AR/Cash > Set up tables > Cash accounts**). See Setting up credit/debit card cash accounts in AR/Cash.

Note: The cash account codes *must* be prefixed with "W_" (such as "W_VISA") to accept credit card payments via the Public view.

3. Modify the web.config file to include the Gateway Account Code. See Modifying the web.config file with the credit card gateway.

Web component setup windows

The fields described in this section are used when performing the tasks in this guide.

System Setup: Set up web components

Note: The documentation might not match your product. Your organization can customize *iMIS*, license fewer features, or limit your security access, all of which affect the fields that you see in the product interface. Moreover, the documentation does not cover every window or window element. Windows and fields that are clearly defined in the product interface itself, or that should otherwise be intuitive, are not described in the documentation.

Public view administrators can use the **Setup web components** task list on the **System Setup** feature to configure items for the Public view including labels for the various areas of the site and email and graphics settings.

Quick setup window

This window defines basic connection mappings and organization information required to expose the Public view of *iMIS* for access by anonymous users and **Public** users.

From **System Setup**, select **Set up web components > Quick setup window**.

Note: An *iMIS* system administrator can change the information that is returned by search queries for both anonymous users and Public users by modifying a Default query. Refer to *Where to configure the Public view Directory area* for the locations of the queries.

The full name of the organization that owns the site

Enter the name to appear in the title tag of the front page of the Public view.

The abbreviated name of the organization that owns the site

Enter an abbreviated name if desired. You may leave this field blank.

The default email address for the site

Enter the email address to receive all email by default when errors occur with the site. Typically this email address is for the webmaster and the primary contact for the organization.

The default Customer Type to use when creating new customers online

(Required) Specifies the default **Member Type** to use when creating a new *iMIS* contact record for anonymous users who register themselves through the web views of *iMIS*. This value corresponds to the **Description** field in the **Customer types** window (**Customers > Set up module > Customer types**).

The default Customer Type to use when creating new organizations online

Specifies the default **Member Type** to use when creating a new *iMIS* contact record for non-individual entities. This relates to *creating non-individual accounts in the Web view* (see "[Creating non-individual accounts in Web view](#)"), for Full and Casual users to enter new accounts.

General configuration window

This window defines variables that affect the handling of alternative currencies, and which control the title and contents of site-wide error windows.

From **System Setup**, select **Set up web components > General configuration**.

Set the Systems Base Currency Code

Specifies the default ISO 4127 currency code (and corresponding pricing) that appears in commerce-oriented windows of the Public view of *iMIS*.

The control is a drop-down list of ISO 4127 currency codes. When users select an alternative currency code that is different from the base currency code, the system uses values from the **Iso_Currency_Codes** table and the **Exchange_Rate** table to calculate exchange rates and display the pricing in the user's chosen currency.

To update these two tables with current exchange rate information, an SQL script called **insert_Exchange_Rate_and_Iso_Currency_Codes_values.sql**, and instructions for running the script, is available from the **Downloads** area of the ASI Technical Support site.

Display Alternative Currency

Enables the display of a user-selectable alternative currency control in commerce-oriented windows of the Public view. When cleared, no alternative currency control is available in the Public view, and all prices are displayed according to the base currency code.

Credit card prefix

Specifies the prefix used in a cash account **Code** (**AR/Cash > Set up tables > Cash accounts**) to denote cash accounts that are used specifically for web-based credit/debit card transactions. Only cash accounts with a code that contains this prefix value are visible in windows of the Public view related to web-based payment transactions. The cash account's **Title** field determines what is displayed in drop-down lists that enable users to specify a credit card type. For example, if your **Credit Card Prefix** defined in this window is "W_", and you define a cash account in **AR/Cash** with W_VISA specified for the **Code** field and Visa specified for the **Title** field, then users of your Public view would see **Visa** in the drop-down list when choosing a credit card type for their checkout transaction.

Note: In a new installation of *iMIS* there are no default web-based cash account **Codes**. You must use **AR/Cash** to define web-based cash accounts, and the **Code** used for each of those web-based cash accounts must use the prefix defined here in this field.

Generic error message

Specifies the message that will be displayed if the error does not fall into the category of unauthorized access, checkout errors, or invalid licenses.

Organization Configuration window

This window defines your organization information as it appears in the Public view. By default, *iMIS* pre-populates these fields with the email address entered in the **System Setup > Set up web components > Quick Setup: The default email address for the site** field.

From **System Setup**, select **Set up web components > Organization configuration**

Note: Ensure email addresses are entered correctly. Email notifications rely on having valid email addresses.

Email From (CreateAccountEmailFrom)

Specifies the **From** address of email messages that are sent in response to create account requests from users who register for membership online. Required before any user may create a new account.

URL of registration page

Specifies the URL of the page for new account registration.

Domain Name

Specifies the domain name you want for all pages related to the Public view.

Contact person Email (EmailFrom)

Specifies the email address that sends email from your organization's Public view. Sometimes, based on your preferences, this email account is an unmonitored email address, one that includes "please do not reply to this address" in the message body. That way, an actual person's email account does not get cluttered with "bounce back" messages.

Email address to notify when an account is updated (SendToEmailOnAccountUpdate)

Designates a contact to receive notification whenever an account is updated. Required before any user may create a new account.

Email address to notify when a product is sold (ProductSaleEmailTo)

Designates a contact to receive notification whenever an order is placed. To disable notification, leave the field blank.

Admin configuration window

This window defines properties of the **Error log** window.

From **System Setup**, select **Set up web components > Admin configuration**.

Number of errors displayed per page

Specifies the default number of error messages displayed per page in the **Error log** window.

SSL configuration window

This window defines SSL (Secure Sockets Layer) options. SSL is a protocol layer placed between a reliable connection-oriented network protocol layer (TCP/IP) and an application protocol layer (HTTP). An administrator may enable SSL for two areas: Login Validation and Checkout. By default, these options are disabled during installation.

Enabling SSL provides extra security for the site by encrypting information. This security is especially important at checkout, where users may enter credit card information.

Note: These options only apply to non-iPart based websites, like the Public view. Enable SSL for iPart built sites at the content record level: for any content record that contains an iPart that you want to operate using SSL, enable the **Content is secure (https://)** property.

From **System Setup**, select **Set up web components > SSL configuration**.

Use SSL security for checkout (only applies to non-iPart based websites)

When selected, *iMIS* uses SSL for all shopping activities from the Public view. You must have copied your SSL certificate to the server and ensured that IIS is set up properly.

Note: When you select this option, SSL is enabled for both the Public view (*iMISPublic*) and the Web view (*iMIS*). If you have *iMISPublic* installed on a separate webserver from *iMIS* webapp, then you need to install an SSL certificate on both servers if you wish to use the checkout feature on both the Web view and the Public view.

Use SSL security for login (only applies to non-iPart based websites)

When selected, *iMIS* uses SSL for creating new accounts and after a member is logged on to the Public view all HTTP requests use an SSL layer.

Contact us configuration window

This window defines the information that is displayed on the **Contact us** form.

Note: Be sure to select the **Require a value...** checkbox for *every* corresponding field that you want to denote as required before the user can submit the contact request.

Anyone can view the Contact us form, not just logged on users.

From **System Setup**, select **Set up web components > Contact us configuration**.

Be aware that choosing either Show or Require applies when anyone accesses their profile through the Public view **My account**, and when users access profiles from the web using **Contacts**.

Message displayed after the form has been submitted

Specifies the text for the body of the page that displays on the Public view after a contact has filled out the Contact us form.

Personal label configuration window

Use this window to define the labels that appear on the **Personal** page of the **My Account** area, which corresponds to the basic information in an *iMIS* contact record.

From **System Setup**, select **Set up web components > Personal label configuration**.

Major key

Specifies the label displayed for the field in which a user can define their own *iMIS major key*. The major key is a user-defined ID value (such as a member number) that can be used as an alternative way to find contact records in *iMIS*.

Ensure that the label used for this field corresponds to the **Major Key Prompt** value defined in the **Customer Setup - Basic Options** window (**Customers > Set up module > General, Basic Options**). For example, if the **Major Key Prompt** is defined as "SSN", specify a **Major key** label here that clearly indicates that the user should enter their social security number.

Designation

This indicates a label for a Designation and the default includes the CPA example. A designation indicates that the member has achieved a certification or other indicator that typically goes after the person's first and last name when appropriate.

Exclude directory

Specifies the label for the checkbox that enables a user to exclude their contact record from the **Directory** area of the Public view. (The visibility of the checkbox itself is enabled with the **Show the Exclude from directory field** checkbox on the **Personal information configuration window (System Setup > Set up customer web components > Personal information configuration)**).

VAT Exempt

Label for the member to indicate if they are exempt from Value Added Tax (VAT). With these labels, customers who are subject to any of the many VAT charges for products and services can enter their VAT information online.

VAT Reg Number

Label for the VAT Registration Number for the customer to enter.

VAT Country

Label for the field for the customer to specify the country on which VAT is calculated.

Address label configuration window

This window defines the labels that appear on the **Address** page of the **My Account** area, as well as other address-related labels that appear in the **Events** and **Store** areas.

From **System Setup**, select **Set up web components > Address label configuration**.

Separate labels are available for preferred billing and preferred shipping addresses, so even though there are duplicate field names, they refer to either billing or shipping information.

Cart Item Label

Specifies the text for the label for the purchase items in the user's shopping cart. This label can be changed if you want to rename the term "cart" throughout the web site.

Address type

Specifies the introductory text "This is my" for the different types of address labels.

Update Alternate Address Link Label

Specifies the text that appears as a tooltip in the Full view if a customer has entered an alternate shipping address during the checkout process. The tooltip appears over the edit button next to the alternate shipping address.

Product label configuration window

This window defines the labels that appear on the product pages of the **Store** area in the Public view.

From **System Setup**, select **Set up web components > Product label configuration**.

Quantity

Indicates the label for the field where customers enter the amount of a product sold in the online store.

Product price

Indicates the label for the price of a product for sale in the online store.

Payment label configuration window

This window defines the labels that appear on the credit card checkout page.

From **System Setup**, select **Set up web components > Payment label configuration**.

Credit card expires

The default label is "Expires" but you may want to inform customers of the date format.

Credit card type

The default label is "Payment Type" and it is next to a drop-down list containing for example, MasterCard or Visa.

Credit card security code (CSC)

The default label is Security Code but you may want to included the CSC acronym or explain that they flip the card over to find this three-digit code.

Misc label configuration window

This window defines the labels that appear throughout the website.

From **System Setup**, select **Set up web components > Misc label configuration**.

Comments, in Contact us

Used as the label for the Comments form in the Contact us page.

Results per page

This field specifies the label for the Directory listing results per page.

User ID Label

Specifies the label for the *iMIS* identifying number assigned to all user records.

SIC Code

Specifies the label for the Standard Industrial Classifications (SIC) code that identifies the primary business of an establishment.

Label for Shopping Cart

Specifies the preferred term for the online shopping container, such as cart or basket. The default is Cart.

Image configuration window

This window defines the folders in which website images and product images are stored.

From **System Setup**, select **Set up web components > Image configuration**.

Images folder path

Specifies the location of the folder that contains all the various images for the Public view of *iMIS*, most of which are categorized into sub-folders. The default location after installation is **C:\Program Files\ASI\iMIS\iMIS_public\images**.

If you specify a relative filepath (by using a / character at the beginning of your entry), the root for the relative filepath is **C:\Program Files\ASI\iMIS\iMIS_public**.

Default product images folder

Specifies the location of the folder that contains all product images used in the **Store** area of the Public view. If you do not specify an absolute path, *iMIS* treats your entry as a relative path from the **C:\Program Files\ASI\iMIS\iMIS_public\images** folder.

Note: When specifying a relative path in this field, you do not need to prefix your entry with a / character.

Exchange settings window

This window defines the Microsoft Exchange account in your organization from which event meeting requests are sent to users who register for events through the Public view of *iMIS*.

From **System Setup**, select **Set up web components > Exchange settings**.

Username

Specifies the designated webmaster's domain user name required to log onto the proxy server for Exchange, prefixed by your domain name. For example, mydomain\username.

Password

Specifies specify the corresponding domain password of the designated webmaster.

Exchange URL

Specifies the URL associated with your Exchange server's Exchange Web Service page. For example, <https://webmail.myorg.com/ews/exchange.asmx/>.

Note: You can test these three settings by opening an Internet Explorer browser and entering the **Exchange URL** that you've specified in this **Exchange settings** window. A domain authentication dialog asking for your user name and password should appear. Enter the **Username** and **Password** that you've specified. If your settings are correct, an Exchange **Services.wsdl** page containing .xml content will display.

Maintenance mode window

This window enables you to set the status of the Public view of *iMIS* to maintenance mode, which prevents user from accessing the Public view. The messages you enter on this page appear while the view is in maintenance mode.

From **System Setup**, select **Set up web components > Maintenance mode**.

Set the site in maintenance mode?

When selected, this checkbox sets the Public view into maintenance mode and a message is displayed instead of the usual starting page.

The message that is displayed when user goes to the login page...

Specifies the message to display to users attempting to log on to the Public view while it is in maintenance mode.

The message to be displayed to users when the site is in maintenance mode

Specifies the message that appears on every page of the Public view other than the **Logon** page. You can use embedded HTML tags in this field.

Error log window

This read-only window enables you to browse the error log for the Public view. The navigation bar enables you to select how many errors to show per page and to jump from page to page.

- To sort the log entries, click column headings.
- To view stack trace details about an error, click the **Error ID** number.

From **System Setup**, select **Set up web components > Error log**.

Email templates window

This window allows you to customize *iMIS* email templates. You can design the email with HTML or CSS, modify the subject and body text, add CC and BCC email addresses, and use variables in the subject line and body. We have provided a [sample email customization](#) to illustrate the possibilities.

In addition to the addresses listed in the template's CC and BCC fields, emails are also sent to the email addresses designated in the **Set up web components > Organization configuration** window. You can add as many CC and BCC email addresses as you like in a comma-delimited list (**bob@xyz.com,susan@xyz.com**).

Each template has a set of variables that you can use in the email's subject line and body. When an email is sent, the variables are replaced with the appropriate values. Some of these variables are configured from other **System Setup** areas and have been noted below.

From **System Setup**, select **Set up web components > Email Templates**.

Tips

- HTML and inline styles work best in emails, because some email clients ignore externally linked CSS files. For example, the following inline style turns the header text blue and changes the font:

```
<h1 style="color:#0000FF;font-family:Georgia,serif;">Heading text</h1>
```

- Use full paths to images, not relative paths. For example:

```

```

- Test your email messages in different email clients to make sure everything looks the way you want.
- To receive email notifications when an account is updated, you must enable the **Send an email to the site administrator when an account is updated** option (**System Setup > Set up customer web components > Account management configuration**).

Account Updated template

The **Account Updated** email template can use the following variables:

- [ID]
- [FirstName]
- [LastName]
- [OrganizationLabel] - Configured from **System Setup > Set up web components > Personal label configuration**.
- [Organization]
- [Email]
- [WorkPhone]
- [HomePhone]
- [WebSite]

Account Address Updated template

The **Account Address Updated** email template can use the following variables:

- [ID]
- [Purpose]
- [FullAddress]

Create Account template

The **Create Account** email template can use the following variables:

- [FirstName]
- [LastName]
- [CreateAccountEmailBodyTop]
- [AccountDetails]
- [EmailSignature] - Configured from **System Setup > Set up customer web components > Reset password configuration**.

Roster Member Removed template

The **Roster Member Removed** email template can use the following variables:

- [ID]
- [FullName]
- [Reason]

New Account template

The **New Account** email template can use the following variables:

- [AccountCreated]

- [AddedBy]
- [AddedByID]
- [ID]
- [Prefix]
- [FirstName]
- [MiddleName]
- [LastName]
- [Suffix]
- [Designation]
- [Informal]
- [Title]
- [OrganizationLabel] - Configured from **System Setup > Set up web components > Personal label configuration**.
- [Organization]
- [AddressPurpose]
- [Address1]
- [Address2]
- [City]
- [StateProvince]
- [PostalCode]
- [County]
- [Country]
- [Email]

Order Confirmation Resend template

The **Order Confirmation Resend** email template can use the following variables:

- [OrderDetails]
- [ProductDetails]
- [EventDetails]
- [OrganizationName]
- [Company]
- [FullName]
- [ID]
- [Email]

Order Confirmation template

The **Order Confirmation** email template can use the following variables:

- [OrderConfirmationNote] - Configured from **System Setup > Set up commerce web components > Checkout configuration.**
- [BillingConfirmationText] - Configured from **System Setup > Set up commerce web components > Billing configuration.**
- [Details]
- [OrganizationName]
- [Company]
- [FullName]
- [ID]
- [Email]

The body of the **Order Confirmation sent to Webmasters** can use the following variables:

- [OrderConfirmationNote] - Configured from **System Setup > Set up commerce web components > Checkout configuration.**
- [BillingConfirmationText] - Configured from **System Setup > Set up commerce web components > Billing configuration.**
- [WebmasterCopyDetails]
- [OrganizationName]
- [Company]
- [FullName]
- [ID]
- [Email]

Contact Us template

The **Contact Us** email template can use the following variables:

- [ContactUsEmailMessage] - Configured from **System Setup > Set up web components > Contact us configuration.**
- [MailBody]

Donation template

Note: The **Donation** email template is text-only. You cannot modify it with HTML or CSS.

The **Donation** email template can use the following variables:

- [Subject]
- [Body]

The donation variables are configured from *properties* (see "Gift.aspx page properties") of the **Gift.aspx** page. Its default location is `c:\Program Files\ASI\iMIS\iMIS_public\Core\Donations`.

Community Report Inappropriate or Offensive template

The **Community Report Inappropriate or Offensive** email template can use the following variables:

- [FullName]

- [ID]
- [Title]
- [Explanation]
- [Title]
- [Body]
- [Link]

Community Notification template

The **Community Notification** email template can use the following variables:

- [Title]
- [NotificationLink]
- [PreferencesLink]

Sample email customization

In the following example, the Order Confirmation email template is customized with HTML and inline styles.

Custom code sample

```
<table width="100%" height="100%" cellpadding="20" cellspacing="0" bgcolor='#cccccc' >
<tr>
<td valign="top" align="center">

<table width="600" cellpadding="0" cellspacing="0" bgcolor="#FFFFFF">
<tr>
<td><a href="http://www.advsol.com/"><IMG SRC="http://docs.imis.com/readysetevolve_header.jpg"
  BORDER="0"></a>
</td>
</tr>
</table>

<table width="600" cellpadding="20" cellspacing="20" bgcolor="#FFFFFF">
<tr>
<td bgcolor="#FFFFFF" style="font-size:12px;color:#000000;line-height:150%;font-
  family:arial;">
<br />
<h1 style="font-size:22px;font-weight:bold;color:#FF9A37;font-family:arial;line-
  height:110%;">Thank you for your order [FullName]!</h1><br>

<p>[OrderConfirmationNote]
[BillingConfirmationText]</p>

<p>[Details]</p>

</td>
</tr>
</table>

<table width="600" cellpadding="20" cellspacing="20" bgcolor="#FFFFCC">
<tr>
<td style="font-size:12px;font-color:#666666;font-family:arial;text-align:center;">
<p><a href="http://www.advsol.com">Advanced Solutions International</a> | <a
  href="mailto:CustomerContactCenter@advsol.com">CustomerContactCenter@advsol.com</a> |
  1.800.727.8682</p>
```

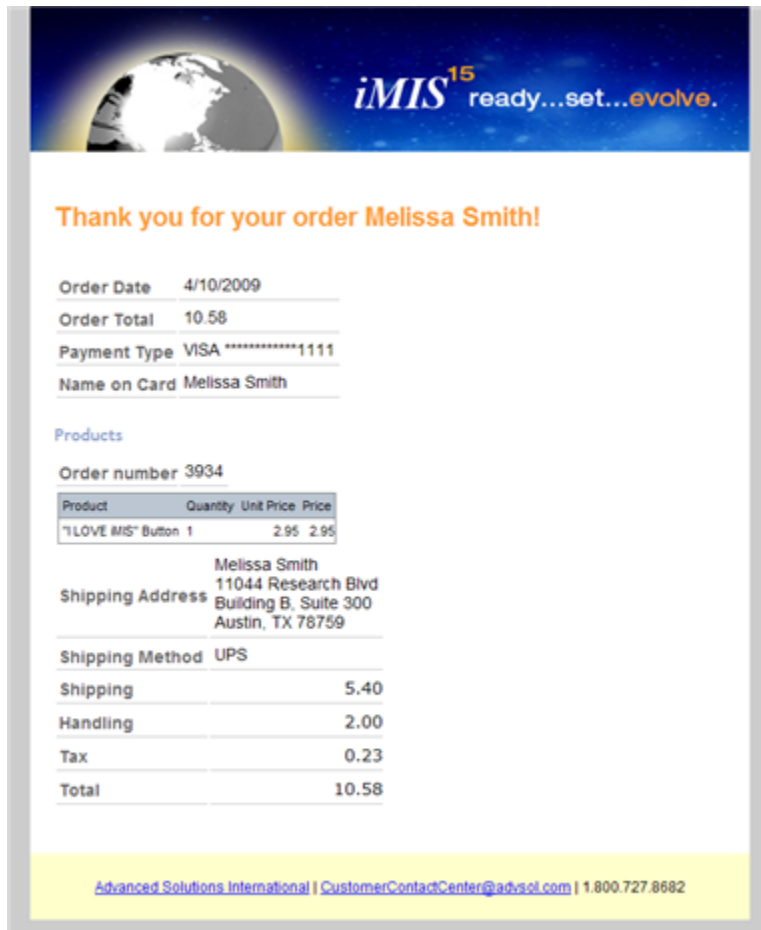
```

</td>
</tr>
</table>

</td>
</tr>
</table>

```

Rendered sample email



System Setup: Set up customer web components

Public view administrators can use the **Setup customer web components** task list on the **System Setup** feature to configure items for *iMIS* accounts which includes user records, passwords, company, committee, and logon information.

Be aware that choosing between either show or require in **Set up customer web components** applies:

- when *anyone* accesses their profile through the Public view **My account**, and
- when users access profiles from web clients using **Contacts**

Account management configuration window

Account management enhances the customer experience by allowing a customer to control personal information.

You can also change settings for notification email messages such as a listing of account changes or just a notification when an account is updated.

From **System Setup**, select **Set up customer web components > Account management configuration**.

Include account changes in the notification Email to the site administrator

When enabled, the modifications that the customer made to their account are included in the email sent to the site administrator.

Number of days that an order is considered recent

Based on a calculation with this value, an order is classified as a recent order as long as the number of days specified has not been passed.

Send an Email to the site administrator when an account is updated

When enabled, the site administrator receives email notifications any time an account is updated at the email address specified in **System Setup > Set up web components > Quick setup: The default email address for the site**. If you have a different email address in **System Setup > Set up web components > Organization configuration: Email address to notify when an account is updated**, then that email address receives the account updates.

LogonInformationRequestMessage and PasswordResetRequestMessage

The **LogonInformationRequestMessage** is sent to users who have submitted the **Forgot my logon** form. The **PasswordResetRequestMessage** is sent to users who have submitted the **Forgot my password** form.

You can use the following variables in the email messages. When an email is sent, the variables are replaced with the appropriate values.

- [UserId]
- [ContactId]
- [Email]
- [LogonUrl]

Use HTML or CSS to modify the look and feel of the email.

Tips

- HTML and inline CSS work best in emails, because some email clients ignore externally linked CSS files. For example, the following inline style turns the header text blue and changes the font:

```
<h1 style="color:#0000FF;font-family:Georgia,serif;">Heading text</h1>
```

- Use full paths to images, not relative paths. For example:

```

```

- Test your email messages in different email clients to make sure everything looks the way you want.

Personal information configuration window

Use the **Personal information configuration** window to select which fields display and which fields require a value when a user selects **My Account > Personal** or when a staff member selects **Contacts > Contact Management > Personal**.

From **System Setup**, select **Set up customer web components > Personal information configuration**.

Show the Member Type

Allows you to display or hide the Member Type field. If enabled, the next field must be configured.

Allow Member Type to be modified

Determines whether Public users can change their Member Type if displayed. If disabled, the field is visible but read only.

Member Type Choices

If the **Allow Member Type to be modified** option is enabled, this field accepts a comma-delimited list of just those codes that you want users of the Public view to choose from. For example, most organizations do not allow users to choose to make themselves active members.

Address configuration window

A customer can add and edit address information from the website. The page titles and address prompts are configured on the **Address configuration** window.

From **System Setup**, select **Set up customer web components > Address configuration**.

You can either just show or show and require certain fields.

Create account configuration window

The personal information displayed in the Create account process is specified in the **Create account configuration** window. You can mark fields as required in this window.

Note: If you have installed a Public view website, you must enter the base URL so users can log on.

From **System Setup** select **Set up customer web components > Create account configuration**.

Base url for public website

Enter the base URL, which is the root address for the website that does not include any subfolder names).

Send new account validation email (require that new users be validated before logging on)

Specifies whether Public users who create an account for themselves receive a registration verification email after creating an account. When selected, a user must be validated before going directly to the page they were seeking. The settings for this email are included on this **Create account configuration** window.

Show the SIC code field/Require the SIC code field

Specifies whether to show and/or require the user to enter the Standard Industrial Classifications (SIC) code that identifies the primary business of an establishment.

Default expiration date, in years from account creation

Specifies how many years the account exists in the system until it is marked as expired.

Tip: Several of the fields on this configuration window relate to creating non-individual accounts (see "[Creating non-individual accounts in Web view](#)"), for Full and Casual users to enter new accounts.

Create account page titles window

Page messages and titles for each step in the **Create account** process are entered in the **Create account configuration** window.

From **System Setup**, select **Set up customer web components > Create account page titles**.

Step *n* subtitle *n*

Each of these fields specify the text for the Create Account wizard-like pages on the Public view.

Header before the user information

This text specifies the text the user sees after successfully registering their new account.

Create account search window

On the **Create account search** page, you can specify certain prompts and the company information you want to be displayed when users search for their company.

From **System Setup**, select **Set up customer web components > Create account search**.

Tip: Several of the fields on this configuration window relate to creating non-individual accounts (see "[Creating non-individual accounts in Web view](#)"), for Full and Casual users to enter new accounts.

Search only among members of this type

Enter the member codes that you want to limit for website visitors to search.

Title of the Company Search page

Specifies the heading text on the page where members search through company records. You may want to modify this if company does not describe the types of records your visitors would search through.

Prompt to show after searching for a company

Specifies the wording for letting a website visitor know about their search results.

User must select his or her company before creating an account

Specifies whether you require that a user selects from existing company records before moving through the account creation process.

Note: If their company does not yet exist in the *iMIS* database they may enter their company's name when creating their record. However, this does not add the company record to the database or add the user's record to a company roster.

Show... in company search results

Specifies the company information displayed in the company search results.

Roster Management Configuration window

You configure the display and editing of a list of company or trade association members using the **Roster Management Configuration** window.

From **System Setup**, select **Set up customer web components > Roster Management Configuration**.

Roster management enabled in *iMIS* Web Components

Select this checkbox to allow designated company administrators to view and manage records of all contacts belonging to their company. By assigning certain user records the Company Administrator role, you can enable members to manage their group's roster.

Link displayed when a roster manager unsuccessfully searches for a member to add to a roster

Specifies the text for the option to continue with new account creation when one or more possible matching records are found in system.

Number of members to show at once

Specifies the number of members shown per page in the company roster in the Web and Public views.

New accounts can be created from roster management

Select this checkbox to allow the person with the Company Administrator role to create new accounts when managing the roster.

Subject line for Emails announcing accounts created through roster management

Specifies the subject line for email notification sent when a new account is added to a company roster by a Company Administrator.

Notify the company when a member is removed from its roster

Specifies whether an email notification is sent when a Company Administrator removes a member record from a company roster.

Note: Email notifications are sent to the address specified in **System Setup > Set up web components > Organization: Email address to notify when an account is updated.**

Warning when removing a member from the roster

Text for warning the Company Administrator that they have selected the option to remove a member from the roster.

Stored procedure that returns all names available for roster management

If you create a new stored procedure for returning the roster list names, you enter the name of the stored procedure here.

Stored procedure that removes a member from a roster

If you create a new stored procedure for removing a name for the roster list, you enter the name of the stored procedure here.

Create account settings window

When users set up an account, they can choose how they would like their information to be handled. In addition, the system administrator can set options for informing the new user about the new account. These preferences can be specified on the **Create account settings** window.

From **System Setup**, select **Set up customer web components > Create account settings**.

Show the Exclude from directory field

Specifies whether to show the checkbox so that the user can choose to be excluded from the Public view directory so that other members cannot search for them.

Require a value in the Exclude from directory field

Specifies whether you require the user to choose to be excluded from the Public view directory.

Show the Exclude from mail field

Specifies whether to show the checkbox so that the user can choose to be excluded from mailings from your organization.

Require a value in the Exclude from mail field

Specifies whether you require the user to choose to be excluded from mailings.

Allow creation of a web logon during account creation

When selected, enables the user to create their own logon when creating an account.

If the record found has no Email address, use the one that was typed in (AllowNewEmail)

When selected, specifies that the user can enter a new email address, carrying forward the newly entered email address into Step 2 of registration.

Logon configuration window

The logon window is the first window a user encounters when creating an account or registering for any service on the Public view website.

Before logging on, users are given options by default:

- Log on

- Look up their account, from a Forgot my ID link
- Create a new account
- Reset my password

These options are set in the **Logon configuration** window.

From **System Setup**, select **Set up customer web components > Logon configuration**.

Remember me time (years) (LoginTimeout)

Specifies the number of years the browser may remember the password.

Show the Create account link

When selected, the Please create a new account link appears on the Public view website. If you want to remove the ability for users to create accounts, clear this selection.

Show the Find me link

When selected, a user can look up their account information with their email address, first name, last name, and zip code through a link under the Log on area of the Public view website.

Show the Reset password link

When selected, a user can have an email sent to them with a new password through a link under the Log on area of the Public view website.

Forgot logon or password configuration window

When a user selects **Forgot my ID**, *iMIS* searches the database for an existing record. The search parameters the user enters are defined in the **Forgot logon or password configuration** window.

From **System Setup**, select **Set up customer web components > Forgot logon or password configuration**.

User choice when the desired record was not found, 1

Specifies the message the user sees if *iMIS* does not find their record.

Find contact: Show results before Emailing password (FindMeShowResultsFound)

Specifies whether results from a search are given before *iMIS* emails the password to the user conducting the search.

New account: Show results before Emailing password (NewAccountShowResultsFound)

Specifies whether results from a search are given before *iMIS* emails the password to the user creating a new account.

Reset password configuration window

Every message a user sees during the Reset Password process has been created by an administrator in the **Reset password configuration** window.

To reset a password, a user account must have been previously created. Resetting a password is a simple process. After clicking the reset password link at Logon, a user types an email address into a text box. After a user clicks submit, *iMIS* sends an email containing a new password. The two link names by default are **Reset My Password** and **Trouble Logging on**.

If a user cannot access the email address used in *iMIS*, then an *iMIS* administrator can go into the **System Setup > Security administration > Users > User Credentials** area and type in a new password, and then tell the contact over the phone what their new password is set to.

From **System Setup**, select **Set up customer web components > Reset password configuration**.

Committee configuration window

The display of the Committees directory is determined by the stored procedures and values entered in the **Committee configuration** window. The stored procedure pulls the committee description from the database.

Note: To display a committee to web clients, enable its **Show on web** option (**Customers > Setup tables > Committee codes**).

To change the search queries for committees, modify **\$ > ContactManagement > DefaultSystem > Queries > Directory > Committee** in the Document System.

From **System Setup**, select **Set up customer web components > Committee configuration**.

User defined fields window

The Public view administrators can define custom pages that contain user-defined fields from the **User defined fields** window under **Set up customer web components**. These pages appear within account management as another page.

From **System Setup**, select **Set up customer web components > User defined fields**.

The Public view administrators can add user defined fields to the personal information page within account management. These will appear in a section of the Create account process pages. Administrators also have the ability to define custom pages within account management and assigned user defined fields to those pages.

It is important to note the following

- All user defined fields (UDF's) must be assigned to a window before that can be used on a Public view page.
- Each table must have the **Always Create** checkbox checked so that each user has a record inside every user defined table.
- Public view does not support multiple instances.

The user defined fields setup page can be found within the **Customer administrative** section.

Unassigned fields

All UDF's found will be listed in the **Unassigned Fields** section on the right side. The UDF's will be listed in a tree format by the table name that the field is assigned to.

Assigned Fields

Any UDF that has already been assigned to a page will be displayed in the **Assigned Fields** section on the left side. The first step in assigning UDF's is to choose the page. By default, administrators can choose to assign fields to the **CreateAccount** process or to the **PersonalInfo** page. Once you have selected the page, you can add UDF's to that page by dragging any unassigned fields from the right side onto the name of the page on the left side.

Adding a UDF to the create account process or the personal information page

To assign a UDF to a page, simply drag the UDF name from the **Unassigned fields** onto the name of the page in the **Assigned fields** section. You can change the order of fields listed by dragging up or down in the list.

Removing a UDF from a page

Administrators can remove any UDF from a page by clicking the **Delete** icon next to the UDF in the **Assigned fields** section.

System Setup: Set up events web components

Note: The documentation might not match your product. Your organization can customize *iMIS*, license fewer features, or limit your security access, all of which affect the fields that you see in the product interface. Moreover, the documentation does not cover every window or window element. Windows and fields that are clearly defined in the product interface itself, or that should otherwise be intuitive, are not described in the documentation.

Public view administrators can use the **Setup events web components** task list on the **System Setup** feature to configure items for the Public view including event registration setup and paying for event registration with a credit card.

Event setup window

Use the **Event setup** window to configure events and functions for online registration.

You must log on as a user with rights to the Administrator or EventCoordinator security key to perform event setup.

From **System Setup**, select **Set up events web components > Event setup**, and select an event.

Certain messages have an upper limit for the number of characters the message can contain. For example, the **Registrant page message** field on the **Registrant** tab has a character limit of 255 characters maximum for the field.

Tip: You can also select events to define from **Events**, by selecting **Define an event**, select or create an event, and click **More > Web Setup Wizard**.

Events configuration window

The Events web feature messages and default values are set in the **Events configuration** window. Event registration setup options are also on this page.

Note: You must enable the **Allow account creation during Event Registration** option if you want the user to be able to create a new account during the registration process.

From **System Setup**, select **Set up events web components > Events configuration**.

Create an internet batch for each event (WebBatchOption)

Specify whether to create a new Internet batch for each event. When a user registers for an event over the Web, a batch is created automatically. A batch number generated from a web event registration is identified with a description of "Internet". The format for the batch number is dictated by your batch control setting. If the Auto Date Batch Numbers option is enabled, the batch code is XXX-1, XXX-2, XXX-3 where XXX is the date and the 1,2,3 is the consecutive numbering for batches with the same date.

Next button for events calendar (Either text or image)

Enter either an angle bracket as text, or you can enter the HTML tag `` if you want to use an image file for the Next or Previous buttons on the events calendar. Note that you do not want to use any other embedded HTML tags, such as wrapping the `` tag with any link tags (such as ``), because the goal is to use the image as a clickable link to the next or previous page in the events calendar.

Meeting type for alternate registration

Enter the code for the type of meetings that have alternate registration enabled, set in the **Type** field on the **Define an event** window. Separate the codes with a comma.

Location of custom event registration

Enter the URL for a custom event registration starting page relative to the base URL of the Public view website.

Location of custom summary page

Enter the URL of a custom event summary page relative to the base URL of the Public view website.

System Setup: Set up commerce web components

Public view administrators can use the **Setup commerce web components** item on the **System Setup** window to configure the Public view orders and billing features. Most of the windows in this setup area are self-explanatory. For the more complex procedures you are guided step-by-step for ease of use. Some setup is required in *iMIS* Desktop.

Note: The documentation might not match your product. Your organization can customize *iMIS*, license fewer features, or limit your security access, all of which affect the fields that you see in the product interface. Moreover, the documentation does not cover every window or window element. Windows and fields that are clearly defined in the product interface itself, or that should otherwise be intuitive, are not described in the documentation.

Store home window

Store home is the main setup page for all of Public view Orders setup.

- Set up categories
- Edit categories
- Delete categories
- Associate products with one or more categories
- Assign Featured Products status to items
- Change the web status and sort order of each product

From **System Setup**, select **Set up commerce web components > Store Home**.

Store configuration window

Public view administrators use the **Store configuration** window to control the behavior of Public view components pages such as how icons are displayed, how products are sorted, and messages that are displayed about inventory.

From **System Setup**, select **Set up commerce web components > Store configuration**.

To streamline users' view of cart items

By default, users see all of the products, dues, and events they have added to their shopping cart.

To control which types of items are displayed in the cart, use the **Show products/dues/events in the cart** checkboxes. If you clear one of these checkboxes, then the cart does not display items of that type.

Checkout configuration window

During checkout the user is led through a procedure for verifying the order and submitting shipping and payment information. These options are set on the **Checkout configuration** page.

From **System Setup**, select **Set up commerce web components > Checkout configuration**.

Purchase order value used for no charge checkout

Specifies the code value for a purchase order used for no charge at checkout time.

Show the link to add a meeting to a calendar in Outlook/Exchange

When selected, a link to send a meeting request is displayed in the Public view task list so that the user can add a meeting to their calendar by clicking "Add to calendar" and then selecting which meeting to add. You must ensure that your Exchange account settings are tested and working correctly.

Credit card label configuration window

During checkout users must submit verification of information for a credit cards. These prompts are set on the **Credit card label configuration** page.

From **System Setup**, select **Set up commerce web components > Credit card label configuration**.

Credit card security code (CSC)

Specifies the label for the field that prompts for a CSC code, the three-digit security code on the back of a credit card.

Cart manager window

The Public view administrator can view the items in a user's shopping cart. On the **Shopping Cart Manager** page, the administrator can change and delete items in the cart including product purchases, event registrations, and dues payments.

From **System Setup**, select **Set up commerce web components > Cart manager**.

Manage product attributes window

the **Attribute Setup** window enables an administrator to:

- Create new attributes.
- Delete attributes.
- Modify existing attributes titles, codes or descriptions.
- Add values to attributes.
- Modify values.

Note: Every attribute must be created and complete with values before you add child products. Modify *every* attribute before continuing.

A single attribute may be used for several products. You do not need to form new attributes for every master product.

For example, any number of values may be added to a single color attribute. Not all of the colors will display on an item's page. The page only shows that item's available colors.

A pair of pants possessing only two color choices, black and blue, uses the same color attribute as a shirt with 25 different color choices. At the pants information page, viewers see a drop-down menu with 2 choices. At the shirt's page, shoppers see 25 choices. The same color attribute is linked to both products.

Manage master products window

You define master products to sell different versions of a single product from one page in the Public view. For every master product, you can define attributes, add child products, and list cross-sell products.

From **System Setup**, select **Set up commerce web components > Manage master products**.

Billing configuration window

The Public view administrator can set prompts for the Billing page on the **Billing configuration** page.

From **System Setup**, select **Set up commerce web components > Billing configuration**.

Billing page text (after title)

Specifies the description for the billing page.

Label for BillingWebUserControl, a web user control that may be used on client sites (Advanced)

Specifies the text that appears on a configured billing page in the Public view.

Add billing information to confirmation e-mail

Select this option to enter custom text for the order confirmation email message. Enter the desired text in the **Text that will appear...** field. This text appears on the payment email message in addition to all other payment information set up to display in the message.

Allow customers to make accrual dues payments on the web

Enable this option if you want line items billed using the Accrual accounting method to appear in the Public view under **Contacts > Contact Management > Billing**. All accrual billing items must be paid for at the same time; users cannot optionally select or deselect items that appear in their **Billing** list. If a contact's items have been billed to another party, those items appear in the **Billing** list for the **Bill to ID**. See [Billing setup for Public view](#) for more information.

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