



## **User Guide for the Cisco Unified Intelligence Center Reporting Application**

8.0(1)

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# Preface

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## Purpose

This guide explains the user interface and functionality in the Cisco Unified Intelligence Center reporting application.

## Audience

This guide is intended for reporting users, administrators, and developers who use the Cisco Unified Intelligence Center (Unified IC) web server to run and manage reports for the Cisco Unified Contact Center products.

This guide documents the stock objects that are installed with Unified IC and does not explain customization. Stock objects are Reports, Report Definitions, Data Sources, Categories, Value Lists, and Collections.

## Organization

This Section	Covers
<a href="#">Chapter 1: Product Overview (page 5)</a>	A high-level description of Unified IC, the Overview drawer, the cluster deployment model, logging in, and authentication.
<a href="#">Chapter 2: Getting Started with Unified IC Reporting (page 13)</a>	First steps to perform when you begin to use Unified IC, basic concepts, User Roles.
<a href="#">Chapter 3: Dashboards (page 29)</a>	The Dashboards interface, creating and viewing dashboards, adding items to a dashboard, the dashboard slideshow.
<a href="#">Chapter 4: Data Sources (page 37)</a>	The Data Sources interface, the data sources that are installed with Unified IC, how to create and edit a data source.

This Section	Covers
<a href="#">Chapter 5: Reports (page 45)</a>	The Reports interface, the stock reports that are installed with Unified IC, how to run a report, how to edit a report, how to import reports, working with report views, charts, and gauges.
<a href="#">Chapter 6: Report Definitions (page 93)</a>	The Report Definitions interface that is offered with the Premium license, what is a report definition, the types of queries supported by Unified IC, working with a report definition, the SQL syntax used with Unified IC.
<a href="#">Chapter 7: Value Lists and Collections (page 117)</a>	The Values List and Collections interface, how value lists are associated with report definitions, the types of collections you can create for a value list, the collections that are created by UCCE User Integration.
<a href="#">Chapter 8: Scheduler (page 127)</a>	The Scheduler interface, how to create and maintain a schedule for a report.
<a href="#">Chapter 9: Security (page 133)</a>	The Security interface, the User List, User Group, Permissions, and using Run As.
<a href="#">Chapter 8: System Concepts and Navigation Controls (page 149)</a>	The Unified IC user interface, how to access the Cisco Unified Communications tools, working with categories, the difference between stock and custom objects.
Troubleshooting	<p>Troubleshooting is located online, on a customer-facing Wiki page that can be accessed by anyone who has a Cisco.com account:</p> <p><a href="#">Troubleshooting tips for the Cisco Unified Intelligence Center</a><sup>1</sup></p>

## Related Documentation

[Guides for the Cisco Unified Intelligence Center](http://www.cisco.com/en/US/products/ps9755/products_user_guide_list.html) (http://www.cisco.com/en/US/products/ps9755/products\_user\_guide\_list.html)

[The Bill of Materials for the Cisco Unified Intelligence Center](http://www.cisco.com/en/US/products/ps9755/products_user_guide_list.html) (http://www.cisco.com/en/US/products/ps9755/products\_user\_guide\_list.html)

[Troubleshooting tips for the Cisco Unified Intelligence Center](http://docwiki.cisco.com/wiki/Troubleshooting_Unified_Intelligence_Suite) (http://docwiki.cisco.com/wiki/Troubleshooting\_Unified\_Intelligence\_Suite)

[The Developers' Forum for the Cisco Unified Intelligence Center](http://wwwin-forums.cisco.com/forum.jspa?forumID=2711) (http://wwwin-forums.cisco.com/forum.jspa?forumID=2711 )

[Cisco ACE 4700 Series Appliance Server Load-Balancing Configuration Guide](http://www.ciscosystems.com/en/US/docs/app_ntwk_services/data_center_app_services/ace_appliances/vA3_1_0/configuration/slb/guide/preface.html) (http://www.ciscosystems.com/en/US/docs/app\_ntwk\_services/data\_center\_app\_services/ace\_appliances/vA3\_1\_0/configuration/slb/guide/preface.html)

1) [http://docwiki.cisco.com/wiki/Troubleshooting\\_Unified\\_Intelligence\\_Suite](http://docwiki.cisco.com/wiki/Troubleshooting_Unified_Intelligence_Suite)

## Conventions

This manual uses the following conventions:

Convention	Description
<b>boldface font</b>	<p>Boldface font is used to indicate commands, such as user entries, keys, buttons, and folder and submenu names. For example:</p> <ul style="list-style-type: none"> <li>Choose <b>Edit &gt; Find</b>.</li> <li>Click <b>Finish</b>.</li> </ul>
<i>italic font</i>	<p>Italic font is used to indicate the following:</p> <ul style="list-style-type: none"> <li>To introduce a new term. Example: A <i>skill group</i> is a collection of agents who share similar skills.</li> <li>For emphasis. Example: <i>Do not</i> use the numerical naming convention.</li> <li>A syntax value that the user must replace. Example: IF (<i>condition, true-value, false-value</i>)</li> <li>A book title. Example: See the <i>Cisco CRS Installation Guide</i>.</li> </ul>
<b>window font</b>	<p>Window font, such as Courier, is used for the following:</p> <ul style="list-style-type: none"> <li>Text as it appears in code or that the window displays. Example: <code>&lt;html&gt;&lt;title&gt;Cisco Systems, Inc. &lt;/title&gt;&lt;/html&gt;</code></li> </ul>
<b>&lt; &gt;</b>	<p>Angle brackets are used to indicate the following:</p> <ul style="list-style-type: none"> <li>For arguments where the context does not allow italic, such as ASCII output.</li> <li>A character string that the user enters but that does not appear on the window such as a password.</li> </ul>

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

## Documentation Feedback

You can provide comments about this document by sending email to the following address:

[mailto:ccbu\\_docfeedback@cisco.com](mailto:ccbu_docfeedback@cisco.com)

We appreciate your comments.



# Chapter 1

## Product Overview

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This chapter contains the following topics:

- [About Cisco Unified Intelligence Center, page 5](#)
- [Deployment Models, page 6](#)
- [Databases in the Unified IC Cluster, page 7](#)
- [Installation and Configuration, page 7](#)
- [Accessibility, page 7](#)
- [The Overview Drawer, page 8](#)
- [User Authentication, page 8](#)
- [Links on Unified IC Reporting Pages, page 9](#)

## About Cisco Unified Intelligence Center

Cisco Unified Intelligence Center (Unified IC) is a web-based graphical user interface that provides real-time and historical reporting and customizable dashboards. You can "save as" the stock reports and then edit the cloned copies by changing the order and the names of columns and by presenting the information graphically as gauges and charts. You can also import additional templates. The premium version of Unified IC comes with a native Report Designer tool for designing new templates.

Depending on the features enabled by your license (Standard or Premium) and on your User Role and your Unified IC object permissions, you can work in Unified IC to:

- Create, maintain, share, and view dashboards that display reports, report lists, sticky notes, scheduled reports, URLs and widgets.
- Run real-time and historical reports from Cisco stock report templates.
- Copy ("Save As") and modify the stock templates to create custom templates.
- Create views for the custom templates to display them as grids, charts, gauges.

## Deployment Models

- View the status of the default data source that populates the stock templates.

Create and maintain additional data sources for reports that are populated by databases other than the Unified ICM/CC database.

- Control access to the reports, reporting features, and data that each user can see.
- Manage users and groups.

**Note:** Cisco Unified Intelligence Center reporting is one of two web-based interfaces for Unified IC. The other is the Administration console. The Administration console has its own user documentation and online help.

### See Also

[Stock Report Templates \(page 47\)](#)

[Custom Templates \(page 52\)](#)

[Feature Set for Standard and Premium Licenses \(page 158\)](#)

[Unified IC User Roles \(page 23\)](#)

## Deployment Models

Unified IC is added to the Cisco Unified Contact Center environment as a cluster, comprised of at least one and a maximum of eight nodes—one primary "Controller" node and as many as seven secondary "Member" nodes.

Node	Description
Controller (one)	<p>Is present in all deployments.</p> <p>Is installed with both the Administration (OAMP) and Unified IC Reporting applications.</p> <p>Holds the License file, which is replicated to the member nodes. See <a href="#">Licenses (page 155)</a>.</p> <p>Allows access, with System Administrator credentials, to Cisco Unified Serviceability, Cisco Unified OS Administration, and the Disaster Recovery System.</p>
Members (maximum of seven)	<p>Are optional. (A deployment can consist of a Controller node only.)</p> <p>Are installed with Unified IC Reporting application only.</p> <p>Allow URL access to the Controller node.</p> <p>Obtain their license from the Controller.</p>

Unified IC is an appliance application similar to Cisco Unified Communications Manager. It must be installed on dedicated servers, which must be Multimedia Communications Servers (MCS) or equivalent hardware.

Refer to the [Cisco Unified Intelligence Center Bill of Materials](http://www.cisco.com/en/US/products/ps9755/products_user_guide_list.html) ([http://www.cisco.com/en/US/products/ps9755/products\\_user\\_guide\\_list.html](http://www.cisco.com/en/US/products/ps9755/products_user_guide_list.html)) for server requirements and version compatibility.

## Databases in the Unified IC Cluster

The Informix Dynamic Server (IDS) is installed on all nodes in the cluster.

The installation creates these databases on each node:

- The System database is installed on all nodes. This database is the standard Cisco Call Manager database, modified for the Unified IC.
- The Unified IC database (CUIC). This database holds information on reports, dashboard, users, and other objects maintained on each server. CUIC databases are replicated across the cluster.

The CUIC and System databases are not documented and are not directly accessible for review and management.

You can use the Command Line Interface to perform certain actions and to view database tables and properties. These commands include *run sql*, various *show tech* commands, the *utils dbreplication* and *utils purge* commands.

- Two UCCE databases - UCCE Historical and UCCE Realtime. These databases are used to run the stock reports.

The UCCE database is documented in the [Database Schema Handbook for Cisco Unified ICM/Contact Center Enterprise & Hosted](http://www.cisco.com/en/US/products/sw/custcosw/ps1001/prod_technical_reference_list.html) ([http://www.cisco.com/en/US/products/sw/custcosw/ps1001/prod\\_technical\\_reference\\_list.html](http://www.cisco.com/en/US/products/sw/custcosw/ps1001/prod_technical_reference_list.html))

## Installation and Configuration

Installation is documented in the [Installation Guide for Cisco Unified Intelligence Center](http://www.cisco.com/en/US/products/ps9755/products_user_guide_list.html) ([http://www.cisco.com/en/US/products/ps9755/products\\_user\\_guide\\_list.html](http://www.cisco.com/en/US/products/ps9755/products_user_guide_list.html))

## Accessibility

### Software

Cisco Unified Intelligence Center software is in compliance with Part 1193 of the United States Federal Telecommunications Act Accessibility Guidelines.

## The Overview Drawer

For more information, go to this website for details on the [Cisco Accessibility](http://www.cisco.com/web/about/responsibility/accessibility/index.html) (<http://www.cisco.com/web/about/responsibility/accessibility/index.html>)

### User Documentation

Due to technical limitations at this time, documentation groups are unable to fulfill all documentation accessibility design requirements.

Requests for improved accessibility for documentation are handled on a case-by-case basis upon request only.

To request a fully accessible document, please email [accessibility\\_info@cisco.com](mailto:accessibility_info@cisco.com).

Refer to the [Accessibility Troubleshooting topics for tips about working in the Unified IC interface](http://docwiki.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0) ([http://docwiki.cisco.com/wiki/Troubleshooting\\_Tips\\_for\\_Unified\\_IC\\_8.0](http://docwiki.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0)).

## The Overview Drawer

A successful sign in to Unified IC opens the Getting Started page. Each line of blue text on the Getting Started page is a link that opens an online help topic about one of the Unified IC functions.

The Getting Started page is controlled by the Overview drawer. You can always return to Getting Started by clicking the Overview drawer. All users have access to the Overview drawer and to the Getting Started page.

To:	Do This:
Close (hide) the Getting Started page	Click the X on the Overview tab
Reopen the Getting Started page	Click the Overview drawer

## User Authentication

**The url for the Unified IC reporting application** is `http://<HOST>` where HOST is the DNS name or IP Address of a Unified IC node.

**Note:** If you implement server load balancing, use the UP address of the Application Control Engine (ACE) server.

### Who can log in?

- The individual designated as *Server Application User* during the installation is automatically eligible to log in and is the initial System Administrator for Unified IC. This user appears by default on the [User List Page \(page 134\)](#).
  - This person can sign in to Unified IC with the user name and password he or she defined during the installation.
- Any user who has been imported with the Unified CCE User Integration feature.



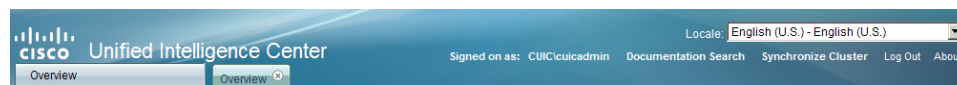
- Once integrated (imported), UCCE supervisors can sign in to Unified IC with their Active Directory User ID and Password.
- They automatically have the User Roles of Dashboard Designer and Report Designer and have Read and Execute permissions to view collections of their (and only their) Agent and Agent teams. They can select these collections when they filter reports.
- All IMS (IP Multimedia Subsystem) users can log in using their IMS username and password. Once they log in, they are added to the CUIC database (cuic\_data) and appear in the User List Page.
  - The login for these users is either CUIC\<username> or <username>. The user name is case insensitive, but the password is case sensitive. For example, if the user name is *cuicadmin*, you can enter *cuicadmin*, *CuicAdmin*, and *CUIC\cuicadmin*.
- For all domain (LDAP) users, once the LDAP server is configured in the Administration application, users in that domain can sign in to Unified IC. When they log in, they are added to the cuic database and appear on the [User List Page \(page 134\)](#). The Security Administrator must assign user roles to them. To configure Active Directory in the Administration application, select **Cluster Configuration > Reporting Configuration > Active Directory** tab.
  - The login username format is <FQDN>\<username> or <subDomainName>\<username> where <subDomainName> is the name of the last level of the sub domain. For example, for <FQDN>: cuic.ccbu.cisco.com, the <SubDomainName> is cuic.
  - Domain\user name is case insensitive, but password is case sensitive.

### See Also

[Unified IC User Roles \(page 23\)](#)

## Links on Unified IC Reporting Pages

Figure 1: Title Bar



Link / Feature	Description
Cisco Logo	Click the Cisco Systems logo icon to open the Cisco Systems web site.
Locale	By default, the Unified IC interface displays in the language that has been established for your operating system and browser. You can change this by clicking the locale dropdown and selecting the language you want.

Link / Feature	Description
	<p>Setting the locale changes the language used on web pages - including the reports and their generated output, as well as the date and time format.</p> <p><b>Note:</b> If your default browser language is one that Unified IC does not yet support, Unified IC will display the first supported language listed in your browser Language Preference. For example, if your browser Language Preference lists Croatian, Vietnamese, and French Canadian (in that order), Unified IC will default to French Canadian, which is the first language in your preferences that Unified IC supports.</p> <p>Language is session-based. You can open one instance of Unified IC Reporting in French Canadian and another instance in European French.</p> <p>You can select your locale:</p> <ul style="list-style-type: none"> <li>• At the initial log in page. To do this, click the locale dropdown under the Password field.</li> <li>• At the top of each page.</li> </ul> <p>Unified IC Reporting interface and online help are available in these languages:</p> <ul style="list-style-type: none"> <li>• Simplified Chinese = zh_CN</li> <li>• Traditional Chinese = zh_TW</li> <li>• Danish = da_DK (Denmark)</li> <li>• Dutch = nl_NL (Netherlands)</li> <li>• US English = en_US</li> <li>• European French = fr_FR (France)</li> <li>• French Canadian = fr_CA (Canada)</li> <li>• German = de_DE (Germany)</li> <li>• Italian = it_IT (Italy)</li> <li>• Japanese = ja_JP (Japan)</li> <li>• Korean = kp_KR</li> <li>• Polish = pl_PL</li> </ul>

Link / Feature	Description
	<ul style="list-style-type: none"> <li>• Portuguese = pt_BR (Brazil)</li> <li>• Russian = ru_RU (Russia)</li> <li>• Spanish = es_ES (Spain)</li> <li>• Swedish = sv_SE (Sweden)</li> <li>• Turkish = tr_TR</li> </ul>
Signed On As	Shows the user id for the user who is currently signed in.
Documentation Search	Opens a custom Google search for documentation relevant to Cisco Unified Intelligence Center.
Synchronize Cluster	System Configuration Administrators can click this to clear the local cache. See <a href="#">Caching in Unified IC (page 26)</a> .
Run As	Shows the user id for the user that the Security Administrator is impersonating or "running as". See <a href="#">Run As (page 147)</a> .
Stop Run As	Click to exit Run As mode.
Logout	Asks for confirmation and then logs you out.
About	Shows the version of Unified IC that you are running. Also show the hostname and IP Address of the node.

The timeout for session inactivity is set by default to 14,400 seconds (four hours). It is configurable through the Command Line Interface: *set cuic-properties session-timeout*.

#### See Also

[System Navigation Controls \(page 149\)](#)

---

**Links on Unified IC Reporting Pages**



# Chapter 2

## Getting Started with Unified IC Reporting

---

The [System Application User \(page 25\)](#) must perform these tasks so that other users can begin working with Unified IC Reporting.

This chapter contains the following topics:

- [Acquire the License File from the License Website, page 13](#)
- [Sign in to the Administration Interface, page 14](#)
- [Set Up Security for a Remote Data Base, page 17](#)
- [Sign in to the Unified IC Reporting Interface, page 18](#)
- [Unified IC Reporting: Basic Concepts, page 20](#)
- [How Do I Create a User?, page 22](#)
- [How Do I Run a Report?, page 23](#)
- [Unified IC Reporting: Unified IC User Roles, page 23](#)
- [Caching in Unified IC, page 26](#)

### Acquire the License File from the License Website

Any user in your organization can contact Cisco Systems, Inc. to request a license.

- 
- |               |  |
|---------------|--|
| <b>Step 1</b> | To acquire the license file, go to the Cisco Product License Registration website at this URL: <a href="https://tools.cisco.com/SWIFT/Licensing/PrivateRegistrationServlet">https://tools.cisco.com/SWIFT/Licensing/PrivateRegistrationServlet</a>         |
| <b>Step 2</b> | If you do not have a PAK, click the <a href="#">available licenses link</a> ( <a href="https://tools.cisco.com/SWIFT/Licensing/PrivateRegistrationServlet?DemoKeys=Y">https://tools.cisco.com/SWIFT/Licensing/PrivateRegistrationServlet?DemoKeys=Y</a> ). |
| <b>Step 3</b> | Scroll to Voice Products and click <b>Cisco Unified Intelligence Center - v8.0</b> .   |
| <b>Step 4</b> | Enter your MAC Address, accept the agreement, and enter your Registrant Information.   |
| <b>Step 5</b> | Follow prompts to complete the registration pages.   |

## Sign in to the Administration Interface

You will receive an email from Cisco Systems that contains your license file as an attachment. The file format is \*.lic.

**Step 6** Save the license file in a location where the [System Application User \(page 25\)](#) can access it.

**Note:** As a best practice, save a backup copy of this file. You can open a \*.lic. file to look at it, but *do not make any changes to it*. Changing the file invalidates the license.

---

## Sign in to the Administration Interface

The first person who signs in to the Administration application must do so using the User ID and password that were defined for the [System Application User \(page 25\)](#) during the installation. This user is the initial Super User for Unified IC Administration.

To sign in:

1. Enter this URL: **http://<HOST ADDRESS>/oamp** where HOST ADDRESS is the IP Address or Hostname of your Controller node.
2. Enter the application user ID and password that you defined during installation.

Next step: [Upload the License \(page 14\)](#).

## Upload the License

As soon as the Super User signs in, he or she must upload the license file. The file is uploaded to the Controller node and, within a minute, is automatically replicated to all nodes in the cluster.

---

**Step 1** Navigate to **Cluster Configuration > License Management** in the Administration application.

**Step 2** Click **Upload license file (Browse)**.

**Step 3** Navigate to the location where the \*.lic file was saved.

**Step 4** Click **Apply License** to load the license.

A message displays indicating that the license file was uploaded successfully and will be distributed in the cluster in approximately one minute.

**Note:** The databases are polled once a minute for changes. The license replication is not immediate but will occur within a minute.

---

Next step: [Configure the Active Directory Server \(page 15\)](#).

## Configure the Active Directory Server

The initial Super User does not need to be authenticated through Active Directory.

Other users, such as Unified CVP reporting users, must be authenticated through Active Directory.

You must configure the Active Directory tab in the Administration console with the credential of Active Directory servers so that supervisors and others can log in to the Unified IC web application with the User Name and password that is defined in their domain.

- 
- |               |   |
|---------------|---|
| <b>Step 1</b> | In the Administration application, navigate to <b>Cluster Configuration &gt; Reporting Configuration</b> and select the Active Directory tab. |
| <b>Step 2</b> | Complete all fields on this page, referring to the online help for guidance.  |
| <b>Step 3</b> | Click <b>Test Connection</b> .  |
| <b>Step 4</b> | When the connection is confirmed, click <b>Save</b> .   |
- 

Next step: [Optionally, Configure Report Scheduler Email Settings \(page 15\)](#).

## Optionally, Configure Report Scheduler Email Settings

Perform this step if you intend to schedule reports and to have the scheduled reports delivered by email. You can skip this step and do this at a later time if you are not sure that you will be scheduling reports.

- 
- |               |  |
|---------------|--|
| <b>Step 1</b> | From the Administration application, click <b>Cluster Configuration &gt; Reporting Configuration</b> and select the <b>Report Scheduler Email Settings</b> tab |
| <b>Step 2</b> | Complete the fields on this tab, referring to online help for guidance.  |
| <b>Step 3</b> | Test the connection.   |
| <b>Step 4</b> | Save.  |
- 

Next step: [Optionally, Create Another Super User \(page 15\)](#).

## Optionally, Create Another Super User

At the initial sign in, the System Application user defined during installation is the *only* Super User recognized by the Administration application.

As a safeguard, set up at least one other Super User.

## Sign in to the Administration Interface

- 
- Step 1** In the Administration application, select **Admin User Management drawer > Admin User Management** to open the Admin Users page.
- Step 2** Click **Add New** to open the Configure User page.
- Step 3** Complete the General tab to define a user name and a password for the new Super User.
- Step 4** Complete the Credentials tab and the Policy tab, referring to the online help for guidance.
- Step 5** Save the Super User.

Until granted other roles, additional Super Users have the Login User role.

---

Next step: [Optionally, Enable Unified CCE User Integration \(page 16\)](#).

## Optionally, Enable Unified CCE User Integration

Users who are configured as agent supervisors in Unified CCE Configuration Manager and saved in the Unified ICM database can be integrated into Unified IC. If you enable UCCE User Integration in the Administration interface, you can schedule and run a synchronize process that:

- Imports these supervisors and creates them as Report Designer and Dashboard users for Unified IC.
- Updates two stock value lists (Agents and Agent Teams) with collections for all supervisors' agents and agent teams.

Grants team supervisors READ and EXECUTE permissions for those collections.

---

- Step 1** From the Administration application, click **Cluster Configuration > UCCE User Integration**.
- Step 2** Click **Enable UCCE User Integration**.
- Step 3** Optionally, set the schedule for time of day and days of the week when you want to user integration. (You can return to this page and set the schedule later, after you configure the UCCE Historical Data Source.)
- Step 4** Click **Save**.
- Step 5** *Do not click **Synchronize Now**.* (You must first configure the UCCE Historical data source.)
- 

Next step: [Set Up Reporting Data Source Security \(page 17\)](#).

## About Unified CCE User Integration

The Unified CCE User Integration feature imports supervisors and their teams from Unified ICM/CCE from the Unified ICM Configuration Manager and database into Unified IC.



Supervisors are automatically given Unified IC user roles and can log in to Unified IC to access collections for - and run reports for - their agent team(s).

**Note:**

- You cannot run User Integration until you upload the license.
- There are five tasks in the initial setup for Unified CCE User Integration. Some are performed in the Administration interface. Some are performed in the Reporting interface. As the [System Application User \(page 25\)](#) has access to both interfaces, it is efficient for a that user to set up UCCE User Integration.

The tasks are to:

- Enable Unified CCE User Integration in the Administration interface.
- Complete the configuration of the UCCE Historical Data Source in the Reporting Interface.
- Synchronize Users in the Administration Interface.
- Validate Collections of Agents and Agent Teams in the Reporting Interface.
- Set up a synchronization schedule in the Administration Interface.

Results of Unified CCE User Integration:

- Integrated Supervisors can sign in to Unified IC Reporting (provided their Active Directory authentication has been configured).
- Integrated Supervisors are added to the Unified IC Reporting User List with the roles of Login User, Report Designer and Dashboard Designer.
- The Unified IC Value Lists page is updated with *Agents* and *Agent Teams* collections.
- Integrated Supervisors can view their *Agents* and *Agent Teams* collections (**Unified IC Reporting > Value Lists** drawer).
- Integrated Supervisors are granted permissions only to the *Agents* and *Agent Teams* collections that they "own".

Once Unified CCE User Integration schedule is set up, Unified IC is updated with changes to supervisors and their teams every time the synchronization updates.

## Set Up Security for a Remote Data Base

All remote databases referred by Unified IC data sources are repositories for data that populates Unified IC report. They must meet these specifications:

- They must be accessible to Unified IC through the network.

## Sign in to the Unified IC Reporting Interface

- Their TCP/IP protocol support must be enabled.
- Their remote access must be enabled.
- They must be protected with read-only access.
- Select *SQL Server & Windows Authentication*. *Windows Authentication* is not an option.
- There must be a SQL Authentication User.

Next step: [Sign in to the Unified IC Reporting Interface \(page 18\)](#).

## Sign in to the Unified IC Reporting Interface

The [System Application User \(page 25\)](#) is the initial Super User for Administration and is also the initial Security Administrator for the Unified IC Reporting interface. He or she uses the same User ID and password to sign in to the Administration interface and to the Unified IC Reporting interface.

To sign in to the Unified IC Reporting interface:

1. From the home page of the Administration interface, click the Control Center drawer.
2. Locate and double-click the name of the member node you want to access. This opens the Cisco Unified Intelligence Center login page for that member.
3. Enter your User ID and password.

The Overview page displays.

**Note:** If you implement server load balancing, you need to access the Unified IC reporting interface using *http://<ACE Host>* where *<ACE Host>* is either the DND name or the IP VLAN address of the Application Control Engine (ACE) server.

Next step: [Complete the Configuration of the UCCE Data Source \(page 18\)](#).

## Complete the Configuration of the UCCE Data Sources

Placeholders for two UCCE Data Sources appear by default on the Data Sources page. These are the data sources for the data that populates the stock templates. Before you can run reports or can run UCCE User Integration, you must edit the parameters of these data sources to complete the configuration, including Database Host, Database port, Database Name, User ID and Password.

The two data sources - UCCE Historical and UCCE Realtime - contain the same information, but the UCCE Historical data source typically has a lower load volume and is used to gather data for most of the stock value lists and for UCCE User Integration.

Before you can run reports or can run UCCE User Integration, you must edit the UCCE Historical data source to complete the configuration for the Database Host Address, Database Name, IP Address, User ID, and Password.

To do this:

- 
- |               |   |
|---------------|---|
| <b>Step 1</b> | From the Unified IC Reporting application, click the Data Sources drawer in the left panel to open the Data Sources page. |
| <b>Step 2</b> | Select the UCCE Historical Data Source.   |
| <b>Step 3</b> | Click <b>Edit</b> to open the Data Source Create/Edit page.   |
| <b>Step 4</b> | Complete the fields for this data source, referring to online help for guidance.  |
| <b>Step 5</b> | Test the data source connection. Troubleshoot if necessary.   |
| <b>Step 6</b> | Save the data source.   |
| <b>Step 7</b> | Repeat steps 2 through 6 for the UCCE Realtime data source.   |
- 

Next step: [Review the User List \(page 19\)](#).

## Review the User List and Set up User Roles, Permissions, and Groups

The [System Application User \(page 25\)](#), as the default Security Administrator, needs to review all the users who are on the User List, check their User Roles, assign Permissions, create User Groups and assign users as members of groups.

- 
- |               |  |
|---------------|--|
| <b>Step 1</b> | <p>From the Unified IC Reporting application, click the Security drawer. Then click User List.</p> <p>The User List is populated with the initial Security Administrator as well as all supervisors who have been imported by UCCE User Integration.</p>   |
| <b>Step 2</b> | <p>Select and edit each user to verify his or her User Roles and to set Permissions. Refer to the online help for details on User Roles and Permissions.</p> <p>The <a href="#">System Application User (page 25)</a> (initial Security Administrator) ) has all user roles and is the owner of all stock objects, including stock data sources, stock categories, report definitions, reports, value lists and connections. The Permission preference for this user is set to EXECUTE for both My Group and the All Users group.</p> <p>Unified users who correspond to UCCE supervisors are created by UCCE User Integration and have the Report Designer role and Dashboard Designer roles.</p> |
| <b>Step 3</b> | From the Unified IC Reporting application, click the Security drawer. Then click <b>User Groups</b> .  |

There are two stock groups: *AllUsers*, to which all Unified IC users are automatic members of, and *Administrators* which System Application Users are members of. You can create additional user groups as indicated by your organization's needs.

- Step 4** Assign users to groups. By default, every user's default parent group is *AllUsers*. You can assign each user to a different group as its default parent group, and to as many as other groups as indicated by your organization's needs. Refer to the online help for details on User Groups.

---

Next step: [Create at Least One Dashboard \(page 20\)](#).

## Create at Least One Dashboard

Unified IC Reporting uses dashboards to organize and orient users. The installation does not create a default dashboard. You must create at least one dashboard and set it with EXECUTE permissions for the AllUsers Group. To do this:

- 
- Step 1** From the Unified IC Reporting application, click the Dashboards drawer to open the Available Dashboards page.
- Step 2** Right-click the *Dashboards* folder and select **Create Dashboard**.
- This opens a dialog box that asks for a name and user permissions for the new dashboard.
- Step 3** Enter the dashboard name and select EXECUTE permissions for All Users. Then click **OK**.
- You return to the Available Dashboards page. Your new dashboard appears on the list.
- Step 4** Right-click your dashboard and select **View**.
- This opens a page where you can add items to the dashboard.
- Step 5** Design the dashboard, referring to the online help if necessary.
- Step 6** Save the dashboard.
- 

## Unified IC Reporting: Basic Concepts

Term	Explanation
Dashboards	Dashboards are web pages that can display reports, report lists, scheduled reports, notes, and web-based elements - such as URLs and widgets - that are relevant to specific workflows and responsibilities.
Data Sources	A data source is a connection to a database from which reports are populated. Each data source has a configuration page with the IP Address, username,

Term	Explanation
	password, and database type for a database used by Unified IC.
Drilldowns	Drilldowns allow you to create links from one report to another so that you can launch a second report from a field in the current report window.
Reports	Reports show data that are returned by Report Definitions and that can be displayed in various "views" - as grids, as charts, and as gauges.
Report Definitions	<p>A Report Definition defines the interface for a report. Each Report Definition contains the dataset that is obtained for a report - this includes the SQL query, the fields, the filters, the formulas, the refresh rate, and the key criteria field for the report.</p> <p>Unified IC separates Reports from Report Definitions.</p> <p>Only if the Unified IC deployment has a Premium license, users can view, create, or edit Report Definitions.</p>
Report Templates	<p>Report Templates are well-formed XML files based on Report Definitions.</p> <p>Unified IC is installed with stock Report Templates and they are automatically imported.</p>
Report Views	<p>A report view is a layout presentation for the data that is retrieved for the report. Unified IC supports three types of views:</p> <ul style="list-style-type: none"> <li>• Grid Views</li> <li>• Chart Views</li> <li>• Gauge Views</li> </ul> <p>All stock reports have a grid view. Some stock reports have a chart view.</p> <p>You can create many views for a report, can define the default view for a report, and can change a report view once the report is generated.</p> <p>You cannot delete all views. Every report must have at least one view.</p>
Value Lists	Value lists contain all reportable items of the same type, for example, all agents or all skill groups.

## How Do I Create a User?

Term	Explanation
Collections	Collections are subsets of value lists that can be used to control the amount of data that users can select to populate a report.
Thresholds	You can set a threshold for a field in a report grid to configure that field to display in a distinctive format.
User Groups	<p>User Groups are constructs that allow security administrators to partition Unified IC functionality.</p> <p>Creating User Groups expedites the provisioning process when multiple users need the same access to dashboards and reports, or when users require distinct permissions and features based on regional or organizational requirements.</p>
Object Permissions	<p>Users have permissions associated with the groups in which they are members, and each member of a group has specific permissions in that group.</p> <p>Users need object permissions to perform operations on Unified objects. There are three levels of permissions: READ, EXEC and WRITE. Users may have permissions associated with the groups in which they are direct members or members of their child groups.</p>
User Roles	User Roles confer the actions and capabilities that a user has in Unified IC. There are seven User Roles, and each user can have multiple roles.

## How Do I Create a User?

UCCE report users (supervisors) are created automatically when you run UCCE User Integration. These users can log in using their Active Directory credentials and are able to view and run reports and dashboards and to view the collections of Agents and Agent Teams that they supervise. See [About UCCE Integration \(page 16\)](#).

Other report users can sign in only if they exist in the Administration console as Super Users or if Active Directory has been configured in the Unified IC Administration console for their domain.

- Super Users are IMS users and they can sign in using their IMS user credentials.
- Users authenticated through Active Directory are considered to be LDAP users, and they can sign in using their LDAP user credentials.

Both IMS users and LDAP users can log in to Unified IC Reporting and are restricted to the limited Login User role until the Unified IC Reporting security administrator gives them additional roles.

Although you can create a user on the Unified IC User List page, an entry on the User List is not sufficient for that user to be able to sign in to Unified IC. One reason to create users on the User List page is to expedite the assigning of roles to users before they sign in.

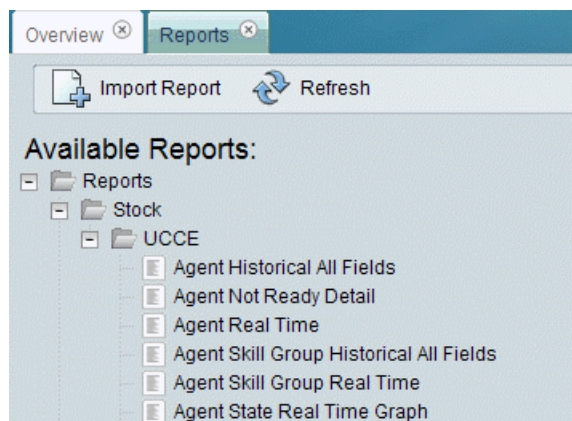
## How Do I Run a Report?

### To run a report:

1. Sign in to the Unified IC application.
2. Click the Reports drawer.
3. Open Report Category folders until you locate the report you want.

The Stock reports are listed under **Reports > Stock > UCCE**.

Figure 2: Stock Templates



4. Double-click the report name, or right-click the name and select **Run**.

## Unified IC Reporting: Unified IC User Roles

There are seven User Roles, and a user can be assigned to one, any, or all of them.

Depending on the size, staff, geographical distribution, and security practices of your call center, you might prefer to assign multiple user roles to a few people or to distribute user roles to many people.

### These are the User Roles for Unified IC:

- **Login User**

By default, everyone who signs in to Unified IC for the first time is a Login User. Login Users have that role and only that role until the Security Administrator assigns additional roles or deactivates (removes) the Login User role.

Only a Security Administrator can assign additional user roles to a user or remove any role including Login role from any user. If a user does not have the Login Role, he can no longer access the reporting interface..

An active login user can:

- Log in to Unified IC
- Open the Security drawer, access the User List, and edit his own User Information page; for example, to change his alias or phone number.

- **System Configuration Administrator**

This user has all the rights of an active Login User and also:

- Has full access to the Data Sources drawer and its functions.
- Has full access to the Scheduler drawer and its functions.
- Can click the Synchronize Cluster button to clear the local cache.

- **Security Administrator**

This user has all the rights of an active Login User and also has full access to the Security drawer and its functions.

- **Dashboard Designer**

This user has all the rights of an active Login User and also has full access to the Dashboard drawer.:

- **Report Designer**

This user has all the rights of an active Login User and also:

- Has full access to the Reports drawer.
- Has View (Read) access to the Data Sources and Value Lists drawers
- Can access the Scheduler drawer to work with own reports.

- **Report Definition Designer**

This user has all the rights of an active Login User and also:

- Has full access to the Report Definition drawer.
- Has View (Read) access to the Data Sources and Value Lists drawers

- **Value List Collection Designer**

This user has all the rights of an active Login User and also:



- Has full access to the Value List drawer.
- Has View (Read) access to the Data Sources drawer.

## Other Users

In addition to the seven designated Unified IC User Roles, the following individuals have access to Unified IC as follows:

### UCCE Supervisors

Supervisors who are imported when UCCE User Integration is enabled. They become Unified IC users and are automatically give these roles. They:

- Are Active Login Users.
- Are Dashboard Designers.
- Are Report Designers and can run and schedule reports for the agents and agent teams they supervise.
- Can view their own Agent and Agent Team collections that are imported during UCCE User Integration.

### System Application User

This is not a Unified IC role. This role is defined during installation. You set credentials for this user during the installation of all nodes. As a best practice, use the same Application User credentials for all nodes.

The Application user who is configured during the installation of the *Controller* node is by default the initial Super User for the Administration console and has full rights to all functions in the Administration and Unified IC reporting applications.

This user:

- Is the user who is configured as the Application User during installation.
- Is the initial Super User in the Administration console.
- Can create additional Super Users in the Administration application.
- Can sign in to Unified IC and has full rights to all functions in Unified IC.
- Is the initial Security Administrator user in the Unified IC reporting application
- Can create additional Security Administrator users in the Unified IC reporting application.

## Caching in Unified IC

- Cannot have any role taken away from him.
- Cannot take any role away from himself.

### System Administration User

The System Administrator account User ID and password are configured at installation for each node. It is a best practice to enter the same user name and password for all nodes.

The System Administrator for the *Controller* can access:

- The Cisco Systems tools on the Navigation dropdown in the Administration console: Disaster Recovery System, Cisco Unified Serviceability, and Cisco Unified OS Administration interfaces.
- The CLI for the Controller.

The System Administrator has no access to functions in the Unified IC reporting application.

**Note:** If you configure unique System Administrator credentials for Member nodes, use those credentials to access the CLI for those Member servers.

## Caching in Unified IC

Unified IC uses a cache to optimize access to the local configuration database (CUIC). This cache is built on top of the local configuration database. Using database replication, the contents of every node's CUIC database are kept in synchronization with the other nodes in the cluster.

The Unified IC architecture is designed to provide a highly scalable cluster in which every node manages its own local cache independently of other nodes. Whenever an item stored in the local cache (such as a report template or a dashboard) is modified, a message is sent to other nodes in the cluster indicating that that item has been modified and that their version of that item is stale.

Upon receipt of the message, each node invalidates its own references to the stale item in the local cache. In this manner, all nodes remain synchronized. There are a few exceptional cases where stale data can be re-cached or become out of synch in the cluster. For this reason, the Unified IC System Configuration Administrator has access to a link on the menubar called *Synchronize Cluster*.

Clicking this link and confirming notifies all nodes in the cluster to clear their local cache and synchronizes and empties all caches in the cluster. Clearing the locale cache forces each node to go directly to the database for the requested information.

As each node gets fresh data from the database, the new data is automatically put into the local cache and accessed during future requests. Data will be consistent in the database, and there will be no loss of information.

**Note:** It is best to perform this action during off-hours.

## Caching in Unified IC



# Chapter 3

## Dashboards

---

The Unified IC interface is organized by *dashboards*.

Dashboards are web pages that can display reports, scheduled reports, sticky notes, and web-based elements such as URLs and web widgets that are relevant to specific workflows and responsibilities.

For example, if your call center team supports a clothing retailer, it might be useful to create a dashboard with several versions of a real-time call activity report (a grid and a chart) as well as the URL for the retailer's web page.

Click the Dashboards drawer in the left panel to open the [Available Dashboards Page \(page 30\)](#). (Only users with the Dashboard Designer user role can open the Dashboards drawer.) The dashboards you see when you open the Dashboards drawer are those you have created and those that other users have created and have given you permission to view.

### Note:

- All dashboards must be created by a Dashboard Designer.
- Unified IC is not installed with a default dashboard.
- All actions on the Dashboards interface are based on User Role and on the user's object Permissions for dashboards and for Categories. See [About Permissions \(page 144\)](#).

### See also:

[Troubleshooting Dashboards](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0) ([http://docwiki-dev.cisco.com/wiki/Troubleshooting\\_Tips\\_for\\_Unified\\_IC\\_8.0](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0))

This chapter contains the following topics:

- [Available Dashboards Page, page 30](#)
- [Create a Dashboard, page 31](#)
- [View a Dashboard, page 31](#)

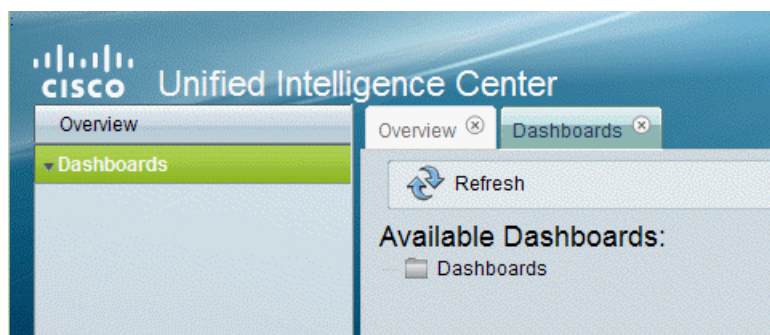
- [Add Dashboard Items](#), page 32
- [Dashboard Slideshow](#), page 35
- [Rename a Dashboard](#), page 36
- [Delete a Dashboard](#), page 36

## Available Dashboards Page

You can manage dashboards from the Available Dashboards page - the page that opens when you click the Dashboards drawer.

Dashboards are contained in categories and sub-categories. Unified IC is installed with one default dashboard category named *Dashboards*<sup>1</sup>. All dashboards and sub-categories that your organization creates are nested under *Dashboards*. You can rename *Dashboards*. You cannot delete the *Dashboards* category.

Figure 3: Available Dashboards page



### Actions from this page

- **Refresh** - updates both the Available Dashboards page and the tree under the Dashboards drawer to reflect changes anyone has made to add, modify, or delete dashboards or dashboard categories.
- **Help** - opens online help for the page.
- **X** on the tab heading - closes the page.
- **Work with Categories**
  - [Create Sub-category \(page 153\)](#) from a category or a sub-category.
  - [Delete Sub-category \(page 153\)](#)
  - [Rename Sub-category \(page 153\)](#)
  - Set permissions for the sub-category. See [About Permissions \(page 144\)](#).
- **Drag and drop** - You can [drag and drop \(page 153\)](#) dashboards and sub-categories.

1) Initially, this category contains no dashboards.

## Create a Dashboard

To create a dashboard, right-click on *Dashboards* or on a sub-category on the [Available Dashboards Page \(page 30\)](#). Then click **Create Dashboard**.

This opens a dialog box that requests a name and Default Permissions for the dashboard.

1. Enter a name (using a maximum of 50 characters).
2. Define the permissions for My Group and the All Users group. See [About Permissions \(page 144\)](#).
3. Click **OK**. This adds the new dashboard to the Dashboards page.
4. To add content to the new dashboard, right-click its icon and select **View**. See [View a Dashboard \(page 31\)](#).

## View a Dashboard

If you have the EXECUTE permission, you can view a dashboard, based on your permission for the dashboard's category. (If you cannot READ the category, you cannot locate the dashboard, even if you have EXECUTE or WRITE permission for the dashboard.)

To access this function, click a dashboard or right-click a dashboard and select **View**.

### Actions from this page

- **Add** - opens a dialog where users with the permission to do so can [Add Dashboard Items \(page 32\)](#). By default, the new dashboard is empty (has no items). A user who is a Dashboard Designer but who does not have the WRITE permission can add items to a dashboard but will not be able to save the added items.
- **Save** - saves changes you make to the dashboard.
- **Refresh** - updates the dashboard to reflect changes anyone has made to it.
- **Slideshow** - select this to view the dashboard items as a [Dashboard Slideshow \(page 35\)](#). This is disabled until you have added items to the dashboard.
- **Help** - opens online help.
- **X** on the tab heading - closes the dashboard.

## Add Dashboard Items

If you EXECUTE permission, you can add content to a new dashboard and can modify the content of an existing dashboard.

You can add the following items to a dashboard: Reports, Scheduled Reports, URLs, Widgets, and Sticky Notes.

After you add an item, move or resize it if necessary. Then click **Save**.

### Actions for Dashboard items:

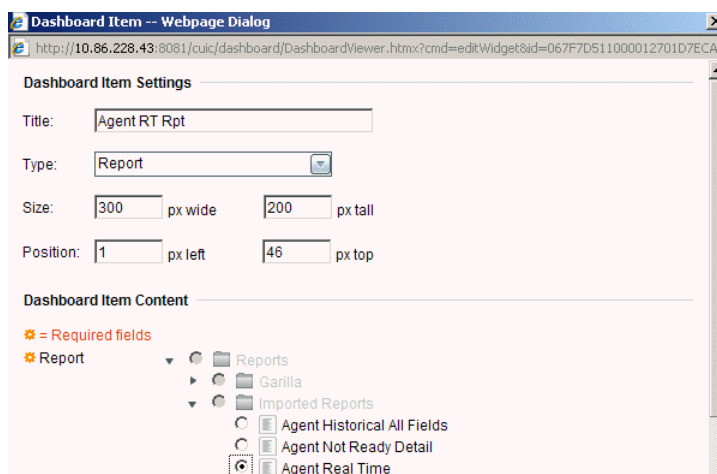
- **Move** - Newly-added items overlap existing items. Click the item titlebar and drag the item so that it does not obscure the item beneath it.
- **Resize** - To resize dashboard items, click the bottom right corner.
- **Display item properties** - Click the pencil (/ ) image in the item menu to open item settings for editing.
- **Minimize** Click the \_ image in the top right corner to minimize an item.
- **Delete** - Click the x image in the top right corner to delete an item.

## Add a Report

- 
- |               |  |
|---------------|--|
| <b>Step 1</b> | Open the Dashboard and click <b>Add</b> .  |
| <b>Step 2</b> | Enter a title for the report you are adding.   |
| <b>Step 3</b> | Select type <i>Report</i> .  |
| <b>Step 4</b> | Retain the default parameters for size and position or change them to your preferred parameters.                       |
| <b>Step 5</b> | Select a report by clicking the arrow next to the Reports folder and then clicking a radio button for the report name. |
| <b>Step 6</b> | Click <b>OK</b> to return to the dashboard.  |
|               | You might need to collapse the category to see the <b>OK</b> button.   |
| <b>Step 7</b> | If necessary, move the report to a better location on the dashboard.   |
| <b>Step 8</b> | Click <b>Save</b> .  |
-



Figure 4: Adding a Report to a Dashboard



Reports that you add to a dashboard are refreshed, and you can scroll up and down and can resize them on the dashboard.

**Note:** If you want a dashboard to display both a grid view and a chart view of the same report, you need to create a SaveAs version of the report with a chart view and select both the grid and the chart for the dashboard display.

## Add a Scheduled Report

- 
- Step 1** Open the Dashboard and click **Add**.
  - Step 2** Enter a title for the schedule you are adding.
  - Step 3** Select type *Schedule*.
  - Step 4** Retain the default parameters for size and position or change them to your preferred parameters.
  - Step 5** Select a schedule from the list that displays.
  - Step 6** Click **OK** to return to the dashboard.
  - Step 7** If necessary, move the schedule to a better location on the dashboard.
  - Step 8** Click **Save**.
- 

## Add a Note

Add a sticky note to a dashboard to post short notes to users who work with that dashboard ("Submit your status report by noon." ... "Company Outing on Saturday!").

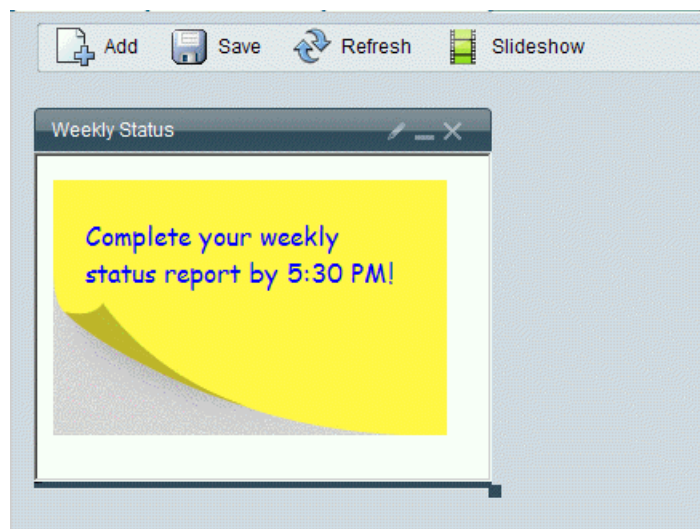
- 
- Step 1** Open the Dashboard and click **Add**.

## Add Dashboard Items

- Step 2** Enter a title for the item you are adding.
- Step 3** Select type *Sticky Note*.
- Step 4** Retain the default parameters for size and position or change them to your preferred parameters.
- Step 5** Enter the content for the note.
- Step 6** Click **OK** to return to the dashboard.
- Step 7** If necessary, move the sticky note to a better location on the dashboard.
- Step 8** Click **Save**.

---

Figure 5: Dashboard with Sticky Note



## Add a URL

Add a Uniform Resource Locator (URL) to embed a web page that opens from that URL to the dashboard.

- 
- Step 1** Open the Dashboard and click **Add**.
- Step 2** Enter a title for the item you are adding.
- Step 3** Select type *URL*.
- Note:**
- If you do not begin the URI with `http://`, the `http` protocol is assumed.
  - The resulting behavior for an invalid URL depends on the browser.
- Step 4** Retain the default parameters for size and position or change them to your preferred parameters.

- 
- Step 5** Type or paste the URL in the Content field.
- Step 6** Click **OK** to return to the dashboard.
- Step 7** If necessary, move the URL item to a better location on the dashboard.
- Step 8** Click **Save**.
- 

## Add a Widget

Add a web widget (a Javascript-based widget) to embed an application (such as a video or a calculator) that runs from that widget into the dashboard.

This is an advanced feature that should be used by those familiar with web development. Unified IC is not installed with any canned widgets, but you can copy them from online sources such as [www.widgetbox.com](http://www.widgetbox.com).

- 
- Step 1** Open the Dashboard and click **Add**.
- Step 2** Enter a title for the item you are adding.
- Step 3** Select type *Widget*.
- Step 4** Retain the default parameters for size and position or change them to your preferred parameters.
- Step 5** Copy the code from a widget you have found on the Internet; then paste it in the Content field of the Add Widget dialog.
- Step 6** Click **OK** to return to the dashboard.
- Step 7** If necessary, move the widget item to a better location on the dashboard.
- Step 8** Click **Save**.
- 

## Dashboard Slideshow

Use the slideshow mode to cycle through all items on the dashboard.

**Note:** If a dashboard has only one item, you can run a slideshow, but you will not notice a change.

### Actions from this page

- **Pause** - halts the slideshow on current item.
- **Play** - starts the slideshow.

---

**Rename a Dashboard**

- **Stop** - stops the slideshow and returns you to the dashboard.
- **Set Interval** - opens a field where you can set the interval in seconds for the slideshow cycles. The minimum interval is 1 second. The maximum is 900 seconds.

## Rename a Dashboard

With the **WRITE** permission, you can rename a dashboard.

To rename a dashboard:

1. Right-click its icon and select **Rename**. This opens a dialog box with a **Rename To** field.
2. Enter a new name (using a maximum of 50 characters) and click **Rename** to proceed. Click **Cancel** to keep the original name.

## Delete a Dashboard

With the **WRITE** permission, you can delete a dashboard.

To delete a dashboard:

- Right-click its icon and select **Delete**.
- Click **Yes** to confirm the deletion. Click **No** to cancel.



# Chapter 4

## Data Sources

---

A data source represents a database. Each reporting server requires one data source for each database from which reports are to be populated.

**Note:**

- This release of Unified IC supports MS SQL Server and Informix databases.
- This release supports Data Source connections across a wide area network.
- This release does not support Windows Authentication to an MS SQL Server database. Use SQL authentication only.

**Data Sources Drawer:** Click the Data Sources drawer in the left panel to open the [Data Sources Page \(page 38\)](#). (Only users with the System Configuration Administrator user role can access the full functions of this drawer.)

**Note:** All actions on the Data Source interface are based on User Role and on the user's object Permissions for data sources. See [About Permissions \(page 144\)](#).

**See also:**

[Troubleshooting Data Sources](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0) ([http://docwiki-dev.cisco.com/wiki/Troubleshooting\\_Tips\\_for\\_Unified\\_IC\\_8.0](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0))

This chapter contains the following topics:

- [Data Sources Page, page 38](#)
- [Create/Edit a Data Source, page 40](#)
- [Delete a Data Source, page 42](#)
- [Mapping to Multiple Databases, page 42](#)

## Data Sources Page

This page opens when you click the Data Sources drawer. After a new installation, this page shows the following Data Sources:

- **The Unified IC data source (CUIC).**
  - A Data Source for the Unified IC database is added by the installer. This database holds tables for objects such as reports, dashboards, value lists, and users that are added and maintained on *that* member node. The CUIC data source for each member is replicated across the cluster.
  - You can edit the description for the CUIC data source, but *do not change other fields*. The CUIC data source for each node is configured by default to point to that member.
- **The UCCE Historical data source**
  - This data source is added by default to support the Unified ICM/CC stock historical reports and UCCE User Integration.
  - You need to complete the Database Host, Database Name, and the Database User ID and Password fields for this data source and to make sure it is online before Unified CCE User Synchronization can occur.
- **The UCCE Realtime data source**
  - This data source is added by default to support the Unified ICM/CC stock real time reports.
  - You need to complete the Database Host, Database Name, and the Database User ID and Password fields for this data source.

Depending on your environment, the UCCE Historical and UCCE Realtime data sources can point to the same machine.

You have the option to execute a CLI command such that each node points to a unique IP Address for the UCCE Historical or Realtime data source. The command is `set cuic-properties host-to-ip`. The Command Line Interface is documented in the *Administration Console User Guide for Cisco Unified Intelligence Center*. See [Mapping to Multiple Data Sources \(page 42\)](#).

Figure 6: Data Sources

	Name	Status	Type	Database Host	Database Name	Charset
1	CUIC		Informix	\${HOSTNAME}	\${CUIC_DB_NAME}	UTF-8
2	UCCE Historical		Microsoft SQL Server	10.86.227.65	e1_awdb	ISO-8859-1
3	UCCE Realtime		Microsoft SQL Server	10.86.132.14	sprnt_awdb	ISO-8859-1

If you plan to import reports that will pull data from databases other than the *aw\_hds*, you must add data sources for those databases.

Click the radio button at the left of each row to select and edit that Data Source.

**Table 1: Rows on this page**

Field	Description
Name	The name of the data source
Status	The status of the Data Source. A green checkmark indicates connectivity. A red x indicates no connectivity.
Type	The database type (MS SQL Server or Informix)
Database Host	DNS name or IP address of the database server.
Database Name	The name of the database
Charset	The character set used by the data source

**Actions from this page depend on your permissions and include:**

- **Create** - opens the Data Source Create/Edit page with blank fields for defining a new Data Source. (Available only for System Configuration Administrator user.)
- **Edit** - enabled when a row is selected, opens the Data Source Create/Edit page where you can review or modify fields. (Disabled for most users.)
- **Delete** - enabled when a row is selected, prompts for a confirmation and then deletes the Data Source. (Available only for System Configuration Administrator users with WRITE permissions on the data source.)
- **Refresh** - updates the data source page to reflect changes anyone has made to it.
- **Help** - opens online help.
- **X** on the tab heading - closes the page.

## Data Source Rules

A database must be set up with a SQL user account with a password and read-only permission for the database and minimum OS user privileges (for Informix).

The database server must be set to allow SQL authentication and to enable TCP/IP protocol and remote network connection.

The database port must not be blocked by firewalls, routers, or any other security software (such as Cisco Security Agent).

The following are not supported:

- Windows integrated authentication connection to MS SQL Server.

- Automatic failover to a different database.
- A data source that points to more than one database.

## Create/Edit a Data Source

Use this page to add a new data source.

**Step 1** Select **Data Sources drawer > Data Sources page > Create** to open the Data Sources create page.

**Step 2** Complete fields on this page as follows:

Field	Value
Name	Enter the name of the data source.  When users create Report Definitions and Value Lists, they see only the name of the data sources. As a Best Practice, to benefit those users, give a meaningful name to a new Data Source.
Description	Enter a description for this data source.
Type	Select a value from the list. Options are Informix and MS SQL Server.  <b>Type is disabled in Edit mode.</b>
Database Host	In a single-node deployment, enter the DNS name or IP address of the database server.  In a multinode cluster, use the DNS name. Do not use the IP address. See <a href="#">Mapping to Multiple Data Sources (page 42)</a> .
Port	Enter the port for the database  For SQL Server, leave this field blank to use the default port (1433).
Database Name	Enter the database name.
Instance	Required for Informix. Specify the server instance name of the Informix database you are connecting to. The environment INFORMIXSERVER on the Informix database server should contain the instance information.  Optional for SQL Server. For the UCCE data source, leave this field blank. The Unified ICM/CC database does not use instance names.



Field	Value
Timezone	Select the correct timezone for the data stored in the database.
Database User ID	Enter the ID for the user who is authorized to access the database.
Password and Confirm Password	Enter and confirm the password for the database user.
Charset	<p>The character set used by the database.</p> <p>The default character set is ISO-8859-1 (Latin 1).</p> <p>If your database uses Non-Latin-1 encoding, select the appropriate character set for your locale from the dropdown.</p> <p>If the character set is not correct, the data source may fail to connect to the database or reports may not be readable.</p> <p>This must be UTF-8 for the Unified CVP Informix database.</p>
Default Permissions	View or edit the permissions for this datasource for MY Group and for the All Users group. See <a href="#">About Permissions (page 144)</a> .

**Step 3** Test the database connection before you save the data source.

---

**Actions from this page:**

- **Save** - saves your new entry or changes to the fields.
- **Cancel** - cancels your changes and closes the page.
- **Test Connection** - tests that the Data Source is online. If the status is Offline, review the error message to determine the cause and edit the data source accordingly. Repeat the steps until the data source is Online.
  - If the data source is offline or there is a connection issue, an error message button labeled Show Error Details becomes available on the Data Sources page. Click this button to see the error message provided from the database.
  - **Note:** When the database type is Informix, the error message may be a generic one and may not provide detail about why the connection failed.
- **Help** - opens online help.
- **X** on the tab heading - closes the page.

## Delete a Data Source

To delete a data source, click the radio button to the left of the data source name and then click **Delete**.

Click **Yes** to confirm the deletion. Click **No** to cancel.

Both Yes and No generate another dialog box confirming your action to delete or to cancel the deletion. Click **OK** to confirm the deletion.

**Note:** Data sources are referenced by Report Definitions and Value Lists. When you delete a data source that is used by Report Definitions and/or Value Lists, you see a message that you cannot delete the data source until the dependent value lists or report definitions are deleted or are updated to reference another data source.

## Mapping to Multiple Databases

Unified 8.0 is a clustered solution, and every node is installed with stock reports that run against the Unified CCE realtime and historical databases.

It might be the case that a single Unified CCE database is unable to support an entire cluster simultaneously. You can distribute the reporting load to several Unified CCE databases using the Command Line Interface and conventional name resolution.

If there is a need to direct a specific Member node to database host other than the one in Data Sources, you can use the *set cuic-properties host-to-ip* command to resolve the data source name differently on each node.

Using this command at each Member node, it is possible to define a unique mapping so that different nodes map the same database name to a different IP Address as follows:

For example, if the Datasource host for the UCCE Historical datasource is *sprhds2.krypton.icm*:

Figure 7: Mapping the Data Source

The screenshot shows the 'Data Sources > Edit' page in the Cisco Unified Intelligence Center. The page has a header with 'Signed on as: CUIC\cucadmin' and 'Documentation'. Below the header, there are tabs for 'Overview' and 'Data Sources'. The 'Data Sources' tab is active, and the 'Edit' form is displayed. The form includes a legend for required fields (orange star icon). The fields are: Name (UCCE Historical), Description (Datasource UCCE Historical), Type (Microsoft SQL Server), Database Host (sprhds2.krypton.icm), Port (1433), Database Name (sprnt\_awdb), Instance (empty), and Timezone (America/New\_York). At the top of the form, there are buttons for 'Save', 'Cancel', and 'Test Connection'.

Then to map the UCCE Historical data source for Member\_Node\_2 to a unique IP Address, access the CLI from Member\_Node\_2 and enter the command: *set cuic-properties host-to-ip sprhds2.krypton.icm <hds ip-address>* .

The Command Line Interface is documented in the Administration Console User Guide for Cisco Unified Intelligence Center. With this command, you map the host name with an IP Address.

You can use this method for any data source.

**Note:** Avoid using DNS. The mapping is from a name to an IP Address, but the name is not necessarily a DNS name.

---

## Mapping to Multiple Databases



# Chapter 5

## Reports

---

Reports show data returned by Report Definitions. This data is extracted by database queries and can be displayed in various [Report Views \(page 66\)](#) - as grids, as charts, and as gauges.

Unified IC is installed with Cisco stock reports. All stock reports have one default grid view. Some stock reports also have a chart view.

Users with the Report Designer User Role can click the Reports drawer to open the [Available Reports Page \(page 46\)](#).

**Note:** All actions on the Reports interface are based on User Role and on the user's object Permissions for reports and for Categories. See [About Permissions \(page 144\)](#).

### See also:

[Troubleshooting Reports](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Reports) ([http://docwiki-dev.cisco.com/wiki/Troubleshooting\\_Tips\\_for\\_Unified\\_IC\\_8.0](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0))

[Unified IC User Roles \(page 23\)](#)

This chapter contains the following topics:

- [Available Reports Page, page 46](#)
- [Stock Report Templates, page 47](#)
- [Reports and Report Definitions, page 52](#)
- [Manage Reports, page 52](#)
- [Importing Reports, page 53](#)
- [Running a Report, page 55](#)
- [Filtering Reports, page 56](#)
- [The Report Viewer, page 60](#)
- [Report Editor, page 61](#)
- [Creating Reports, page 63](#)
- [Renaming a Report, page 64](#)
- [Exporting a Report, page 65](#)

- [Deleting a Report](#), page 66
- [Report Views](#), page 66
- [Views Editor](#), page 69
- [Export to Excel](#), page 89
- [Print](#), page 90
- [Reports and TimeZones](#), page 90

## Available Reports Page

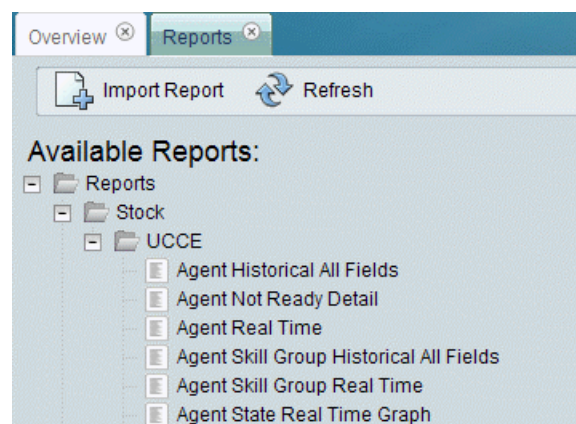
The Available Reports page opens when you click the Reports drawer.

If you have the Report Designer user role, you can access this page to create reports and report categories, and you can [Manage Reports \(page 52\)](#), using the context menu that appears when you right-click a report.

Reports are contained in categories and sub-categories, which represented by folder icons. The reports within the categories are represented by page icons. Unified IC is installed with one root report category (folder) named *Reports*. All stock reports are nested under *Reports*. You can rename the *Reports* category. You cannot delete it.

The installation places a folder of stock templates on the Unified IC Available Reports page, in a sub-category named UCCE:

Figure 8: Stock Templates



### Actions from the Available Reports page:

- **Import Report** - opens the [Import Report \(page 53\)](#) page.
- **Refresh** - updates both the page and the tree under the Reports drawer to reflect changes anyone has made to add, modify, import, or delete reports or report categories.
- **Work with Categories**

Possible actions are:

- [Create Sub-category \(page 153\)](#) from a category or a sub-category.

- [Delete Sub-category \(page 153\)](#)
- [Rename Sub-category \(page 153\)](#)
- Set Permissions for the sub-category. See [About Permissions \(page 144\)](#).
- **Drag and drop** - You can [drag and drop \(page 153\)](#) reports and sub-categories.
- **Create** reports - See [Creating Reports \(page 63\)](#).
- **Manage** reports with right-click functions. These include running the report, editing the report, and creating new views for the report. See [Managing Reports \(page 52\)](#).
- **Help** - opens online help for the page.

See also [Stock Report Templates \(page 47\)](#)

[Custom Templates \(page 52\)](#)

## Stock Report Templates

Unified IC is installed with stock report templates that display data that has been saved in the Unified ICM/CC database. It is possible to import other report templates that are populated by other databases and to set a data source for those templates, but the stock templates are designed to present Unified ICM/CC data.

As a best practice, make [Save As \(page 63\)](#) copies of the installed stock templates and work with your Save As copies.

**This is what you *cannot* do with the installed stock templates:**

- Delete.
- Export.
- Re-import.
- Change the data source.
- Edit the report definition, using Report Editor.
- Delete the default grid view.
- Edit (using Report Editor).
- Create additional views (grids, charts, and gauges).
- Set thresholds for fields.
- Set drilldowns for fields (Premium license only).

- Hide, move, rename, or in any way modify fields that display by default in the grid view.

**This is what you *can* do with stock templates, based on your User Role and Permissions:**

- Save As
- Run
- Schedule
- Edit

**See also:**

[List of Stock Templates \(page 48\)](#)

[Custom Templates \(page 52\)](#)

## List of Stock Templates

These are the stock report templates installed in the current release.

Report Template	Shows
Agent Historical All Fields	All data for the agents in the selected skill groups for the selected interval.  Default grid view.
Agent Not Ready Detail	Agent availability in a logon session. Default grid view.
Agent Real Time	Each agent's currently active skill group, state, and call direction within each media routing domain into which the agent is logged.  Default grid view.
Agent Skill Group Historical All Fields	Activity for selected agents for a selected interval, sorted by skill group.  Default grid view.
Agent Skill Group Real Time All Fields	Current agent status within the specified skill group(s).  Default grid view.
Agent State Real Time Graph	A pie chart showing the current total count of agents in different agent states.  Default pie chart view only.



Report Template	Shows
Agent Team Historical All Fields	<p>All the available report team data from the Agent_Skill_Group_Interval database table for each selected team during the time period selected.</p> <p>Default grid view.</p>
Agent Team Real Time	<p>The current status of the selected agent team(s) and the current agent states of each agent within the selected agent team(s).</p> <p>Default grid view.</p>
Agent Team State Counts Real Time	<p>Real-time agent team information on number of agents assigned to a team, number of agents logged on, number of agents in different states, and number of agents available to receive incoming tasks.</p> <p>Default grid view.</p>
Call Type Abandon/Answer Distribution Historical	<p>The number of answered and abandoned calls for separate intervals for the report's time period, broken out into summaries.</p> <p>Default grid view.</p>
Call Type Historical All Fields	<p>The status of call types for the selected time period.</p> <p>Default grid and pie chart views.</p>
Call Type Skill Group Historical All Fields	Shows the interval status of skill groups by call type for the selected time period.
Call Type Real Time All Fields	<p>The current status of call types.</p> <p>Default Grid and Gauge views.</p>
Enterprise Service Historical All Fields	<p>All the available Enterprise Service Historical All Fields report data in the Service_Interval database table so that you can select which data you want for a customized enterprise-service historical report.</p> <p>Default grid view.</p>
Peripheral Service Historical All Fields	<p>Peripheral service historical report data.</p> <p>Default grid view.</p>
Peripheral Service Real Time All Fields	<p>Available peripheral-service real-time data.</p> <p>Default grid view.</p>

Report Template	Shows
Enterprise Skill Group Historical All Fields	All selected enterprise skill groups, listing all the available skill-group historical report data for the selected interval.  Default grid view.
Enterprise Skill Group Real Time All Fields	The current status of the selected enterprise skill groups.  Default grid view.
Peripheral Skill Group Historical All Fields	A Consolidated call and skill group statistics, gathered in interval increments.  Default Grid and chart views.
Peripheral Skill Group Real Time All Fields	The current status of the selected skill groups.  Default grid view.
IVR Ports Performance Historical	The performance of IVR ports for the selected time period. It presents a table of half-hour counts of IVR ports in-service, ports idle, and the time HH:MM:SS (hours, minutes, seconds) that all ports were busy.  Default grid view.

## Creating a Save As Version of a Stock Template

First, create a Report Category for your Save As versions:

1. From the Available Reports page, right-click the Reports folder and select **Create Sub-Category**.
2. Name the new category and set permissions. At a minimum, set READ permissions.

Next, create a Save As copy of the report:

1. Locate the report, right-click, and select **Edit**.  
  
This opens the Report Editor page.
2. Enter a description for the report and click **Save As**.
3. On the Save As page:
  - Enter a report name and description.
  - Click the arrow next to the Reports folder and navigate to, and select, the sub-category folder you created.

4. Set permissions.
5. Click **OK**.
6. Return to the Available Reports page and click **Refresh**.

The right-click options are now extended and include **Edit Views**, which opens the [Views Editor \(page 69\)](#).

Select the Grid and click **Edit** to open the [Grid Editor \(page 70\)](#), where you can move, rename, and set thresholds for report fields.

## Historical and Real Time Templates

The stock Unified ICM/CC templates that are installed with Unified IC are either Historical or Real Time "All Fields" templates.

*All Fields* refers to the fact that, for the databases that are queried to populate the template, every field in the database is available to be included in the grid view or to be charted or gauged.

These Available fields are listed in the [Grid Editor \(page 70\)](#).

### An historical report template:

- Receives data from the *UCCE Historical* data source. See [Data Sources Page \(page 38\)](#).
- Is populated with interval data. The interval at which the database tables are refreshed can be a 15-minute or a 30-minute interval. This interval is set in the Unified ICM Configuration Manager.
- Has a default refresh rate of 15 minutes. Refresh Rate is configurable in the Report Definition Properties page in a Save As version of the report.
- Has an upper limit of 8,000 rows. Row limit is not configurable. The Report Viewer indicates when the row limit has been reached and when more data is available. You can adjust the filter and rerun the report to see additional data.

### A real time report template:

- Receives data from the *UCCE Realtime* Data Source. See [Data Sources Page \(page 38\)](#).
- Is populated with current data that is passed by the Peripheral Gateways to the Unified ICM Router and then saved to real-time database tables. By default, real time data is forwarded to the router every 15 seconds. Old real-time data is constantly overwritten by new real-time data.
- Has a default refresh rate of 15 seconds. Refresh Rate is configurable in the Report Definition Properties page in a Save As version of the report.

## Reports and Report Definitions

- Has an upper limit of 3,000 rows. Row limit is not configurable. The Report Viewer indicates when the row limit has been reached and when more data is available. You can adjust the filter and rerun the report to see additional data.

## Custom Templates

A custom template is:

- A new template that Report Designer users have created.
- A Save As version of a stock template.
- An imported template.

**Note:** Your Cisco Support provider cannot assist you with custom report issues.

### See Also

[Stock Report Templates \(page 47\)](#)

[Stock and Custom Objects \(page 160\)](#)

## Reports and Report Definitions

All reports are based on [Report Definitions \(page 93\)](#).

Report Definitions contain the dataset that is obtained for a report. This includes the query type (stored procedure, anonymous block, SQL query), the fields, the filters, the formulas, the refresh rate, and the key criteria field for the report

Only users who have a Premium license can view, create, or edit Report Definitions.

## Manage Reports

To manage reports from the [Available Reports page \(page 46\)](#), use the context menu that appears when you right-click a report.

The options available to you depend on your User Role and permissions.

Use this option:	To:
<b>Run</b>	Click this to filter the report (see <a href="#">Filtering Reports (page 56)</a> ) and then run it so that it opens in the <a href="#">Report Viewer (page 60)</a> .

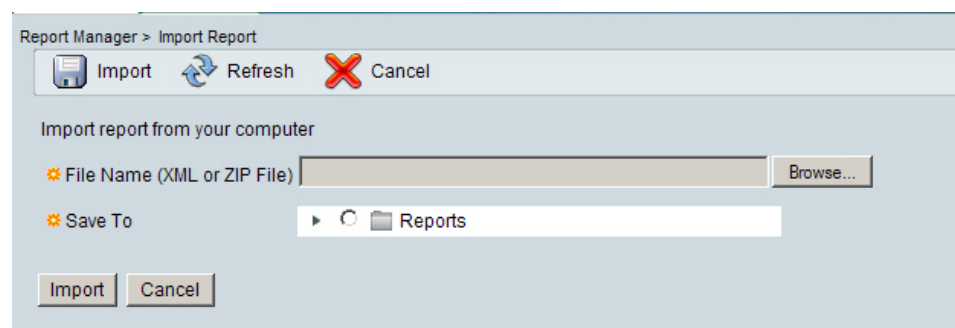
Use this option:	To:
<b>Schedule</b>	<p>Click this to create a Schedule for running a report and displaying it on a Dashboard or sending it in an email. See <a href="#">Scheduler (page 127)</a>.</p> <p><b>Note:</b> This option is available only for Report Designers who have Execute permission for the report and for System Configuration Administrators.</p>
<b>Edit</b>	<p>Click this to open the <a href="#">Report Editor (page 61)</a> where you can edit the report views, change the default view, and create a <a href="#">Save As (page 63)</a> version of the report.</p>
<b>Rename</b>	<p>Click <a href="#">Rename (page 64)</a> to change the name of the report.</p> <p>Not enabled for stock reports.</p>
<b>Edit Views</b>	<p>Open the <a href="#">Views Editor (page 61)</a>, where you create, edit, or delete a view for the report dataset.</p> <p>Not enabled for stock reports.</p>
<b>Export</b>	<p>Click <a href="#">Export (page 65)</a> to export the report XML file.</p> <p>Not enabled for stock reports.</p>
<b>Delete</b>	<p>Click <a href="#">Delete (page 66)</a> to(remove) the report.</p> <p>Not enabled for stock reports.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• If a report is deleted in error, you can re-import it. See <a href="#">Importing Reports (page 53)</a>.</li> <li>• You cannot delete a report if it is referenced by a schedule.</li> </ul>

## Importing Reports

This page opens when you click **Import Report** on the [Available Reports Page \(page 46\)](#).

Report Designers can use this function to import report files that are saved locally

Figure 9: Importing Reports

**To import a report:**

1. To import a report from your computer (an xml or zip file that is saved locally), click **Browse** and navigate to select the template xml file.

**Note:** You can import multiple reports in a \*.zip file.

2. Select the Data Source from the dropdown.

**Note:** It is important to select the correct and appropriate data source for the imported report. If a report is associated with the wrong data source, you will see an error when you try to run the report.

3. Click **Save To** and navigate to the report category folder into which you want to categorize the imported template(s).
4. Click **Import**.
5. Click **Refresh** on the Reports page to see the imported report.

**Note:**

- Data from imported reports are extracted from the xml file and saved as configuration data in the CUIC database.
- If your Available Reports page already contains a report template with the same name as a report you are importing, you see a prompt asking if you want to overwrite it.

**What is imported:**

- The report
- Its Report Definition
- Its Value Lists
- Its Views
- The values defined for it in Report Editor (its default view, online help, etc)

- Its Thresholds
- Its Drilldowns
- Its Permissions

**What is not imported:**

- Report Filters
- Collections

**Note:**

- During the import, the software checks to see if any prerequisite objects needed by the report (such as Value Lists) already exist. If they do *not*, the import will create them. If they already exist, you are prompted to use the existing file or to overwrite it.
- This allows users from one system to write a report that uses a certain Value List (for example, the Skill Groups Value List), and then export the report and import it into another system that has another (different) Skill Groups Value List. There is no need to create a new Value List or to edit the report.
- Reports are language-independent. The report templates and their generated output depends on the locale you select for Unified IC.

**Actions on the Import Report page:**

- **Import** - proceeds with the import.
- **Cancel** - closes the page.
- **Refresh** updates the page to show changes another user has made.
- **Help** - opens online help for the page.

## Running a Report

There are several ways to run a report. You can:

- Right-click a report from the [Available Reports \(page 46\)](#) page and select **Run**.
- Click the report name from the dashboard or the Reports page.

If the report designer has selected to bypass the filter dialog on the [Report Editor \(page 61\)](#) page, the report opens immediately.

If the report designer did not select to bypass the filter dialog, selecting a report to view opens the Filters page for that report. See [Filtering Reports \(page 56\)](#).

Once you select to run and filter a report, the report displays in the [Report Viewer \(page 60\)](#).

## Filtering Reports

Use the filter page to both define and restrict the data that will populate the report.

### The filter page opens:

- Before the report is generated - when you right-click the report and click **Run**. Note that you do not see the filter page if the report designer has selected Bypass Filter on the [Report Editor \(page 61\)](#) page.
- After the report is generated - when you click the **Filter** button in the [Report Viewer \(page 60\)](#) for the generated report. Do this to refine the filter values for a generated report.

### Filter parameters are based on whether:

- The report based on a simple query or on an anonymous block or stored procedure.
  - Reports based on simple queries have two tabs in the filter interface: [Basic Filters Tab \(page 56\)](#) and [Advanced Filters Tab \(page 58\)](#).
  - Reports based on anonymous blocks or stored procedures have a Basic filters tab only. See [Basic Filters Tab for Anonymous Block/Stored Procedure \(page 59\)](#).
- You are running a real time or an historical report.

### You can:

- Create a default filter to persist the filtering criteria so that the filter can be reused every time the report is run.
- Bypass the filter so that the filter page does not display and the report runs with the default filter.
- Create a default filter, so when you run the report, it always opens to the default filters you have defined. See [Setting the Default Filter \(page 60\)](#).

## Basic Filters Tab

Follow these steps to complete the basic filters tab for a report based on a simple query. The filter tabs for reports based on queries are populated by all fields in the query. If you run the report without selecting filters, the report will return all data.



Reports based on Anonymous Blocks and Stored Procedures have a different filter interface. See [Basic Filters Tab for Anonymous Block/Stored Procedure \(page 59\)](#).

You use this tab to filter a report before you run the report. You also use this tab to edit the default filter for a report.

---

**Step 1**     *To filter a real time report, skip to step 3.*

**Step 2**     *To filter an historical report, select date/time ranges for Historical Reports as follows:*

**Relative Date Range:**

- From the **Relative Date Range** dropdown, select from Today, Yesterday, This Week, Last Week, This Month, Last Month, Year to Date, or Last Year.
- Check **Only show results that are within a specific time period** to check or uncheck days. By default, all days of the week are checked. This checkbox only appears if one of the following is selected in the Relative Date Range dropdown: This Week, Last Week, This Month, Last Month, Year to Date, or Last Year. If you do not check this box, the report shows all values from 12:00 AM of the first date in your range through 11:59 PM of the last date in the range.

**Absolute Date Range:**

- In the From and To fields, click the calendar icons to select a starting and ending date range.
- Check **Only show results that are within a specific time period** to enter a starting and ending time range. If you do not check this box, the report shows all values from 12:00 AM of the first date in your range through 11:59 PM of the last date in the range.
- Check **Only show results that are on certain days of the week** to check/uncheck days. By default, all days of the week are checked.

**Step 3**     **Select a filter for the report.**

Filters criteria are based on the Key Criteria field in the Report Definition and can be Value Lists or Collections, based on your permissions.

To filter by a Value List:

- Select one or more objects in the Available column and move them to the Selected column, or
- Use the Search in available and Search in selected fields to enter a character to move to the first item in the list that begins with that character.

To filter by a Collection:

- Select the collection from the Choose Collection dropdown.

Populate the Selected panel with the object you want in the report.

**Note:**

- A Value List or Collection displays in the Basic Filters tab only if you have Execute permission for it.
- Most stock reports are filtered by Value Lists or Collections that are associated with the Key Criteria Field that has been specified on the Report Definition [Properties \(page 109\)](#) tab.
- If no Key Criteria field has been specified in the Report Definition, you cannot filter the report. You can, however, run the report. Having no filters means the report will pull in a large amount of data.

**Step 4** Click the [Advanced Filters \(page 58\)](#) to review and select additional filtering criteria.

**Step 5** If you are running the report, click **Run** to generate the report.

If you are editing the default filter, click **Save**.

---

**See Also**

[Associating a Value List with a Report \(page 121\)](#)

## Advanced Filters Tab

For reports defined as Database Queries, this second tab on the Filter page allows you to further refine the results in a report.

This tab is a list of *all* the fields that have Available in Filter checked in the [Edit Field Properties \(page 104\)](#) tab. It shows the field name, display name, and description.

Select one or more of these fields and then click **Edit** to indicate *any value* or a filtered value.

Filter criteria depend on the field type (Date, Decimal, Value List, String, or Boolean).

---

**Step 1** Select one or more of the fields in the Advanced Filter tab. and then click **Edit** to indicate *any value* or a filtered value.

Filter criteria depend on the field type (Date, Decimal, Value List, String, or Boolean).

- For type **Date**, click Edit to specify any value or to filter by selecting either Relative Date Range or Absolute Date Range. For both Relative and Absolute date ranges, you can further indicate a specific time period and certain days of the week.
- For type **Decimal**, click Edit to specify any value or to select an Operator from Equal To, Not Equal To, Less Than, Less Than or Equal To, or Greater Than and then entering a value; for example, Operator = Greater Than and Value = 16.5.

- For type **String**, click Edit to specify any value or to filter by selecting an Operator from Equal To, Not Equal To, or Matches Pattern and then entering a value for the string; for example, Operator = Matches Pattern and Value = Team Green.
- For type **Boolean**, click Edit to specify any value or to filter by selecting an Operator and then selecting True or False.
- If the advanced filter field is a **Value List**, click Edit to specify any value or to filter by moving one, all, or some items in the list to the Selected column.

**Step 2**     **Run** the report.

The report will pull data for the Collection / Value List objects selected on the Basic tab, filtered by the values you set for the additional (Advanced) fields.

For example, if your Basic Filter is an Agent Team collection, and you added an Advanced Filter for *Agent Name Equal to <a certain string>*, then report shows only agents in the team whose name contain that string.

**Note:** The field for the Advanced Filter must be moved from the Available panel to the Current panel in the Grid Viewer in the [Grid Editor \(page 70\)](#).

---

## Basic Filters Tab for Anonymous Block/Stored Procedure

Filters for reports whose Report Definitions are anonymous blocks or stored procedures have a different filter interface than filters for reports whose Report Definitions are simple queries. The filter tabs for reports based on Anonymous Blocks and Stored Procedures are populated by parameters. If you run the report without selecting filters and if no Default Filter exists, the report returns all data.

There is no Advanced Filters tab for these reports.

Follow these steps to filter a report before you run the report or to edit the default filter for a report.

---

**Step 1**     Enter a Start Date value.

**Step 2**     Enter an End Date value.

**Note:** Because the dates are parameters, the system cannot validate that Start is earlier than End.

**Step 3**     Select a filter.

The filter options are the parameters created in the Report Definition. A parameter is associated with a Value List.

---

### See Also

[Associating a Value List with a Report \(page 121\)](#)

## Setting the Default Filter

You can create a default filter for a report and save that filter so that the report always generates according to that filter (until you change the filter again).

Combining this feature with Bypass Default Filter allows for consistent report generation among report users.

---

**Step 1** Open the Available Reports page (Reports drawer) and navigate to the report for which you want to set a default filter.

**Step 2** Right-click the report and select **Edit**.

This opens the [Report Editor \(page 61\)](#) page.

**Step 3** Click **Edit Default Filter**.

This opens the filter page for the report.

Depending on the report you selected, it might open the [Basic Filters Tab \(page 56\)](#) or the [Basic Filters Tab for Anonymous Block/Stored Procedure \(page 59\)](#).

The tab appears almost exactly as it appears when you run a report with one exception; it has no **Run** button. It has a **Save** button.

**Step 4** Select the filter you want for the report. For example, if the filter offers a collection or a Value List of Call Types, you might select only one or two Call Types.

**Step 5** Click **Save**.

Every time the report is run, the filter opens to your default settings. You can change them for that instance of the report.

---

## The Report Viewer

When a report is run, it displays in the Report Viewer. This page is a container that manages the report execution. Its content varies, based on which view (data presentation) of a report is displayed - a grid, a chart, or a gauge. You can change the report view on this page.

If the report view is a grid, you can review the field definitions for its template in the help topic for that template.

The menubar across the top of the Report Viewer has these selections:

<b>Save</b>	Saves the report.
<b>Save As</b>	Opens the <a href="#">SaveAs (page 63)</a> dialog box and makes a new copy of the report.
<b>Edit</b>	<p>Launches a page where you can edit the currently-selected view.</p> <ul style="list-style-type: none"> <li>• For grid views, Edit opens the <a href="#">Grid Editor (page 70)</a>.</li> <li>• For gauge views, Edit opens the <a href="#">Gauge Editor (page 87)</a>.</li> <li>• For chart views, Edit opens the <a href="#">Chart Editor (page 78)</a>.</li> </ul>
<b>Print</b>	Prints the report.
<b>Filter</b>	Opens the filter page so that you can change the filter values (such as date/time and values) for the report. See <a href="#">Filtering Reports (page 56)</a> .
<b>SQL</b>	Opens a window with a read-only display of the SQL query on which the report is based.
<b>Refresh</b>	<p>Sends a request to the server to refresh the report dataset.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• If the report view is a grid, and if you have sorted the grid, Refresh resets the view and cancels the sort.</li> <li>• You can also use Refresh when an error occurs to stop the auto-refreshing of the report.</li> </ul>
<b>Pop Out</b>	<p>Opens the report in a new, separate browser display window. The popout has no Unified IC edit or toolbar functions.</p> <p>Click <b>x</b> to close the popout.</p>
<b>Export (Grids only)</b>	Launches the <a href="#">Export (page 65)</a> page, where you can export the report grid to a Microsoft Excel file.
<b>Views</b>	<p>If there is more than one view associated with this report template, use the dropdown to select the view you want to display.</p> <p>If the resolution of your screen is too low and you are unable to see the Views dropdown list, you can select, drag, and narrow the width of the left panel (the Drawers).</p>
<b>Help</b>	Opens a dropdown where you can select help for Unified IC reporting or for the fields in the report template.

## Report Editor

Right-click any report for which you have the appropriate permissions and select **Edit** to open the Report Editor page. Use this page to review the information for a stock report or to edit the information for a custom report.

Table 2: Fields on the Report Editor page

Field	Explanation
<b>Report Description</b>	This field displays a description for the report.
<b>Report Definition</b>	This field displays <a href="#">Report Definition (page 94)</a> for the report.
<b>Default View</b>	<p>From the dropdown, select the default view that is to display when users run the report.</p> <p><b>Note:</b> Once the report has generated, users can change the view. For example, if the default view is a grid, and a gauge has been developed for the report, users can change the generated report to show the gauge view.</p>
<b>Online Help</b>	Displays the location of the online help topic for this stock report template. If you create a custom help, enter the URL for the full path the custom help.html file.
<b>Bypass Filter Dialog</b>	<p>Check this box so that the report runs directly and users are not prompted to filter the report.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• Even if the report has run directly, you can click the Filter icon in the <a href="#">Report Viewer (page 60)</a> to refilter and rerun the report.</li> <li>• As a best practice, do not check Bypass Filter until you have defined a Default Filter. See <a href="#">Setting the Default Filter (page 60)</a>. Bypassing with no default filter set will run the report for all dates and times and for all data.</li> </ul>
<b>Permissions</b>	Use these boxes to view or change user permissions for My Group (the default group) and for the All Users group.

**Actions on the Report Editor page:**

- **Edit Default Filter** opens the filter page for the report, where you can review the basic and advanced filters that are defined in the Report Definition. See [Setting the Default Filter \(page 60\)](#).
- **Edit Views** opens the [Views Editor \(page 69\)](#).
- [Save \(page 63\)](#)
- [Save As \(page 63\)](#)
- **Cancel** closes the page without saving your changes.

- **Refresh** updates the page to show changes another user has made.

## Save

Saves the report if it is valid.

A report is not valid to save if:

- The report description contains invalid characters such as symbols and punctuation marks.
- You did not select a valid view.

## Save As

Use this page to save an existing report with a new name, description, report category, and permissions.

**Table 3: Fields on the Save As dialog box**

Field	Explanation
Report Name	The new name for the report
Description	Enter a description of the report.
Save To	Navigate to, and click the radio button for, the category or subcategory in which you want to place the report.
Permissions	Define the default permissions for My Group and for the All Users group.

### Actions on this page:

- **OK** - saves your entries and closes the page.
- **Cancel** - closes the page without saving your entries.

## Creating Reports

There are two ways to create a report. You can create a Save As version of an existing report, or you can create a report from scratch.

### To create a Save As version of an existing report:

1. From the [Available Reports page \(page 46\)](#), locate and right-click the report that you want to "Save As" (clone).
2. Select **Edit** to open the [Report Editor \(page 61\)](#).

## Renaming a Report

On the Report Editor page:

- Select the Report Definition for the report. Doing this also requires that you select its Data Source.
- Establish Permissions.
- Select [Save As \(page 63\)](#) to name the report.

The report is saved to the Available Reports page, where you can right-click to manage it.

### To create a report from scratch:

1. Right-click a category or sub-category on the Reports page and select **Create Report**. This opens a naming dialog box.
2. Enter a name for the report.
3. Enter a description for the report.
4. From the Report Definition dropdown, select the Report Definition on which this report will be based.

What this dropdown shows:

- If you have a standard license, the list shows all stock Report Definitions and the custom Report Definitions for any custom templates you have imported.
  - If you have a premium license, the list contains all stock Report Definitions and any custom Report Definitions that have been created.
5. Specify the default permissions for this report for members of your User Group and for all users.
  6. Click **OK** to open the [Report Editor \(page 61\)](#).
  7. Complete fields on the Report Editor.
  8. Click **Save** from the Report Editor page to save the new report. The report is saved to the Available Reports page, where you can right-click to manage it.

## Renaming a Report

Right-click a report and select **Rename** to open a dialog box prompting you for the new name.

Type a new name. Then click **OK**.

You see a message if you:



- Enter a duplicate name (the same name as an existing report).
- Leave the Rename To field blank.
- Type a name that contains invalid characters (symbols or punctuation marks other than an apostrophe).

## Exporting a Report

A Report Designer with WRITE permission can export a custom report for troubleshooting or so that it can be archived or imported to another server in XML format. You cannot export stock reports.

### What is exported:

- The report
- Its Report Definition
- Its Value Lists
- Its Views - including all custom grids, charts, and gauges
- The values defined for it in Report Editor (default view, online help, etc)
- Its Thresholds
- Its Permissions
- Its Drilldowns

### What is not exported:

- Report Filters
- Collections

To export a report:

1. Right-click a report and select **Export** to open the Export Report dialog box, which gives you the option to rename the report.

You can change the name but do not change the file extension.

2. Click **OK** to open the Windows file download dialog box.
3. Click **Save** and navigate to the location where you want to save the report.

## Deleting a Report

Right-click a custom report and select **Delete** to open a message prompting for confirmation.

- Click **Yes** to Delete.
- Click **No** to cancel the deletion.

**Note:**

- Reports are referenced by views and schedulers.
- When you delete a report that has views and/or schedules, you see a message that reminds you to delete those views/schedules before you delete the report.
- You cannot delete a stock report.

## Report Views

Report views are the presentation containers in which a report dataset can appear. There are three types of views: Grids, Charts, and Gauges.

You cannot run a report that has no views. All stock reports and any custom reports that you create have at least one view. When a report has only one view, you cannot delete that view.

The default view for each report is defined in the [Report Editor \(page 61\)](#).

You can create and edit Views in the [Views Editor \(page 69\)](#).

## Grids

All stock report templates are installed with one default grid view. The [Report Editor \(page 61\)](#) displays the name of the default grid, and you can access this grid view through the [Grid Editor \(page 70\)](#).

Grids are tabular presentations of the data in rows and columns. You can modify the stock grids by moving, adding, and deleting columns and by adding and renaming column headings and regrouping columns under those heading.

By default, all Cisco stock reports have a grid view. You can create additional grid views for the stock reports.

Figure 10: Grid

Call Type Name	ASA5	VRU not Q Now	Queue Now	CCE Agent Now	Longest Queued	SL	Handled5	Aband5	Aban within SL
CT1	00:00:00	0	0	0	0	null	0	0	0
CT10	00:00:00	0	0	0	0	null	0	0	0
CT11	00:00:00	0	0	0	0	null	0	0	0
CT12	00:00:00	0	0	0	0	null	0	0	0
CT13	00:00:00	0	0	0	0	null	0	0	0
CT14	00:00:00	0	0	0	0	null	0	0	0
CT15	00:00:00	0	0	0	0	null	0	0	0
CT16	00:00:00	0	0	0	0	null	0	0	0
	00:00:00	0	0	0			0	0	0

For custom reports, a default grid is created from the SQL query in the Report Definition.

You can also create Charts and Gauges to view the same report data in graphical format. You do this from the [Grid Editor \(page 70\)](#).

## Charts

Unified IC offers three types of charts:

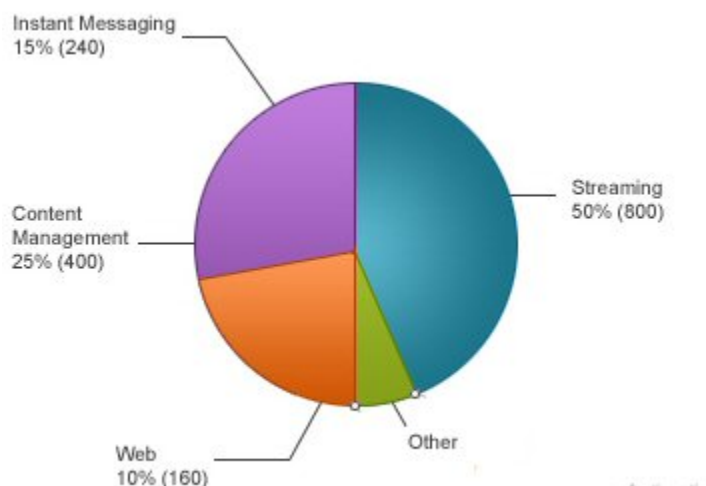
### Pie

Pie charts present quantities as proportions of a whole. The circle (pie) represents 100% of the data, with each quantity represented as a wedge of the appropriate size.

Pie charts take decimal/numeric fields only.

A pie chart cannot have more than 50 wedges. If your dataset and chart editor selections generate a pie chart with more than 50 wedges, you will see an error.

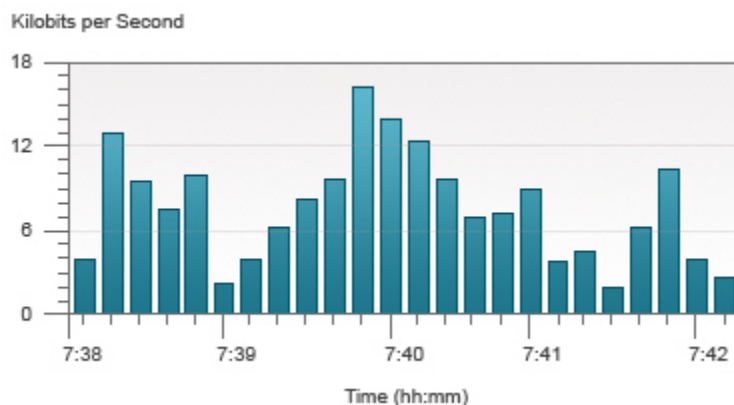
Figure 11: Pie Chart



### Column

Column (Bar) charts display discontinuous events and show the differences between events rather than trends. Column charts can be oriented vertically or horizontally and can be stacked vertically or clustered side-by-side.

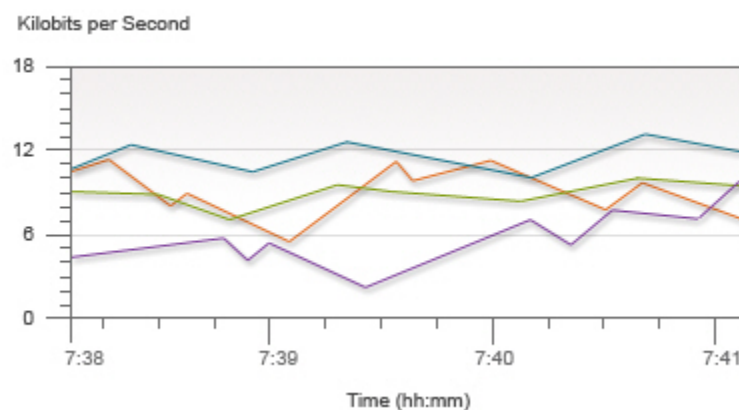
Figure 12: Column Chart



## Line

Line charts show continuous quantities over time against a common scale. They are good for showing trends.

Figure 13: Line Chart



The type of chart and the properties for that chart are defined in the [Chart Editor \(page 78\)](#).

Some stock templates are installed with stock charts.

Create and edit charts from the [Chart Editor \(page 78\)](#).

## Gauges

Gauges display the status of a single report metric (number); for example *Agents Logged On* or *ASA*. They are not intended to display multiple metrics or complex interrelationships.

A gauge in Unified IC is similar - both in function and in appearance - to the speedometer in your automobile. The gauges you can design in Unified IC are semi-circular graphics with a moving needle.

Gauges make good additions to dashboards, as they show a visual indicator that a value is within a normal range.

Figure 14: Sample Gauge



The needle tracks an essential metric or status, just as your speedometer tells you how fast you are moving and is not cluttered with other details such as the status of your fuel supply or your washer fluid.

Create and edit gauges from the [Gauge Editor \(page 87\)](#).

## Views Editor

This page opens when you right-click a report and select **Edit Views**.

It lists all the available views that are currently associated with a report and allows you to create new views or edit existing views.

Each view is a layout presentations of the data that is defined in the Report Definition to populate the report. Unified IC support three view types: Grids, Charts, and Gauges. By default, all stock reports but one have one grid view. (The exception is the Agent State Real Time Graph.) You can create your own grid views and can create gauges and charts for the report dataset.

Table 4: Fields on the Available Views Panel

Field	Explanation
View Name	The name of the view.
Type	The types of views: <ul style="list-style-type: none"><li>• <a href="#">Chart (page 67)</a></li><li>• <a href="#">Gauge (page 68)</a></li><li>• <a href="#">Grid (page 66)</a></li></ul>
Description	The description entered for the view.

**Actions on the Views Editor page:**

## Views Editor

- **Create** or **Edit**, by opening:
  - [Grid Editor \(page 70\)](#)
  - [Gauge Editor \(page 87\)](#)
  - [Chart Editor \(page 78\)](#)
- **Delete** - asks for confirmation and then deletes the view. Do not delete all report views. You cannot run a report that has no views.
- **Refresh** - updates the page to show changes other users have made to the views for this report dataset.
- **Help** - opens online help for the page.

## Grid Editor

This page opens when you select a grid view from the [Views Editor \(page 69\)](#) and then click **Edit**.

Use this page to edit an existing grid or to create a new grid view for a report dataset.

**Fields on this page:**

- **Name** - Enter the name for this view. The default view names for stock templates are read-only.
- **Description**: Enter a description for the view.
- **Font Size** - Retain the default font size (10) or enter another value between 8 and 45.

**Panels on this page:**

**Available Fields** This panel shows all fields that are collected from the database, that are available to be used in the report, and that are checked as *Allow to show if Invisible* in the Report Definition Fields tab.

The fields in the Available Fields panel include the Current fields (fields that appear in the current grid view) as well as all other fields that are eligible to be used in the report view.

In a stock template, if you add Available fields to the Current panel so that they appears in the grid, and if those fields do not have footers defined for them the summary row of the report will not show column summaries/totals for those fields. To add a footer to a field, open the Report Definition, locate the field in the Fields tab, and click [Edit Field Properties \(page 104\)](#).

**Current field order in the grid**

This panel shows all fields that are currently used in the grid view of the report, the order in which they appear, and the headers (if any) under which they are grouped.

Fields in this list appear as columns in the report. You can reorder and rename these fields, and you can set thresholds for them. You can also remove them so they are no longer visible in the report.

**Note:** For custom reports, the Available panel and the Current field panel show identical fields. The Report Designer must move fields from Current to Available to remove them from the grid view.

To:	Do This:
View the properties of a Current (visible) Field	Right-click a field and select <b>Properties</b> to open a page where you can set <a href="#">Field Properties (page 72)</a> .
Manage thresholds for a Current (visible) field	Right-click a field and select <a href="#">Thresholds (page 75)</a>
Move a Current (visible) field so it is no longer visible in a report.	<p>Right-click a field and select <b>Remove Selected</b>. If the field has is a superheader (has other fields under it), you see a confirmation message. Click <b>Yes</b> at the confirmation message.</p> <p>To add the field back, select it in the Available Fields panel and move it back to the Current field order in the grid panel.</p> <p>If you remove all fields from the Current panel, the generated report will show no data.</p> <p><b>Note:</b> To regain the default Current panel, you can re-import the report, or you can move fields from the Available panel back into the Current panel.</p>
Move a field from the Available panel to the Current panel.	<p>Click (highlight) GridHeaders at the top of the Current panel.</p> <p>Select the field you want to move in the Available panel.</p> <p>Click &gt; to move the field over. It is placed at the bottom of the Current panel. Locate it; then use the up arrow to move it to the position in which you want it to display in the grid.</p> <p><b>Note:</b> The Available panel shows the default (database) name. The Current panel shows the display name. If you move an Available field that is already present in the Current panel (for example, if you move active_other from Available, and Active Other is already part of Current), the Active Other field in Current</p>

To:	Do This:
	becomes highlighted. You cannot have the same field more than once in the Current panel.
Reorder Current Fields (Up and Down)	Use the up and down arrows to the right of the Current field order in the grid panel.

**Actions on this page:**

- **Grouping** - opens the [Grouping \(page 72\)](#) dialog box.
- **Save** - saves your changes to the grid view and closes the page.
- **Save As** - opens a dialog box where you can enter a name for the changes you have made to the grid view.
- **Cancel** - cancels entries you have made and closes the page.
- **Add Header** - opens the [Create Super Headers \(page 73\)](#) dialog box.
- **Remove Selected** - removes a field from the Current panel so that it no longer appears in the report. The field remains in the Available panel.
- **Help** - opens the online help topic for this page.

## Field Properties

This page opens when you right-click a Current (visible) field in the [Grid Editor \(page 70\)](#) and select Properties.

**Table 5: Fields on this page**

Default Name	Displays the name of the field as it appears in the database (as protected text).
New Display Name	Enter a new name for the field.  <b>Note:</b> This does not change the name of the field in the Available panel.
Field Width	The number of pixels the field can occupy in the grid. The default is 70. The minimum is 10, and the maximum is 500.

**Actions on this page:**

- **OK** - saves your selections and closes the page.
- **Cancel** - closes the page without saving your changes.



## Grouping

Use this page to indicate the format you want for report groups and whether you want to show summaries for groups.

**Table 6: Fields on this page**

Number of Groups	Click a radio button to indicate if you want zero, one, two, or three groups in the report.
Unique Value Vertical Alignment	Select Top, Middle, or Bottom to specify where you want the name of the group to display in the report column.
Sorted by	Select a value from the dropdown. The group will be sorted by this value.
Grouped By	Select a value from the dropdown. The group will be organized by this value.
Show Summary	Check this to include a summary row in the report for the grouping. For example, if you group by Agent Team and check Show Summary, there will be a row of summary data for each team.

### Actions on this page:

- **OK** - saves your selections and closes the page.
- **Cancel** - closes the page without saving your changes.
- **Help** - opens the online help topic for this page.

## Add Header

You can add a "superheader" (a header of headers) to the Current field panel to group report columns that have a logical relationship to each other.

**Table 7: Related Columns with no Superheader**

Held Tasks	Avg Hold Time
------------	---------------

In the example below, the Header *Incoming Hold Tasks* appears above, and groups, the *Held Tasks* and *Avg Hold Time* fields.

**Table 8: Related Columns with Superheader**

Incoming Hold Tasks	
Held Tasks	Avg Hold Time

To organize related columns into a grouping:

1. Click Add Header. Enter a name for the header and click **OK**. The header appears as a folder icon in the Current field panel.
2. Move Available fields into this header by selecting them and clicking the > or by using drag and drop.

**To organize fields within a Header**, use the up and down arrows to the right of the Current field order in grid panel.

**To delete a Header**, right-click the Header and select **Remove Selected**. Select **Yes** to confirm the deletion.

**To rename a Header**, right-click the header icon and select **Rename**. Complete the Rename To: field; then click **OK**.

## Current Fields and Available Fields

For every report, the [Grid Editor \(page 70\)](#) shows a panel named Available Fields and a panel named Current Field order in the grid.

When you create custom reports, both panels contain the identical list of database fields.

For Cisco stock reports:

- The Available panel includes all the fields that the SQL query is pulling from the database, including those fields that display by default when you run the report. The Available panel is inclusive of the Current panel.
- The Current panel includes all fields that appear in the default grid view of the generated stock report. The vertical list of Current fields represents their left-to-right orientation in the grid. The second field from the top of this list is the second field from the left in the report grid.

You can change the fields in the Current panel as follows:

- You can remove a field. (Select it and use the < to move to the Available panel.)
- You can move a field. (Select it and use the up/down arrow keys to move it up or down the list)
- You can rename a field. (Right-click it and select Properties.) If you rename the field in the Current list, the field retains its original name when you move it back to the Available list.
- You can set a threshold for a field so that it appears in a certain format in the generated report. (Right-click it and select Properties.)
- You can create a Header and group it with related fields.

## Thresholds

When you set a threshold for a field in a report *grid*, you are configuring that field to display in a distinctive format when its value matches, exceeds, or does not meet a criterion that you set.

For example, you can configure a field so that it always appears as bold or as red in the generated report grid when it is greater than or equal to a certain value.

To access the Thresholds available for the field:

1. Open the Reports page and right-click the report for which you want to set a threshold.
2. Select **Edit Views**.
3. Select a view of type *Grid*; then click **Edit**. This opens the [Grid Viewer \(page 70\)](#).
4. Right click a field in the **Current Fields** panel.
5. Select **Thresholds**.

This opens a page that shows a list of thresholds that are available for this field. The page is blank if no thresholds exist.

Each available threshold has a bullet in the far left. The name of the threshold indicates the criteria on which it is based - for example, *Greater Than: 50*.

**Note:** There is no limit to the number of thresholds you can define for a field.

### Actions on this page:

- To add a threshold, click **Add**. This opens the [Add/Edit Thresholds page \(page 75\)](#).
- To edit a threshold, select the bullet to the left of its name and click **Edit**. This opens the [Add/Edit Thresholds page \(page 75\)](#).
- To delete a threshold, select the bullet to the left of its name and click **Delete**. This displays a confirmation message. Click **Yes** to complete the deletion.
- **OK** - closes the Available Thresholds page.

## Add/Edit Thresholds Page

Complete the Add/Edit Threshold page as follow:

Value	Description
Type	Click the dropdown to select a type.

Value	Description
	<p>The available types are Always, Equal To, Not Equal To, Greater Than, Greater Than or Equal To, Less Than, Less Than or Equal To, and Between.</p> <p>The Types you can select depend on the field. For example, you cannot select the type <i>Greater Than</i> for the Agent Name field.</p> <p>Selecting any type other than <i>Always</i> displays a field where you must enter a value to which the field must be compared.</p> <p>When you select a field that is text (string), a Regular Expression checkbox displays. Check Regular Expression if you want the threshold to include all strings that contain a text value.</p> <p>For example, if you set a threshold for <i>Supervisor must be equal to R*</i> and check <i>Regular Expression</i>, the threshold will apply to Ralph, Roger, Roy, and Riley.</p> <p>If you do not check Regular Expression, the threshold will apply only to a Supervisor whose name is <i>R</i>.</p>
<b>Bold</b>	Check Bold or leave it unchecked.
<b>Text Color</b>	Click the box to open a color palette. Clicking a color selects that color for the text and closes the palette.
<b>Background Color:</b>	Click the box to open a color palette. Clicking a color selects that color for the report cell and closes the palette.
<b>Text Substitute:</b>	To mask the field value with text other than one of the default types when the threshold condition is met, enter that text here. For example, if you selected <i>Less Than</i> as the type, you might want the text to say <i>Warning</i> .
<b>Image Substitute URL:</b>	<p>To mask the value of the field with an image instead of text, enter the image URL or path.</p> <p>For example: <i>cues_icons/Status_criticalerror_icon.gif</i></p> <p>See <a href="#">Threshold Images (page 77)</a>.</p>

**Actions on this page:**

- **OK** saves the threshold definition and closes the Add/Edit Thresholds page.
- **Cancel** cancel changes and closes the page.
- **Help** - opens online help.
- **X** on the tab heading - closes the page.

## Threshold Images

Images that can be used to represent field thresholds appear below. To insert the image, add the full path and filename (cues\_icons/status\_criticalerror\_icon.gif) in the Image Substitute field on the Add/Edit Thresholds page.

**Note:** The image names are context-sensitive.

FileName	Image
cues_icons/Status_criticalerror_icon.gif	Figure 15: Threshold Image - Status Critical Error 
cues_icons/Status_error_icon.gif	Figure 16: Threshold Image - Status Error 
cues_icons/Status_warning_icon.gif	Figure 17: Threshold Image - Status Warning 
cues_icons/Status_success_icon.gif	Figure 18: Threshold Image - Status Success 
cues_icons/wizard_check.gif	Figure 19: Threshold Image - Wizard Check 
cues_icons/wizard_error.gif	Figure 20: Threshold Image - Wizard Error 
images/Help24T.gif	Figure 21: Threshold Image - Help 
images/Stop24T.gif	Figure 22: Threshold Image - Stop 
images/Enable.gif	Figure 23: Threshold Image - Green check 
images/Kubrick/alert_informational_2009_256.png	Figure 24: Threshold Image - Info 

## Report Summaries

You can control whether and how a custom report is grouped and summarized by configuring its [Grouping \(page 72\)](#) in [Grid Editor \(page 70\)](#).

Even if you select Show Summary on the Grouping page to include one or more summary rows in the report, values appear in the summary only if the fields have a default footer value.

Some, but not all, fields that are defined in the **Current field order in the grid** panel in Grid Editor have default footer values. When you generate the report, the report summary row displays the footer values for these fields, which can be Count, Total, Min, Max, or Custom Formula.

If you create a custom report, the summary row does not show values until you create footers for its fields.

If you move an Available field into the Current field order in grid panel, the summary for that column will be empty unless you define its footer value.

To define a footer value for a report field:

1. Open the Report Definition.
2. Click the Fields tab.
3. Locate the field and click the radio button at the left to select that field for editing.
4. Click [Field Formatting \(page 106\)](#).
5. Scroll down to the Footer field and select a value from the dropdown.

## Chart Editor

This page opens from the [Views Editor \(page 69\)](#) page when you select to Create or Edit a chart. It also opens directly from the Report Viewer when you are viewing a chart.

The Chart Editor is a wizard that moves you through with three or four steps, depending on the type of chart you are creating or editing.

[General Settings \(page 78\)](#)

[Series Settings \(page 82\)](#)

[Axis Settings \(page 84\)](#)

[Summary \(page 86\)](#)

## General Settings

**Table 9: Fields on this page**

Field	Description																																	
Chart Type	Options are Pie Chart (the default), Column Chart, and Line Chart. See <a href="#">Charts (page 67)</a> for a description of each.  Once you save a chart, you cannot change its chart type.																																	
Chart Name	Enter the name of a new chart or edit the name of an existing chart.  Chart names are required and must be unique for all views of a report.																																	
Chart Description	Enter text that identifies the purpose of the report.																																	
Accessible Mode	Check this box to add fill patterns (stripes and dots) to chart colors, making them easier to distinguish for users who have color blindness.																																	
Dynamic Dataset	<p><b>Note:</b></p> <ul style="list-style-type: none"><li>• Not available for pie charts.</li><li>• Line and column charts can use Dynamic Dataset OR Use Report Footer, but not both.</li></ul> <p>For line and column charts, check this to transform data into a summarized format. An example summarizing agent call volume:</p> <p><i>Figure 25: Chart Dynamic Dataset example</i></p> <div><div><p>Original Data</p><table><thead><tr><th>Date</th><th>Agent</th><th>Calls</th></tr></thead><tbody><tr><td>12/31/09</td><td>John</td><td>5</td></tr><tr><td>12/31/09</td><td>Jane</td><td>6</td></tr><tr><td>01/01/10</td><td>John</td><td>7</td></tr><tr><td>01/01/10</td><td>Jane</td><td>8</td></tr><tr><td>01/02/10</td><td>John</td><td>9</td></tr><tr><td>01/02/10</td><td>Jane</td><td>10</td></tr></tbody></table></div><div><p>➔</p></div><div><p>With Dynamic Dataset</p><table><thead><tr><th>Date</th><th>John</th><th>Jane</th></tr></thead><tbody><tr><td>12/31/09</td><td>5</td><td>6</td></tr><tr><td>01/01/10</td><td>7</td><td>8</td></tr><tr><td>01/02/10</td><td>9</td><td>10</td></tr></tbody></table></div></div> <p>Once transformed, the data can be easily graphed and analyzed using a line or column chart.</p> <p>You can create dynamic datasets with decimal/numeric values only.</p>	Date	Agent	Calls	12/31/09	John	5	12/31/09	Jane	6	01/01/10	John	7	01/01/10	Jane	8	01/02/10	John	9	01/02/10	Jane	10	Date	John	Jane	12/31/09	5	6	01/01/10	7	8	01/02/10	9	10
Date	Agent	Calls																																
12/31/09	John	5																																
12/31/09	Jane	6																																
01/01/10	John	7																																
01/01/10	Jane	8																																
01/02/10	John	9																																
01/02/10	Jane	10																																
Date	John	Jane																																
12/31/09	5	6																																
01/01/10	7	8																																
01/02/10	9	10																																
Use Report Footer	<p><b>Note:</b> Line and column charts can use Use Report Footer OR Dynamic Dataset, but not both.</p> <p>Check this if you want the repeated data in the chart to be grouped or collapsed by the field's footer. As a best practice, check this to consolidate data so that the chart will be less cluttered and easier to analyze.</p>																																	

Field	Description																																																			
	<p><b>Note:</b> A pie chart cannot have more than 50 wedges. If your dataset and chart editor selections generate a pie chart with more than 50 wedges, you will see an error. Selecting Use Report Footer reduces the number of wedges.</p> <p>For pie charts, the data will be grouped by the Label field.</p> <p>For line charts, the data will be grouped by the Horizontal Axis field.</p> <p>For column charts, the data will be grouped by the Horizontal Axis field for vertical charts or by the Vertical Axis for horizontal charts</p> <p>These images illustrate report footers:</p> <p><i>Figure 26: Chart Data with Use Report Filters disabled</i></p> <div><p>Original Data</p><table><thead><tr><th>Fruit Name</th><th>Fruit Price</th><th>Fruit Weight</th><th>Fruit Length</th></tr></thead><tbody><tr><td>Apple</td><td>0.50</td><td>5</td><td>2</td></tr><tr><td>Apple</td><td>0.25</td><td>6</td><td>2</td></tr><tr><td>Apple</td><td>0.75</td><td>4</td><td>2</td></tr><tr><td>Peach</td><td>1</td><td>3</td><td>1.5</td></tr><tr><td>Peach</td><td>0.90</td><td>4</td><td>1.5</td></tr><tr><td>Orange</td><td>1.25</td><td>3</td><td>1</td></tr><tr><td>Banana</td><td>0.80</td><td>2</td><td>4</td></tr><tr><td>FOOTER FUNCTION (DEFINED IN REPORT DEFINITION)</td><td>Count</td><td>Average</td><td>[None Defined]</td></tr></tbody></table></div> <p>Note that there are repeated values for Fruit Name. The purpose of Use Report Footer is to collapse these repeated values into single rows, using the footers defined in the other columns.</p> <p><i>Figure 27: Chart Data with Use Report Filters enabled</i></p> <table><thead><tr><th>Fruit Name</th><th>Fruit Price</th><th>Fruit Weight</th></tr></thead><tbody><tr><td>Apple</td><td>3</td><td>5</td></tr><tr><td>Peach</td><td>2</td><td>3.5</td></tr><tr><td>Orange</td><td>1</td><td>3</td></tr><tr><td>Banana</td><td>1</td><td>2</td></tr></tbody></table> <p>With Use Report Footers enabled, the original rows are collapsed by distinct Fruit Names. The Fruit Price column shows a count (3 prices for Apple, 2 for Peach) since that is its footer function, and the Fruit Weight column shows the average weight for each fruit.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"><li>• If Use Report Footer is enabled and no footer is defined in one of the selected "grouping" fields, an error displays and the box does not remain checked.</li></ul>	Fruit Name	Fruit Price	Fruit Weight	Fruit Length	Apple	0.50	5	2	Apple	0.25	6	2	Apple	0.75	4	2	Peach	1	3	1.5	Peach	0.90	4	1.5	Orange	1.25	3	1	Banana	0.80	2	4	FOOTER FUNCTION (DEFINED IN REPORT DEFINITION)	Count	Average	[None Defined]	Fruit Name	Fruit Price	Fruit Weight	Apple	3	5	Peach	2	3.5	Orange	1	3	Banana	1	2
Fruit Name	Fruit Price	Fruit Weight	Fruit Length																																																	
Apple	0.50	5	2																																																	
Apple	0.25	6	2																																																	
Apple	0.75	4	2																																																	
Peach	1	3	1.5																																																	
Peach	0.90	4	1.5																																																	
Orange	1.25	3	1																																																	
Banana	0.80	2	4																																																	
FOOTER FUNCTION (DEFINED IN REPORT DEFINITION)	Count	Average	[None Defined]																																																	
Fruit Name	Fruit Price	Fruit Weight																																																		
Apple	3	5																																																		
Peach	2	3.5																																																		
Orange	1	3																																																		
Banana	1	2																																																		



Field	Description
	<ul style="list-style-type: none"> <li>Fields that do not have footers are disabled and cannot be selected.</li> </ul> <p><b>To set the footer for a Save As or custom Report Definition:</b></p> <ul style="list-style-type: none"> <li>Open the Report Definition and click the Fields tab.</li> <li>Locate the field for the gauge and select Edit Formatting.</li> <li>Select a footer value from the dropdown.</li> </ul>
Legend: Show Legend	<p>A legend provides text labels explaining the meaning of each data series and its associated color, pattern or data point marker.</p> <p>Checking this box configures the chart to show a label and enables these two fields:</p> <ul style="list-style-type: none"> <li>Legend Placement <p>Select where the legend should appear in the chart view. Options are Right and Bottom.</p> <p>Right is preferable, as it does not add to the total height of the chart.</p> </li> <li>Maximum Legend Label Length <p>Enter a value (in number of characters) for the length of the chart label.</p> <p>Use a short legend length to eliminate wrapping.</p> </li> </ul>
Data Change Effect	<p>Data Change Effect enables animation in the chart . Animation occurs the first time the chart draws and at every refresh. It has these options:</p> <ul style="list-style-type: none"> <li>Type <p>Select a type of animation for the chart. Options are Interpolate, Zoom, Slide, and None.</p> </li> <li>Duration <p>Enter a value in milliseconds for the duration of the interval between the animation transitions.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>Modifications to the default value for Duration (milliseconds) can cause the chart to appear to constantly refresh.</li> <li>The default Refresh Rate for a Real Time report is 15 seconds. The default Data Change Effect is 1000 ms. These two values work well together.</li> </ul> </li> </ul>

Field	Description
	<ul style="list-style-type: none"> <li>• If you change the Data Change Effect to 10000 ms (10 sec), then by the time the Chart Effect is completing, the Chart refresh rate is ready to begin again. This makes the chart appear to constantly be refreshing.</li> <li>• If you want to modify the default Data Change Effect value consider modifying the Report Refresh Rate.</li> </ul>
Column Chart Settings	<p><b>Note:</b> Unavailable for Pie Charts and Line Charts.</p> <p>Column Chart Settings are:</p> <ul style="list-style-type: none"> <li>• Column Type Select the type of display. Options are Clustered or Stacked columns.</li> <li>• Column Orientation Enter the orientation of the columns. Options are Horizontal or Vertical.</li> </ul> <p><b>Note:</b> The selection of Column Orientation (Vertical or Horizontal) determines the layout of the Series Settings and Axis Settings pages.</p>
Line Chart Settings	Check this to interpolate the display of a line chart such that a continuous line appears if there is a gap in the data. Protected for pie charts and column charts.

#### Actions from this page:

- **Back** - moves to the previous wizard page
- **Next** - moves to the next wizard page
- **Save & Exit** - saves the settings you have configured up to this point and closes the Chart Editor wizard. This button is disabled until you reach the Summary page.
- **Cancel** - closes the Chart Editor wizard. Does not save changes.

#### Series Settings

This wizard page opens when you click **Next** at the General Settings page of the Chart Editor.

Series settings differ by chart type, column chart orientation, and Dynamic Dataset selections made on the General Settings page.

Table 10: Pie Chart Series

Field	Description
Data Field	<p>From the dropdown, select a data field for the series.</p> <p>Options are the numeric fields only. You cannot create a pie chart from date or text values.</p>
Label Field	<p>From the dropdown, select a label field for the data field.</p> <p>Each label corresponds to its field name, but you can edit the label.</p>
Label Position	<p>From the dropdown, select a label position. Options are Callouts, Inside Wedges, Inside Wedges + Callouts, Outside Wedges, and None.</p> <p><b>Note:</b> For pie charts, this option does not add labels inside the wedges <i>and</i> add callouts. It display labels inside wedges OR add callouts. If the pie slice is big enough, you see a label inside the wedge. If the slice is too small to enter a label inside the wedge, you see a callout for that label only.</p>
Label Format	<p>From the dropdown, select Value with Percent Inside Parenthesis, Percent with Value Inside Parenthesis, or Percent Only.</p>

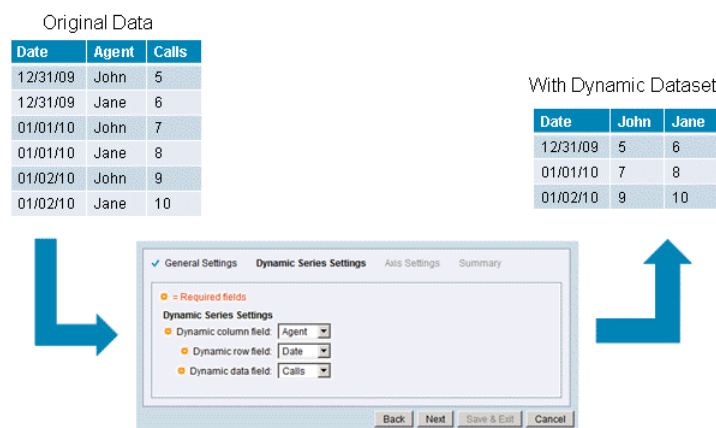
Table 11: Line and Column Chart Series, Dynamic Dataset Is Not Enabled

Field	Description
Axis: Type and Fields	<p>This panel appears on the right if you select a vertical orientation on the General Settings page. It appears on the left if you select a horizontal orientation.</p> <p>Select one Type from the dropdown. Options are Numeric, Date/Time, or Text.</p> <p>Then select one or more fields for that Type.</p> <p>On a column chart, this field becomes the Series Descriptions/Legend Labels field on the Axis Settings page.</p> <p>A line chart will show a line for each field. A column chart will show a column for each field</p> <p><b>Note:</b> The type of field that you select (Numeric, Date/Time, or Text) determines the Axis Type on the Axis page.</p>
Axis: Field	<p>This panel appears on the right if you select a vertical orientation on the General Settings page. It appears on the left if you select a horizontal orientation.</p> <p>Select one field.</p> <p><b>Note:</b> The type of field that you select (Numeric, Date/Time, or Text) determines the Axis Type on the Axis page.</p>

Table 12: Line and Column Chart Series, Dynamic Dataset Enabled

Field	Description
Dynamic Column Field	From the dropdown, select the field for the column headings of the chart. For example, select Agent to generate a chart with a column heading for each agent.
Dynamic Row Field	From the dropdown, select the field that will define the rows. For example, select Date to see a row for each date.
Dynamic Data Field	From the dropdown, select the value for the data that will populate the chart.

Figure 28: Chart Dynamic Dataset

**Actions from this page:**

- **Back** - moves to the previous wizard page
- **Next** - moves to the next wizard page
- **Save & Exit** - saves the settings you have configured up to this point and closes the Chart Editor wizard. This button is disabled until you reach the Summary page.
- **Cancel** - closes the Chart Editor. Does not save changes.

## Axis Settings

This wizard page opens when you click **Next** at the Series Settings page of the Chart Editor for Line Charts and Column Charts. There is no Axis Settings page for pie charts.

**Note:**

- The layout of the Axis Settings page is based on your selection of Vertical or Horizontal on the General Settings page.

- The Axis Types on this base are based on the data types you selected on the Series Settings page.

**Table 13: Fields on this page**

Field	Description
Series Descriptions/ Legend Labels	<p>This field is always at the top of the fields on the Axis Settings page.</p> <p>It shows the label for the Axis field you selected on the Series Settings page. You can edit the label. For example if you selected the field <i>CTDelayAbandTime</i>, you can edit the label to show <i>Call Type Delay</i>.</p>
Axis Type	<p>There are two Axis Type fields on this page: one for Horizontal Axis and one for Vertical Axis. Axis Type option(s) are determined by the data type of the field:</p> <ul style="list-style-type: none"> <li>• If the field is a Text data type, the Axis Type is Category, and it is protected.</li> <li>• If the field is a Date/Time data type, the Axis Type is Date/Time, and it is protected.</li> </ul> <p>Axis Type of Date/Time exposes these additional settings:</p> <ul style="list-style-type: none"> <li>– Data Units</li> </ul> <p>Select from Milliseconds   Seconds   Minutes   Hours   Days   Weeks   Months   Years</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• An incorrect setting can result in very thin or very wide bars - or nothing at all. This can happen if your data is in minutes and you chose milliseconds.</li> <li>• The best practice is to select the data units closest to what your report returns. If your data occurs every 15 minutes, choose Minutes.</li> </ul> <ul style="list-style-type: none"> <li>– Data Interval - Enter the interval between data units.</li> <li>– Display in Local Time - As a best practice, leave this checked. It should be <b>UNCHECKED</b> if the times that appear on the chart axis do not line up with the times that appear on the bars/lines.</li> </ul> <ul style="list-style-type: none"> <li>• If the fields is a Numeric data type, the Axis Type options are Linear or Log (Logarithmic).</li> </ul> <p>For a stacked column chart, Log is often the best selection when there is a wide range in returned values.</p>
Axis Title	Enter text for the Axis
Axis Minimum	Enter a minimum value for the axis range.

Field	Description
Axis Maximum	Enter a maximum value for the axis range.
Axis Minor Tick Interval	Enter a value to determine the spacing of the minor ticks.
Axis Major Tick Interval	Enter a value to determine the spacing of the major ticks.
Maximum Label Precision	<p>Use this field with Decimal (%) values such as Service Level to configure the digits that appear after the decimal point.</p> <p>For example, with a value of 3, you see 0.000. 0.400, 1.000. With a value of 1, you see 0.0, 0.4, 1.0.</p> <p><b>Note:</b> Making the Maximum Label Position large does not add decimals to the value. Setting it to 5 does not make the value of 10.25 display as 10.25000.</p>
Auto adjust	If this is selected, the system takes a best guess at the range and will adjust the beginning and end of the axis to meet the data range.
Base at zero	<p>With this selected, if all values are positive, or all values are negative, the chart will base the axis at zero.</p> <p><b>Note:</b> Base at zero will not have any effect if Auto Adjust is disabled.</p>

**Actions from this page:**

- **Back** - moves to the previous wizard page
- **Next** - moves to the next wizard page
- **Save & Exit** - saves the settings you have configured up to this point and closes the Chart Editor wizard. This button is disabled until you reach the Summary page.
- **Cancel** - closes the Chart Editor. Does not save changes.

## Summary

The left panel on this page shows a summary of the settings you have made for the chart.

**Actions from this page are:**

- **Save and Preview.** Clicking this saves the chart, runs the report without a filter, and displays the chart in the Preview area.
- **Back** - moves to the previous wizard page
- **Next** - disabled
- **Save & Exit** - saves the chart and closes the Chart Editor wizard.

- **Cancel** - closes the Chart Editor.

## Gauge Editor

This page opens from the [Views Editor \(page 69\)](#) when you select to create or edit a gauge. Use the fields on the Gauge Editor to create a new gauge or to edit an existing gauge. The changes that you make are reflected immediately in the gauge graphic.

A gauge displays a single number, and that number is the *footer* value of one of the fields in the Report Definition.

**Note:** If the field does not have a footer, you see an error saying that the footer value is null or is not a number when you run the report. You will need to set the footer for the field.

### To set the footer for a Save As or a Custom Report Definition:

- Open the Report Definition and click the Fields tab.
- Locate the field for the gauge and select Edit Formatting.
- Select a footer value from the dropdown.

**Note:** Footer values are Sum | Avg | Count | Min | Max | Custom Formula. Some footer values do not make sense for some fields, and will not result in useful gauges. For example, setting a gauge field to *Agent Name* and setting the Agent Name footer value to *Avg* does not result in a useful gauge.

**Table 14: Fields on the Gauge Editor**

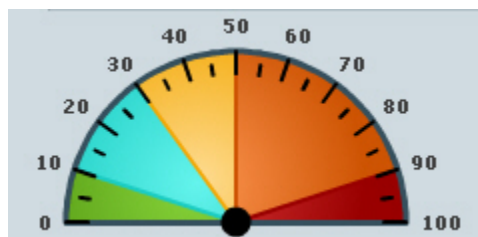
Field	Explanation
Field	From the dropdown, select the field from the report definition that the gauge will track. You can select only one field.  <b>Note:</b> Not all of the fields in the dropdown list make useful gauges, and not all of them have pre-defined footer values.
Name	Enter the name for the gauge. This is the name that will display as the report view. The name must be unique among all gauge views for the report.
Range	Enter minimum and maximum values to set the range for the gauge.
Number of scale markers	Check the types of markers (ticks) you want to display on the gauge.  <b>Note:</b> If the gauge has a small range and a large number of scale markers, the markers might overlap.

Field	Explanation
Scale options	<p>Check one, any, all or none of Show Labels, Show Half Ticks, and Show Quarter ticks.</p> <ul style="list-style-type: none"> <li>Labels are the numbers that appear above each tick or half tick.</li> <li>Half ticks are lines that appear between each marker.</li> <li>Quarter ticks are lines that appear between each half tick.</li> </ul>

Optionally, you can define threshold values for the gauge so that ranges of the gauge are filled with different colors when events or activities are greater or less than values you define. If you do not set thresholds, the gauge will be black and white.

Thresholds are listed in order of severity. The most severe threshold is at the far right of the gauge.

Figure 29: Gauge Sample



**Note:**

- Configure thresholds so that the most severe threshold is at the far right of the gauge and so that they do not overlap such that a more important threshold is not overwritten by a less important threshold. For example, if it is a "major" problem when a value is less than 30, then it cannot be a "warning" if the value is less than 20. In this case, a value of 19 will trigger the "major" threshold and will not display as a "warning."
- You cannot make Warning a higher severity than Critical.
- The highest "less than" threshold value should not be higher than the lowest "higher than" threshold value.

**To display thresholds on the gauge, complete the Thresholds fields as follows:**

- Level:** Check one, several, all, or none of the following:
  - Critical* displays as red.
  - Major* displays as orange.
  - Minor* displays as yellow.



- *Warning* displays as blue.
- For each Level, select a **Direction**: Options are Greater than and Less than.
- For each Level, select a **Value**. Values must be numbers.

**Note:**

- You cannot specify a range for a Normal threshold. Any values in the bottom range that are not specified display as Normal (Green). For example, if you set Warning to be greater than 20 and your minimum range is 0, then 0 - 19 display as green.
- The sample gauge updates along with your changes unless there is an error in your settings. Once you resolve the error, the sample gauge will update. The **Save** buttons are also disabled until any errors are resolved.
- If you do not see the change immediately, click elsewhere on the page.

Each gauge that you design and save becomes available in the [Views Editor \(page 69\)](#).

**To see the gauge**, run the report and select the Gauge from Report Viewer, or create a Save As for the report's Gauge View and add it to a dashboard. (See [Add a Report \(page 32\)](#) under Dashboards help.)

**Actions on this page:**

- **Save As** creates a new gauge based on the gauge you have opened. You must enter a new name for the Save As version of the gauge.
- **Save and Close** saves the gauge, closes the Gauge Editor, and returns you to the Views Editor.
- **Save** saves the gauge and keeps the page open so that you can refine the values.
- **Refresh** refreshes the page to show changes another user might have made to this gauge.
- **Cancel** cancel changes and closes the Gauge Editor.
- **Help** - opens online help.
- **X** on the tab heading - closes the page.

## Export to Excel

Click the **Export** button in a generated report grid to save the report as an Microsoft Excel xls file that you can download and save locally.

The report grid is exported exactly as it is displayed in Unified IC, with thresholds applied. The only exception is data shown in HH:MM:SS format. You have the option of exporting this data as integer values so that it can be used in Excel formulas.

**Microsoft Excel must be installed on the computer from which you launch the browser.**

Click the **Export** icon.

If	Then
Excel is not installed on the system from which you launched the browser to sign in to Unified IC.	You see an error message.
If Excel 2003 is installed on the system.	The Excel report document opens in a new browser window.
If Excel 2007 is installed on the system.	<p>A dialog box opens, giving the option to Open or Save.</p> <p>Click <b>Open</b> to open the Excel report document in a new browser window.</p> <p>Click <b>Save</b> and follow prompts to download and save the file.</p>

## Print

To print a grid, a gauge, or a chart, click the Print icon on the report toolbar or in the report popout.

Long report grids print on multiple pages.

Wide report grids are truncated and might require you to:

- Use [Grid Editor \(page 70\)](#) to make some columns invisible.
- Set the printer to Landscape mode.
- Use legal-sized paper.
- [Export to Excel \(page 89\)](#).

**Note:** Printing of gauges and charts is supported on Internet Explorer only. See [Troubleshooting Reports](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0) ([http://docwiki-dev.cisco.com/wiki/Troubleshooting\\_Tips\\_for\\_Unified\\_IC\\_8.0](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0)).

## Reports and TimeZones

Four timezones are configured in Unified IC:

**Server.** A timezone is defined during installation by the person who runs the installation wizard.

This is the server timezone. It does not affect reports. The server administrator can view and can change the server time zone using these CLI commands: show timezone and set timezone.

### Data Source.

The data source timezone is defined when the data source is configured. It is the timezone of the database. See [Create/Edit a Data Source \(page 40\)](#). Reports use this timezone.

### Report.

The time defined in the report filter.

As a best practice, if your call center spans several timezones and if you intend to compare reports, run historical reports using the absolute date range and a specific time period.

Figure 30: Absolute Date Range

**DateTime (DateTime)**

☐ Relative Date Range ☒ Absolute Date Range

From (mm/dd/yyyy): 2/2/2009 To (mm/dd/yyyy): 02/04/2010

☒ Only show results that are within a specific time period

From: 12 00 AM To: 11 59 PM

### User.

The user's timezone, as set on his or her [User Information page \(page 135\)](#).

A user in New York City, when asked by a colleague to review a report run in the China office, would access her User Information page, change her timezone to match that of her colleague, and then run the report using the same absolute date range.

## Reports and Daylight Savings Time

Report fields that show date/time take that value from the database timezone, as entered in the Timezone field of the Data Source. See [Create/Edit a Data Source \(page 40\)](#).

The data source timezone value is automatically updated when the daylight savings time change occurs.

If you generate a report that spans dates before and after the daylight savings time change, then the date/time fields for days before DST will reflect that time, and the date/time fields for days after DST will reflect the DST time.





# Chapter 6

## Report Definitions

---

Each report has a Report Definition, which represents the manner in which data is retrieved from the data source for that report template.

In addition to specifying the manner in which data is retrieved (by a simple MS SQL query, by a stored procedure query, or by an anonymous block query), a Report Definition contains the dataset that is obtained. This includes the fields, the filters, the formulas, the refresh rate, and the key criteria field for the report.

**Note:** There is a stock Report Definition for each report template installed by Unified IC.

When you *create* a custom report template from scratch, you must first select its Report Definition. If the custom template requires a custom Report Definition, you must create the Report Definition before you create the template.

Access to the Report Definitions interface is controlled by license type and user role. You must have a premium license and a Report Definition Designer user role to open this drawer.

**Users with a standard license** cannot access the Report Definition drawer to create or edit Report Definitions. They can, however, see and select from a list Report Definitions when they *create* a report. The Report Definitions they can see are the stock Report Definitions and any Report Definitions for custom reports that were created or were imported into their database.

### **Users with a premium license**

- With Report Definition Designer user role, can access the Report Definition drawer.
- Can view and Save As the stock Report Definitions; for example, to change the refresh rate, and to create new filters and formula fields in the Save As copies.
- Can create new Report Definitions.

**Note:** All actions on the Report Definitions interface are based on User Role and on the user's object Permissions for report definitions and for Categories. See [About Permissions \(page 144\)](#).

**See also:**

[Troubleshooting Report Definitions](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0) ([http://docwiki-dev.cisco.com/wiki/Troubleshooting\\_Tips\\_for\\_Unified\\_IC\\_8.0](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0))

This chapter contains the following topics:

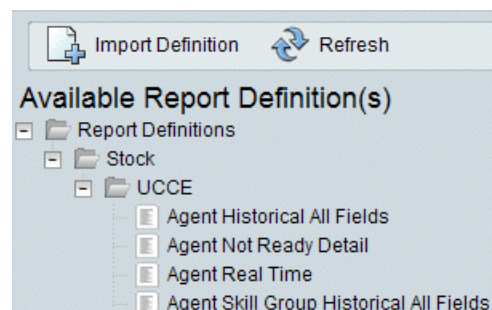
- [Available Report Definitions Page](#), page 94
- [Create a Report Definition](#), page 95
- [Save As](#), page 96
- [Edit Report Definition](#), page 96
- [Unified IC SQL Syntax](#), page 110
- [Working with Drilldowns](#), page 112
- [Rename a Report Definition](#), page 115
- [Delete a Report Definition](#), page 115
- [Import a Report Definition](#), page 116
- [Export a Report Definition](#), page 116

## Available Report Definitions Page

This page opens when you click the Report Definitions drawer. Use it to manage (edit, create, delete, and rename) Report Definitions. It shows the available Report Definitions, organized in categories. Categories are represented by folder icons. Report definitions are represented by page icons.

The default *Report Definitions* category is always present, and under it, in an expandable tree format, are all the subcategories and Report Definitions that are defined. These include the Stock folder, with its subfolder of UCCE Report Definitions.

Figure 31: Available Report Definitions



You can rename the default *Report Definitions* category. You cannot delete it or move it.

Looking at the various stock Report Definitions can be helpful when you design your own.

### Actions from the Report Definitions page:

- **Open a Report Definition** - click the Report Definition icon.
- **Import Definition** - Click Import Definition to open the [Import Definition \(page 116\)](#) page.

- **Refresh** - Click this to update and see reflect changes anyone has made to add, modify, or delete Report Definitions or categories.
- **Work with Categories**

Actions are:

  - [Create Sub-category \(page 153\)](#) from a category or a sub-category.
  - [Delete Sub-category \(page 153\)](#)
  - [Rename Sub-category \(page 153\)](#)
  - Set Permissions for the sub-category
- **Create** a Report Definition. To do this, right-click a category or sub-category and select Create Report Definition. See [Create or Edit Report Definition \(page 96\)](#).
- **Edit** a Report Definition. To do this, right-click a Report Definition and select Edit. See [Create or Edit Report Definition \(page 96\)](#).
- **Delete** a Report Definition. To do this, right-click a Report Definition and select Delete. See [Delete a Report Definition \(page 115\)](#).
- **Rename** a Report Definition. To do this, right-click a Report Definition and select Rename. See [Rename a Report Definition \(page 115\)](#).
- **Export** a Report Definition. To do this, right-click a Report Definition and select Export. See [Export a Report Definition \(page 116\)](#)
- **Help** - opens online help for the page.
- **Drag and Drop** - you can [drag and drop \(page 153\)](#) Report Definitions and sub-categories.

## Create a Report Definition

This page opens when you right-click a category or sub-category and select **Create Report Definition**.

To create a Report Definition:

1. Enter a Name.
2. Enter a Description.
3. Set the default permissions for My Group and for the All Users group.
4. Click **OK**. This opens the [Edit Report Definition \(page 96\)](#) page.

**Note:**

- Custom Report Definitions are not supported by Cisco Systems.
- Unified IC documentation does not explain how to form SQL queries, and your support provider is not prepared to troubleshoot queries.
- Customers are responsible for the performance of their queries and are advised not to run queries against large datasets.

## Save As

Use this page to clone (save as) an existing Report Definition with a new name and to specify the Report Definition category under which you want it to display.

**Table 15: Fields on the Save As page**

Field	Explanation
Name	The new name for the Report Definition
Description	Enter a description for the Report Definition.
Save To	Navigate to, and click the radio button for, the category or subcategory for the report.
Default Permissions	Define the permissions for My Group and for the All Users group.

**Actions on this page:**

- **OK** - saves your entries and closes the page.
- **Cancel** - closes the page without saving your entries.

## Edit Report Definition

This page opens when you create a new Report Definition and when you right-click an existing Report Definition and select **Edit**.

**Note:** A change to a Report Definition affects all reports that use it.

Tabs on this page are [Data Source \(page 96\)](#), [Fields \(page 100\)](#), [Parameters \(page 107\)](#) (used for Anonymous Blocks and Stored Procedures only), and [Properties \(page 109\)](#).

All tabs display a message noting that reports will be affected if you edit a Report Definition.

### Data Source Tab

This tab specifies the query information used for the Report Definition.



Database Queries, Stored Procedures, and Anonymous Blocks are all ways to retrieve data from a database. Most stock templates are based on Database Queries. Two stock templates are based on Anonymous Blocks. No stock templates are based on Stored Procedures.

Complete this tab as follows:

- Step 1** Select the **Query Type** from these options: Database Query, Anonymous Block, and Stored Procedure.

The screen repaints based on the Query Type you select.

- Step 2** For all Query Types, select the data source for the report definition from the **Data Source** dropdown. This dropdown shows all data sources that are configured.

Selecting a Data Source populates the **Data Source Type** and the **Data Source Status** fields. If the Data Source Status shows *Offline*, then troubleshoot the connection.

Figure 32: Report Definition Data Source Tab

- Step 3** Complete the tab based on the query type you have selected: [Database Query \(page 98\)](#), [Anonymous Block \(page 98\)](#), or [Stored Procedure \(page 100\)](#).
- Step 4** For Anonymous Blocks and Stored Procedures, open the [Parameters \(page 107\)](#) tab, where you can [Edit Parameter Properties \(page 108\)](#).
- Step 5** For Database Queries, Anonymous Blocks and Stored Procedures, open the [Fields \(page 100\)](#) tab, where you can [Edit Fields Properties \(page 104\)](#) and create [Drilldowns \(page 112\)](#).

#### Actions on this page:

- **Save** - saves the values you enter on the page. Save is enabled for custom Report Definitions. You cannot edit and then save a stock Report Definition.
- **Save As** - Opens the [Save As \(page 96\)](#) dialog (prompting for name, description, category, and permissions), and saves a copy of the Report Definition.
- **Cancel** - closes the page without saving your changes.

- **Refresh** - refreshes the page.

## Database Query

Most stock templates are built from Database queries.

Database queries populate the Fields tab and the Properties tab but not the Parameters tab.

To complete the [Data Source tab \(page 96\)](#) for a database query:

1. Use the **Query** field to review or edit the SQL query for an existing report or to build a SQL query for a new report.

You can type the query directly or paste a query you create in Query Analyzer or similar tool.

2. Click **Create Fields** to validate the query syntax and to populate the [Fields \(page 100\)](#) tab. Each field represents a column in the database.

## Anonymous Block

Anonymous Blocks are queries with both parameters and fields. Two stock templates are built from Anonymous Blocks. They are the Agent Historical All Fields and Agent Not Ready Detail reports.

To complete the [Data Source tab \(page 96\)](#) for an anonymous block:

1. In the **Anonymous Block Field**, enter or paste the anonymous block.

Here is a sample anonymous block: `select SkillTargetID, EnterpriseName from Agent where SkillTargetID = :paramName`

Parameter names in the anonymous block must have a colon followed by the rest of the parameter name; for example `:paramName` or `:anotherParamName`. The colon at the beginning of the parameter name will be substituted with the at sign (@).

2. Click **Create Parameters** to create parameters.

You see a message that the parameters were successfully created.

A panel displays under the **Create Parameters** button. This panel displays the parameter name, and for each name shows Data Type 'String' and Value 'test'.

3. For each parameter in the panel, select the correct Data Type.

A sample value for this data type will appear in the Value textbox. This value will be pasted into the anonymous block instead of the parameter name to validate it and create fields.

- Click **Create Fields** to validate the query and create fields.

You see a message that the fields were created.

- Open the Fields tab to review them.

### For example:

- Enter this anonymous block

Figure 33: Anonymous Block example 1 of 5

```

Anonymous Block
select SkillTargetID, EnterpriseName from Agent where SkillTargetID = :paramName

```

- Click Create Parameters:

Figure 34: Anonymous Block example 2 of 5

The parameters were successfully created. Update the data type and their values.

- Set the Data Type:

Figure 35: Anonymous Block example 3 of 5

Parameters		
Name	Data Type	Value
@paramName	DECIMAL	'12346'

- Open the Fields tab:

Figure 36: Anonymous Block example 4 of 5

Data Source	Fields	Parameters	Properties	
Fields				
Name starts with <input type="text"/> <input type="button" value="Filter"/> <input type="button" value="Clear"/>				
	Name	Display Name	Type	Data Type
<input type="radio"/>	EnterpriseName	EnterpriseName	Query Field	STRING
<input type="radio"/>	SkillTargetID	SkillTargetID	Query Field	DECIMAL

- Open the Parameters tab:

Figure 37: Anonymous Block example 5 of 5

Data Source	Fields	Parameters	Properties
Parameters			
Name	Display Name	Data Type	
@paramName	@paramName	DECIMAL	

## Stored Procedure

Stored Procedures are stored in the data source. No stock templates are built from Stored Procedures.

To complete the [Data Source tab \(page 96\)](#) for a stored procedure:

1. In the **Stored Procedure** field, enter a name for the Stored Procedure that you have already created for your data source.

**Note:**

- Unified IC supports stored procedures for both MS SQL and Informix data sources.
  - The database user for the data source containing the Stored Procedure must have permissions to execute the Stored Procedure.
2. Click **Create** to create fields and parameters for the stored procedure. You see a message that fields were created.
  3. Open the [Fields tab \(page 100\)](#) and the [Parameters tab \(page 107\)](#) to review the results.

## Fields Tab

Use this tab to manage the fields in a Report Definition.

For a new Report Definition, this tab will be empty until you enter the query on the Data Source tab and click **Create Fields**.

For an existing Report Definition, this tab lists the available fields and allows you to create formula and filter fields and to edit field properties and field formatting.

Figure 38: Report Definition Fields Tab

Name	Display Name	Type	Data Type
<input type="radio"/> aad	aad	Query Field	DECIMAL
<input type="radio"/> AgentErrorCountHalf	AgentErrorCountHalf	Query Field	DECIMAL
<input type="radio"/> AgentErrorCountToday	AgentErrorCountToday	Query Field	DECIMAL
<input type="radio"/> AnswerWaitTimeHalf	AnswerWaitTimeHalf	Query Field	DECIMAL
<input type="radio"/> AnswerWaitTimeTo5	AnswerWaitTimeTo5	Query Field	DECIMAL
<input type="radio"/> AnswerWaitTimeToday	AnswerWaitTimeToday	Query Field	DECIMAL
<input type="radio"/> asa	asa	Query Field	DECIMAL

There are three types of fields:

- **Query Fields** Query fields represent a field in a database table. You cannot create or delete a query field.
- **Formula** - These are custom fields that compute and return a value.
- **Filter** - These are custom fields that can appear on the advanced reporting options tab on the Filter page. See [Filtering Reports \(page 56\)](#).

Click the radio button at the left of each field to select that field for editing.

You can [Edit Field Properties \(page 104\)](#) and edit [Field Formatting \(page 106\)](#) for all field types.

**Table 16: Rows on this page**

Field	Description
Name	The database name of the field.
Display Name	The name of the field as it appears in the report grid.
Type	The type of field (Query Field, Filter Field, or Formula Field).
Data Type	The data type of the field.  <b>Note:</b> You cannot change the data type for a parameter.

#### Actions from this page:

- **Create** - opens a dropdown for selecting the type of field you want to create. Options are [Formula Field \(page 102\)](#) and [Filter Field \(page 102\)](#).
- **Edit Properties** - enabled when a row is selected. Expands the page to reveal [Edit Field Properties \(page 104\)](#).
- **Edit Formatting** - enabled when a row is selected. Expands the page to reveal [Field Formatting \(page 106\)](#).
- **Drilldowns** - enabled when a row is selected. Click to display the All Drilldowns panel where you can view, create, edit, or delete a drilldown for the field.

See [Working with Drilldowns \(page 112\)](#).

- **Delete** - enabled when a row is selected, prompts for a confirmation and then deletes the field.

**Note:** You can delete format and filter fields only.

- **Save** - saves your changes on all tabs.
- **Cancel** - cancels your changes on this tab.

## Edit Report Definition

- **Refresh** - updates the page to show changes another user might have made on the fields tabs.
- **Help** - opens online help.
- **X** on the tab heading - closes the page.

## Filter Field

Create a filter field if you want to add a filtering value to the **advanced filters** tab on the Filter page. See [Filtering Reports \(page 56\)](#).

Filter fields reduce the amount of data that is used to generate a report, They do not display as columns in the generated report.

---

**Step 1** Click **Create** from the [Fields Tab \(page 100\)](#) and select Filter.

The new filter field is *added to the end of list of Fields. Scroll down the page to locate it.*

**Step 2** Select [Edit Field Properties \(page 104\)](#) and complete the fields to define a required Display Name and Data Type for the field. Complete optional Edit Field Properties fields such as entering the formula syntax, referring to the online help for explanations.

**Step 3** Click **Update** to save the field properties.

---

## Formula Field

Create a formula field if you want the report to include a computed field that does not exist in the list of fields.

To create a formula field.

---

**Step 1** Click **Create** from the [Fields Tab \(page 100\)](#) and select Formula.

The new formula field is added to the end of list of Fields. Scroll down the page to locate it.

**Step 2** Select [Edit Field Properties \(page 104\)](#) and complete the fields to define a required Display Name and Data Type for the field. Complete optional Edit Field Properties fields, referring to the online help for explanations.

**Step 3** Click **Update** to save the field properties.

**Step 4** Scroll up and select [Edit Formatting \(page 106\)](#) for the formula field.

**Step 5** Click **Update** to save the field formatting.

---

## Best Practices for Formulas

A formula field is an expression that uses operators to perform a calculation on database fields. You can define a formula field to appear as a column in a report. You can also create a formula for a column footer.

The operators you can use in a formula are the basic arithmetic operators: + for addition, - for subtraction, \* for multiplication, / for division, and ( ) parentheses for grouping operands..

The database field values you can use in a formula can be any data type (Boolean, Date, Decimal, or String).

### Note that:

- Each value in a formula represents a single field in the database. For example, to create a formula that adds AbanHold and AbanRing, the syntax must be `${AbanHold} + ${AbanRing}`. If you enter `${AbanHold + AbanRing}`, the formula will fail because there is no database field named AbanHold + AbanRing.
- Dates must be enclosed in double quotes. The system interprets "10/10/2010" as a date. It interprets 10/10/2010 as a mathematical operation.
- The Key Criteria field cannot be a formula field.
- A formula cannot use other formulas in its formula.
- If you enter a formula in a footer, note that a footer cannot interpret a specific database field. The footer interprets the field name as an array for the database column to which the field belongs. For example, this expression in footer formula `${FIELD1} + 1` is interpreted as `${FIELD1 : FIELDn} + 1`.

See also [Examples of Correct and Incorrect Formula Syntax \(page 103\)](#).

## Examples of Correct and Incorrect Formula Syntax

### Correct Syntax:

- `${num1} + ${num2}`
- `${num1} - ${num2}`
- `(${num1}) / (${num2}) * (${num3})`
- `(${num1}) / (${num2}) / (${num3} * ${num4}) - ${num1}`
- `${str1} + ${str2}`

You can use + with strings to concatenate them.



**Incorrect Syntax:**

- $\${str1} - \${str2}$  -

You cannot subtract strings. You also cannot multiply or divide them.

- $\${str1} + \${num1}$

You can add a num and a string only if the database has a null constraint on the number.

- $\${str1 + str2}$

*str1 + str2* is not a field name.

## Edit Field Properties

The editable properties for a field vary, based on whether the field is a Query, Filter, or Formula field.

Figure 39: Report Definitions Edit Field Properties

**Edit Field Properties**

⚠ Click Update Field to keep changes.

✳ = Required fields

Name: AgentTeamSkillID

Display Name: AgentTeamSkillID

Description: [Empty text box]

Data Clause: AgentSkillGroup.AgentTeamSkillID

Value List: Agent Teams

☒ Allow to show if invisible

☒ Available in Filter

Update Field Cancel

Field Property	For Field Type	Definition
Name	All	The default database name appears in this field. You can edit it.
Display Name	All	By default, the Display Name is the same as the Name.  You can edit it.  This is the name for the column header by which this field will appear on the report.
Description	All	Enter a description for this field.
Data Type	Formula fields	From the dropdown, select the data type for the field. Options are



Field Property	For Field Type	Definition
		<p>Decimal, String, Number, Date, and Boolean.</p> <p>This setting determines the options that will be displayed for this field on the Formatting Tab.</p>
Data Clause	Query and Filter fields only	<p>Identifies which column in the dataset has been bound to this field (SQL query and Filter fields only). The SQL Parser uses this value when retrieving data from the database.</p> <p><b>Note:</b> Do not change the data clause.</p>
Value List	Query and Filter fields only	<p>From the dropdown, select the Value List for this field. When a field is associated with a Value List, report users can filter the report with one or more fields from that Value List or its Collections.</p> <p><b>Note:</b> Only fields of type string and decimal can be associated with a Value List.</p> <p>See <a href="#">Value Lists and Collections (page 117)</a>.</p>
Allow to show if invisible	Query and Formula fields only	<p>Check this if the field is to appear on the list of Available fields in the <a href="#">Grid Editor (page 70)</a>. If this is unchecked, the field will not appear in the Available fields panel.</p>
Available in Filter	All	<p>Check this box to add the field to the <b>Advanced Filters</b> tab.</p>
Available fields	Formula	<p>Select a field from the dropdown list and click <b>Insert Field</b> to insert it into the formula textbox.</p> <p>Fields on this list appear by Name and not by Display Name,</p>
Formula	Formula	<p>Enter operators to construct a formula for the fields you have selected.</p>

For reports that use dynamic headers (headers whose content includes dynamic content), provide the SQL field name as part of the header name in the Report definition field properties page. The column name will be surrounded by curly braces so that user can easily find dynamic content within header.

## Edit Report Definition

**Actions:**

- **Update** - saves your Edit Properties selections for that field only. To keep the changes, you must save (or Save As) the Report Definition.
- **Cancel** - closes without saving your changes.

## Edit Formatting

You can edit the formatting for Query fields and Formula fields. There are two format options for a field:

Format	<p>Provides a list of default formatting masks.</p> <p>The available formats depend on the data type of the field as set in <a href="#">Edit Field Properties (page 104)</a>. For example, for numeric values, the dropdown offers all possible display formats for numeric values.</p> <p>Selecting (Custom) from this list will apply the format string supplied in the Custom Format String to the value returned.</p>
Footer	<p>The formula to use in the footer. Options are None, Avg, Sum, Count, Min, and Custom Formula.</p> <p>See <a href="#">Report Summaries (page 78)</a>.</p>

Figure 40: Report Definition Edit Field Format

Click Update Field to keep changes.

Format: Minutes and seconds (hh:mm:ss)

☒ Export as hh:mm:ss string (vs.seconds)

Footer: Custom Formula

Default Custom Footer Formula: SUM({DelayQAbandTime})/SUM({AbanQueue})

Group 1 Custom Footer Formula:

Group 2 Custom Footer Formula:

Group 3 Custom Footer Formula:

Update Field Cancel

**Actions:**

- **Update** - - saves your Edit Properties selections for that field only. To keep the changes, you must save (or Save As) the Report Definition.
- **Cancel** - closes without saving your changes.

Parameters Tab

Use this tab to edit and reorder the parameters created from a Stored Procedure or an Anonymous Block. The parameters are used as filters when you generate the report.

Figure 41: Report Definition Parameters Tab

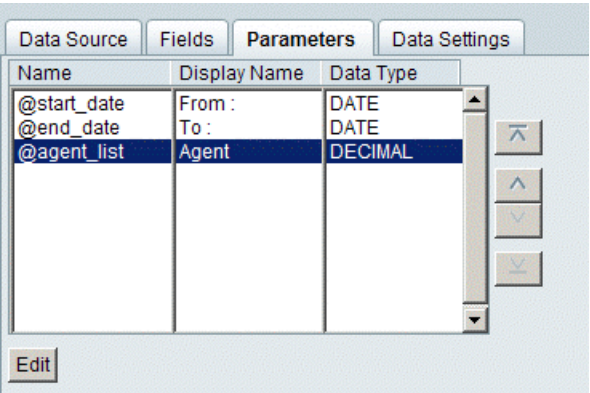


Table 17: Rows on this page

Field	Description
Name	The name of the parameter.
Display Name	The display name of the parameter that a user can modify and that appears in the filter page
Data Type	The data type of the parameter (Date, Decimal, Boolean, or String).

Actions from this page:

- **Edit** - select a parameter and click **Edit** to expand the page to display edit fields. Change these fields to modify the way the parameter is presented to the user for input and passed to the database for processing.
- **Reorder arrows** - select a parameter and click an arrow to move the parameter up one, to the top of the list, down one, or to the bottom of the list. Doing this changes their order on the report filter. See [Filtering Reports \(page 56\)](#).
- **Save** - saves your changes on this all tabs.
- **Cancel** - cancels your changes on this tab.
- **Refresh** - updates the page to show changes another user might have made to this tab
- **Help** - opens online help.
- **X** on the tab heading - closes the page.

If you reorder the parameters, be sure to click the **Save Order** button before leaving the page or your changes will not be saved.

## Edit Parameter Properties

The first seven fields on this page are the same for all parameters, regardless of data type.

- 
- Step 1**     **Name:** The name of the parameter.
- Step 2**     **Display Name:** Change the display (user-friendly) name of the parameter.
- Step 3**     **Description:** Enter a description for the parameter.
- Step 4**     **Data Type:** You cannot change the data type for a parameter.
- Step 5**     **Hard-coded value:** Enter a hard-coded value to be passed as a parameter value when running a report based on an anonymous block or stored procedure report definition. To pass null as a hard-coded value, leave this textbox blank and check Pass NULL for empty string. Entering a hard-coded value will hide this parameter in the filter page.
- Step 6**     **Required:** Check or uncheck to indicate if the parameter is required on the report filter.
- Step 7**     **Pass Null for empty string:** This field is enabled only if the parameter is not required or has no value. If the parameter is populated, then this field is disabled, and the value is passed.
- Step 8**     The remaining fields on this page vary, based on the data type.

**For DateTime:** select a date format from the dropdown.

**Table 18: For Decimal:**

Value Delimiter	Select the character to be placed between each value when a value list is passed to the stored procedure/anonymous block
Value List	From the dropdown, select a Value List to associate this parameter with that list.
Quote Values	Check this checkbox to surround the parameter value with two additional single quotes when the value is passed to the stored procedure/anonymous block. The first single quote is used to escape the second single quote.

**Table 19: For String:**

Value Delimiter	Select the character to be placed between each value when a value list is passed to the stored procedure/anonymous block
Value List	From the dropdown, select a Value List to associate this parameter with that list.

Value Prefix	The value prefix defines how the parameter will appear in the filter.
Quote Values	Check this to surround the parameter value with two additional single quotes when the value is passed to the stored procedure/anonymous block. The first single quote is used to escape the second single quote.

- Step 2** Select **Update Field** - saves your Edit Properties selections for that field only. To keep the changes, you must save (or Save As) the Report Definition.

## Properties Tab

Use this tab to establish or change data settings for the report template.

Complete this tab as follows:

- Step 1** **Description:** Enter text to describe the data settings.
- Step 2** **Key Criteria Field:** For reports based on simple queries, select a key criteria field from the dropdown.
- This field is required if you intend to filter the report with it. See [Associating a Value List with a Report \(page 121\)](#).
- The Key Criteria field is not enabled for reports based on Anonymous Blocks or Stored Procedures.
- Note:** Although users can run a report based on a simple query if the Report Definition does not have a Key Criteria field defined, the report will run with the default filter and might be very large.
- Step 3** **Historical checkbox:** Check this if the report is an historical report. Leave blank for a real-time report.
- Step 4** **Refresh Rate (seconds):** Enter the refresh rate for this report in seconds. This is the rate at which the report is automatically refreshed. The minimum refresh rate is every 15 seconds for real-time reports and every 900 seconds for historical reports. You cannot enter values less than the defaults.
- Step 5** **Historical Key Field:** Enter or modify the historical key field used for the date and time intervals for the report.
- Although historical reports can run if this field is left blank, the report will return all data for all dates and might be very large. Only fields of date format are available in the Historical Key Field drop down list.
- Step 6** **Default Permissions:** Set permissions for My Group and for the All Users group.

Figure 42: Report Definition Data Settings Tab

Use this tab to update the properties for the selected Report Definition.

✱ = Required fields

Description:

Key Criteria Field:

☐ Historical

✱ Refresh Rate:

Historical Key Field:

Default Permissions

My Group	All Users
<input checked="" type="checkbox"/> Read <input checked="" type="checkbox"/> Execute <input type="checkbox"/> Write	<input checked="" type="checkbox"/> Read <input checked="" type="checkbox"/> Execute <input type="checkbox"/> Write

## Unified IC SQL Syntax

### Guidelines:

- You cannot use comments in a SQL query.
- A database query must contain a select statement followed by one or more fields. For example:  
**SELECT [fields] FROM [tables] WHERE [...]**

This sample query: **select CallTypeID, TimeZone from Call\_Type\_Interval where TimeZone = 240** creates fields fields CallTypeID and TimeZone.

- You cannot use **SELECT\***, instead you must list all the fields you want to be returned in a SQL query
- An Anonymous Block must be a valid SQL statement that returns a result set. It may contain parameters named **:[paramName]**, where a colon is always the first character of the parameter name and **[paramName]** is a remaining part of the parameter name.

The parameter values entered by a user will be substituted into the body of the anonymous block in place of the corresponding parameter names.

- Informix and SQL Server Stored Procedures are supported. Stored Procedures must return a result set. For Stored Procedures, parameters are used to pass the values when making a stored procedure call to the database to obtain the result set.
- Using the **Datediff()** function in a Where clause can cause performance issues.
- There can be no unnamed fields in a SQL query. Each field needs an alias.
- Alias names must be unique.

- Informix stored procedures must contain a returning statement, and for each datatype in the returning statement, there must be corresponding alias specified with AS.

For example: RETURNING CHAR(32) AS returnID, CHAR(32) AS returnName, INTEGER AS returnRefreshrate, BOOLEAN as returnHistorical; And not: RETURNING CHAR(32, CHAR(32, INTEGER, BOOLEAN; If a user fails to provide an alias, the field name will just be fieldN, where N is the index of unnamed field, such as field1, field2, etc.

- Every SQL query must have a WHERE clause, even if it serves no purpose.
- Informix stored procedure parameter names will be prepended with the 'at' character: @param1, @param2 ...

#### Supported data types for fields and parameters are:

- *BIGINT, DECIMAL, DOUBLE, FLOAT, INTEGER, NUMERIC, SMALLINT, REAL, TINYINT*
- *CHAR, LONGNVARCHAR, LONGVARCHAR, NCHAR, NVARCHAR, VARCHAR*
- *DATETIME*
- *BOOLEAN, BIT*

#### Special Keywords for the SQL Parser (with sample queries):

- **ALL** (SQL Server or Informix) - SELECT ALL CallTypeID from Call\_Type\_Interval
- **DISTINCT** (SQL Server or Informix) - SELECT DISTINCT CallTypeID from Call\_Type\_Interval
- **TOP** (SQL Server) - SELECT TOP 5 CallTypeID from Call\_Type\_Interval
- **FIRST** (Informix) - SELECT FIRST 5 ID FROM CUICDATASETINFO
- **UNIQUE**(Informix) - SELECT UNIQUE NAME FROM CUICGRID

**Unified IC supports these aggregate functions** for both Informix and SQL Server: SUM, COUNT, MIN, MAX, and AVG.

In cases where a report definition field is an aggregate function (such as *sum(CallsHandled)*, and that field is a key criteria field or an advanced filter, the supported syntax for filter the report is:

```
SELECT (fields)FROM [tables]
WHERE [...]
GROUP BY [...]
HAVING [...] optional
ORDER BY [...] optional
```

Sample query:

```
select CallTypeID, TimeZone, sum(CallsHandled) as total, avg(CallsHandled) as average
from Call_Type_Interval
where TimeZone = 240
group by CallTypeID, TimeZone
having sum(CallsHandled) in(3, 5, 13) and avg(CallsHandled) > 0
order by CallTypeID
```

## Working with Drilldowns

Users with the Premium license and access to Report Definitions can create drilldowns.

Drilldowns allow you to create links from one report grid to another so that you can launch a sub-report from within the current report window. You cannot drilldown from or to a chart or a gauge.

You can create a drilldown for any field in a report that is not a grouped field. To determine if a field is a grouped field, open [Grid Editor \(page 70\)](#), then click [Grouping \(page 72\)](#).

There is no limit to the number of drilldowns you can define for a field.

### Note:

- If several users have added different drilldowns to a field, the field appears as a hyperlink in the grid view. If a field has more than one drilldown associated with it, clicking it opens a popup where you can select the link you need. If you do not want to drilldown to another report, ignore the drilldown link.
- Once you launch a drill-down report, you can save it as a separate report.

## Create a Drilldown

To create a drilldown:

---

**Step 1** Open the Report Definition for the report in which you want to create a drilldown.

**Step 2** Click the Fields tab.

**Step 3** Locate the field from which you want to drill down.

**Step 4** Click **Drilldowns**.

This displays the All Drilldowns panel. It shows any drilldowns that already exist for that field.

**Step 5** Click **Create**.

**Step 6** Enter a Name for the drilldown.

**Step 7** Click the > arrow next to the *Report to Drilldown into* to display the list of reports.



**Note:** You cannot drill down to or from a report based on an Anonymous Block or a Stored Procedure

**Step 8** Select a report by clicking the radio button next to the report name.

This opens a panel showing all the fields in that report.

**Step 9** Highlight a field and click **Edit**.

Doing this presents two options:

- *Any value* - Select this to drilldown into the report that shows any value of the field you selected.
- *Filter according to the following criteria* - Select this to drilldown into the report that shows filtered values of this field.

Filter criteria for fields of type *string* are:

- Match field in originating report
- Equal to (value)
- Not equal to (value)
- Matches the pattern

Filter criteria for fields of type *date* are:

- Match field in originating report
- Match date range in originating report (available only if the originating report is a historical report)
- Set date

Filter criteria for fields that are associated with a Value List are:

- Match field in originating report
- Set values

Filter criteria for fields that are of type *boolean* are:

- True
- False

**Step 10** Scroll up and click **OK**.

## Edit a Drilldown

To edit a drilldown:

- 
- |                |   |
|----------------|---|
| <b>Step 1</b>  | Open the Report Definition for the report in which you want to edit a drilldown.                  |
| <b>Step 2</b>  | Click the Fields tab.   |
| <b>Step 3</b>  | Locate the field from which you want to drill down.   |
| <b>Step 4</b>  | Click <b>Drilldowns</b> .   |
|                | This displays the All Drilldowns panel. It show any drilldowns that already exist for that field. |
| <b>Step 5</b>  | Select a drilldown and click <b>Edit</b> .  |
| <b>Step 6</b>  | Edit the Name for the drilldown.  |
| <b>Step 7</b>  | Click the > arrow next to the <i>Report to Drilldown into</i> to display the list of reports.     |
| <b>Step 8</b>  | Change the report by clicking the radio button next to the report name.                           |
|                | This opens a panel showing all the fields in that report.   |
| <b>Step 9</b>  | Highlight a field and click <b>Edit</b> .   |
|                | Edit the filter values.   |
| <b>Step 10</b> | Click <b>OK</b> .   |
| <b>Step 11</b> | Scroll up and click <b>Save</b> .   |
- 

## Delete a Drilldown

To delete a drilldown:

1. Open the Report Definition for the report in which you want to delete a drilldown.
2. Click the Fields tab.
3. Locate the field from which you want to delete a drilldown.
4. Click **Drilldowns**. This displays the All Drilldowns panel. It show any drilldowns that already exist for that field.
5. Select the name of the drilldown you want to delete.
6. Click **Delete**.

## Best Practices for Drilldowns

As a best practice, create drilldowns first in cloned (Save As) reports - not in the Cisco stock template reports.

You can drill down from grids only. You cannot drill down from - or to - a Chart view or a Gauge view.

Be aware that you cannot drill down from grouped fields. To determine if a field is grouped:

- Open the [Grid Editor \(page 70\)](#) for the report.
- Click **Grouping**.
- From the [Grouping \(page 72\)](#) dialog box, determine if the field appears in any of the Grouped By fields.

The Drilldown interface does not monitor your selections for Drilldown from and Drilldown into. It is your responsibility to be familiar with the reports and their fields and to understand the business reasons for drilling from one report into another.

## Rename a Report Definition

**Note:** Not enabled for stock Report Definitions.

To rename a Report Definitions, right-click its icon and select **Rename**.

This opens a dialog box with a Rename To field.

Enter a new name (using a maximum of 50 characters) and click **Rename** to proceed.

Click **Cancel** to keep the original name.

## Delete a Report Definition

**Note:** Not enabled for stock Report Definitions.

To delete a Report Definition, right-click its icon and select **Delete**.

Click **Yes** to confirm the deletion. Click **No** to cancel.

Both Yes and No generate another dialog box confirming your action to delete or to cancel the deletion. Click **OK** to close this dialog box and to complete the action.

**Note:** You cannot delete a Report Definition if it is referenced by one or more Reports or Value Lists.

## Import a Report Definition

**Note:** Not enabled for stock Report Definitions.

This page opens when you click Import Definition on the [Available Report Definitions Page \(page 94\)](#).

Use it to import custom Report Definition files saved to your computer. Stock Report Definitions are imported automatically with the stock report templates.

To import a Report Definition:

1. Click the Browse button to the right of the File Name (With Full Path) field, and navigate to the Report Definition file.
2. Select the Data Source for this Report Definition from the dropdown.
3. Click the dropdown in the Save To field to select the category in which you want this Report Definition saved.
4. Click **Import**.
5. Return to the Report Definitions page and click **Refresh**. The imported Report Definition displays only after you refresh the page.

## Export a Report Definition

**Note:** You cannot export a stock Report Definition.

To export a Report Definition:

1. Right-click a Report Definition and select **Export** to open the Export Report Definition dialog box, which gives you the option to rename the Report Definition file name.

You can change the name but do not change the file extension.

2. Click **OK** to open the Windows file download dialog box.
3. Click **Save** and navigate to the location where you want to save the report definition.



# Chapter 7

## Value Lists and Collections

---

Users with the Value List Collection Designer user role can open the Value List drawer to access Value Lists and Collections.

**See also:**

[Troubleshooting Value Lists and Collections](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Value_Lists_and_Collections) ([http://docwiki-dev.cisco.com/wiki/Troubleshooting\\_Tips\\_for\\_Unified\\_IC\\_8.0](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0))

This chapter contains the following topics:

- [Data Collections, page 117](#)
- [Value Lists, page 118](#)

### Data Collections

Unified IC uses Value Lists and Collections as filtering tools to collect and control the data that are available for display in reports.

*Value lists* are based on database queries and contain all reportable items of the same type, for example, all agents or all skill groups.

*Collections* are subsets of Value Lists that can be created to control the amount of data shown to specific users and user groups. For example, you could create a Collection of Skill Groups that would display only the Skill groups in a region or line of business. No *stock* collections are installed with Unified IC. Users with permissions to do so can create *custom* collections.

**Note:** Value Lists and Collections that use collection queries are refreshed every night at midnight (using the server's time zone). The refresh operation is performed on the primary node in a cluster and propagated to other nodes..

Agent and Agent Team collections are created automatically when you implement the Unified CCE User Integration feature. These imported collections are identified as *system* collections, once they are imported from Unified ICM/CCE.

When users run reports, they are presented with Value Lists and Collections by which they can filter reports. The ability to filter by Value Lists or by Collections is determined by Group/User permissions.

#### See Also

[Value Lists \(page 118\)](#)

[Collections \(page 121\)](#)

[Associating a Value List with a Report \(page 121\)](#)

## Value Lists

Value lists contain *all* reportable items of the same type, for example, all agents or all skill groups. Unified IC is installed with stock Value Lists, and users with the Value List Collection Designer User Role can create custom Value Lists.

A Value List is associated with the key criteria field of a report. See [Associating a Value List with a Report \(page 121\)](#).

Once associated with a report, the Value List becomes a filter for that report. See [Filtering Reports \(page 56\)](#).

The ability to filter by Value List or by Collections is determined by User Roles and by Group/User permissions.

**Table 20: Rows on this page**

Field	Description
Name	The name of the Value List
Data Source	The data source from which the values are retrieved.
Status	The status of the data source. A green checkbox means the data source is online. A red X means it is offline.
Type	<p>The type of Value List: Stock or Custom. Stock lists are added by the installation. Custom lists are created by users with the Value List Collection Designer role.</p> <p>The stock Value Lists are:</p> <ul style="list-style-type: none"> <li>• Agent</li> <li>• Agent Team</li> <li>• Call Type</li> </ul>

Field	Description
	<ul style="list-style-type: none"> <li>Enterprise Services</li> <li>Enterprise Skill Groups</li> <li>Services</li> <li>Skill Group</li> <li>Trunk Groups</li> </ul>
Description	The description entered for the Value List.

#### Actions for Value Lists:

- **Filter/Clear** - type one or more characters and click **Filter** to narrow the list. Click **Clear** to remove the filter.
- **Create** - opens the [Create/Edit Value List \(page 120\)](#) page where you can define a new custom Value List.
- **Edit** - enabled when the radio button for a row is selected. Opens the [Create/Edit Value List \(page 120\)](#) page where you can review and edit the properties of a custom Value List. You can edit only the Permissions for a stock Value List.
- **Values** - enabled when the radio button for a row is selected. Opens a box that shows all the values in a list and has a **Refresh Value List** button. See [Display and Refresh Value List \(page 121\)](#).
- **Collections** - enabled when the radio button for a row is selected. Refreshes the Value Lists page to display [All Collections \(page 122\)](#) for that Value list.
- **Delete** - enabled when the radio button for a row is selected. Requests confirmation; then deletes the custom Value List.

#### Note:

- You cannot delete a stock Value List.
- You cannot delete a custom Value List if it is referenced by a field in the Report Definition.
- You cannot delete a custom Value List that contains Collections.
- **Refresh** - updates the page to show changes another user might have made, such as creating or deleting a Value List.
- **Help** - opens online help.
- **X** on the tab heading - closes the page.

## Create/Edit Value List

Value lists are based on MS SQL Queries that retrieve data for a report.

As a best practice, base custom value lists on queries where the VALUE is indexed in the underlying database. Providing filters on non-indexed columns can have an adverse affect on the performance of the system.

Once defined, Value Lists are kept as static snapshots in the database. They remain exactly as defined until the list is manually refreshed. After configuration changes, you must refresh any Value Lists affected so the new values will be displayed in the list. See [Display and Refresh Value List \(page 121\)](#).

Value Lists are automatically refreshed at midnight.

**Table 21: Rows on this page**

Field	Description
Value List Name	Enter the name of the Value List.
Type	Types are Custom or Stock.
Data Source	From the dropdown, select the data source from which the values are retrieved.
Description	Enter an optional description of the Value List.
Value List Query	Enter the SQL query for the Value List. Then click <b>Validate</b> .  The query must return an ID and a VALUE.
Collection Query	Required only for Collections of the type Identifier. Enter a SQL query to set up the Collection Identifier.  For example: <code>SELECT Skill_Group.SkillTargetID AS ID, Skill_Group.EnterpriseName AS VALUE FROM Skill_Group where Skill_Group.SkillTargetID=[COLLECTIONIDENTIFIER] ORDER BY Skill_Group.EnterpriseName ASC</code>  When the query is run, it takes the value from the Collection Identifier on the <a href="#">Create/Edit Collections Page (page 122)</a> .
Default Permissions	View or edit the permissions for My Group and for the All Users group. See <a href="#">About Permissions (page 144)</a> .

### Actions from this page:

- **Validate** - validates the syntax of the SQL query.
- **Save** - saves the Value List.
- **Cancel** - cancels your entries on the page and does not save the Value List.
- **Help** - opens online help.



- **X** on the tab heading - closes the page.

## Display and Refresh Value List

Select any Value List from the [Value Lists \(page 118\)](#) page and click the **Values** button.

This opens a new window that displays the values of all the items that are called by the Value List.

Click **Refresh Value List** to update the list to display new values that have been configured. A message appears, indicating that the list is being refreshed.

For example, if a new Agent Team has been created in Unified ICM/CC Configuration Manager, the Agent Team Value List will include a collection for that team after you refresh.

## Associating a Value List with a Report

Value Lists (and their collections) are properties of the key criteria field of the Report Definition. Follow these steps to identify the key criteria field and its Value List.

- 
- Step 1** If the Report Definition is based on a simple query, identify the key criteria field for a report on the Report Definition [Properties tab \(page 109\)](#). The key criteria field is required and is selected from a dropdown on the Properties tab.
- Locate the field on the Report Definition Fields tab and click [Edit Field Properties \(page 104\)](#).
- Step 2** If the Report Definition is based on an Anonymous Block or a Stored Procedure, identify the parameter with which you want to associate a Value List.
- Select the parameter on the Parameters tab and click **Edit** to display the Edit Parameters field.
- Step 3** In the Edit Field / Edit Parameters panel, locate the Value List dropdown. In stock report templates, this field is populated with the stock Value List for the Report Definition. In custom Report Definitions, you can select a Value List from the dropdown.

Once you have associated the key criteria field or the parameter with a Value List, the report user sees that Value List or Collection on the Basic Filters tab provided he or she has Execute permission for the Value List or Collection.

**Note:** Only fields of type string and decimal can be associated with a Value List.

---

## Collections

Collections are subsets of Value Lists that can be used to control the amount of data that users can select to populate a report.

## Value Lists

Value lists typically contain *all* the items in the enterprise (for example, all Skill Groups) whereas Collections are used to narrow the scope of data returned in the selection list.

For example, you could create a Collection that would display only the Skill Groups in a region or line of business.

When you use the UCCE User Synchronization feature, the Agent and Agent Team Value Lists are populated with collections for all agents and agent teams that were imported for all Unified ICM supervisors. See [Collections from UCCE User Integration \(page 123\)](#).

The ability to filter by Value Lists or by Collections is determined by Group/User permissions.

## All Collections

The **All Collections** panel displays when you select a Value List and click **Collections**.

Doing this extends the Value List page so that it displays All Collections (if any) for that Value List. The collections are presented in two panels: Collection Name and Collection Type.

**Note:** Collections are imported by UCCE User Integration are called System collections, and they cannot be deleted or modified, as they are pulled from Unified ICM configuration data.

### Actions for Collections

- **Create** - click this to open the [Create/Edit Collection Page \(page 122\)](#).
- **Edit** - select a collection name and click this to open the [Create/Edit Collection Page \(page 122\)](#). Disabled for System collections imported by UCCE User Integration.
- **Delete** - select a collection and click this to display a message asking you to confirm the deletion. If you delete a Collection, it no longer appears as a filtering option for a report. Disabled for System collections imported by UCCE User Integration.
- **Populate Values** - This button is enabled only for Collections of Type Identifier and Wildcard. Disabled for System collections imported by UCCE User Integration.
- **Show Values** - select a collection and click this to see all the values in that collection; for example, to see all the agents in an Agent Team collection.

## Create/Edit Collection Page

Use this page to create a collection or to edit an existing one.

**Table 22: Rows on this page**

Field	Description
Collection Name	Enter the name of the Value List.
Description	Enter an optional description of the Value List.

Field	Description
Collection Types	<p>From the dropdown, select</p> <ul style="list-style-type: none"> <li>• Identifier</li> <li>• Wildcard</li> <li>• Values</li> </ul> <p>See <a href="#">Collection Types (page 124)</a>.</p>
Identifier	<p>This field displays if you select the Collection Type of Identifier. Enter a value for identifier you want the collection to retrieve in the Collection Query.</p> <p>For this type of Collection to succeed, the Value List must have a Collection Query on the <a href="#">Add/Edit Value List Page (page 120)</a>.</p>
Values	<p>These fields display if you select the Collection Type of Values.</p> <ul style="list-style-type: none"> <li>• Search fields - enter text in these fields to move directly to a value in the Available or Selected panel that begins with that string.</li> <li>• Available panel - show all values that are available to be included in the collection.</li> <li>• Selected panel - show values that are currently included in the collection.</li> <li>• Arrow buttons (&lt;, &gt;, &lt;&lt;, and &gt;&gt;) - Use to move values between the Available and Selected panels.</li> </ul>
Wildcard	<p>This field displays if you select Wildcard as the Collection Type. Enter a string to create a collection that includes that string.</p>
Default Permissions	<p>View or edit the permissions for My Group and for the All Users group. See <a href="#">About Permissions (page 144)</a>.</p>

**Actions on this page are:**

- **Save** - saves the collection and returns you to the Value List page.
- **Cancel** - does not save the collection, and returns you to the Value List page.
- **Help** - opens online help for Create/Edit Collections.

## Collections from UCCE User Integration

If you choose to implement UCCE User Integration, the stock Agent and Agent Teams Value Lists are updated with collections of agents and agent teams that are automatically created from the synchronization.

The collections that are imported from the synchronization are identified as *system* collections and do not affect any *custom* collections you might have created for the Agent or Agent Teams Value Lists.

Supervisors who are imported with UCCE User Integration become Unified IC Dashboard Designer and Report Designer Users. As Report Designer Users, they have read access for the Value List drawer and automatically are granted Execute permission for the Agent and Agent Team collections for which they are supervisors. See [Unified IC User Roles \(page 23\)](#).

All imported Supervisors have Read permission for *all* Value Lists. However, for the imported team collections under the Agents and Agent Teams Value Lists, only the Supervisors for *those teams* have Read permission to those Collections.

The *system* collections for Agent and Agent Team that are created by UCCE User Integration are distinguished from the *custom* Agent and Agent Team collections in that you cannot edit, delete, or modify the system collections.

## Collection Types

Collections are built according to the Collection Type you choose, as follows:

### Identifier

When you create an **Identifier** Collection, you define one identifier value on the Add/Edit Collection Page. That value is a database identifier for a specific object; for example, a skill group or a supervisor.

When the Populate Values action occurs, the collection query uses *that* identifier value to retrieve items from the database and to populate the collection. The Collection filter will contain *only* the returned values for that identifier.

Identifier is the most restrictive collection type. Use it, for example, to build a collection of one skill group.

### Values

When you create a **Values** Collection, you manually choose from a list of possible values to include in the collection. All items that you select are part of the Collection filter. Values collections are not updated automatically by the system. The only way to update them is by using the collection interface.

A Values collection is less restrictive than an Identifier collection. Use it, for example, to build a collection of several skill groups.

### Wildcard

When you create a **Wildcard** Collection, you define a wildcard string to include in the collection. When the Populate Values action occurs, all items containing that string are retrieved from the database and to populate the collection.

Wildcard is the least restrictive collection. Use it, for example, to build a collection of all skill groups that begin with a certain string.

Wildcard collections use java rich expressions. Syntax examples are as follows:

- For text, simply enter text.
- Enclose numbers in brackets. For example, to build a wildcard collection for PG70, use the expression `PG[7]+[0]`.
- For individual characters, use a dot (.) for each character. For example, to build a wildcard collection that returns PG70\_GW\_1.PG1001 through PG70\_GW\_1.PG1009, use the expression `PG[7] + [0]...[1]PG[1].PG[1]...`

Using Wildcards with the \*

- Wildcards with \* are case sensitive.
- If you enter a wildcard with \* in the name (*ww\**) and there are no values that contain *ww*, then nothing displays for the Collection.
- If you enter a wildcard \* that is completely valid (*PG\**), then all objects that contain *PG* are returned.
- If you enter a wildcard \* that is partially valid (*pa\**), then all items that have at least one of the values are returned (*pig, peg...*)





# Chapter 8

## Scheduler

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You can automate the generation of reports on a regular and recurring basis by setting up a schedule. You can configure scheduled reports to run at predetermined times and to be automatically sent to e-mail recipients and added to (or updated on) a dashboard.

Scheduling lets you run large dataset reports *once* to be sent to, and viewed by, *many users*.

Click the Scheduler drawer in the left panel to open the [Schedule List \(page 128\)](#). Only users with Report Designer and System Configuration Administrator roles are allowed to access the Scheduler drawer.

- System Configuration Administrators can perform all scheduler function on any reports. They can read, edit and run any scheduled report and can create a schedule for any report.
- Report designers can see the list of scheduled reports for which they have READ permission. Report designers can create a schedule only for those reports that they created or for which they have EXECUTE permission.

### Note:

- READ means being able to see the scheduled report on the Schedule List. EDIT means being able to select the scheduled report on the Schedule List and Edit, Delete, Enable, or Disable it. EXECUTE means being able to select the scheduled report on the Schedule List and perform the **Run Now** operation.
- **Configure Email Settings!**Scheduled reports can be sent by email only if the email server has configured in the Administration Console. The administrator does this in **Cluster Configuration > Reporting Configuration > Report Scheduler Email Settings**.
- All actions on the Scheduler interface are based on User Role and on the user's object Permissions for schedules. See [About Permissions \(page 144\)](#).

### See also:

[Troubleshooting Report Schedules](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0) ([http://docwiki-dev.cisco.com/wiki/Troubleshooting\\_Tips\\_for\\_Unified\\_IC\\_8.0](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0))

This chapter contains the following topics:

- [Schedule List, page 128](#)
- [Scheduler Create/Edit, page 129](#)

## Schedule List

This page opens when you click the Scheduler drawer.

System Configuration Administrators can create, review, and manage all report schedules.

Report Designers can create, review, and manage all report schedules that they own. Report Designers can also create schedules from the [Available Reports page \(page 46\)](#) by right-clicking a report and selecting **Schedule**.

**Table 23: Rows on this page**

Field	Description
Scheduled Report Name	The name of the scheduled report.
Last Run	The date and time of the last time this schedule ran.
Last Result	The status of the last schedule that ran.
Next Scheduled Run	The date and time for the next time this schedule will run.
Scheduled By	The user who created this schedule.
Frequency	The frequency for this schedule (Daily, Monthly...)

### Note:

#### Actions from this page:

- **Filter/Clear** - type one or more characters and click **Filter** to narrow the list. Click **Clear** to remove the filter.
- **Create** - opens the Report Schedule Create/Edit page with blank fields for defining a new schedule.
- **Edit** - enabled when a row is selected, opens the Report Schedule Create/Edit page where you can modify a schedule.
- **Delete** - enabled when a row is selected, prompts for a confirmation and then deletes the schedule. If schedule is deleted, you see an error if you try to open it. You can, however, retrieve the data by running the report with the same date and time range represented in the deleted scheduled report.



- **Enable** - Enables the schedule.
- **Disable** - Disables the schedule.
- **Run Now** - Executes the scheduled report immediately. Does not affect the next scheduled job.
- **Refresh** - updates the schedule list page to reflect changes anyone has made to it.
- **Help** - opens online help.
- **X** on the tab heading - closes the page.

## Scheduler Create/Edit

Use this page to create or to edit a schedule for emailing a report or displaying it on a dashboard.

**Table 24: Rows on this page**

Field	Description
Scheduled Report Name	Enter a name that identifies the Scheduled Report (for example, <i>Sales Team End of Week Report</i> ).
Report	From the dropdown, navigate to and select the report you want to schedule.
Set Filter	<p>You cannot schedule a report that does not have a filter</p> <p>Leave the check box blank to use the default filter.</p> <p>Check the box to enable the <i>Set filtering criteria</i> link. This opens either the <a href="#">Basic Filters Tab (page 56)</a> or the <a href="#">Basic Filter Tab for Anonymous Block/Stored Procedure (page 59)</a>, depending on the type of query in the Report Definition.</p>
Email	<p>Check this to display three required fields:</p> <ul style="list-style-type: none"> <li>• Email Grid View - from the dropdown, select the name of the grid view you want to email. Only grid view can be emailed.</li> <li>• Email Subject - enter text for the subject line.</li> <li>• Email Distribution - click <b>Add</b> to display a popup where you can enter an email addresses. Click OK to add that address to the Email Distribution field. Repeat to add multiple email addresses.</li> </ul> <p>Select an email address and click Delete to remove that address from the distribution.</p>

Field	Description
	<b>Note:</b> Email settings must be configured in the Administration application ( <b>Cluster Configuration &gt; Reporting Configuration &gt; Report Scheduler Email Settings tab</b> ).
Duration	To set the timeframe for this scheduled report: <ol style="list-style-type: none"> <li>1. Use the calendar icon to select a Start Date.</li> <li>2. Check No End Date, or use the calendar icon to select an End Date.</li> </ol>
Recurrence Pattern	Specify how frequently you want this scheduled report to be run. Choose from: <ul style="list-style-type: none"> <li>• Once - Opens a field where you select the time of day for the single occurrence.</li> <li>• Daily - Opens a field where you select a number for recurrence of days; for example, every 4 days.</li> <li>• Weekly - Opens fields where you select the recurrence of weeks (for example, every two weeks) and the days of the week you want the scheduled report to be run.</li> <li>• Monthly - Opens fields where you select a specific day of the month OR the frequency during the month (for example, every second Wednesday) AND the recurrence of months (for example, every three months) that you want the scheduled report to be run.</li> </ul> <p>One option for Monthly, in the Day field, is Last. This accounts for a range of months that might have different last days (31, 28, 30).</p>
Daily Frequency	Specify how often you want the report to run on the day (days) you have scheduled. Select from either: <ul style="list-style-type: none"> <li>• Occurs once at: the time of day</li> <li>• Occurs every: the frequency by hour or minute and the start and end times.</li> </ul> <p><b>Note:</b> The maximum frequency with which you can schedule a report is once every five minutes.</p>

**Note:** The Scheduler uses the timezone of the user who creates the schedule. User Timezone is set for each user on his or her [User List Page \(page 134\)](#).

#### Actions on this page::

- **Save** - saves your new entry or changes to the fields.
- **Cancel** - cancels your changes and closes the page.

- **Help** - opens online help.
- **X** on the tab heading - closes the page.





# Chapter 9

## Security

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Clicking the Security drawer expands to show nested links that open pages where you can manage and view User Lists, User Groups, and User Permissions.

Every user can open the Security drawer to access the User List and see his or her own User Information page. Users who have the Security Administrator role can access *all* Security pages and functions.

**Note:** All actions on the Security interface are based on User Role and on the user's object Permissions. See [About Permissions \(page 144\)](#).

**See also:**

[Troubleshooting Security Center](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0) ([http://docwiki-dev.cisco.com/wiki/Troubleshooting\\_Tips\\_for\\_Unified\\_IC\\_8.0](http://docwiki-dev.cisco.com/wiki/Troubleshooting_Tips_for_Unified_IC_8.0))

This chapter contains the following topics:

- [About Unified IC Security, page 133](#)
- [User List Page, page 134](#)
- [User Groups Page, page 139](#)
- [User Permissions Page, page 142](#)
- [About Permissions, page 144](#)
- [About User Groups, page 145](#)
- [Run As, page 147](#)
- [Best Practices for Security, page 147](#)

## About Unified IC Security

Unified IC security offers multi-layered and flexible functionality that allows a security administrator to create a flat or a tiered structure of access to Unified IC functions, based on the needs of the organization.

A user's access to Unified IC functions is tied to:

- His [login authentication \(page 8\)](#).
- The [license type \(page 157\)](#) under which his organization runs Unified IC. For example, organizations that use a Standard license cannot access the Report Definition functions.
- His User Role (a user can have one, some, or all of seven User Roles). See [Unified IC User Roles \(page 23\)](#).
- The User Groups in which he is a member. See [About User Groups \(page 145\)](#).
- For an object the user can access, the *object-level permissions* assigned by the person who created that object. See [About Permissions \(page 144\)](#).

## Administrative Overview

Access to the functions in the Unified IC reporting application is controlled by the one or more users who have the User Role of Security Administrator.

The initial, default Security Administrator is the user defined as the System Application User during the installation.

Security Administrators can:

- Create and maintain users.
- Assign User Roles - User roles are assigned to users to control what drawers the user can access and what objects the user can create.
- Assign users to User Groups.
- Create and maintain user groups.
- Assign Permissions - Whereas User Roles are associated with people, permissions are associated with objects (Dashboards, Reports, Report Definitions, Data Sources, Value Lists, and Collections).
- Use the [Run As \(page 147\)](#) feature to verify other users' permissions.

## User List Page

This page opens from the Security drawer. If a user who does not have the Security Administrator user role accesses this page, he can see only his name and can open his page to modify some parameters such email and phone number. He cannot change his role or group membership.

When Security Administrators access this page, they can see all existing users; can create users, modify or delete users, review or edit user information, and "Run As" a user.

The first time the Super User administrator who installed the system opens this page, the list is populated with his or her name and with the names of all Supervisors who integrated from Unified CCE (if the initial User Integration has been run).

**Note:** Unified CCE User Integration is configured and scheduled in the Unified IC Operations Console (**Cluster Configuration > ICM User Integration**). It is documented in the online help for the Operations Console.

**Table 25: Fields on the User List**

Field	Explanation
Only show currently active users	Click this to narrow the list so that it displays only those users who are active.
Name Contains	Use this filter field to narrow the list of names or to move to a specific name.
User Name	The domain and user name (domain\name).
First Name	The user's first name.
Last Name	The user's last name.
User Role check boxes	Checks in these boxes show the User Roles that apply to this user.  See <a href="#">Unified IC User Roles (page 23)</a> .

**Actions on this page:**

- **Create** - opens the [User Information Page \(page 135\)](#).
- **Edit** - select the button to the left of the user name and click to open the [User Information Page \(page 135\)](#).
- **Delete** - select the button to the left of the user name and click to delete the user.
- **Run As** - select a user, then click this button to click to refresh the Unified IC reporting interface as that user would see it at login. See [Run As \(page 147\)](#) for details.
- **Refresh**- refreshes the page to show changes another person might have made to the User List.
- **Page** - click the arrow to move to the next page of the User List, when it consists of more than one page.
- **Help** - opens online help.
- **X** on the tab heading - closes the page.

## User Information Page

This page opens when you click **Create** or **Edit** from the [User List Page \(page 134\)](#).

This page has two tabs: [General Information \(page 136\)](#) and [Parent Groups \(page 138\)](#).

A user can see his or her own User Information page to review and edit the information on it.

#### **Actions on this page:**

- **Save** - saves your new entry or changes to the fields.
- **Cancel** - cancels your changes and closes the page.
- **Help** - opens online help.
- **X** on the tab heading - closes the page.

### General Information

Security Administrators use this tab to enter or modify general characteristics for a user.

The Editable column in the table indicates whether a user can, or cannot, edit his own information for a field.

**Table 26: Fields on the General Information tab**

Field	Editable	Explanation
User Name	No	<p>The domain and user name (domain\name)</p> <p>When you create a user, be sure to enter the domain\name exactly as it exists for that user's Active Directory identity. See <a href="#">Creating a User on the User List Page (page 138)</a>.</p> <p>This field is available only when the security administrator creates a new user. It is protected in Edit mode.</p>
Alias	Yes	<p>The alias name for this user.</p> <p>For Supervisors who are integrated from Unified ICM, use this field to enter the user's name in Unified ICM.</p>
User is Active	No	If this box is checked, the user is active and available to login. If it is unchecked, the user is not able to log in.
First Name	Yes	The user's first name.
Last Name	Yes	The user's last name.
Organization	Yes	The company name or other descriptive text to be associated with the user, such as region or Line of Business.
Email	Yes	The user's email address.



Field	Editable	Explanation
Phone	Yes	A phone number for the user. This can be the user's personal phone number or an emergency contact.
Description	Yes	Text that describes this user.
Time Zone	Yes	<p>From the dropdown, select the time zone the user would like to use in the report. This time zone is also used for the user's scheduled reports and takes precedence over the time zone used by CUIIC server.</p> <p>If this field is left blank, the system uses the timezone that is set for the CUIIC Data Source.</p>
Roles	No	<p>Assign one or more roles for this user.</p> <p><b>Note:</b> If the Security Administrator adds or changes User Roles, the change does not take effect until the user logs out and then logs in again.</p> <p>See <a href="#">Unified IC User Roles (page 23)</a>.</p>
Default Permissions	Yes	<p>These boxes show this user's permission setting preference for "My Group" and "All Users" when he creates new objects. A user can always change the permissions for all the objects created by the user.</p> <p>"My Group" is this user's default Parent Group.</p> <p>Checks for My Group configure whether all other users who belong to this user's default parent group can read, write, or execute the objects that <i>this user creates</i>.</p> <p>Checks for AllUsers configure whether ALL other users can read, write, or execute the objects that <i>this user creates</i>.</p> <p>Higher level permissions prevail.</p> <p>See also:</p> <p><a href="#">User Permissions Page (page 142)</a></p> <p><a href="#">About Permissions (page 144)</a></p>

## Adding or Changing User Roles

If a user is given new roles of Report Designer, Report Definition Designer, or Dashboard Designer, or if those roles are removed, the change is not reflected in the interface.

The user must log out and log back in.

## Parent Groups

Use this tab to see what groups this user is a member of and to add group membership(s) for a user.

There is no limit to the number of groups a user can belong to.

Users who view their own User Information can see this tab but cannot edit it.

**Table 27: Fields on Parents Groups tab**

Field	Explanation
Default Parent Group	This field shows the user's default parent group. The Security Administrator can change it.  The group is represented as "My Group" for the user.
Available Groups	This column shows all the groups that have been created and that the user is not yet a member of.
Selected Parent Groups	This column shows all the groups that the user is a member of.  By default, every user has <i>AllUsers</i> in their Selected Parent Groups column. You cannot remove the <i>AllUsers</i> group from the Selected Parent Groups column.

### Actions on this page:

- **Arrow buttons** - to move groups between columns

Highlight one or several groups and click > or < to move just that group or groups.

Click >> or << to move all groups.

## Creating a User on the User List Page

Although you can create a user on the Unified IC User List page, an entry on the User List is not sufficient for that user to be able to sign in to Unified IC.

The user can sign in only if he or she exists in the Administration console as a Super User or if Active Directory has been configured in the Administration console for that user's domain.

One reason to create users on the User List page is to set up roles and permissions for users before they log in.

For example, if the Security Admin is aware that ten new users will be activated in the Administration console, then the Security Admin can create those users in the Unified IC User List, assigning them User Roles and Permissions and entering information about their email address, organization, timezone, and so forth on the [General Information \(page 136\)](#) tab.

**Note:** Be aware that the User Name (domain\name) on the General Information tab must *match exactly* with that user's domain and user name (all uppercase letters for the domain name; all lower case for the username). If they do not match, when the user signs in, he will be considered a different user.

## User Groups Page

This page opens from the Security drawer. Use it to see the existing groups, to create or delete groups, and to review or edit group information.

This page always includes two default groups that are created by the system. These are:

- The *AllUsers* group, which is supplied by Unified IC and which all users belong to by default.
- The *Administrators* group, that administrators are members of.

**Table 28: Fields on the User Groups page**

Field	Explanation
Name Contains	Use this filter field to narrow the list of group names or to move to a specific name.
Name	The name of the group
Full Name	The full name shows the child relationship of a group, if any, as indicated by a dot separator.  For example, if the default parent group for Group3 is Group1, and Group1 is a top level group (does not have a parent), then the Full Name of Group1 is <i>Group1</i> . The Full Name of Group 3 is <i>Group1.Group3</i> .
Description	Text that was entered to describe the group.

### Actions on this page:

- **Create** - opens the [Group Information \(page 140\)](#) page.
- **Edit** - select the button to the left of the group name and click to open the [Group Information \(page 140\)](#) page.
- **Delete** - select the button to the left of the group name and click to delete the group.

## User Groups Page

- **Refresh**- refreshes the page to show changes another person might have made to the Group List.
- **Help** - opens online help.
- **X** on the tab heading - closes the page.

See also [About User Groups \(page 145\)](#).

## Group Information

This page opens when you click **Create** or **Edit** from the [User Groups Page \(page 139\)](#).

This page has three tabs for most groups: General Information (which describes the group), Parent Groups (where you can establish the group as a child group), and Group Members (where you can add or identify children for the group).

The *AllUsers* and *Administrators* groups do not have a Parent Groups tab.

**Actions on this page:**

- **Save** - saves your new entry or changes to the fields.
- **Cancel** - cancels your changes and closes the page.

## General Information

Use this tab to enter general information about a user group.

**Table 29: Fields on the User Group General Information tab**

Field	Explanation
Group Name	The name of the group.  This field is available only when you create a new group. It is protected in Edit mode.
Description	Enter or modify text to describe this group

## Parent Groups

Use this tab to establish the parent groups for this user group.

Once you do this, this group becomes a child of those parent groups, and one of the parent groups is identified as its Default Parent Group.

**Note:**

- The default *Administrators* and *AllUsers* groups do not have this Parent Groups tab.

- It is not necessary to complete this tab if you do not want this group to be a child.

**Table 30: Fields on Parent Groups tab**

Field	Explanation
Default Parent Group	From the dropdown, select the default parent group for this group.
Available Groups	This column shows all the groups that have been created and that are available for this group to become a child of.
Selected Parent Groups	This column shows all the groups that this group is a child of.

**Actions on this page:**

- **Arrow buttons** - to move groups between columns

Highlight one or several groups and click > or < to move just that group or groups.

Click >> or << to move all groups.

- **Save** - saves your new entry or changes to the fields.
- **Cancel** - cancels your changes and closes the page.

## Group Members

Use this tab to add users to a group and to add child groups to this group. This page has two sections: **Users** and **Groups**.

**Table 31: Fields on the Group Members tab**

Users	
Available Users	This column shows all the users that have been created and that are available to be children of this group.
Selected User Members	This column shows all the users that are currently children of this group.
Groups	
Available Groups	This column shows all the groups that have been created and that are available to be children of this group.
Selected Group Members	This column shows all the groups that are currently children of this group.

**Actions on this page:**

- **Arrow buttons** - to move groups between columns

Highlight one or several groups and click > or < to move just that group or groups.

Click >> or << to move all groups.

## User Permissions Page

Use this page to set extra permissions to Groups or to individual users

This page has two tabs: [Assigned Group Permissions \(page 142\)](#) and [Assigned User Permissions \(page 143\)](#).

See also: [About Permissions \(page 144\)](#).

## Assigned Group Permissions

This page has four panels and one button.

### To assign permissions to a group:

1. Select the object type in the Permissions For panel. For Dashboard, Report or Report Definition type, you can select a category or an object within a category. For other object types, select an object from the list. All the groups that have already been assigned permission for the object will be displayed in the Group permissions for the selected item panel.
2. Select a group in the All Groups panel. All user members of this group are displayed in the AllUsers for the selected group panel.
3. Click **Set Permissions**. Check the level you want for the group (READ, EXECUTE, WRITE), and click **OK**.
4. The **Group Permissions for the selected item** panel updates to include the group and its assigned permission you defined in Step 3.

**Note:** If the Security Administrator adds or changes User Permissions, the change may not take place immediately.

**Table 32: Fields on the Group Members tab**

Field	Explanation
Permissions For panel (top left)	Click the dropdown arrow to select the kinds of object for which you want to set permissions. Options are Data Sources, Report Definitions, Reports, Dashboards, Value Lists, Collections and System Collections (UCCE).

Field	Explanation
	System Collections (UCCE) are the collections of agents and agent teams that are created and updated by UCCE User Synchronization.  Selecting an object type refreshes the panel to show the list of items or categories for that object.
All Groups panel (top right)	This panel shows all available User Groups. Highlighting a user group refreshes the page to display an AllUsers for Selected Group panel that lists the member of the group.
All Users for the Selected Group panel (bottom right)	This panel shows all members in the group that is highlighted in the All Groups panel directly above.
Set Permissions button	Click this to open a dialog box where you select the permission level for the selected object in the Permissions For panel and the selected group in the All Groups panel.
Group Permissions for the selected item	This panel shows all the groups that have already been assigned permission for the selected object, and their permission level.

## Assigned User Permissions

### To assign permissions to a user:

1. Select the object type in the Permissions For panel. For Dashboard, Report, or Report Definition type, you can select a category or an object within a category. For other object types, select an object from the list. All the users that have already been assigned permission for the object will be displayed in the User permissions for the selected item panel.
2. Select a user name in the User List panel.
3. Click **Show Groups** to see all groups for which this user is a member.
4. Click **Set Permissions**, check the level you want for this user (READ, EXECUTE, WRITE), and click **OK**.

The **All Permissions for the selected item** panel refreshes to show the user and permission you have added or changed for this user in steps 3 and 4.

Field	Explanation
Permissions For panel (top left)	Click the dropdown arrow to select the kinds of object for which you want to set permissions. Options are Data Sources, Report Definitions, Reports, Dashboards, Value Lists, Collections, and System Collections (UCCE).

Field	Explanation
	System Collections (UCCE) are the collections of agents and agent teams that are created and updated by UCCE User Synchronization.  Selecting an object type refreshes the panel to show the list of items or categories for that object.
User List panel (top right)	This panel shows all current users. Filter the list and select one or many user names.
Show Groups button	Click this to show the All Groups for the selected user panel.
All Groups for the selected User (bottom right)	This panel shows all groups of which the username that is highlighted in the User List panel directly above is a member.
Set Permissions button	Click this to open a dialog box where you select the permission level for the object (READ, EXECUTE, WRITE).
All Permissions for the selected item	This panel shows all users who currently have permission for the object, and what level of permissions they have.

**Note:** : You cannot change the permission for the owner of an object and owner always has Write Permission for the object. For example if User Lee is the owner of Report 1, he has WRITE permission for Report 1, and no one can change his permission to EXECUTE or READ.

#### Actions on this page:

- **Save** - saves your new entry or changes to the fields.
- **Cancel** - cancels your changes and closes the page.

## About Permissions

Whereas User Roles are associated with people, permissions are associated with objects. Unified IC objects are Dashboards, Reports, Report Definitions, Data Sources, Categories, Value Lists, and Collections.

**There are three levels of permissions**, represented by three check boxes:

- **READ:** When a user has READ permission for an object, the user can see that object in the object list or under a category. READ is the lowest level of permission.
- **EXECUTE:** When user has EXECUTE permission for an object, he can perform some actions with the object. The type of action depends on the type of object.

For example, with EXECUTE permission, a user can run, print, and refresh a report, can open and refresh a dashboard and run a dashboard slideshow, can see a Value List query. EXECUTE permission includes the READ permission.



- **WRITE:** When the user has WRITE permission for an object, he can alter, rename or delete the object. For example, With WRITE permission, you Save As, import, and export reports; you can edit a data source and can delete a custom Value List. WRITE permission also includes EXECUTE and READ permission.

**Note:** If no check boxes are selected when setting permission for an object, the user has no access privileges to the object.

Permissions are combined and the highest level prevails.

A user receives permission for an object from different sources. Permission can be inherited from the AllUsers group, from the Default Parent Group (My Group), or from the permission assigned by the Security Administrator. Among all these permissions, the highest level permission is used when user access the object.

See also: [Permissions for Categories \(page 154\)](#).

## User Roles and Permissions

Your User Role allows you to "open" the drawer that corresponds to that role. If you have EXECUTE permission, you can create objects for that drawer. For example, if you are a Dashboard Designer, you can create dashboards on the Available Dashboards page.

When you create an object, you are the *owner* of that object. You have WRITE permission for the object, and you can set the permissions for that object for AllUsers and for users in your Parent Group.

If the object is still a work-in-progress and you do not want anyone to access it yet, you can make it "private" by leaving all permissions unchecked for both the AllUsers and the Parent Groups.

When the object is ready, you might set the AllUsers permissions to READ and your default Parent Group (My Group) permissions to EXECUTE or even WRITE. For example, if you create a Dashboard for your Parent Group and the dashboard has notes, you might want others in your Parent Group to update the notes.

Even though *you* are a Dashboard Designer, if the Available Dashboards page contains dashboards created by (owned by) other Dashboard Designers, you may or may not be able to see those dashboards, based on your Parent Group permissions and on the object-level permissions those owners have set for their dashboards.

## About User Groups

User Groups are constructs that allow security administrators to partition Unified IC functionality.

Creating User Groups expedites the process of provisioning users when multiple users need the same access to dashboards and reports, or when users require distinct permissions and features based on regional or organizational requirements.

User groups have no impact on how data is stored in the database. They are used only for assigning permissions to all the user members of the group through one operation instead of repeating the same operation for each user.

### System-Defined AllUsers Group

All users are automatically a member of the system-defined *AllUsers* group.

*AllUsers* always appears on the Manage User Groups window. The security administrator cannot delete it.

### System-Defined Administrator User Group

The security administrator is automatically a member of the system-defined Administrators group and can add other security administrators to it.

Additional Security Administrators must be added to the Administrators group. Having the role does not automatically make them members of that group.

### Customer-Defined User Groups

Security administrators can create any number of user groups and can add users to them. From those other user groups, one is designated as the user's *Parent Group* (also called *My Group*).

### The Default Parent Group

After the security administrator creates customer-defined groups, he can add a user to any number to those groups and must configure one of them as the user's default Parent Group (MyGroup). The All Users group can also be the Parent group.

The owner of an object can set permission for its Parent Group, and the All Users group. Only the Security Administrator can set extra permission to other groups or individual users on the [User Permissions Page \(page 142\)](#). A user's access permission to an object is the highest level of the permission that user gets from all the permission "sources."

## Parent Groups and Child Groups

### Rules for Parent and Child Groups

- A group can be both a Parent and a Child. For example, Group 2 can be child of Group 1. Group 2 can also be a parent of Group 3.
- A Parent Group is not required to have Child Groups.
- A Parent may have any number of Child Groups.
- A Child Group cannot be a Parent to its own Parent Group and similarly, a Parent Group cannot be a Child of its own Child Group. For example, Group 3 is a child of Groups 1 and 2. Group 3 cannot also be a parent of Group 1 or Group 2.
- A Parent can have both Groups and Users as children. For example, Group 2 can be a child of Group 1. User Lee can be a child of Group 1.

- A group is not required to have a Parent Group.
- **Child Groups Do Not Inherit the Members of their Parent Groups.** - Adding a user as a member of a Parent group does not mean that user is also a member of its children. For example, Group 2 and Group 3 are children of Group 1. The security administrator adds User A as a member of Group 1. User A does not automatically become a member of Group 2 or Group 3. To make User A as a member of Group 2, the security administrator must add User A as a member of Groups 2.

## Run As

Security Administrators can select a name on the User List page and click **Run As**. This refreshes the Unified IC web page so that it reflects the interface that user has when he logs in.

Use this tool to verify that the User Roles and permissions that are configured for that user are as you expect them.

### Note:

- When you Run As another user, the top of the page shows both your Logged In identity and your Run As identity.
- You cannot Run As yourself.
- You can Run As one level of user. A Security Admin cannot *Run As* User A and, as User A, then *Run As* User B.

To leave Run As mode, click **Stop Run As** at the top of the page.

## Best Practices for Security

If you make the user a member of one or more other groups, make one of those groups his Parent Group, and set the permissions for the Parent Group higher than those of the AllUsers group.

Higher permissions for the Parent group prevail over permissions in the AllUsers group. Individual user permissions prevail over group permissions.





# Chapter 10

## System Concepts and Navigation Controls

---

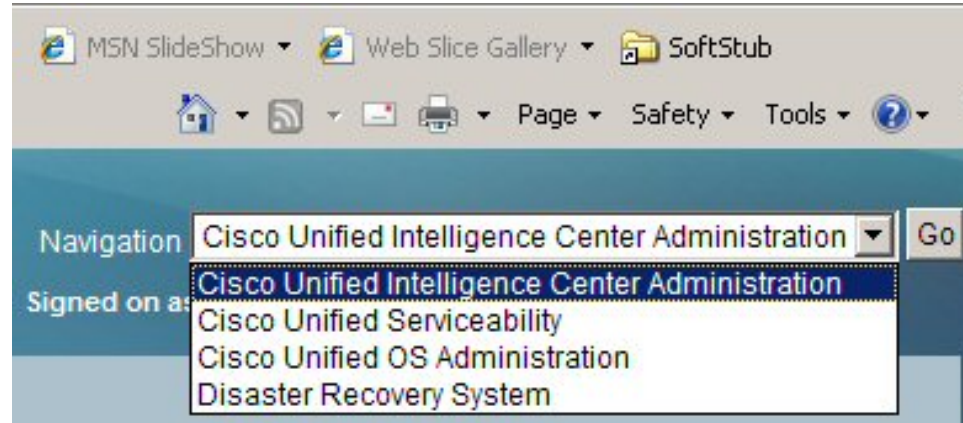
This chapter contains the following topics:

- [Accessing Cisco Unified Communications Solutions Tools from Unified IC, page 149](#)
- [Categories, page 152](#)
- [Drawers, page 154](#)
- [Filtering, page 155](#)
- [Unified IC Licenses, page 155](#)
- [Multiple Delete, page 159](#)
- [Online Help, page 159](#)
- [Refresh, page 159](#)
- [Sorting, page 160](#)
- [Stock and Custom Objects, page 160](#)
- [Tabs, page 161](#)

### Accessing Cisco Unified Communications Solutions Tools from Unified IC

The Navigation dropdown menu at the top right of the Unified IC Administration page has three Cisco Unified Communications Solutions tools:

Figure 43: Navigation dropdown



To access these tools from a Member node, where x.x.x.x is the IP address of the member:

- To access Unified Serviceability: <http://x.x.x.x/ccmservice/>
- To access Unified OS Administration: <http://x.x.x.x/cmplatform>
- To access Disaster Recovery System: <http://x.x.x.x/drf>

To sign in to these tools, use the user name and password for the Installation Administrator account.

## Cisco Unified Serviceability

Cisco Unified Serviceability is one of three system-level tools that Unified IC shares with Cisco Unified Communications Solutions. The other two are [Disaster Recovery System \(page 151\)](#) and [Cisco Unified OS Administration \(page 151\)](#)

To access Cisco Unified Serviceability, select it from the Navigation dropdown in the upper-right corner and click **Go**.

Cisco Unified Serviceability is a web-based troubleshooting tool, with four menus (Alarms, Trace, Tools, and Snmp). Unified Serviceability features are supported by and applicable to Unified IC with exceptions noted in Unified IC Notations.

Cisco Unified Serviceability features include the following:

- Provides information on configuring alarms, traces, and SNMP
- Saves alarms and events for troubleshooting and provides alarm message definitions.
- Saves trace information to various log files for troubleshooting.
- Monitors real-time behavior of components through the Cisco Unified Real-Time Monitoring Tool (RTMT).

- Provides feature services that you can activate, deactivate, and view through the Service Activation window.
- Provides an interface for starting and stopping feature and network services.
- Generates and archives daily reports; for example, alert summary or server statistic reports.
- Allows Cisco Unified Communications Manager and Cisco Unity Connection to work as a managed device for SNMP remote management and troubleshooting.
- Monitors the disk usage of the log partition on a server.
- Monitors the number of threads and processes in the system; uses cache to enhance the performance.

All information in the Cisco Unified Serviceability documentation is applicable to Unified Intelligence system.

## Cisco Unified OS Administration

Cisco Unified OS Administration Cisco Unified OS Administration is one of three system-level tools that Unified IC shares with Cisco Unified Communications Solutions. The other two are [Disaster Recovery System \(page 151\)](#) and [Cisco Unified Serviceability \(page 150\)](#).

To access Cisco Unified OS Administration select it from the Navigation dropdown in the upper-right corner and click **Go**.

Use Cisco Unified OS Administration to perform many common system administration functions. Unified OS Administration menus are the following:

- **Show:** How to view information on Cluster Nodes, Hardware Status, Network Configuration, Installed Software, System Status, and IP Preferences.
- **Settings:** How to display and change IP settings, host settings, and Network Time Protocol (NTP) settings.
- **Security:** How to manage certificates and how to set up and manage IPSec policies
- **Software Upgrades:** How to perform an upgrade and how to revert to a previous version.
- **Services:** How to use the Ping and Remote Support features

## Disaster Recovery System

The Disaster Recovery System (DRS) is one of three system-level tools that Unified IC shares with Cisco Unified Communications Solutions. The other two are [Cisco Unified OS Administration \(page 151\)](#) and [Cisco Unified Serviceability \(page 150\)](#).

## Categories

To access Disaster Recovery System, select it from the Navigation dropdown in the upper-right corner and click **Go**.

The Disaster Recovery System provides backup and restore capability for all servers in a Unified IC cluster and allows you to perform regularly-scheduled automatic backups as well as user-invoked data backups.

Refer to the DRS online help for topics including:

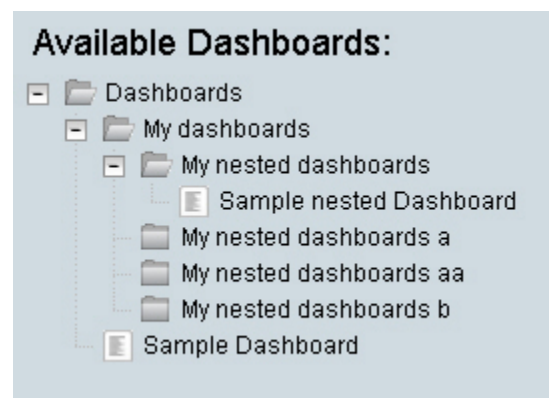
- Backup and Restore procedures
- Creating and editing backup schedules
- Starting a manual backup
- Restoring a backup version and viewing restore status
- Restoring a cluster
- Error messages that can occur during a backup or a restore

All information in the DRS online help is applicable to Unified Intelligence system. See the topics below for DRS-related information that pertains to Unified IC.

## Categories

Certain Unified IC Reporting objects are grouped in categories. Categories display in a "tree" format, where categories and sub-categories are represented as folders and items within categories are represented as pages.

Figure 44: Categories



There cannot be two objects with the same name within a category or a subcategory. There can be objects with the same name in two different sub-categories.

See also:

[Create a Sub-Category \(page 153\)](#)



[Delete a Sub-Category \(page 153\)](#)

[Drag and Drop within Categories \(page 153\)](#)

[Rename Categories \(page 153\)](#)

[Permissions for Categories \(page 154\)](#)

## Create a Sub-Category

To create a category or a sub-category, right-click the parent (category or sub-category) and select **Create**.

This opens a dialog box asking for:

- The category or sub-category name. Enter a name (using a maximum of 50 characters).
- The permissions for the Parent User group and the All Users group.

Click **OK** to save the category.

## Delete a Sub-Category

To delete a sub-category, right-click its icon and select **Delete**.

This opens a dialog box stating that deleting will delete all of its children sub-categories and dashboards.

Click **Yes** to confirm the deletion. Click **No** to cancel.

Both Yes and No generate another dialog box confirming your action to delete or to cancel the deletion. Click **OK** to close this dialog box and to complete the action.

## Drag and Drop within Categories

Use standard drag-and-drop actions to move items such as dashboards and reports from one category to another. You can also move an entire sub-category with all its component items.

To use drag and drop, a user must have Execute permissions for the object.

## Rename Categories

To rename a category or a sub-category, right-click the sub-category icon and select **Rename**.

This opens a dialog box with a Rename To field.

Enter a new name (using a maximum of 50 characters) and click **Rename** to proceed.

## Drawers

Click **Cancel** to keep the original name.

To rename, a user must have Write permissions for the object.

## Permissions for Categories

Categories are Unified IC "objects", as are Reports, Report Definitions, Dashboards, Data Sources, Value Lists, and Collections.

Permissions are set for all objects when you create them and for categories are enforced as follows:

- **READ** = you can see the category and all objects in it.
- **EXECUTE** = you can add a sub-category and move (drag and drop) an item into this category if you have **WRITE** permissions for the object. That is, you can move a dashboard into a category if you have **WRITE** permissions for that dashboard. After you move the object, the original owner of that object can access it only if he has **WRITE** permission to the category.
- **WRITE** = you can see a category, add a sub-category to it, move objects into it, rename it, delete it, and set permissions for it.

There are impacts for the permissions a user has for a category with respect to the permission that user has for the object/drawer. For example:

- If the user has the Dashboard Designer role but does not have **READ** permission to a dashboard category, he cannot see that category or any dashboards it contains.
- If a user has the Report Definition Designer role and has **WRITE** permissions for a category, he can delete the category. The delete operation will fail if any of the objects are not eligible for deletion. They might be stock Report Definitions. They might be custom Report Definitions that are referenced by reports.
- If a user does not have access to a drawer, for example, to Dashboards, the user's permission to a category in that drawer is irrelevant. For example, if a user has **WRITE** permission in the *AllUsers* group for a dashboard category, but that user does not have the Dashboard Designer role, no harm can come—unless that user is subsequently given the Dashboard Designer role. He could then delete that dashboard category.

See also: [About Permissions \(page 144\)](#).

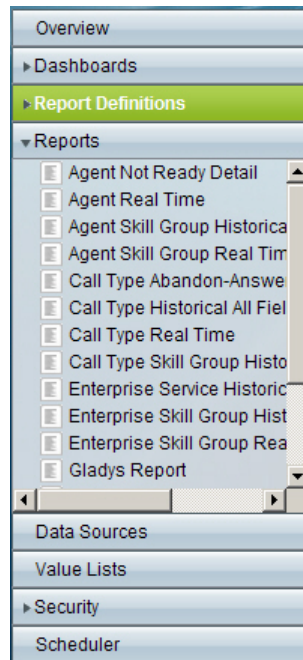
## Drawers

The left panel of the Unified IC Reporting interface contains *drawers*.

Drawers are similar to menus: they group logically-related functions. Clicking (opening) a drawer in the left panel might immediately open a page in the right panel or it might expand to show a list or tree of nested links.

The tree display under some drawers replicates the display on the page that drawer opens. For example, the tree that displays when you expand the Dashboards drawer shows the same categories and dashboards as the Dashboard page.

Figure 45: Drawers in Unified IC Reporting



The User Roles assigned to you determine what drawers are enabled for you. For example, if you do not have the Dashboard Designer user role, the Dashboards drawer is dimmed and you can see an message that you cannot see the Available Dashboards.

All users can see the Overview drawer and the Security drawer.

## Filtering

Many pages let you filter items to limit the number of results that appear in a given list. You can also filter items to find a specific item or a subset of items with similar values.

**Note:** Quickly clear a filter by clicking the **Clear Filter** button.

## Unified IC Licenses

Unified IC licenses are "node-locked." This means a license is "locked to" the MAC address of the Controller node. A MAC address change will require a new license. The license file is physically located on the Controller node and is distributed to all member nodes in the cluster through database replication.

There can be only one license installed on a system at any point in time.

Uploading the license file is the first action the System Application User must take after installing the Controller node.

After installation, and until the System Application User obtains and uploads a Standard or Premium license, he or she:

- Can sign in to the Administration Console to view the Controller and to add the alias name.
- Cannot perform other Administration Console functions.
- Cannot sign in to the Unified IC Reporting application.
- Cannot install member nodes.

## How To Obtain Your License

To acquire a license:

1. Go to the Cisco Product License Registration website at this URL: <https://tools.cisco.com/SWIFT/Licensing/PrivateRegistrationServlet>
2. If you do not have a PAK, click the [available licenses link](https://tools.cisco.com/SWIFT/Licensing/PrivateRegistrationServlet?DemoKeys=Y) (<https://tools.cisco.com/SWIFT/Licensing/PrivateRegistrationServlet?DemoKeys=Y>).
3. Scroll to Voice Products and click **Cisco Unified Intelligence Center - v8.0**.
4. Enter your MACAddress as a single string (with no spaces between the characters), accept the agreement, and enter your Registrant Information.
5. Follow prompts to complete the registration pages.

You will receive the license file in an email from Cisco Systems. When you receive it, save it locally in a location where it cannot be deleted by mistake or opened by an unauthorized person. In the event that your system becomes corrupted, you can browse to this location to upload the license file again.

The same license file will be valid if you need to reapply it - unless you apply it to a new server with a new MAC address.

**Caution: License files are human-readable and can be opened. However, changing any text in the license file invalidates the license.**

## Locating the MAC Address

You must supply the MAC address of the Controller node when you apply for a license to operate Unified IC.

The MAC Address appears online at the end of the installation. If you do not have time to write it down, you can find it through the Command Line Interface, once the install is complete, as follows:

1. Sign in, using the credentials of the System Administration user.
2. Enter this CLI Command: *show status*.

## How to Upload the License

Upload the license in the Unified IC Administration interface.

To do this, select **Cluster Configuration > License Management** . Refer to the online help for instructions.

## License Types

Unified Intelligence Center has four license types: Demo, Lab/Trial, Standard, and Premium.

TYPE	EXPIRATION	NODES	USERS	FEATURES
DEMO	Valid for 90 days and contains an expiration date.  Can be extended for one additional 90-day session with a reinstallation of Unified IC.	Controller and all Member nodes (a maximum of 8 nodes).	No limit	Premium feature set
LAB/TRIAL	Has no expiration/timeout.	Controller node only	Five users	Premium feature set
STANDARD	Has no expiration/timeout.	Controller and all Member nodes (a maximum of 8 nodes).	Unlimited but requires system sizing for optimum performance. See the Sizing Tool for guidelines.	Standard feature set
PREMIUM	Has no expiration/timeout.	Controller and all Member nodes (a maximum of 8 nodes).	Unlimited but requires system sizing for optimum performance. See the Sizing Tool for guidelines.	Premium feature set

See [Standard and Premium feature set. \(page 158\)](#).

## Feature Set for Standard and Premium Licenses

This table compares the Unified IC features that are offered with the Standard and the Premium license.

Feature	Standard	Premium
Core reporting with standard reports (print, save, clone, export to Excel, export as XML)	✓	✓
Dashboards	✓	✓
Cisco stock templates	✓	✓
Import and run reports created with Intelligence Center Premium	✓	✓
Change report filters (date, time, items in category)	✓ with Save As	✓
Rename columns	✓ with Save As	✓
Add computed fields to Report Definitions	-	✓ with Save As
Create or modify Report Definitions queries to build new reports	-	✓ with Save As
Create Drilldowns in the Report Definition	-	✓
Rename columns	✓ with Save As	✓
Reorder, hide, unhide report columns	✓ with Save As	✓
Create Thresholds	✓ with Save As	✓
Scheduled reports on dashboards	✓	✓
Add computed fields to Report Definitions	-	✓ with Save As
Partitioning by collections	✓	✓
XSLT	-	Future Release
RSS	-	Future Release
Permalinks	-	Future Release
Access to non-Cisco data sources	-	Future Release
Data Migration from Release 7.5(x)	N/A	Future Release

## Multiple Delete

Some pages that contain lists of items allow you to delete one or more items at once. To delete multiple items:

- 
- Step 1** Check the box to the right of the item(s).
- Step 2** Click the Delete button on the bottom left of the page.
- A confirmation dialog appear.
- Step 3** Click **OK** in the confirmation dialog to delete the item(s). In some cases a deletion confirmation page may appear after the confirmation dialog pop-up. Click **OK** or **Yes** on the deletion confirmation page to delete the item.
- 

## Online Help

There is a Help icon on each page.

Clicking Help opens a new window with a topic relevant to the window you are on.

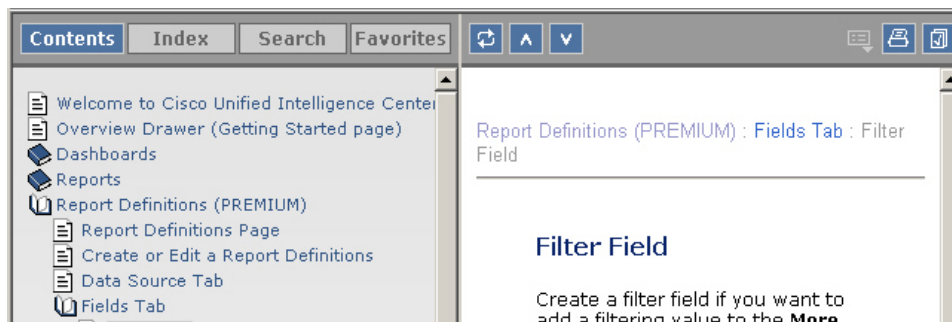
From a help topic, click the Navigation icon

Figure 46: Online Help Navigation Icon



This opens the Table of Contents and exposes the help functions such as Index and Search.

Figure 47: Online Help Features



## Refresh

The Refresh button on many Unified IC Reporting pages allows you to update (refresh) a page to see any changes another user might have made to it.

## Sorting

Any page that contains lists of items can be sorted by any field name. To sort a list of items:

- 
- Step 1** Click the name of the field on the top of the column that you want to sort.
- The listed is sorted in ascending order for that column.
- Step 2** Click the name of the field again to sort the list in descending order.
- Step 3** Click any other field name at the top of the column to sort on that column.
- 

## Stock and Custom Objects

Unified IC uses the terms Stock and Custom as follows:

**Stock** objects are supplied by and installed with Unified IC. Stock objects include:

- Reports
- Report Definitions for each of the Stock Reports
- The CUIC data source
- The UCCE Historical data source
- The UCCE Real Time data source
- Value Lists for each of the Stock Reports
- Agent Team Collections created through the UCCE User Integration feature.

**Note:** There are no stock dashboards.

You *cannot* make changes to the Cisco stock objects and then save those changes.

You *can* make changes to stock Reports and Report Definitions and then **Save As** to create new, cloned and renamed versions of them.

There is no Save As function for the stock Value Lists. To create a custom version of a stock Value lists, create a custom Value List, copy the query from a stock Value List, and then make edits to it.

**Custom** Custom objects are any objects that were not installed with the product and include new reports and report definitions that were designed by a third party and imported into Unified Intelligence Center



Your support provider cannot assist you in troubleshooting custom objects.

## Tabs

Tabs organize content and facilitate navigation.

When you open a drawer, or click an item within a drawer, the panel that opens pops up a tab at the top of the page, if that tab is not already opened.

To close a tab in the *Reporting* application, click the **x** at the right of the tab label.

## Tabs

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