Cisco Unified Intelligence Center Report Customization Guide Release 11.5 (1)

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Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
   800 553-NETS (6387)
Fax: 408 527-0883
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About This Guide

This guide explains the user interface functionalities in the Unified Intelligence Center reporting application.
Audience

This guide is intended for users who use Unified Intelligence Center to run reports. The user can generate reports, filter data in a report, and schedule a report.

Related Documents

- Guides for the Cisco Unified Intelligence Center
- Hardware and Software specifications for Cisco Unified Intelligence Center

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see What's New in Cisco Product Documentation.

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Introduction to Cisco Unified Intelligence Center

Unified Intelligence Center is a web-based application that provides Historical, Real-time and Live Data reporting and dashboards.

Unified Intelligence Center serves the following primary purposes:

- Obtains data from the base solution's database. The base solution can be any of the Contact Center products.
- Allows you to create custom queries to obtain specific data.
- Customizes the visual presentation of the reports.
- Customizes the data presented in the reports.
- Allows different groups of people to view specific data based on their roles.
CHAPTER 2

Report Customization in Unified Intelligence Center

This chapter describes the different aspects of developing and customizing a report in Unified Intelligence Center.

- Before You Begin, on page 3
- What Can You Customize, on page 3

Before You Begin

Ensure that you have adequate permissions to create or modify the reports, report definitions, value lists, and collections.

Understand how permissions are set for categories, sub-categories, and imported components. You can do either of the following:

- Contact the administrator.
- If you have access to the Security drawer, see Security Overview, on page 48 to understand the permissions structure of Unified Intelligence Center.

If you are creating or designing reports for any particular application, be aware of the specific guidelines for accessing data from the application. See the respective application's reporting guide for detailed information.

What Can You Customize

The different components of a Unified Intelligence Center report can be customized are described below. Each section describes the level of customization available for each of the components of a report.

Report Definition

Customizing the Report Definition affects the kind of data present in the report.

You can configure the query used to fetch data from the data source. The fields are then created on the basis of the query. Each field can be configured to hold a particular type of data. The field can also be formatted on the basis of the type of data present in the field.

A single Report Definition can be used by multiple reports.
Drill-Down
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 drill-down to a chart or a gauge. You can create a drilldown for any field in a report that is not a grouped field.

The main advantage of drill-downs is that you do not have to configure a query to fetch a particular piece of data and format it if it is already present in another report.

You can create any number of drill-downs for a particular Report Definition.

Value List
Value lists are based on database queries and contain all reportable items of the same type.

Collection
Collections are subsets of Value Lists that can be created to control the amount of data shown to specific users and user groups.

View
A view is a data presentation. A report can have multiple views using the same or different fields. To know more about how to view help of a report, see the Create a Grid View.

Multiple Report Views on Gadget
**Data Sources**

- Overview, on page 5
- Data Source Rules, on page 5
- Streaming Data Source, on page 6
- MediaSense Data Source, on page 6
- Create or Edit a Query Based Data Source, on page 7
- Switch Nodes to a Data Source, on page 8
- Delete a Data Source, on page 9

**Overview**

Unified Intelligence Center supports the following types of data sources:

- Query based SQL Data Source
  - Microsoft SQL server
  - IBM informix

- Streaming Data Source

**Note**

To perform any action on **Configure > Data Source**, you will be redirected to the legacy interface.

- MediaSense Data Source

**Data Source Rules**

- Set up a database with an SQL user account and password, with read-only permission for the database.
- The database server must allow SQL authentication to enable TCP/IP and remote network connection.
- Do not block the database port by firewalls or any other security software (such as Cisco Security Agent).
Windows integrated authentication connection to MS SQL Server is not supported.

**Streaming Data Source**

Live Data report uses Streaming data source. This is a stock data source in Unified Intelligence Center and the fields are not editable. On the data source listing page, the primary and secondary host name or IP address is displayed.

*Figure 1: Data Source Page*

When you launch the data source listing page, a new tab displays to accept certificates.

**MediaSense Data Source**

**Before you begin**

After upgrade or fresh install of Cisco Unified Intelligence Center 11.6(1), to enable the Reporting for MediaSense apply MediaSense COP `ciscocuic.enable_rest_datasource.cop.sgn`. You can download and install the COP from https://software.cisco.com/download/release.html?mdfid=282163829&softwareid=282377062&release=11.6(1)&relind

To configure MediaSense data source, perform the following steps:

**Procedure**

- **Step 1** Navigate to the Data Sources page.
- **Step 2** In the Type field, select Rest Web Services.
- **Step 3** To configure the Base URL enter `https://<MediaSense ipaddress>:8440/ora/`
MediaSense Reports

Before you begin

To configure the MediaSense reports, follow the steps:

Procedure

Step 1 Download the MediaSense stock report Templates_CUIC_11.5_MediaSense.zip from CCO https://software.cisco.com/download/release.html?mdfid=282163829&softwareid=284697222&release=11.5(1)

Step 2 Import the report into Cisco Unified Intelligence Center.

   a) Select the Data Source for Report Definition as MediaSense.
   b) Select the Data Source for ValueList as CUIC.

Note MediaSense reports are grouped using session id. Only the first level grouping is supported.

Create or Edit a Query Based Data Source

A data source can be created or edited only by users with System Configuration Administrator role.

To create a data source, follow the steps below.

Procedure

Step 1 Click the Data Sources drawer.

Step 2 In the Data Sources tab, click Create.

   Note To edit a data source, select the data source, and then click Edit.

Step 3 On the Primary tab, enter the name of the data source in the Name field.

Step 4 In the Description field, enter a description for the data source.

   Note Cross-site scripting (XSS) vulnerability is not addressed for the Description field in Data Sources. For more information on XSS, see Security Considerations.

Step 5 From the Type drop-down list, select the type of data source.

Step 6 In the DataSource Host field, enter the hostname or IP address of the target data source.
Switch Nodes to a Data Source

A data source can be switched over to the secondary data source manually if required. However, a secondary data source has to be configured. For more information on configuring data sources, see Create or Edit a Query Based Data Source.

To switch over to an alternate data source, follow the steps below:

Step 7 In the Port field, enter the port number that will allow Unified Intelligence Center to communicate with the database.

Note The port number is a mandatory field only for Informix database.

Step 8 In the Database Name field, enter the name of the database.

Step 9 In the Instance field, enter the instance of the database.

Note The name of the database instance is a required field only for Informix databases.

Step 10 From the Timezone drop-down list, select the time zone that the database is located in.

Step 11 In the Database User ID field, enter the user ID required to access the database.

Step 12 In the Password field, enter the password for the user ID required to access the database.

Step 13 In the Confirm Password field, enter the password again.

Step 14 From the Charset drop-down list, select the character set that is used by the database.

Note For Unified CVP, the charset value should be UTF-8 for Informix database.

Step 15 From the Max Pool Size drop-down list, select the maximum pool size.

Note Value ranges from 5-200. The default Max Pool Size value is 100 and is common for both the primary and secondary data source tabs.

Step 16 Assign the appropriate permissions to access and manage the data source.

Note Permissions are set only for the All Users and My Group. For specific permissions, see Manage User Permissions.

My Group refers to the data source owner's default group. If this default group is All Users group, the option to set permissions for non-administrative users is disabled. Only administrative users can set permissions for the All Users group.

Step 17 Click Test Connection to ensure that the database is accessible and the credentials provided are correct.

Step 18 Click the Secondary tab to configure a failover for the data source.

Note If you do not want to configure a failover for the data source, go to Step 20 directly.

Step 19 Check the Failover enabled check box.

Step 20 Enter the required details for the failover data source as described in Steps 6 to 16.

Step 21 Click Save.
Procedure

Step 1  Click the Data Sources drawer.
Step 2  Select the data source that you want to switch over.
Step 3  Click Switch Over.

Note  Switch Over is not applicable for Streaming data source.

Delete a Data Source

To delete a data source follow the steps below:

Procedure

Step 1  On the Data Sources page, click the radio button to the left of the data source name and click Delete.
Step 2  In the dialog box that appears, click OK to confirm the deletion, or click Cancel to cancel the action.

Note  Data sources are referenced by Report Definitions and Value Lists. When you delete a data source, a message informs you that you cannot delete the data source until the dependent Report Definitions or Value Lists are deleted or are updated to reference another data source.

Warning  Do not delete the “UCCE Historical” or “UCCE Real-Time” data sources that are configured out of the box. Deleting them results in unexpected failures (for example, user synchronization). Adding the same data sources manually does not fix these failures.
Delete a Data Source
CHAPTER 4

Reports in Unified Intelligence Center

- Types of Reports, on page 11
- Stock Reports, on page 13
- Create Reports, on page 13
- Import Reports, on page 15

Types of Reports

There are three types of reports based on the query types:

- **Historical report**—Retrieves data from the historical data source. Reports are populated with interval data that has a default refresh rate of 15 minutes. Historical reports have an upper limit of 8000 rows.

- **Real-time report**—Retrieves data from the real-time data source. Reports are populated with interval data that has a default refresh rate of 15 seconds. Real-time reports have an upper limit of 3000 rows.

- **Live Data report**—Receives data from streaming data source.

A report in Unified Intelligence Center is made up of the following components.

**Data Source**

The data source defines the sources which contain the data for the report. Unified Intelligence Center supports three types of data sources: Microsoft SQL Server, IBM Informix, and Streaming. The data source should be pre-configured for you. If it is not, contact your administrator to configure the appropriate data source.

For more information, see Overview, on page 5.

**Report Definitions**

Each report has a Report Definition, which represents how data is retrieved from the data source for that report template. In addition to specifying how data is retrieved (by a simple MS SQL query, stored procedure query, real time streaming or an anonymous block query), a report definition contains the dataset that is obtained. This includes the fields, filters, formulas, refresh rate, and key criteria field for the report.

For more information, see Stock Report Definition, on page 19.

**Reports**

Reports show data returned by Report Definitions. This data is extracted by database queries.
Time Zone Conversions

The time zone conversion happens if there is a difference between the user and the data source time zones.

Daylight savings time consideration for Database Query Reports: The Daylight savings time offset at the start of the date range is considered for the time zone conversion when the report is filtered. If the daylight savings change occurs somewhere in between the filter date and time ranges, the time zone offsets will not be computed properly if the user and the data source are in different time zones. In this case, you will have to split the time filter such that separate report invocations are run before and after the daylight savings time change.

Note

The daylight savings time offset depends on the latest system time zone library.

Example 1:

User time zone: Australia/Sydney
Data source time zone: America/New_York
Daylight savings time changes: +1 hour for Sydney at 2013-10-06 02:00 a.m. DST +1 hour is already on for New York
Filter selected by the user: 2013-10-06 to 2013-10-06, 12:00 a.m. to 11:59 p.m.
Query formed in data source time zone: 2013-10-05 10:00:00 a.m. to 2013-10-06 09:59:59 a.m.
Report displayed in user time zone: 2013-10-06 12:00 a.m. to 2013-10-07 12:59 a.m.

In this case, the report will display an extra hour of data as Sydney Daylight savings time is off at the start of the date range and on at the end of the date range.

Example 2:

User time zone: Australia/Sydney
Data source time zone: America/New_York
Daylight savings time changes: +1 hour on for Sydney at 2013-10-06 02:00 a.m. DST +1 hour is already on for New York
Filters selected: 2013-10-06 to 2013-10-10, 03:00 a.m. to 11:59 p.m.
Query formed in data source timezone: 2013-10-05 12:00:00 p.m to 2013-10-06 08:59:59 a.m.
Report displayed in user time zone: 2013-10-06 12:00 a.m. to 2013-10-07 12:59 a.m.

In this case, the conversion happens as expected as there is no Daylight savings time change in between the date ranges.

Example 3:

User time zone: America/New_York
Data source time zone: IST
Daylight savings time changes: +1 hour DST at 2013-03-03 02:00 a.m. and off at 2013-11-03 02:00 a.m. for New York. No Daylight savings time changes for IST.

Filter selected by the user: 2013-11-03 to 2013-11-03, 01:30 a.m. to 05:30 p.m.

Query formed in data source time zone: 2013-11-03 11:00:00 a.m. to 2013-11-03 02:59:59 a.m.

Report displayed in user time zone: 2013-11-03 01:30 a.m. to 2013-11-03 04:30 p.m.

In this case, the report will display one hour less of data as New York Daylight savings time is on at the start of the date range and off at the end of the date range.

**Report Views**

A report can be presented in multiple formats like a grid, chart, or a graph and gauge. Each view can have its own set of fields. A single report can have multiple views.

**Report Help**

You can attach a help page specifically for your report.

**Stock Reports**

Cisco provides new stock reports from time to time to be used as templates for new functionality. These reports can be downloaded from Cisco.com.

All the reports reside in the **Reports** drawer on the left pane.

For more information about creating or editing a report, see *Create or Edit Reports*.

**Create Reports**

All actions on the Reports interface are based on user role and on the user's permissions for reports and for categories. For more information, see *Manage User Permissions, on page 54*.

---

**Note**

Reporting users do not have permission by default to create a subcategory under **Reports**. An Administrator should create a subcategory and grant access.

The following steps describe how to create a new report.

**Procedure**

**Step 1**

On the homepage, in the left-hand side navigation, click on **Reports**. **Reports** window is displayed.
Modifying Reports

Cisco Unified Intelligence Center allows the user to modify/create the reports. The sections below will summarize the different ways to modify reports.

**Editing a View**

**From Edit Report**

Edit option on Reports page will allow you to view the existing list of views, edit any one of them, and you can also create new views. This is available under the wizard Manage Views and Thresholds. You can also delete views from this wizard, except for the default view.

**From Executed Report**

On the toolbar of an executed report, under the Report Options, one of the menu items is Edit View. This option allows you to instantly edit the current view and from the executed reports, validate the changes you made to the view.

**Adding a New View**

A new view can be added to an existing report by editing it from Edit option in the Reports page and by navigating to Manage Views and Thresholds wizard. After adding a new view, you can also make it a default view.

**Setting Threshold to a View**

**From Edit Report**

Under the Manage Views and Threshold wizard, the second tab allows you to edit or add thresholds to any view. Choose a view from the first drop-down and it will list all the existing thresholds of that view, if any.

Any existing threshold condition can be edited by choosing the Edit option from the action menu for that threshold. Similarly, a threshold can be removed by the Delete option from the same menu.

**From Executed Report**

On the toolbar of an executed report, under Report options one of the menu items is Manage Thresholds. This option can be used for instantly adding / removing / updating one or more thresholds to the current view and then validate the changes immediately.
**Group By Column Values**

From an executed report toolbar, click the **Report options** icon and select the **Group By** option. Use this option to add/remove/update grouping configurations for the current view (columns). CUIC grid reports support up to three levels of grouping.

If you are grouping the column with Date or Date time data type, you can group records on a Daily/Weekly/Monthly basis.

**Assigning a default filter**

**From Edit Report**

When you edit a report using the **Edit** option from the **Reports** page, it allows you to set a default filter for this report. This feature is available under the wizard **Manage Filters**. When a filter is configured, that will become the default filter for this report. If you check "**Don't show filter when executing report**", when a user executes it, the filter dialog will be bypassed and the executed report view (using the default filter) will be presented.

**When Executing a report**

When you execute a report which does not have "**Don't show filter when executing report**" checked, you will be prompted with **Choose Filter** dialog box. This will have the default filter pre-populated if the report had one. The user can choose a new filter or use the existing default filter to execute the report. If "**Save the chosen filter as default**" is checked, the currently chosen filter will become the new default filter for this report.

**From executed report**

On the toolbar of an executed report, one of the buttons **Manage filters** allows you to edit the current filter and save it as default filter. When you click on it, it will display the currently chosen filter for executing this report and if you want to save it as the default filter, check "**Save the chosen filter as default**", and click **Run**.

**Save As, Move & Rename**

Copying a report as another report for modifying / enhancing it later, Moving a report from one folder to another and renaming a report are some of the frequently done operations on a report. For these, there are menu options available under **Actions** in the **Reports** page. Use **Save as**, **Move** or **Rename** as necessary.

**Modifying Author, Version**

Use the **Edit** menu option from **Reports** page to update properties like **Author**, **Version** etc of a report.

**Import Reports**

If you have an existing report, you can import that report and the related help files into Unified Intelligence Center. The format for storing the report and help content is as shown below:
Each report help folder has a size limit of 3 MB. If the size exceeds this limit, the system does not load the help content. You can import the following: Report, Report Definition, Value Lists, Views, Report Editor values, Thresholds, Drill downs, Permissions, and Template Help.

Note

However you cannot import the Report Filters and Collections.

Procedure

Step 1
In the Report window on the right-hand side, click on New and select Import. You will be re-directed to the UI (prior to 11.5). In the UI follow the steps below to Import the report.

Step 2
Click the Reports drawer in the left pane.

Step 3
Navigate to the folder where you want to import the report.

Note
If you are importing a stock report bundle from Cisco.com, it should be placed at the Reports folder level.

Step 4
Click Import Report.

Step 5
In the File Name (XML or ZIP file) field, click Browse.

Step 6
Browse to and select the XML or the compressed report file, and click Open.

Step 7
From the Data source for ReportDefinition drop-down list, select a data source used by the report definition.

Note
This field appears only if the report definition for the report being imported is not currently defined in Unified Intelligence Center.

Step 8
From the Data Source for ValueList drop-down list, select the data source used by the value lists defined in the report definition.

Note
You have to select a data source for the value list only if it does not use the same data source as the report definition. For report definitions of Real Time Streaming, it is mandatory to select a data source for the Value Lists.

Step 9
In the Save To field, browse to the folder where you want to place the imported report. Use the Arrow keys to expand the folders.

Step 10
Click Import.
Importing a report to a different version of Unified Intelligence Center is not supported. However, when you upgrade Unified Intelligence Center, report templates continue to work in the upgraded version.
Report Definition

- Stock Report Definition, on page 19
- Create or Edit Report Definition, on page 19
- Import a Report Definition, on page 21

Stock Report Definition

Note

To perform any action on Report Definition, you will be redirected to UI prior to 11.5.

You can create a new report definition or modify the existing report definition and save it as a new one. To do so, right-click a stock report definition and select Save As, or edit a stock report definition and select Save As. Save the report definition with a new name and you can then edit it.

Note

You cannot rename a Stock Report Definition.

You can delete a stock report definition only if you have the user role of a System Configuration Administrator and a Report Definition Designer, and also have WRITE permissions to that specific report definition.

Note

If you have a premium license, the list contains all stock report definitions and any custom report definitions that have been created.

Create or Edit Report Definition

On the homepage in the left hand side click on Report Definitions and you will be redirected to the legacy interface and Report Definitions resides in the drawer in the left pane. You can create folders to categorize report definitions.

Report Definitions are based on the query type used in them. The query types are listed here:
• Database Query—This is a simple database query which is widely used in most of the report definitions. To configure a report definition using database query, see Create a Report Definition Type Database Query, on page 23.

• Anonymous Block—This is a block of queries that are written to pull specific data. To configure a report definition using anonymous block, see Create a Report Definition of Type Anonymous Block, on page 25.

• StoredProcedure—This is a predefined procedure written to get specific data. To configure a report definition using a stored procedure, see Create a Report Definition of Type StoredProcedure, on page 24.

• Real Time Streaming—This is a special query used to get data from streaming data source that push data in real time. To configure a report definition for real-time streaming, see Create a Report Definition of Type Real Time Streaming, on page 26.

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. This page provides a list of default formatting masks.

Note

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

Tabs on this page are DataSource, Fields, Parameters (used for Anonymous Blocks and Stored Procedures only), and Properties.

The available formats depend on the data type of the field as set in Edit Field Properties. For example, for numeric values the drop-down menu offers possible display formats for numeric values. Selecting (Custom) from this list applies the format string supplied in the Custom Format String to the value returned. The custom formats supported are as follows:

1. **String data type**: Adds a string before the string value. For example, if there is a String field called *name* where it lists the name of the doctors and if you want to append *Dr.* to the doctors' names in the report, then use **custom format** for this field and enter the value *Dr.* The resulting report displays all names as *Dr. XXXX*.

2. **Decimal data type**: Unified Intelligence Center supports decimal data formatting in accordance with the Java decimal formatting rules.

   The following table lists a few examples of custom formats. The # symbol indicates a digit or nothing if there is no digit present. The digit shows a digit or 0 if there is no digit present:

<table>
<thead>
<tr>
<th>Data</th>
<th>Format</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>123</td>
<td>123456</td>
<td>000123</td>
</tr>
<tr>
<td>123456.789</td>
<td>###,###.###</td>
<td>123,456.789</td>
</tr>
<tr>
<td>123456.789</td>
<td>###.##</td>
<td>123456.79</td>
</tr>
<tr>
<td>123.78</td>
<td>123456.789</td>
<td>000123.780</td>
</tr>
<tr>
<td>12345.67</td>
<td>$###,###.##</td>
<td>$12,345.67</td>
</tr>
</tbody>
</table>
If you have an existing Unified Intelligence Center report definition XML file, you can import it into the application and then customize it.

Ensure that the data source that is used by the report definition being imported is configured in Unified Intelligence Center. Also, if the report definition has any value lists defined, ensure that the data source that is being used by the value lists is also defined in Unified Intelligence Center.

The following steps describe how to import an existing Unified Intelligence Center report definition.

**Procedure**

**Step 1**  Click the Report Definitions drawer in the left pane.

**Step 2**  Navigate to the folder where you want to import the report definition.

To create a subfolder, navigate to the appropriate folder, right-click on the folder, and select Create Sub-category.

**Step 3**  Click Import Definition.

**Step 4**  In the File Name (XML File) field, click Browse to select the XML file.

**Step 5**  Browse to and select the report definition xml file, and click Open.

**Step 6**  From the Data Source for ReportDefinition drop-down list, select the data source used by the report definition.

**Step 7**  From the Data Source for ValueList drop-down list, select the data source used by the value lists defined in the report definition.

**Note**  You have to select a data source for the value list only if it does not use the same data source as the report definition. For report definitions of Real Time Streaming, it is mandatory to select a data source for the Value Lists.

**Step 8**  In the Save To field, browse to the folder where you want to place the imported report definition. Use the arrows to expand the folders.

**Step 9**  Click Import.
CHAPTER 6

Data Customizations

- Create a Report Definition Type Database Query, on page 23
- Create a Report Definition of Type StoredProcedure, on page 24
- Create a Report Definition of Type Anonymous Block, on page 25
- Create a Report Definition of Type Real Time Streaming, on page 26
- Fields Tab, on page 27
- Parameters Tab, on page 31
- Value List and Collections, on page 35

Create a Report Definition Type Database Query

Note

To perform any action on Report Definition, you will be redirected to the legacy interface.

To create a report definition using a database query, follow the steps below.

Procedure

Step 1  Click the Report Definitions drawer in the left pane.
Step 2  Navigate to the category where you want to create the report definition.

Note  To create a sub category, navigate to the appropriate category, right click on the category, and select Create Sub-category.

Step 3  Right-click the category, and select Create Report Definition.
Step 4  In the Name field, enter a name for the report definition.
Step 5  In the Description field, enter a description of the report definition.
Step 6  Assign the appropriate permissions, and click OK.
Step 7  From the Query Type drop-down list, select Database Query.
Step 8  From the Data Source drop-down list, select the appropriate data source.

Note  Ensure that the Data Source Status for the selected data source shows as Online.
Create a Report Definition of Type Stored Procedure

To create a report definition using the query type Stored Procedure, ensure that the location of the stored procedure is accessible by Unified Intelligence Center.

To create a report definition using a stored procedure, follow the steps:

**Procedure**

**Step 1** Click the **Report Definitions** drawer in the left pane.

**Step 2** Navigate to the category where you want to create the report definition.

**Step 3** Right-click the category, and select **Create Report Definition**.

**Step 4** In the **Name** field, enter a name for the report definition.

**Step 5** In the **Description** field, enter a description of the report definition.

**Step 6** Assign the appropriate permissions, and click **OK**.

**Step 7** From the **Query Type** drop-down list, select **Stored Procedure**.

**Step 8** From the **Data Source** drop-down list, select the appropriate data source.

**Step 9** In the **Stored Procedure** field, enter the name of the stored procedure.

**Step 10** Click **Create Parameters** to display the list of parameters.
Step 11  In the Value column, enter a value for each parameter which will be substituted for the parameter variable in the query.

CUIC supports two automatic parameters Current Username and Current User Time zone which are not mandatory. While defining a Report Definition if the user selects any of the automatic parameter, then the value is replaced with the logged in Username or User timezone respectively.

Step 12  Click Create Fields to validate the query and fetch the fields from the database.
Note To edit the properties of any of the parameters, click the Parameters tab.

Step 13  In the Fields tab, configure the existing fields or add new fields to the report definition.

Step 14  Click Properties.

Step 15  Enter the Version number and the Author name.

Step 16  From the Key Criteria Field drop-down list, select a field to act as the key criteria.
Note For real-time reports, skip steps 17 and 18.

Step 17  Check the Historical check box to maintain a refresh rate of above 900 seconds.

Step 18  From the Historical Key Field drop-down list, select a field to act as the historical key field.
Note This field is available only if the Historical check box is checked.

Step 19  Click Save.

---

Create a Report Definition of Type Anonymous Block

To create a report definition using an anonymous block, follow the steps below.

**Procedure**

Step 1  Click the Report Definitions drawer in the left pane.

Step 2  Navigate to the category where you want to create the report definition.
Note To create a subcategory, navigate to the appropriate category, right-click on the category, and select Create Sub-category.

Step 3  Right-click the category, and select Create Report Definition.

Step 4  In the Name field, enter a name for the report definition.

Step 5  In the Description field, enter a description of the report definition.

Step 6  Assign the appropriate permissions, and click OK.

Step 7  From the Query Type drop-down list, select Anonymous Block.

Step 8  From the Data Source drop-down list, select the appropriate data source.
Note Ensure that the Data Source Status for the selected data source shows as Online.
Create a Report Definition of Type Real Time Streaming

To create a report definition of query type Real Time Streaming, a streaming data source should already be configured in Unified Intelligence Center.

To create a report definition using a streaming data source, follow the steps below.

Procedure

Step 1  Click the Report Definitions drawer in the left pane.
Step 2  Navigate to the category where you want to create the report definition.

Note To create a subcategory, navigate to the appropriate category, right-click on the category, and select Create Sub-category.

Step 3  Right-click the category, and select Create Report Definition.
Step 4  In the Name field, enter a name for the report definition.
Step 5  In the Description field, enter a description of the report definition.
Step 6  Assign the appropriate permissions, and click OK.

Step 7  From the Query Type drop-down list, select Real Time Streaming.

Step 8  From the Data Source drop-down list, select Streaming DS.

Note  Ensure that the Data Source Status for the selected data source shows as Online.

Step 9  Click Fetch Topic to display the list of fields.

Step 10 Select the desired topic and the associated fields.

Note  Only one topic can be selected for the report definition.

Note  An asterisk (*) against a field indicates the topic key field.

Note  A plus sign (+) against a field indicates the object key field.

Step 11 In the Fields tab, configure the existing fields or add new fields to the report definition.

Note  For Live Data reports, the filter field is not available.

Step 12 Click Properties.

Step 13 Enter the Version number and the Author name.

Step 14 Click Save.

---

**Fields Tab**

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

In a new Report Definition page, the Fields tab remains empty until you enter the query on the Data Source tab and click Create Fields.

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

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.

Click the radio button at the left of each field to select that field for editing. The database name, display name (as it appears in the report grid), type of field, and data type for each field appear.

The *Edit Properties* and *Edit Formatting* tabs for all field types appear below the field list. Use the *Drilldowns* tab to view, create, edit, or delete a drilldown for the selected field.
Create Filter Field

You can create a filter field to add a filtering value using the Field Filters wizard on the Filter page. Filter fields reduce the amount of data that is used to generate a report and do not display as columns in the generated report.

Procedure

Step 1  Click Create from the Fields wizard and select Filter.

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

Step 2  Select Edit Field Properties and complete the fields to define a required Display Name and Data Type for the field. You can also complete the optional Edit Field Properties fields also.

Step 3  Click Update to save the field properties.

Create Formula Field

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

Procedure

Step 1  Click Create from the Fields tab and select Formula.

Step 2  Select Edit Field Properties and complete the fields to define a required Display Name and Data Type for the field and complete the optional Edit Field Properties fields.

Step 3  Click Update Field to save the field properties.

Step 4  Scroll up and select Edit Field Properties for the formula field.

Step 5  Click Update Field 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 and also for a column footer.

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

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

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 fails because there is no database field named AbanHold + AbanRing.

Dates must be enclosed in double quotation marks. The system interprets “10/10/2010” as a date. It interprets 10/10/2010 as a mathematical operation. To find the date difference between two date fields, Unified Intelligence Center provides the formula DateDiff($DateField1,$DateField2). This formula compares two date fields.
and returns the difference of seconds in decimal. If DateField1 is earlier than DateField2, it returns the difference as a negative number.

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, the 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 $\{\text{FIELD1} \} + 1$ is interpreted as $\{\text{FIELD1} : \text{FIELDn} \} + 1$.

**Formula Syntax Examples**

**Correct syntax**

• $\{\text{num1} \} + $\{\text{num2} \}$

• $\{\text{num1} \} - $\{\text{num2} \}$

• ($\{\text{num1} \}$) / ($\{\text{num2} \}$) * ($\{\text{num3} \}$)

• ($\{\text{num1} \}$) / ($\{\text{num2} \}$) / ($\{\text{num3} \}$ * $\{\text{num4} \}$) - $\{\text{num1} \}$

• DateDiff($\{\text{DateField1} \}$,$\{\text{DateField2} \}$)

• $\{\text{str1} \} + $\{\text{str2} \}$

You can use + with strings to concatenate them.

**Incorrect syntax**

• $\{\text{str1} \} - $\{\text{str2} \}$

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

• $\{\text{str1} \} + $\{\text{num1} \}$

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

• $\{\text{str1} + \text{str2} \}$

$str1 + \text{str2}$ is not a field name.

**Edit Field Properties Page**

The editable properties for a field vary based on whether the field is a Query, Filter, or Formula field. The following table explains each field property and its definition.

<table>
<thead>
<tr>
<th>Field Property</th>
<th>For Field Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>All</td>
<td>The default database name appears in this field.</td>
</tr>
<tr>
<td>Display Name</td>
<td>All</td>
<td>By default, the Display Name is the same as the Name and you can edit it. This Display Name in the column header for this field appears on the report.</td>
</tr>
<tr>
<td>Description</td>
<td>All</td>
<td>Enter a description for this field.</td>
</tr>
</tbody>
</table>
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 is surrounded by curly braces so that users can easily find dynamic content within the header.

Click Update to save the Edit Properties selections for that field only. To keep the changes, save the Report Definition.

### Field Formatting

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

- **Format**—provides a list of default formatting masks. The available formats depend on the data type of the field. For example, for numeric values, the drop-down list offers all possible display formats for numeric values. When you select (Custom) from this list, it applies the format string supplied in the Custom Format String to the value returned.

- **Footer**—The formula to use in the footer. Options are None, Average, Sum, Count, Minimum, and Custom Formula.
• **Default Custom Footer Formula** — Enter the footer formula to be applied when columns are grouped and this column does not have a custom footer formula defined for that level.

• **Group 1 Custom Footer Formula** — Enter the footer formula to be applied if this column is in the first level of grouping.

• **Group 2 Custom Footer Formula** — Enter the footer formula to be applied if this column is in the second level of grouping.

• **Group 3 Custom Footer Formula** — Enter the footer formula to be applied if this column is in the third level of grouping.

Click **Update** to save the Edit Properties selections for that field only. To keep the changes save the Report Definition.

### Parameters Tab

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

Complete the required fields on this tab, which include Name, Relative Date Range, Display Name, and Data Type.

Specify the Relative Date Range using Start Date and End Date options. For example, last week, last month, last year, and year to date are some examples of Relative Date Range.

If you reorder the parameters, click **Save Order** to save the changes.

### Enable Relative Date and Days Filtering for Anonymous Blocks and Stored Procedures

Use the parameter explained below to populate the filter tabs for reports based on anonymous blocks and stored procedures.

To indicate a relation between different parameters, the display name of the parameter must be same.

*Figure 3: Report Definition Parameters Tab*

To enable a Relative Date Range, select Start Date option and enter a display name and select End Date option and enter the identical display name. For example, you can define two parameters: `Agent_Login_Start_Date` and `Agent_Login_End_Date` with the same display name: `Agent_Login_Date`, where `Agent_Login_Start_Date`
is identified as the starting date and Agent_Login_End_Date as the ending date for the Relative Date Range input.

The related dates in a range should have the same display name and in this case the display name is Agent_Login_Date. The dates appearing under the same display name are grouped together and shown as a relative date range. A single stored procedure or anonymous block can have as many such pairs as required.

**Note**

Do not enter the same display name for more than one pair of parameters, or Unified Intelligence Center will display only the first two parameters together in one pair.

Unified Intelligence Center does not display the third and fourth parameters in a pair. For example, if you provide Agent_Login_Date display name to Agent_Login_Start_Date and Agent_Login_End_Date and then change the display name of Log_Out_Interval_Start_Date and Log_Out_Interval_End_Date parameters from Last_Login_Date to Agent_Login_Date, then Unified Intelligence Center does not display the parameters Log_Out_Interval_Start_Date and Log_Out_Interval_End_Date in a pair.

In Relative Date Range, you can also use the Days parameter to specify an optional day of the week parameter for the stored procedure or anonymous block. The Days parameter is not mandatory. This parameter must be:

1. String type
2. Prefixed with the same display name as other parameters in the same date range.
3. Appended with _Days

For example, for the Days parameter, you can define the display name as AgentLoginDate_Days, which is appended with _Days and with the same display name AgentLoginDate as defined for the two parameters AgentLoginStartDate and AgentLoginEndDate.

### Enable Relative Date

To enable Relative Date and Days Filtering for Anonymous Blocks:

**Procedure**

**Step 1**  
Navigate to the **Data Source** tab in Report Definitions.

**Step 2**  
Create two datetime parameters with the name Agent_Login_Start_Date and Agent_Login_End_Date in the anonymous block.

**Step 3**  
In the **Parameters** tab, click **Edit**.

**Step 4**  
Modify the display name to Agent_Login_Date for both the parameters. Both the parameters are paired together.

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

**Note**  
In the report that uses this report definition, the two parameters appear as a pair.
Edit Parameter Properties

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

Complete the following fields: Name, Display Name, Description, Data Type, Hard-coded value, Required and Pass Null for empty string.

- 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 text box blank and check Pass NULL for empty string. Entering a hard-coded value hides this parameter in the filter page.
- Pass Null for empty string 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. The remaining fields on this page vary based on the data type.

Select a date format from the drop-down list for For DateTime. Complete the page using the following tables:

Table 1: For Decimal

<table>
<thead>
<tr>
<th>Value Delimiter</th>
<th>Select the character to be placed between each value when a value list is passed to the stored procedure/anonymous block.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value List</td>
<td>From the drop-down list, choose a Value List to associate this parameter with that list.</td>
</tr>
<tr>
<td>Quote Values</td>
<td>Check this check box to surround the parameter with two additional single quotation marks when the value is passed to the stored procedure/anonymous block. The first single quotation mark is used to escape the second single quotation mark.</td>
</tr>
</tbody>
</table>

Table 2: For String

<table>
<thead>
<tr>
<th>Value Delimiter</th>
<th>Select the character to be placed between each value when a value list is passed to the stored procedure/anonymous block.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value List</td>
<td>From the dropdown list, choose a Value List to associate this parameter with that list.</td>
</tr>
<tr>
<td>Value Prefix</td>
<td>The value prefix defines how the parameter appears in the filter.</td>
</tr>
<tr>
<td>Quote Values</td>
<td>Check this check box to surround the parameter value with two additional single quotation marks when the value is passed to the stored procedure/anonymous block. The first single quotation mark is used to escape the second single quotation mark.</td>
</tr>
</tbody>
</table>

Click Update Field to your Edit Properties selections for that field only. To save all changes, you must save the Report Definition.
**Edit Properties Tab**

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

**Note**

For Real-Time and Live Data Reports, under the Properties tab, only the following fields are enabled: Description, Author, Version, and Permissions.

Complete this tab as follows:

**Procedure**

**Step 1**  
In the **Description** field, enter text to describe the data settings.

**Step 2**  
In the **Version** field, enter the version of report definition entity that is currently deployed in Unified Intelligence Center.

**Note**  
The version can be composed of decimal points. It should not start or end with a decimal point (for example, X.Y.).

Valid version number examples: 8.9 or 11.15.

**Step 3**  
In the **Author** field, enter the name of the template provider that created the entity.

**Step 4**  
For reports based on simple queries, select a key criteria field from the **Key Criteria Field** drop-down list.

This field is required if you intend to filter the report.

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 runs with the default filter and might be very large.

**Step 5**  
Check the **Historical** check box if the report is a historical report. Leave this check box blank for real-time reports.

**Step 6**  
In the **Refresh Rate** field, enter the refresh rate in seconds for this report. This is the rate at which the report is automatically refreshed. The minimum refresh rate is 15 seconds for real-time reports and 900 seconds for historical reports. You cannot enter values less than the defaults.

**Step 7**  
In the **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 returns 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 8**  
In the **Default Permissions** area, set permissions for My Group.

**Note**  
My Group refers to the Report Definition owner's default group. If this default group is the All Users group, the option to set permissions for nonadministrative users is disabled. Only security administrator can set permissions for the All Users group.
Value List and Collections

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

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

*Collections* are subsets of Value Lists, created to control the amount of data that is displayed to specific users and user groups. For example, you can create a collection of skill groups that displays only the skill groups in a region or line of business. No *stock* collections are installed with Unified Intelligence Center. Users with permissions to do so can create *custom* collections.

---

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

---

When you run reports, Value Lists and Collections are displayed to filter reports. The ability to filter by Value Lists or by Collections is determined by Group/User permissions.

Create or Edit a Value List

Value Lists are used to fetch data in addition to the data that is received from the Report Definition query. Follow the steps below to create a value list.

**Procedure**

**Step 1**
Navigate to Configure > Value Lists.
You will be redirected to the legacy interface.

**Step 2**
Click Create.

**Step 3**
Enter the following information.

a) **Value List Name**—Enter a name for the value list.
b) **Version**—Enter a version number for the value list.
c) **Type**—This field is generated automatically. For all value lists that you create, this field will contain the value CUSTOM.
d) **Data Source**—Select the data source from the drop-down list.
e) **Description**—Enter a description for the value list.
f) **Value List Query**—Enter the database query to fetch the values for the value list. Click Validate to check the validity of the query right away. Maximum length of the value list query is 15000.

**Note**
Order by clause is not supported in a Value List SQL query.
g) **Collection Query**—Enter a query to fetch a data from the list of values generated by the value list query. This query is required only if you are going to create a collection of type **Identifier**. Maximum length of the collection query is 15000. For more information about Collections, see *Create or Edit Collections*.

**Step 4** Select the appropriate permissions.

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

---

**Associate Value List with a Report**

You can associate a Value List with a field and a parameter of a report.

**Note**

Only fields of type string and decimal can be associated with a value list.

**Procedure**

**Step 1** Select the field that you want to associate with a Value List if the Report Definition is based on a query.

**Step 2** To associate a field with a value list, on the **Fields** tab, select the field name and click **Edit Properties**.

**Step 3** From the **Value List** drop-down list, select a value list and click **Update Field**.

**Step 4** Select the parameter that you want to associate with a value list if the Report Definition is based on an Anonymous Block or a Stored Procedure.

**Step 5** To associate a parameter with a value list, on the Parameters tab, select the parameter name, click **Edit**.

**Step 6** From the **Value List** drop-down list, select a value list and click **Update Field**.

**Note** In stock report templates, this field is populated with the stock value list for the Report Definition.

Once you have associated the field or the parameter with a value list, Unified Intelligence Center displays the value lists or collections on the Filters wizard provided that user has Execute permission for the value lists or collections.

---

**Create or Edit Collections**

A collection is a subset of the data fetched by a value list. You can create a collection for any existing value list and each value list can have multiple collections. This allows you to customize the value list entries into groups which are more meaningful for your deployment.

**Note** Modifications to Collections are not automatically updated in schedules, reports, report drilldowns, and dashboards. Hence, if a collection is modified, you must reselect the collection for all the configured schedules, reports, report drilldowns, and dashboards.
Procedure

Step 1  Click the Value Lists drawer in the left pane.
Step 2  Select the value list for which you want to create or edit a collection.
Step 3  Click Collections.
Step 4  Under All Collections, click create.

Note  To edit an existing collection, under All Collections, select a collection, and click Edit.

Step 5  In the Collection Name field, enter a name for the collection. This is the name that will appear in the report filter for the reporting user to select.
Step 6  In the Description field, enter a description for the collection.
Step 7  From the Collection Type drop-down list, select the type of collection. The different types are described here.

- **Identifier**—Enter the identifier to be used in the collection query that was defined in the associated value list. If you edit the Value List, the Collection query is exposed and you can determine what values are appropriate to enter in the Identifier field.

  Note  The Collection query is open to customization, any valid SQL Select statement which returns appropriate IDs may be used here.

- **Wildcard**—Enter a string with wildcards to search for data among the values generated by the value list.

  Note  Wildcard collections use Java regular expressions.

- **Values**—You can select a subset from the list of values generated by the value list.

Step 8  Select the appropriate permissions.
Step 9  Click Save.
Step 10 Select Populate Values. This will populate your collection and save it to the database. The value list will be updated according to the synch schedule set up under OAMP, or whenever the “Populate Values” is manually selected. This must be done prior to using an Identifier type Collection.

Note  System collections are automatic and there is no ability to modify or delete them. System collections exist for Agent, Agent Team.

Config Limits for Value lists and Collections

Cisco Unified Intelligence Center supports the following Config limits for Value lists and Collections.

- Maximum number of Value Lists = 50
- Maximum number of Values Per Value List = 65000
- Maximum number of Collections Per Value List = 6500
- Maximum number of Values Per Collection = 5000
## Create or Edit a Drilldown

### Procedure

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Click the <strong>Report Definitions</strong> drawer in the left pane.</td>
</tr>
<tr>
<td>Step 2</td>
<td>Open the Report Definition for the report in which you want to create a drilldown.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Click the Fields tab and select the field from which you want to create a drilldown.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Click <strong>Drilldowns</strong>. This displays the All Drilldowns panel. It shows any drilldowns that already exist for that field.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong> To edit an existing drilldown, select a drilldown and click <strong>Edit</strong>.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Click <strong>Create</strong>.</td>
</tr>
<tr>
<td>Step 6</td>
<td>Enter a name for the drilldown.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong> You cannot drilldown to a report based on an Anonymous Block or a Stored Procedure. You cannot drilldown to or from a report based on Real Time Streaming.</td>
</tr>
<tr>
<td>Step 7</td>
<td>Select a report by clicking the radio button next to the report name. This opens a panel showing all the fields in that report.</td>
</tr>
<tr>
<td>Step 8</td>
<td>Highlight a field and click <strong>Edit</strong>.</td>
</tr>
<tr>
<td>Step 9</td>
<td>Edit the filter values and click <strong>OK</strong>.</td>
</tr>
</tbody>
</table>
CHAPTER 7

Visual Customizations

• Create a Grid View, on page 39
• Create a Gauge View, on page 40
• Create a Chart View, on page 41
• Grouping, on page 43
• Set Threshold Indicators for Fields, on page 44

Create a Grid View

Grids are tabular presentations of the data in rows and columns. By default, all Cisco stock reports have a grid view. For custom reports, a default grid is created from the SQL query in the Report Definition.

Note

Grouping and font size is not supported in Live Data reports.

Grid View can be created while creating or editing a report.

Procedure

Step 1
In the Reports page, click on New and select Report from the drop-down. Basic Information wizard is displayed.

Step 2
Fill in the details in Basic Information wizard and click Next.

Step 3
Manage Views and Thresholds wizard is displayed.
A default view is already created. To create additional views, click on Create New and select Grid Views. New Grid View wizard is displayed.

Step 4
Enter the Name and Description in the respective fields.

Step 5
From the Font selection box, select the font size from the drop-down.

Step 6
Choose the fields from Available and move it to the Selected field list.

Step 7
In the Header column click on + or - icons to add or delete a header.
In the Selected Values edit icon allows the user to edit the fields and header properties.

Step 8
Edit the values as required and click Save.
Create a Gauge View

Gauges display the status of a single report metric (number). They are not intended to display multiple metrics or complex interrelationships. A gauge in Unified Intelligence Center is similar in function and in appearance to the speedometer in your automobile. The gauges you design in Unified Intelligence Center are semicircular graphics with a moving needle. Gauges show a visual indicator that a value is within a normal range.

Note
Live Data reports do not support Gauge view.

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 need to set the footer for the field.

Note
For creating and editing Gauge view, you must access the legacy interface. You can access the legacy interface using the following drawers:

- Dashboards
- Report Definitions
- Users
- Configure; DataSources, ValueLists, Scheduler

The steps below describe how to create a Gauge View. For illustration, the Report Definitions drawer is used as the navigation to the legacy interface:

Procedure

Step 1
From the left navigation panel, click Report Definitions. You will be redirected to the legacy interface.

Step 2
Click Reports to display Available Reports.

Step 3
Expand the Reports folder.

Step 4
Locate the report in the appropriate folder.

Step 5
Right-click on the report and select Edit Views. A new tab that contains all the views of the report opens.

Step 6
Under Create, select Gauge from the drop-down list. A new page opens.

Step 7
Click the drop-down corresponding to Field, and select the appropriate field.

Step 8
Enter the Name, Description, Range and Number of scale markers in the fields provided.
Step 9 Select the appropriate Scale options.
Step 10 Under Thresholds, enter the appropriate Value for each threshold level.
Step 11 Check the check box corresponding to a specified level to set the threshold levels.
Step 12 Check the check box corresponding to Level to set all the four threshold levels.

Note The four predefined threshold levels are Warning, Minor, Major and Critical. You can see a graphical preview of the Gauge when you select the threshold levels using the check boxes.

Step 13 Click Save As to save and rename the gauge view.
Step 14 Click Save and close to save and close the gauge view.
Step 15 Click Save to save the new gauge view.
Step 16 Click Refresh to reset the values in the page.
Step 17 Click Cancel to abort the changes and exit the Gauge View editor.

Create a Chart View

Cisco Unified Intelligence Center offers three types of charts, namely Pie, Column, and Line Chart.

- 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 data set and chart editor selections generate a pie chart with more than 50 wedges, an error is displayed.
- 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.
- Line charts--Line charts show continuous quantities over time against a common scale. They are good for showing trends.

Live Data reports do not support Chart view.

In Cyrillic characters, for vertically oriented charts, the data labels in the Horizontal Axis field may not appear at all or may be garbled. This is a known underlying limitation. You should view the horizontally oriented charts for Cyrillic.
For creating and editing Chart view, you must access the legacy interface. You can access the legacy interface using the following drawers:

- Dashboards
- Report Definitions
- Users
- Configure; DataSources, ValueLists, Scheduler

The steps below describe how to create a Chart View. For illustration, the Report Definitions drawer is used as the navigation to the legacy interface:

**Procedure**

<table>
<thead>
<tr>
<th>Step 1</th>
<th>From the left navigation panel, click <strong>Report Definitions</strong>. You will be redirected to the legacy interface.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Click <strong>Reports</strong> to display <strong>Available Reports</strong>.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Expand the <strong>Reports</strong> folder.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Locate the report in the appropriate folder.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Right-click on the report and select <strong>Edit Views</strong>. A new tab that contains all the views of the report opens.</td>
</tr>
<tr>
<td>Step 6</td>
<td>Under <strong>Create</strong>, select <strong>Chart</strong> from the drop-down list. <strong>General Settings</strong> page opens.</td>
</tr>
<tr>
<td>Step 7</td>
<td>Click the drop-down list corresponding to <strong>Chart Type</strong>, and select the appropriate field.</td>
</tr>
<tr>
<td>Step 8</td>
<td>Enter the <strong>Chart Name</strong>, and <strong>Chart Description</strong> in the fields provided.</td>
</tr>
<tr>
<td>Step 9</td>
<td>Check the check boxes corresponding to the following based on your requirement:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Accessible Mode</strong>: Check this box to add fill patterns (stripes and dots) to chart colors and make them easier to distinguish.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Dynamic Dataset</strong>: For line and column charts, check this to transform data into a summarized format.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong> Not available for pie charts.</td>
</tr>
<tr>
<td></td>
<td>Line and column charts use Dynamic Dataset OR Use Report Footer, but not both.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Use Report Footer</strong>: Check this if you want the repeated data in the chart to be grouped or collapsed by the field's footer.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong> Line and column charts use Dynamic Dataset OR Use Report Footer, but not both.</td>
</tr>
<tr>
<td>Step 10</td>
<td>Click on the drop-down list box next to <strong>Legend Placement</strong> to select either <strong>Right</strong> or <strong>Bottom</strong>.</td>
</tr>
<tr>
<td>Step 11</td>
<td>Specify the value for <strong>Maximum Legend Label Length</strong>.</td>
</tr>
<tr>
<td>Step 12</td>
<td>Under <strong>Data Change Effect</strong>, click the drop-down list box next to <strong>Type</strong> to select the appropriate field.</td>
</tr>
<tr>
<td>Step 13</td>
<td>Click <strong>Next</strong> to open <strong>Series Settings</strong> page.</td>
</tr>
<tr>
<td>Step 14</td>
<td>Under <strong>Series</strong>, click the drop-down list boxes next to <strong>Data Field</strong> and <strong>Label Field</strong> to select the appropriate fields.</td>
</tr>
</tbody>
</table>
This option is applicable only for Pie chart series.

**Step 15**

Under **Labels**, click the drop-down list boxes next to **Label Position** and **Label Format** to select the appropriate fields.

**Note**

This option is applicable only for Pie chart series.

**Note**

Skip steps 16 to 20 for Pie chart series. Perform these steps only for Line Charts and Column Charts series.

**Step 16**

Click **Next** to open the **Column Chart Series Settings** page.

**Step 17**

Select the **Axis: Type and Fields**. 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.

**Step 18**

Click **Next** to open the **Column Chart Series Settings Series Descriptions/Legend Labels** page.

**Step 19**

Enter the **Horizontal Axis Type** and **Vertical Axis Type** information. Axis Type option(s) are determined by the data type of the field.

**Step 20**

Click **Next** to open the **Summary** page.

**Step 21**

Click **Save & Preview** button to preview the chart.

**Step 22**

Click **Save & Exit** to save the chart and exit the page.

**Step 23**

Click **Cancel** to abort the changes and exit the **Chart Editor**.

---

**Grouping**

For an executed report, use the **Group By** option to add/remove/update grouping configurations for the current view. CUIC grid reports support up to three levels of grouping.

If you are grouping the column with Date/Date time data type, you can group records on a Daily/Weekly/Monthly basis.

**Note**

Live data reports do not support grouping.

To group the report data, follow these steps:

**Procedure**

**Step 1**

From an executed report, click the **Report options** icon and select the **Group By** option.

**Step 2**

In the **Group By** dialog box, specify the **Number of Levels** you want to group the report. Depending on the number of levels selected, the Level, Grouped By, Sub Group, and Show Expanded columns are activated.

CUIC grid reports support up to three levels of grouping.

**Step 3**

To group the report data by values in a particular column, select the required column name from the **Grouped By** list.
If you select a date or date and time value from the list, you can select any one of the following from the **Sub Group** column:

- None—The report data is grouped by the absolute date or date time values.
- Daily—The report data is grouped by day.
- Weekly—The report data is grouped by week.
- Monthly—The report data is grouped by month.

Enable the **Show Summary Only** toggle button to display only the summary row in the report.

For example, if you group by Agent Team and enable the **Show Summary Only** toggle button, only the summary data row for each team is displayed.

**Step 4**
Click **Save**.

**Note**
- For the grouped view, the **Only Thresholds** check box is disabled.
- You cannot perform a drill down from a report with grouped fields.

---

**Set Threshold Indicators for Fields**

You can set a threshold indicator for a field to display if the field value meets the threshold condition. Threshold indicators can be set only for views of type **Grid** and **Gauge**.

For more information about creating a **Grid** view, see Create a Grid View, on page 39. For setting field threshold indicators for a **Grid** view, follow the steps below.

**Procedure**

**Step 1**
In the **Report** page, click on **New** and select **Reports** from the drop-down. **Basic Information** wizard is displayed.

**Step 2**
Fill in the **Basic Information**, and click **Next**. **Manage Views and Thresholds** wizard is displayed.

**Step 3**
In **Manage View and Threshold** click **Next**. Threshold wizard is displayed.

**Step 4**
Select a view, and click on **Create new threshold** selection drop-down. A new panel with the field name, on which threshold will be applied is displayed.

**Step 5**
Select a field and set a condition from the drop-down.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matches</td>
<td>The <strong>Matches</strong> operator accepts Regular Expressions.</td>
</tr>
<tr>
<td></td>
<td>Note that the Regular Expressions does not support:</td>
</tr>
<tr>
<td></td>
<td>• Flags (i, g, m, n, y), OR/AND any combinations of these flags.</td>
</tr>
</tbody>
</table>
### Operator Description

- Leading and trailing forward slash (/).

Example:

- Valid Pattern → `\w+\s`
- Invalid Pattern → `/\w+\s/g`  
  (As it contains leading and trailing forward slash (/) and a "g" flag.)

### Step 6

Choose the options from **No Fill** and edit the threshold fields.

**Note**
You can set conditions on the same or different fields:

- condition on same field: threshold and condition on the same field.
- condition on different field: threshold for a field, based on the condition on the different field.
- multi conditions on same field: apply threshold for a field based on the condition on different fields.

a) Click **Done**.

For existing reports, you can follow the steps above to add more thresholds.

**Note**
The users should not configure more than 30 thresholds for a field.

### Step 7

To edit an existing threshold from an executed report, click on **Report Options** and select **Manage Thresholds**. The **Manage Threshold** wizard is displayed with the existing thresholds.

### Step 8

To edit, select the icon beside **No Fill** and click on the drop-down.

### Step 9

Format the text in the field to appear when it matches the threshold condition. Use the following options:

a) **Text Bold**—Select this check box to highlight the report field in bold.

b) **Text/Background Color**—Select a color from the drop-down for the text/background color in the field.
c) **Text Substitute**—Enter a new string if you want the text in the field to be replaced with it when it matches the threshold condition.

d) **Image Location**—Enter the path of the image if you want the text to be replaced with an image, if it matches the threshold condition replace it with the URL.

**Step 10** Click **Done** and

**Step 11** Click **Save**.

**Step 12** Click **Save**.

**Note** For more details on how to create permalink for Finesse gadget equivalent live data report, see *Create Permalink for Finesse Gadget Equivalent Live Data Report*.

For more details on how to modify the Live Data stock reports in Cisco Unified Intelligence Center and add the modified report to the Finesse desktop layout see, *Cisco Unified CCX Administration Guide*.
CHAPTER 8

Security

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- Security Overview, on page 48
- User List, on page 48
- Create a User, on page 49
- User Groups, on page 50
- About User Groups, on page 51
- Create a User Group, on page 52
- About Permissions, on page 53
- Manage User Permissions, on page 54
- Run As, on page 57
- Share, on page 57
- Audit Trail Logging in Cisco Unified Intelligence Center, on page 58
- Audit Trail Report, on page 58
- Security Considerations, on page 59

Administrator Overview

Access to the functions in the Unified Intelligence Center reporting application is controlled by the one or more users who have the user role of Security Administrator.

Note

To perform any action on Users, you will be redirected to the Security drawer in the legacy interface.

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 access to drawers and what objects the user can create.
- Assign users to User Groups.
- Create and maintain user groups.
AssignPermissions—WhereasUserRolesareassociatedwithpeople,permissionsareassociatedwithobjects(Dashboards,Reports,ReportDefinitions,DataSources,ValueLists,andCollections).

Use the Run As feature to verify other users' permissions.

Security Overview

UnifiedIntelligenceCentersecurityoffersemulti-layeredandflexiblefunctionalitythatallowsasecurityadministratortocreateaflatortieredstructureofaccesstoUnifiedIntelligenceCenterfunctions,basedontheorganization'sneeds.

Auser'saccesstoUnifiedIntelligenceCenterfunctionsisbasedon:

- Login authentication.
- License typeunderwhichtheuser'sorganizationrunsofUnifiedIntelligenceCenter.Forexample,organizationsthatuseaStandardlicensecannotaccesstheReportDefinitionfunctions.
- UserRole(ausercanhaveone,some,orallsevenUserRoles).
- UserGroupsinwhichuserisamember.
- For an object the user can access, the object-levelpermissionsassignedbythepersonwhocreatedthatobject.

User List

On the home page in the left hand side navigation, click on Users, you will be redirected to the legacy interface. In this interface, the User List page opens from the Security drawer. If a user who does not have the Security Administrator user role accessesthispage,thatusercanseealltheparametersexcepttheuserroles. Thelusercontentcannotchangehisroleorgroupmembership.

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 use the Run As feature to work in Cisco Unified Intelligence Center as a user.

<table>
<thead>
<tr>
<th>Field</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only show currently active users</td>
<td>Check the check box to display users who are currently active.</td>
</tr>
<tr>
<td>Name Contains</td>
<td>Use this filter field to narrow the list of names or to move to a specific name.</td>
</tr>
<tr>
<td>User Name</td>
<td>The domain and user name (domain\name).</td>
</tr>
<tr>
<td>First Name</td>
<td>The user's first name.</td>
</tr>
<tr>
<td>Last Name</td>
<td>The user's last name.</td>
</tr>
</tbody>
</table>

You can perform the following actions on the user lists page:
• **Create**—Opens the User Information page.

• **Edit**—Select a user name and click **Edit** to edit the User Information page.

• **Delete**—Select a user and click **Delete** to delete the user.

• **Run As**—Select a user and click **Run As** to refresh the Cisco Unified Intelligence Center reporting interface.

• **Refresh**—Refreshes the page to show any latest changes to the User List.

• **Page**—Click the arrow to move to the next page of the User List.

• **Help**—Opens online help.

• **X**—Closes the page.

---

**Create a User**

To create a user, perform the following procedure:

**Procedure**

**Step 1**

Navigate to Security > User List.

**Step 2**

Under the General Information tab, perform the following:

a) In the **User Name** field, enter the domain and user name (domain\name).

b) In the **Alias** field, enter the alias name for this user.

c) Check the **User is active** check box to enable the user to log in and remain active.

**Note** If the check box is unchecked, the user cannot log in.

d) In the **First Name** field, enter the first name of the user.

e) In the **Last Name** field, enter the last name.

f) In the **Organization** field, enter the company name or other descriptive text to be associated with the user, such as region or Line of Business.

g) In the **Email** field, enter the email address of the user.

h) In the **Phone** field, enter a phone number for the user. This can be the user's personal phone number or an emergency contact.

i) In the **Description** field, enter the description of the user.

j) In the **Time Zone** field, choose the time zone that you want to use in the report from the drop-down list.

This time zone is also used for the user's scheduled reports and takes precedence over the time zone used by the report server.

**Note** If this field is left blank, the system uses the time zone of the report server.

k) For **Start Day of the Week**, perform the following:

  • Select **Locale Based** to select starting day of the week based on locale.
• Select **Custom Settings** to choose one of the seven days of the week from the drop-down list.

**Note**  
Start Day Of The Week is used in Scheduled Report, Report Views, and Permalink.

l) In the **Roles** field, select and assign one or more roles for this user.  
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.

m) In the **Permissions** field, choose the user's permission setting preference for My Group when creating new objects. My Group is the object owner's default group.

**Note**  
Settings for My Group configures whether other users who belong to this user's default group can write, or execute the objects. Higher level permissions persist and override other permissions.

**Step 3**  
Under the Groups tab, you can determine which groups this user is a member of and how to add group membership(s) for a user. You can view the following:

• **My Group**: This field shows the user's default group. The Security Administrator can change it. The group is represented as “My Group” for the user.

• **Available Groups**: This list shows all the groups that have been created and that the user is not yet a member of. You can use arrows to move groups between columns.

• **Selected Groups**: This column shows all the groups that the user is a member of. You can use arrows to move groups between columns.

**Note**  
By default, every user has AllUsers in their Selected Groups column. You cannot remove the AllUsers group from the Selected Groups column.

---

**User Groups**

User Groups 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.

The following are the two default groups created by the system:

• The **AllUsers** group is supplied by Unified Intelligence Center. All users belong to this group by default.

• The **Administrators** group consists of administrators.

**Table 4: Fields on the User Groups Page**

<table>
<thead>
<tr>
<th>Field</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name Contains</td>
<td>Use this filter field to narrow down the list of group names or to move to a specific name.</td>
</tr>
<tr>
<td>Name</td>
<td>Name of the group.</td>
</tr>
</tbody>
</table>
### Field | Explanation
--- | ---
Full Name | The full name shows the child relationship of a group, as indicated by a dot separator. For example, if the default group for Group 3 is Group 1, and Group 1 is a top level group (does not have a parent), then the Full Name of Group 1 is \textit{Group 1}. The Full Name of Group 3 is \textit{Group 1.Group 3}.
Description | Description text of the group.

You can perform the following actions on the User Groups page:

- **Create**—Opens the Group Information page.
- **Edit**—Select the group name and click Edit to open the Group Information page.
- **Delete**—Select the group name and click Delete.
- **Refresh**—Refreshes the page to show any changes to the Group List.
- **Help**—Opens online help.
- **X**—Closes the page.

### About User Groups

User Groups are constructs that allow security administrators to partition Unified Intelligence Center 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 All Users Group**

All users are automatically a member of the system-defined \textit{All Users} group. \textit{All Users} 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 Group (also called My Group).

Default Group

After creating the customer-defined groups, the security administrator can add a user to any of these groups and can configure one of them as the user's default Group (My Group). The All Users group can also be selected as the default group.

The owner of an object can set permission for its Group. Only the Security Administrator can set extra permissions to other groups or individual users on the User Permissions page. A user's access permission to an object is the highest level of the permission that user gets from all the permission sources.

Create a User Group

To create a user group, perform the following:

Procedure

Step 1
Navigate to Security > User Groups.

Step 2
Under the General Information tab, perform the following:
   a) In the Group Name field, enter the name of the group. This field is available only when you create a new group.
   b) In the Description field, enter or modify text to describe this group.

Step 3
Under the Groups tab, perform the following:
   a) Default Group—From the drop-down list, enter the default group.
   b) Available Groups—Lists the groups that were created and that are available for this group to become a child of. Click > or < to move just that group or groups.
   c) Selected Groups—Lists the groups that this group is a child of. Click > or < to move just that group or groups.

Step 4
Under the Groups Members tab, perform the following:
   a) Under Users tab:
      • Available Users—Lists all the users that were created and that are available to be children of this group. Click > or < to move just that group or groups.
      • Selected User Members—Lists the users that are currently children of this group. Click > or < to move just that group or groups.
   b) Under Groups tab:
      • Available Groups—Lists all the groups that were created and that are available to be children of this group. Click > or < to move just that group or groups.
      • Selected Groups Members—Lists the groups that are currently children of this group. Click > or < to move just that group or groups.
Step 5  Click **Save** to update new entry or changes to the fields.

Step 6  Click **Cancel** to cancel or close the page.

---

**About Permissions**

User Roles are associated with people and permissions are associated with objects. Unified Intelligence Center objects are Dashboards, Reports, Report Definitions, Data Sources, Categories, Value Lists, and Collections.

Permissions:

- **EXECUTE**: When the user has EXECUTE permissions for an object, that user can perform some actions that depend on the object.

  For example, with EXECUTE permission, a user can run, print, and refresh a report, open and refresh a dashboard and run a dashboard slide show, and see a Value List query. EXECUTE permission includes the read permission.

  ![Note](image)

  Permissions set on categories are not recursive. For all entities under Dashboard, Report, or Report Definition types, you need separate EXECUTE/WRITE permissions.

- **WRITE**: When the user has WRITE permission for an object, that user 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](image)

  If no check boxes are selected when setting permission for an object, the user has no access privileges to the object.

The following rules are applicable for all category trees in Unified Intelligence Center — Reports, Report Definitions, Dashboards.

- To delete an entity, you need WRITE permissions for the entity and the entity's parent category.

- To delete a category, you need WRITE permissions for the category, the category's parent, and all the categories and/or entities belonging to the category.

- A user can only Edit or Save an entity even if the immediate parent category has no WRITE permissions.

- A user can only use the Save As feature if the entity has no WRITE permissions enabled.

- Any category owner within the **Imported Report Definitions** can delete a category if the administrator provides explicit WRITE permissions on the **Imported Report Definitions** category.

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, the Default Group (My Group), or the permission assigned by the Security Administrator. Among all these permissions, the highest level permission is used when the user accesses the object.

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 users in your Group only.

Note

If the user’s group belongs to the All Users Group, the option to set permissions for non-administrative users is disabled. Hence, only the administrative users can set permissions for the All Users 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 All Users and the Groups.

When the object is ready, set your default Group (My Group) permissions to EXECUTE or even WRITE. For example, if you create a Dashboard for your Group and the dashboard has notes, you might want others in your 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 not be able to see those dashboards, based on your Group permissions and on the object-level permissions those owners have set for their dashboards.

Note

Role changes to a user who is currently signed in, must sign out and sign in again for the changes to take effect.

Manage User Permissions

Use this page to set extra permissions to Groups or to individual users.

User permissions page has the following tabs:

Assigned Group Permissions

Procedure

Step 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 permissions for the object are displayed in the Group permissions for the selected item panel.
### Step 2
Select a group in the All Groups panel. All user members of this group are displayed in the All Users for the selected group panel.

### Step 3
Click **Set Permissions**. Check the level you want for the group (Execute, Write), and click **OK**.

### Step 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 occur immediately.

---

**Table 5: Fields on the Group Members Tab**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permissions For panel (top left)</td>
<td>Click the drop-down list to select the objects for which you want to set permissions. Options are: Data Sources, Report Definitions, Reports, Dashboards, Value Lists, and Collections. Selecting an object type refreshes the panel to show the list of items or categories for that object.</td>
</tr>
<tr>
<td>All Groups panel (top right)</td>
<td>This panel shows the available User Groups. Highlighting a user group refreshes the page to display an All Users for Selected Group panel that lists the member of the group.</td>
</tr>
<tr>
<td>All Users for the Selected Group panel (bottom right)</td>
<td>This panel shows all members in the group that is highlighted in the All Groups panel above.</td>
</tr>
<tr>
<td>Set Permissions button</td>
<td>Click this option 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.</td>
</tr>
<tr>
<td>Group Permissions for the selected item</td>
<td>This panel shows the groups that have already been assigned permission for the selected object, and their permission level.</td>
</tr>
</tbody>
</table>

### Assigned User Permissions

**Procedure**

**Step 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 are displayed in the User permissions for the selected item panel.

**Step 2**
Select a user name in the User List panel.

**Step 3**
Click **Show Groups** to see the groups for which this user is a member.

**Step 4**
Click **Set Permissions**, check the level you want for this user (Execute, Write), and click **OK**.
The **All Permissions for the selected item** panel refreshes to show the user permissions you have added or changed for this user in steps 3 and 4.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
</table>
| Permissions For panel (top left)           | Click the drop-down 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.
|                                            | 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 current users. Filter the list and select one or many user names.                                                          |
| Show Groups button                         | Click this option to show the All Groups for the selected user panel.                                                                       |
| All Groups for the selected User (bottom right) | This panel shows all groups to which the highlighted username in the User List panel above is a member.                                      |
| Set Permissions button                     | Click this option to open a dialog box where you select the permission level for the object (Execute, Write).                                 |
| All Permissions for the selected item      | This panel shows users who have permission for the object, and the level of permissions they have.                                        |

**Note**

You cannot change the permission for the owner of an object. The owner always has Write permission for the object. For example, if a user is the owner of Report 1, then that user has WRITE permission for Report 1, and no one else can change the permission to EXECUTE.

---

### Set Administrator Credentials

Cisco Unified Intelligence Center has an administrator user who is created at the install time. The new user can be provided with all the roles and permission after executing the command `utilscuic user make-admin <user-name>` successfully.

To provide the new user with the administrator credentials, perform the following steps:

**Procedure**

- **Step 1** Log in to the CLI using administrator credentials.
- **Step 2** On the CLI, run the command `utilscuic user make-admin <user-name>`.
- **Step 3** The `<user-name>` here should be the complete user name of the user including the authenticator prefix as listed in the Unified Intelligence Center User List page.
- **Step 4** If the command executes successfully, it will provide all the roles to this new user and copy all the permissions from the administrator to this user.
- **Step 5** Restart Intelligence Center Reporting service for the changes to be visible.
• The administrator's group memberships are not copied to this user by this CLI command. They will have to be manually updated. But after running the CLI, since this new user would have become a Security Administrator, he can do that himself.

• For any entity (reports, report definitions etc), if this new user’s permissions provide higher privileges than the administrator, they will be left as it is and will not be overwritten by this CLI command.

Note: This CLI is useful when using Unified Intelligence Center in SSO mode. Since the Administrator created at install time is not an SSO user, the make-admin CLI can be used for providing Administrative roles and permissions to an SSO user.

---

**Run As**

Security Administrators can select a name on the User List page and click Run As. This refreshes the Unified Intelligence Center web page so that it reflects the interface that user has when logged in.

Use this tool to verify that the User Roles and permissions are configured properly.

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.
- You can Run As a different user. But you need to refresh the open Unified Intelligence Center browser tabs to reflect the new user.

To leave Run As mode, click Stop Run As option and refresh the open Unified Intelligence Center tabs.

---

**Share**

User can grant View or Edit permission to their owned entities like Report/Folder to their default group.

To grant permission follow the steps given below:

**Procedure**

**Step 1** Navigate to Reports page.

**Step 2** For a report or a folder, under the Actions column click on the icon and select Share from the menu.

**Step 3** Use the toggle button to turn on or off the permission and
Audit Trail Logging in Cisco Unified Intelligence Center

Unified Intelligence Center now supports Audit Trail Logging. This feature allows you to view the sequence of audit records of the transactions related to create, update, modify, and delete that are performed on the entities of a Unified Intelligence Center server. You can view the audit trails using the Audit Trail stock report. Only System Administrators can access and view this feature by default. However, a System Administrator can then give permissions to other Unified Intelligence Center users to use this feature.

Note
Localization of Audit Trail report is not supported.

View Audit Trail Logging in Unified Intelligence Center

Procedure

Step 1
Log into the Unified Intelligence Center Reporting Interface.

Step 2
Navigate to Reports > Stock > Intelligence Center Admin and click Audit Trail. The system opens the Audit Trail Report Filter window.

Step 3
Specify the required filter criteria and click Run. The system displays the Audit Trail report based on the filter criteria that you specified.

Audit Trail Report

Views: This report has three grid views - Non-grouped, Groupby – EntityName, Groupby – Username.

Grouping: This report has two grouped views - grouped and sorted by User and Entity Name. The third view is un-grouped which is also the default view for this report.

Value List: CUIC Users, CUIC Operations, CUIC Entity Types.

Database Schema Tables from which data is retrieved:

- CUICAUDITLOG
- CUICLOGENTITY
Security Considerations

If you make the user a member of one or more other groups, make one of those groups the user's default group, and set the permissions for the default group higher than those of the AllUsers group.

Higher permissions for the default group prevail over permissions in the AllUsers group. Individual user permissions prevail over group permissions.

**XSS Vulnerability**

Cross-site scripting (XSS) vulnerability is addressed in Unified Intelligence Center. If a malicious script, pattern, or input is entered into Unified Intelligence Center server, then the server displays a warning message “Malicious Input data detected”.

A user accessing Unified Intelligence Center should ensure that free format texts do not contain the following special characters:

- parentheses pair (( ))
- angle bracket (>)
- forward slash (/)
- question mark (?)
- Any executable scripts (for example, JavaScript)

Also, the text should not start with a quote (" ) or quotation mark ( ’ ).

---

**Note**

- XSS vulnerability is addressed only for English locale in Unified Intelligence Center.
- XSS vulnerability is not addressed for widgets in Dashboards.
- XSS vulnerability is not addressed during the import of reports and report definitions (XML/zip), and also during the upload of help files (Html/zip) in this release.
- XSS vulnerability is not addressed for https://<HOST>:<port>/cuicui
- For existing customers, who has already used these special characters in any entities under Reports, Report Definitions, Dashboards, Data Sources, Value Lists, or Collections, Unified Intelligence Center allows you to view these existing entities. However, when the customer wants to customize these entities, they have to ensure that the above mentioned characters are not used in the free format texts.
CHAPTER 9

Package Reports for Export

In Unified Intelligence Center, you can bundle all the components of a report together while exporting it. This chapter explains how to package the different components together and export the report.

- Configure Online Help for a Report, on page 61
- Export Reports, Report Definitions, and Categories, on page 61

Configure Online Help for a Report

Unified Intelligence Center report can have its own individual help page. Reports can be configured to add help URL. You can also upload help zip file and choose a html file from it and configure help for a report.

ZIP files can contain multiple HTML files. The contents of the HTML page can be rich text including images. Videos and other interactive content are not supported.

To configure the help page for a report, follow the steps below.

Procedure

Step 1  On the home page, in the left-hand side navigation, click on Reports.

Step 2  In the Reports window, click on the icon below the action column, and select Add Help from the sub-menu. Add Help dialog is displayed.

Step 3  In Add Help use the appropriate radio buttons. Click on the URL radio button to upload a help file URL.

Step 4  Click on Choose File radio button to upload a ZIP file, and select a help file from the drop down.

Step 5  Click Save.

Export Reports, Report Definitions, and Categories

Any custom report, report definition, or categories of reports in Unified Intelligence Center can be exported. Reports and categories of reports are exported in a zip format and report definitions are exported as a single XML file.
When you export a Category, the reports in the category are grouped together as zip files. The grouping is done on the basis of the data source used by the report definition as well as the value lists.

**Note**
Export for a Report, Report Definition and Category can be performed from the UI prior to 11.5.

**Note**
For customized reports, you should update the version numbers of the value list and report definition before you export the report. Else, the export will not overwrite the existing default reports.

To export a Category, right-click the category, and click **Export**. Choose to save or open the zip file as required.

**Note**
Report definitions that contain multiple value lists with each value list pointing to a different data source will not be exported.

To export report definitions with value lists, ensure that all the value lists in the report definition point to the same data source.

The same applies to Categories as well. While exporting a Category, ensure that all the Value Lists in the Category point to the same data source.

When you export a report, the following items are exported:

- Report
- Report Definition
- Value Lists
- Views
- Preferences defined in the Report Editor
- Thresholds
- Permissions
- Online Help (if not bundled, an empty folder is created in the zip file)

The following items are not exported with the report:

- Report Filters
- Collections

Follow the steps below to export a report or a report definition.

**Procedure**

**Step 1**
On the homepage, in the left hand side navigation, click on the **Report Definitions**.

**Step 2**
You will be redirected to Old UI, in the Old UI perform the below steps to **Export**.
<table>
<thead>
<tr>
<th>Step 3</th>
<th>Browse to the report or report definition that you want to export.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 4</td>
<td>Right click the report or report definition, and select <strong>Export</strong>.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Rename the report or report definition if required but do not change the extension (Reports:.zip and Report Definitions:.XML).</td>
</tr>
<tr>
<td>Step 6</td>
<td>Click <strong>OK</strong>.</td>
</tr>
<tr>
<td>Step 7</td>
<td>In the <strong>File Download</strong> window, click <strong>Save</strong> to specify the location where you want to export the report or the report definition.</td>
</tr>
<tr>
<td>Step 8</td>
<td>Browse to the folder where you want to save the report or the report definition.</td>
</tr>
<tr>
<td>Step 9</td>
<td>Click <strong>Save</strong>.</td>
</tr>
</tbody>
</table>
Chapter 10

Permalinks

Permalinks in Cisco Unified Intelligence Center are permanent hyperlinks.

Unified Intelligence Center supports the following types of permalinks for reports:

- **Excel Link**: This permalink is generated only for grid view.
- **Html Link**: This permalink is generated for grid view, gauge view, and chart view.
- **XML Link**: This permalink is generated only for the grid view. It is used where the data is required in XML format.

Due to security reasons, permalinks from one Unified Intelligence Center cannot be displayed in the dashboard of another Unified Intelligence Center instance.

Create a Permalink for Dashboard

Dashboard permalink can be accessed only from a web browser. It cannot be accessed by an application like Microsoft Excel to pull data or display a dashboard.

The permalink to a dashboard is created when you create the dashboard. To retrieve the permalink to a dashboard, follow these steps:
Permalink to a Report

Report permalinks help you to share your report with other users and view reports of other users.

To view the Report permalink, perform the following steps:

Procedure

Step 1 From the left navigation pane, click Reports.
Step 2 Click the ellipsis icon beside the required Report and click Permalinks.
Step 3 In the Permalinks dialog box, select from the available Link formats; HTML, Excel, XML to display the corresponding Report permalink in the Link text box.

Note

• Select the Authenticate check box if you want the permalink to be accessible with authentication.
• For Live Data reports, the Authenticate check box is disabled. Make sure to enable it as all Live Data report permalinks require authentication.
• For Excel permalink, the browser prompts you to download and save the file (Excel format) to the local drive.

Step 4 Copy and paste the permalink (HTML and XML) in any browser to view the Report.
Step 5 Click Save.
Variable Parameters in a Permalink

You can apply variable parameters on the fields or on the display name of a field, and on the parameters.

You must not include both fields and parameters at the same time in a permalink.

You can explicitly specify the filtering criteria by using either fields or parameters in a permalink to display the changed report data.

Format of the Parameters and Fields in a Permalink

You can include variable parameters to the default permalink using the following format:

\(<variable\_param\_name> or <field\_name>=<operator><space><value><space><value>\n
\(<variable\_param\_name>\) can be either the field name or parameter name as configured in the report definition of the report.

\(<value>\) is any valid value for the configured field.

To include multiple variable parameters in a permalink URL, use an & (ampersand) between two variable parameters.

The permalink with the variable parameter is one single URL. Do not break it into different lines. In this example, the URL is broken to explain the concept of variable parameters. You can have a space only between an operator and a value.

Parameters

You can apply the variable parameters only on the parameter name for anonymous-block-based and stored-procedure-based reports.

Parameters are created from a stored procedure or an anonymous block.

Example: Permalink with parameters

This example shows how you can include \(@start\_date, @end\_date, and @agent\_list\) parameters to change the report data shown by a default permalink based of the values that are passed to these parameters.

Default permalink

//localhost:8444/cuic/permalink/PermalinkViewer.htm?роверId=5BC22D1C1000013C61E3571D0A4E5AF5&linkType=htmlType&viewType=Grid

Parameter name 1:

@start\_date=ABSDATE 11-01-2012 00:00:00

Parameter name 2:

@end\_date=ABSDATE 01-21-2013 23:59:59

Parameter name 3:

@agent\_list=14527,14537
Fields

You can apply the variable parameters on a field name or its display name for a database-query-based report. Fields are created from a database query.

Example: Permalink with fields

This example shows how you can include variable parameters to a permalink URL based on the fields EventTime and User to change the report data shown by a default permalink based on the values that are passed to these fields.

Default permalink

//localhost:8444/cuic/permalink/PermalinkViewer.htm?viewId=5BC22D1C1000013C61E3571D0A4E5AF5&linkType=htmlType&viewType=Grid

Field name 1:

&EventTime=ABSDATE 11-01-2012 01-21-2013 00:00:00-23:59:59 MON,WED

Field name 2:

&User=VL CUIC\administrator

The EventTime field retrieves the report data based on the absolute date value **ABSDATE 11-01-2012 01-21-2013 00:00:00-23:59:59 MON,WED**.

The User field retrieves the report data based on the value **&User=VL CUIC\administrator**.

---

**Note**

In **User=VL CUIC\administrator**, you must use two backslashes (\) so that the Internet browser interprets the value correctly as CUIC\administrator and does not misinterpret the backslash (\) as the beginning of an escape sequence.

- \& is the separator that separates two variable parameters.
- User is the second field.
- VL is the second operator that works on the values CUIC\administrator.
- CUIC\administrator is the value that is passed to the User field.

**Supported Operators for Fields**

This section describes the supported operators for fields in a permalink:

For all data types, after an operator, specify the field ID as the value. For example, if the ID of IPCC_1.2000001 filter field is 1000, specify this ID in the variable permalink as &SkillTargetID=LIKE 1000.

---

**Note**

Do not specify the field name as the value.
<table>
<thead>
<tr>
<th>Data Type</th>
<th>Supported Operators</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECIMAL</td>
<td>EQ</td>
<td>&amp;agents_logged_on=LEQ 9.0</td>
</tr>
<tr>
<td></td>
<td>NEQ</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LEQ</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GEQ</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BTWN</td>
<td></td>
</tr>
<tr>
<td>STRING</td>
<td>EQ</td>
<td>&amp;agent_team_name=LIKE %IPCC_1%</td>
</tr>
<tr>
<td></td>
<td>NEQ</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>Matches the pattern</td>
</tr>
<tr>
<td>DATETIME</td>
<td>RELATIVE DATE</td>
<td>Relative Date</td>
</tr>
<tr>
<td></td>
<td>ABSOLUTE DATE</td>
<td>Absolute Date</td>
</tr>
</tbody>
</table>

For all other operators

The following other operators can take more than two parameters depending on what you want to configure:

Format:

<date_type_param_name>=
<date_op><space><value_1>
<space><value_2><space><value_3>

**RELDATE**

Relative date values: Today, Yesterday, This Week, Last Week, This Month, Last Month, Year to Date, and Last Year

**<Relative_Date>**

Can be any one of these: TODAY, YESTERDAY, THISWEEK, LASTWEEK, THISMONTH, LASTMONTH, THISYEAR, and LAST YEAR.

**<from_timestamp>-<to_timestamp>**

Timestamp in 24 hour format indicating both start time and end time separated by a hyphen (-)

hh:mm:ss-hh:mm:ss

**<weekdays>**

Comma separated values indicating days of a week based on which the report data is retrieved. For example, MON,TUE,WED, and so on.

For example:

EventTime=RELDATE LASTMONTH 00:00:00-23:59:59 TUE,THU,SAT

---

**Note**

You can have `<Weekdays>` only when you have `<from_timestamp>-<to_timestamp>`. When you configure days, you must always configure the timestamp. **Example:** EventTime=RELDATE LASTMONTH 00:00:00-23:59:59 TUE,THU,SAT

In case of RELDATE and ABSDATE, if weekdays are not provided to the `<weekdays>` parameter then the default value is used, that is, MON, TUE, WED, THU,FRI, SAT, and SUN.

**ABSDATE**

Absolute date requires the following parameters:

**<from_date>**

Date in the format: MM-DD-YYY

**<to_date>**

Date in the format: MM-DD-YYY

**<from_timestamp>-<to_timestamp>**

Timestamp in 24 hour format indicating both start time and end time separated by a hyphen (-)

hh:mm:ss-hh:mm:ss

**<weekdays>**

Comma separated values indicating days of a week based on which the report data is retrieved. For example, MON,TUE,WED, and so on.

For example:

EventTime=ABSDATE 12-21-2012 01-07-2013 00:00:00-23:59:59 MON,TUE,WED
<from_date> and <to_date> are mandatory.
<from_timestamp> and <to_timestamp> are optional.

Note
For all parameters that take boolean values, TRUE and FALSE are the valid values.

### Supported Operators for Parameters

This section describes only the additional operators supported for parameters in a permalink:

Parameters also support the same set of operators as supported for the fields. The only difference is in the Date time operators, which is as explained below:

**Format**: `<date_type_param_name>=<date_op><space><value_1><space><value_2>

All the values are mandatory.

<table>
<thead>
<tr>
<th>Operators</th>
<th>Values</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELDATE</td>
<td>&lt;value_1&gt;</td>
<td>&lt;value_1&gt; can be any of the following: TODAY, YESTERDAY, THISWEEK, LASTWEEK, THISMONTH, LASTMONTH, THISYEAR, LAST YEAR</td>
<td>For example: @startDate=RELDATE TODAY 00:00:00</td>
</tr>
<tr>
<td></td>
<td>&lt;value_2&gt;</td>
<td>Timestamp in hh:mm:ss format</td>
<td></td>
</tr>
<tr>
<td>ABSDATE</td>
<td>&lt;value_1&gt;</td>
<td>date in the format: MM-DD-YYYY</td>
<td>For example: @endDate=ABSDATE 12-21-2012 01-07-2013 00:00:00-23:59:59 MON,TUE,WED</td>
</tr>
</tbody>
</table>
Collections as Variables in Report Permalinks

You can use collection names as a variable parameter in a permalink provided you have the right permissions to the collections.

---

**Note**

Permalinks with variable parameters are always authenticated irrespective of the check box **Enable Unauthenticated Access** being checked or not.

---

**Note**

If you do not provide specific collection names after the `=CL` keyword, the report will be filtered using all the collections that the user has permissions for. The user in this case is the person using the permalink.

---

**Format of the Permalink URL as collection variable for SQL based Report Definition**

Permalink URL & `<field name>`=`=CL`<white space>Collection 1,Collection 2.

**Example**

```
https://localhost:8444/cuic/permalink/PermalinkViewer.htm?viewId=65FB26481000013F000000250A8E79F3&linkType=htmlType&viewType=Grid&EventTime=RELDATE%20TODAY%2009:00:00-23:59:00&User=CL
TestColl_FF_15201,TestColl_FF_7066
```

In the above URL, & `User` is the name of the field and TestColl_FF_15201 and TestColl_FF_7066 are collection names separated by commas.

---

**Format of the Permalink URL as collection variable for Stored Procedure or Anonymous Block Report Definition**

Permalink URL & `<parameter name>`=`=CL`<whitespace>Collection 1,Collection 2.

**Example**

```
https://localhost:8444/cuic/permalink/PermalinkViewer.htm?viewId=25DE58941000012E63BCDF340A591C3A&linkType=htmlType&viewType=Grid&refreshRate=3600&start_date=ABSDATE 05-03-2010 00:00:00&end_date=ABSDATE 01-03-2014 23:59:00&team_list=CL
TestColl_FF_15201,TestColl_FF_7066
```

In the above URL, & `@team_list` is the name of the parameter and TestColl_FF_15201 and TestColl_FF_7066 are collection names separated by commas.
Cisco Unified Intelligence Center SQL Syntax

Guidelines

• You cannot use comments in an 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 CallTypeID and TimeZone.

• You should not 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 are 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 causes performance issues.

• There can be no unnamed fields in an SQL query. Each field needs an alias.

• Alias names must be unique.

• Informix stored procedures must contain a returning statement, and for each data type in the returning statement, there must be a corresponding alias specified with the letters 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, and so on.
• Informix stored procedure parameter names are prefixed with the 'at' character: @param1, @param2 ...

Supported Data Types for Fields and Parameters
• 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 Intelligence Center 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 is:

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

Sample query:

```sql
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
```