Oracle® Communications Report Manager

Report Manager User Guide
Release 7.4
Formerly Net-Net Central

June 2015

ORACLE

Notices

Contents

About this Guide

The Oracle Communications Report Manager User Guide provides information about configuring Report Manager to interoperate with BI Publisher as well as creating reports on the devices in your network.

Related Documentation

Table 1: Oracle Communications Report Manager Documentation Library

Document Name	Description
User Guide	Contains information about configuring Report Manager to interoperate with BI Publisher as well as creating reports on network devices.
Installation Guide	Contains instructions for installing Oracle Communications Report Manager as an Add-on to the Session Delivery Manager including the database and BI Publisher components.

Revision History

Date	Description
April 2014	• Initial release
June 2015	• Adds pointer to HDR Resource Guide

1

Overview

The Report Manager allows you to schedule and run dynamic reports on Oracle Communications Network Session Delivery and Control devices in your network. Currently, the Report Manager users Oracle BI Publisher to render reports based on metrics collected from Historical Data Recording (HDR).

HDR refers to a group of management features that allow you to configure the managed device to collect statistics about system operation and function. The Report Manager collects raw data in CSV files from designated devices. This data is aggregated into time granularities (raw, hourly, daily, monthly), and made available for running reports.

When you set collection parameters for a device or device groups, you can specify the type of data for collection. A collection group is a collection of devices from which the user wants to collect the same set of HDR groups This data is organized into report types such as Hardware, Diameter Director Interface, and other HDR collection groups.

Warning: To register BI Publisher with SDM, see the Register BI Publisher chapter of the Report Manager Installation Guide.

2

Configuration

This chapter provides configuration instructions for Report Manager's administration features. These tasks include:

- Creating new user groups
- Setting permissions for users
- Adding users
- Setting collection groups
- Configuring the data retention policy

Before you can run a report, you must configure a collection group.

Note: Only users with Execute Report permissions can set up collection reports.

Once collection parameters are set and a start time is configured, Report Manager begins collecting data. You can configure the data retention for saving the collected data.

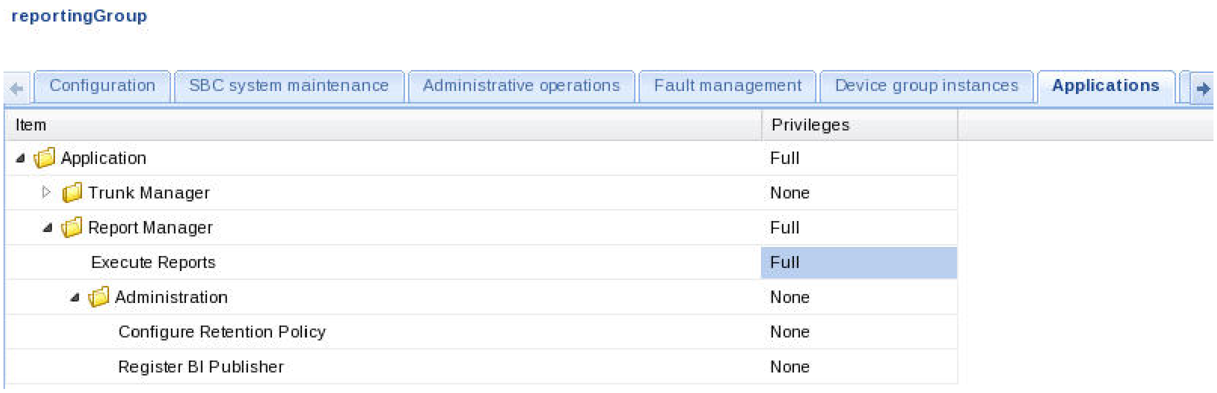
Creating a New User Group

Before running reports in BI Publisher, create a new group with permissions to execute reports.

To create a new group:

1. Sign in to Report Manager as the administrator.
2. Expand the **Security Manager** tab.
3. Click **Groups**.
4. Click **Add**.
5. Enter a group name.
6. Select a group on which to base the permissions of the new group you are creating. To assign the new group no permissions, select None.

7. Select the new group created and click **Edit**.
8. In the row of tabs at the top of the page, click the **Applications** tab.
9. Set the Application folder and Report Manager folder to Full privileges. Set the Execute Reports parameter to Full privileges.



10. Click **Apply**.

Setting User Permissions

Privileges for Report Manager are configured in SDM's Security Manager slider. Make sure you set the appropriate permissions for the user group before adding users to that group.

1. Expand **Security Manager** > **Groups**.
2. Select a user group from the table click **Edit**.
3. Click the **Applications** tab at the top of the content area.
4. Expand the **Report Manager** folder.
5. Set the permission for Report Manager to Full, View or None.

Note: The parent folder sets the permissions for children folder. Set Report Manager to Full, and other children folders to View or None if you want to restrict certain actions.

6. Set the children folders based on the use cases described below.
7. Click Apply.

Permissions Use Cases

Below is a table presenting the permissions and a description of setting the Full, View, or None permissions.

Table 2:

Permission	Scenario
Execute Reports	This controls the Reports node in the Report Manager slider.

Permission	Scenario
	Full: User can bring up reports application and configure collection groups. View: User can bring up reports application and view collection groups. None: User will not see the Reports node.
Configure Retention Policy	This controls the Retention Policy node in the Report Manager slider. Full: User can configure data retention policy. View: User can view data retention policy. None: User will not see the Retention Policy node.
Register Reporting Engine	This controls the Register Reporting Engine node in the Report Manager slider. Full: User can register a reporting engine with SDM. View: User can view the reporting engine settings. None: User will not see the Register Reporting Engine node.

Since users with Execute Reports permission will be added to BI Publisher, Execute Reports permissions are not given to the SDM default groups.

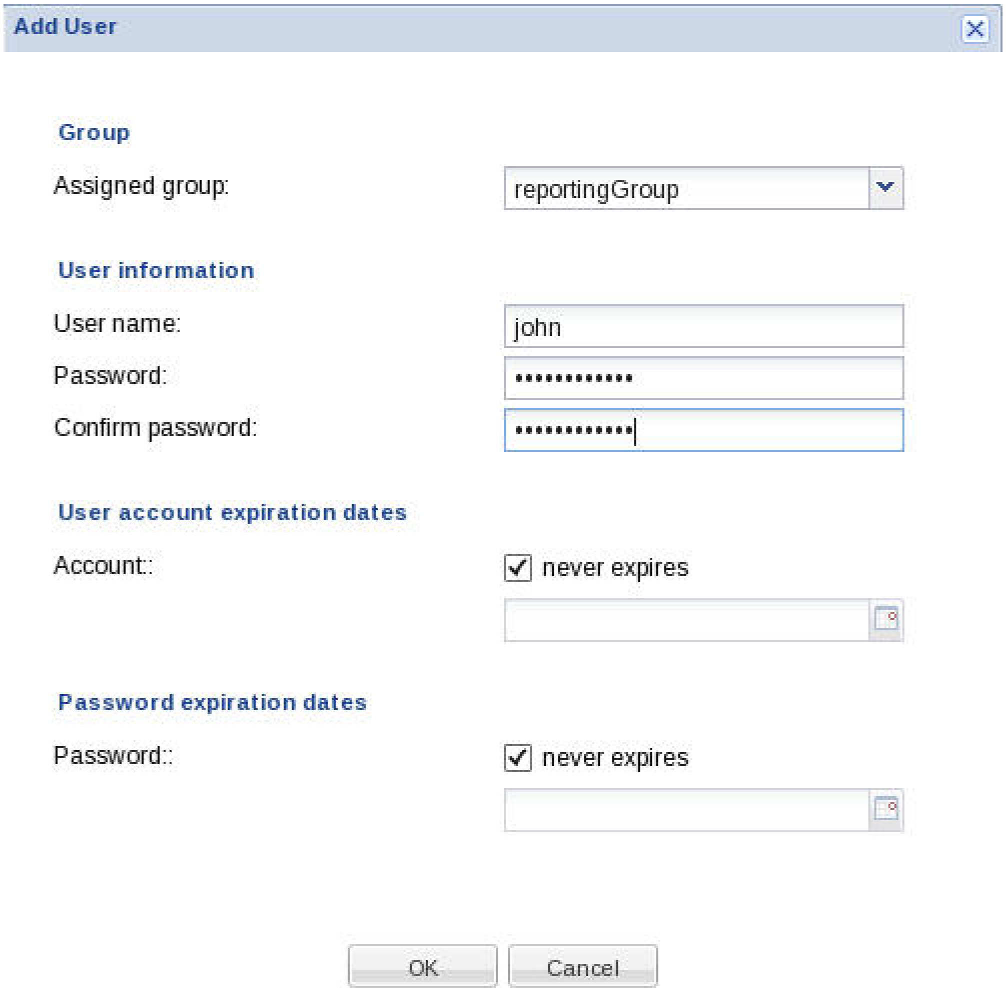
Default User	Execute Reports	Configure Retention Policy	Register Reporting Engine
Administrators	None	Full	Full
LIAdministrators	None	Full	Full
Provisioners	None	Full	Full
Monitors	None	None	None

Adding Users

After creating a group with privileges to execute reports, create a new user and add that user to the newly created group.

To add a user.

1. Sign in to SDM as the administrative user.
2. Expand the **Security Manager** > **Users** field.
3. Click **Add**.
4. Enter the user group, the user name and the password as well as the account expiration date and password expiration date.



5. Click **OK**.
6. Log out of the administrator account.
7. Log in as the new user.

   You will be prompted to change your password the first time you log in.

Collection Groups

To begin collecting data on a device or group of devices, you must first set up groups and set collection parameters. Once you create a collection group, you can perform the following actions that comprise the collection group cycle:

Note: All devices added to a collection group must be running the same software version.

1. Add a device or devices to Device Manager.
2. Select the device or devices for data collection.
3. Set start and stop times for data collection.
4. Configure push interval for the device to determine how often the device sends data to the push receiver.
5. Configure the global collection interval to determine how often the Report Manager collects data from the collection repository.
6. Specify the HDR groups for which you would like to view in a report.
7. Configure parameters for the push receiver.

Note: Skip the section about adding devices if you have already done so.

Adding a Device Group

When you add a new device group, the name you choose:

- Must start with an alphabetic character
- Can contain a minimum of three characters and a maximum of 50 characters
- Can contain the following characters: alphabetic, numeric, hyphens (-), and underscores (_)
- Can be a mix of upper-case and lower-case characters
- Cannot contain symbols
- Cannot be the same name as an existing group name within the same level in the hierarchy (sibling)

To add a device group:

1. Expand the **Device Manager** slider and click **Device Groups**. The Device Groups appear in the content area.
2. Click Add. The Add device group dialog box appears.
3. *Device group name:—Enter the name for this device group.

4. Click OK. The device group, Midwest, appears in the device groups.

Once you create a device group, you can move devices into the device group by:

- Specifying a device group when adding this device in SDM
- Moving a device or devices from one device group to another device group by clicking the Move button

  For additional information about device groups, see the Session Delivery Manager's Functionality Guide, Managing Devices chapter.

Adding a Single Device

When adding devices in Oracle Communications Session Delivery Manager, you have the ability to add a single device, or to add more than one device in a row. To add one device only, complete the required parameters in the Add Device dialog box and click the OK button at the bottom of the window.

To add a single device:

1. Expand the **Device Manager** slider.
2. Click **Devices**.

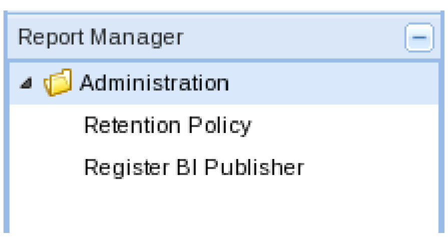
The Device table appears in the content area.

3. Click Add. The Add Device dialog box appears.
4. IP address 1:—Enter the IP address for this device.
5. IP address 2:—Enter the IP address for the second device, if this device is part of a cluster.
6. SNMP community name:—Enter the SNMP community name for this device. The SNMP community name is the name of an active community where this SBC can send or receive SNMP information (performance and fault).

   Note: The SNMP community must be configured on the SBC before adding the device to the Session Delivery Manager. This is done on the SBC in the **ip-addresses** parameter found in the **configure terminal** > **system** > **snmp-community** element. For more information, see the "SNMP Community Configuration" section in the System Configuration chapter of the ACLI Configuration Guide.
7. SNMP port:—Enter the SNMP port number for this device, or retain the default value of 161.
8. Device Group—Click Set device group. The Set device group dialog box appears.
9. Click the device group you want this device to belong to.
10. Click OK to add the device group.
11. Click OK to add this single device. Your device appears in the device group and the dialog box closes.

Accessing Collection Group

If signed in as a user with Full privileges, you can access the collection group parameters under the Reports folder as shown below:



Collection Group Parameters

The table below describes the parameters to configure for collection groups. A parameter's default value is bold in the Value Range column.

Parameter	Description	Value Range
Name	The name of this collection group	
Description	A description for this collection group	
Start collection	The start date and time to begin collections on this collection group	Now checkbox begins collection immediately or Calendar date and time in 24 hours

Parameter	Description	Value Range
Stop collection	The end date and time to begin collections on this collection group	Never checkbox resumes collection indefinitely or Calendar date and time in 24 hours
Push interval	The time in minutes for how often you want the Net-Net device to send collected records to the push receiver	1 - 120 | 15
Global collection interval	The time in minutes you want the Net-Net device to collect statistics for the specified HDR groups; this value cannot exceed the push interval value	1 - 120 | 5
Host name	The IP address of the push receiver	
User name	The FTP/SFTP user name for the push receiver host	
Password	The FTP/SFTP password (corresponding to the username) for the push receiver host	
Configuration Password	The password on the device for configuration and PBE encryption	
FTP path for data storage	The directory on the push receiver where you want data placed; may differ from the Absolute path given system security, though the two typically point to the same location	Your entry will look like this: /ftpLocation
Protocol	The protocol with which to send CSV files	FTP | SFTP
Absolute path for data storage	The absolute path for data storage typically points to the same directory as the FTP path, but may need to include the FTP root directory; contact your network administrator for this information	A read-only field, where the entry looks like this: <ftpRootDirectory>/ftpLocation

Adding a Collection Group

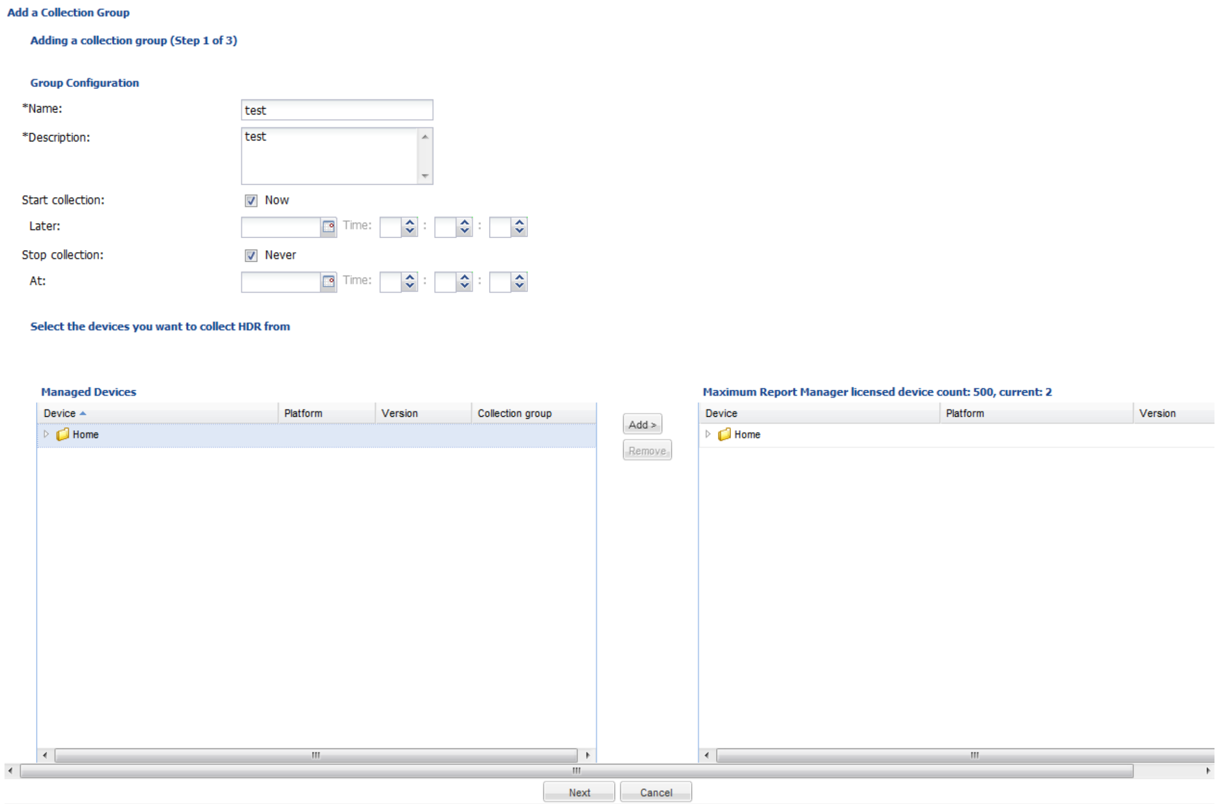
Creating a Collection Group

1. Expand the **Report Manager** slider.
2. Click Collection Groups.
3. Click Add.
4. Set the Name for this collection group.
5. Set the Description for this collection group.
6. Click the Now checkbox to Start collection now, or click the calendar icon to select a future start date.
7. Click the Never checkbox to never Stop collection, or click the calendar icon to select a definitive end date.

8. Expand device group folders in the Managed Devices table to select individual devices, or select the entire group folder to collect an entire device group with the same collection parameters.

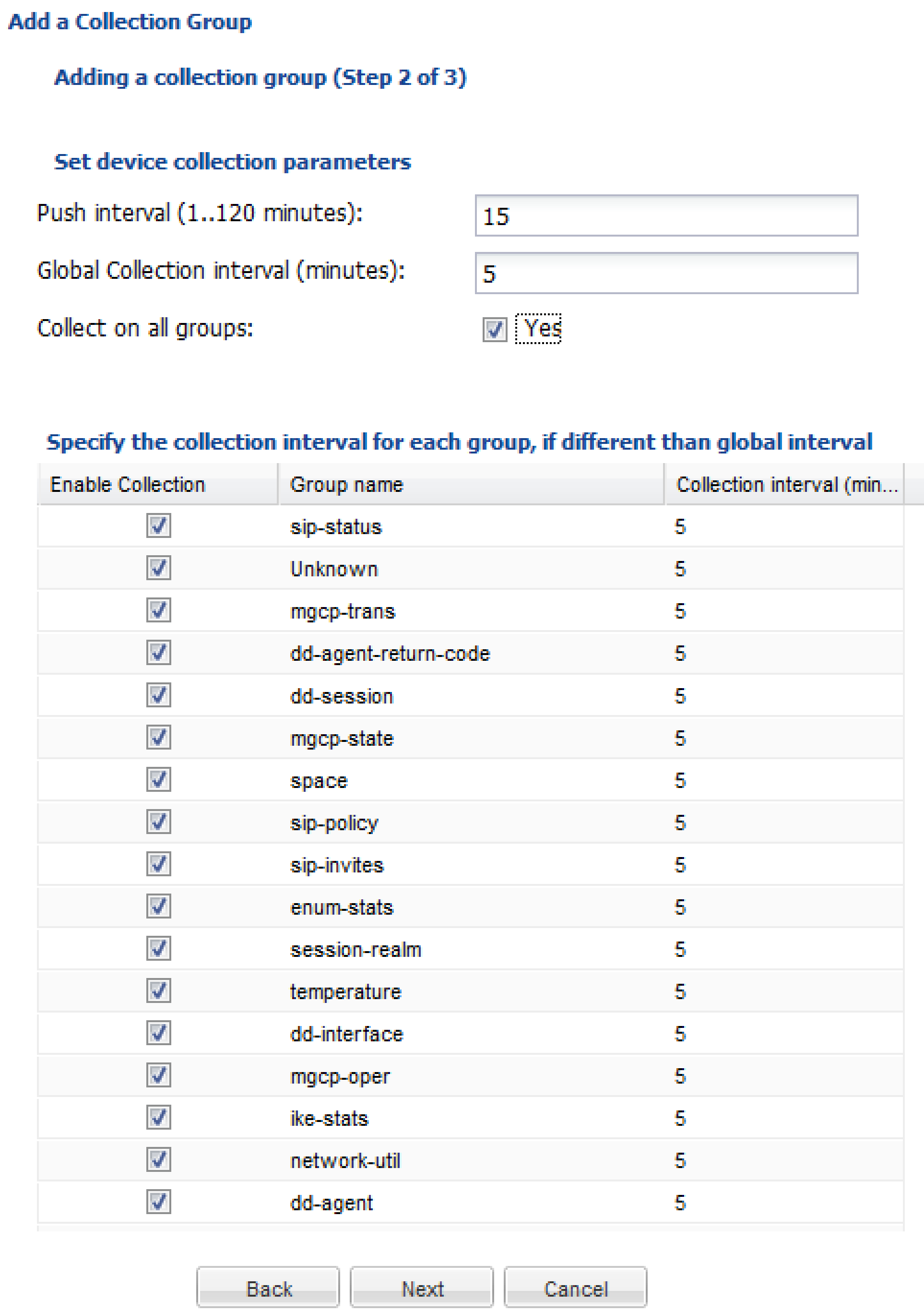
   Only devices with the same version can be added to one collection group.

9. Click Add to move the device(s) to the Collect on following devices table.
10. Click Next at the bottom of the content area.



Setting Collection Parameters

1. Set the Push interval for the device(s).
2. Set the Global collection interval for the HDR groups.
3. Click the Collect on all groups check box to automatically select all HDR groups for collection, or select individual check boxes to narrow the data.
4. Click Next.



Add a Collection Group

Adding a collection group (Step 2 of 3)

Set device collection parameters

Push interval (1..120 minutes): 15

Global Collection interval (minutes): 5

Collect on all groups: Yes

Specify the collection interval for each group, if different than global interval

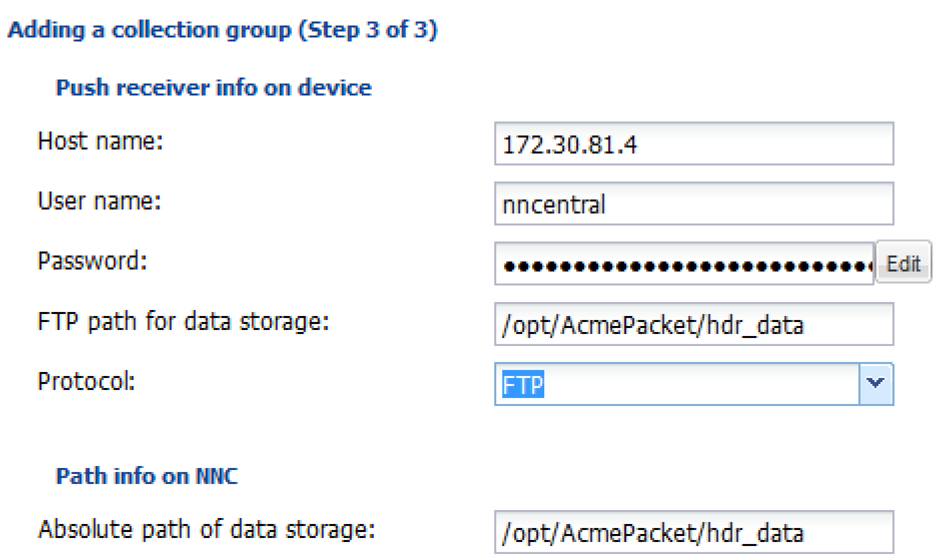
Enable Collection	Group name	Collection interval (min...
✓	sip-status	5
✓	Unknown	5
✓	mgcp-trans	5
✓	dd-agent-return-code	5
✓	dd-session	5
✓	mgcp-state	5
✓	space	5
✓	sip-policy	5
✓	sip-invites	5
✓	enum-stats	5
✓	session-realm	5
✓	temperature	5
✓	dd-interface	5
✓	mgcp-oper	5
✓	ike-stats	5
✓	network-util	5
✓	dd-agent	5

Back Next Cancel

Setting Push Receiver Parameters

1. Enter the Host name for the FTP push receiver.
2. Enter the User name for the host.
3. Click Edit next to the Password field. A dialog box appears for entering passwords.

4. Enter the push receiver Password.
5. Confirm the Password.
6. Enter the Configuration password.
7. Confirm the Configuration password.
8. Click Apply.
9. Enter the FTP path for data storage for storage server. Depending on system security, this path might differ from the Absolute path of data storage; typically the two paths point to the same location. Your entry will look like this: /ftpLocation.
10. Select the FTP or SFTP Protocol from the drop-down list.
11. Enter the Absolute path of data storage for the Oracle Communications Session Delivery Manager server. Typically the two paths point to the same directory, although depending on system security, this path might differ from the FTP path. You may need to include the path for the FTP root directory; contact your admin for this information. Your entry will look like this: <ftpRootDirectory>/ftpLocation.



12. Click Finish to complete collection group configuration. The collection group now appears in the Collection group table and a Success message appears.

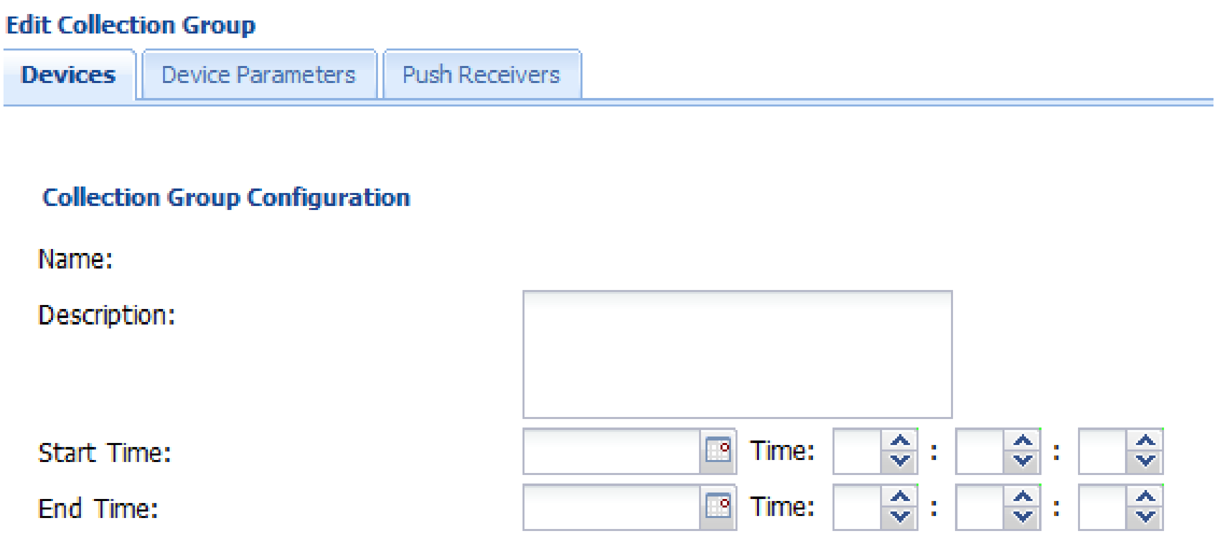
13. Click OK.

Editing a Collection Group's Start and End Times

The only parameters in a collection group that can be edited after creation are the start and end times.

To edit a collection group:

1. Expand the **Report Manager**.
2. Click Collection Groups.
3. Select the collection group from the Collection Groups table and click Edit.



4. Edit the start or end times and click **Apply**.

Retention Policy

Once data collection has begun, the Report Manager server aggregates the data based on several time granularities. You can save the data for the default values described in the Report Manager Data Services chapter, or you can configure retention times.

Data and reports that exceed the retention times you configure are automatically purged from the system each night.

Caution: Increasing retention times increases disk usage. Ensure that the host to which HDR data is being delivered has the disk capacity to store the required retention periods.

Configuring Data Retention Time

To configure the data retention policy:

1. Expand **Report Manager**.
2. Click on **Retention Policy**.
3. Select retention times for raw data and aggregated data from the drop-down lists.

4. Click Apply.

3

Data Services

This chapter describes how data is handled between your SBC and SDM. The chapter contains sections on the following information:

- Pushing Data to the SDM
- File types and naming conventions
- Aggregating data types
- Time granularities
- Data retention
- Purging data

Configuration steps for Report Manager and data services are located in the Report Manager Configuration section.

Pushing Data to the Session Delivery Manager Server

The devices push the data to the configured push receiver in standard CSV format. SDM Report Manager periodically monitors the push receiver folder, which is configured in the Collection Group screen, for any new data.

The push receivers are configured on the SBC. An example is below:

```
ACMEPACKET# conf t
ACMEPACKET(configure)# sys
ACMEPACKET(system)# snmp-c
ACMEPACKET(snmp-community)# community-name EastCoast
ACMEPACKET(snmp-community)# ip-addresses 172.30.1.1
ACMEPACKET(snmp-community)# show
snmp-community
        community-name                 EastCoast
        access-mode                    READ-ONLY
        ip-addresses
                                       172.30.1.1
        last-modified-by
        last-modified-date
ACMEPACKET(snmp-community)# done
```

For more information, see the "SNMP Community Configuration" section in the System Configuration chapter of the ACLI Configuration Guide.

The receivers push the device's HDR data to the Oracle Communications Session Delivery Manager servers the user has specified. If the server is a member of the Oracle Communications Session Delivery Manager cluster, device data is delivered to each member in the cluster.

Finally, the device creates a FTP/SFTP connection to the push receiver, or Oracle Communications Session Delivery Manager server, and the CSV files are pushed.

File Types and Naming Conventions

Statistical records are forwarded from the device to the Oracle Communications Session Delivery Manager server for viewing in a comma-separated value (CSV) file on the server. Before pushing a file, the device creates a directory by group name for which the statistic belongs (for example, diameter director, system, etc.), if the directory does not exist from a previous push.

Each file is formatted as <UTC timestamp in seconds>.csv (for example, 201112250000.csv).

Each CSV file contains a record for the header containing the statistical attribute name, as well as both the push interval and collection interval records. The first record of each file is a header containing the attribute name. For example, in the "System" directory, a file name of 201112250000.csv can contain the header names of CPU Utilization, Memory Utilization, Health Score, Redundancy State, etc. Also included in the files are both the push interval and collection interval files. For example, if the collection interval is one minute, and the push interval is 15, a collection occurs every minute for 15 minutes. The CSV file in this example contains 15 records.

Aggregating Data

The configured push receiver uses FTP/SFTP to push the CSV files to the Report Manager server at the location specified in the <nodename>/<groupname> directory. Before Report Manager can aggregate the data, it must identify new files, add them to a files table, and load them into the reporting database.

Data Type Aggregation Behavior

Below is a table of data types, and the aggregation behavior for each type.

Data Type	Aggregation Behavior
Dimension	Dimensions cannot be aggregated
Identifiers	Identifiers cannot be aggregated
State	The most recent state value
Boolean	The most recent boolean value
Count	The sum of the integer values
Range (i.e. 0-100)	The average of all values
Current value	The average of all values
Capacity	The average of all values
Index	The most recent index value
High water mark	The maximum value
Maximum rate	The maximum value
Low water mark	The minimum value
Minimum rate	The minimum value
Percentage	The average of all percentage values
Rate	The average of all rate values
Latency	The average of all latency values

Data Type	Aggregation Behavior
Ratio	The average of all ratios
Speed	The average of all speeds
Temperature	The average of all temperatures

Time Granularity

Time Measurements in Report Manager

Reporting Manager time measurements are based on the UTC time. The devices pushing data to Oracle Communications Session Delivery Manager send raw data in UTC time. UTC does not operate on Daylight Savings Time (DST), and therefore the timestamps of CSV files do not fluctuate due to DST. Time zones of the Oracle Communications Session Delivery Manager client nor the reporting device are relevant in the Report Manager.

Reports are available in the following time granularities: raw, hourly, daily, and monthly.

An aggregation schedule below describes the time frame for processing raw data based on UTC time.

- CSV Timestamps: CSV data files are titled with the UTC timestamp in seconds, otherwise known as the Unix Epoch time.
- Aggregation and Purging: Aggregation time granularities and purging schedules are based on the Gregorian calendar. References to start time and date are based on the UTC time relative to the Gregorian calendar.

Time Granularity Start and End Date

The table below describes the collection and aggregation periods of data in the Report Manager:

Time Granularity	Aggregation Schedule
Raw	Raw data is not aggregated. It is collected by the device as specified in the Global collection interval parameter, and pushed to the receiver as specified in the Push interval parameter. These are both configured under **Administration** > **Collection Groups**.
Hourly	Starts at the 00 minute of the hour and ends at minute 59 of the hour. The next hour starts at the following 00 minute.
Daily	Starts at the 00:00 hour and minute of the day (midnight), and ends at hour and minute 23:59. The next day starts at the following 00:00 hour.
Monthly	Starts at the 00:00 hour and minute on the first day of the month, and ends at hour and minute 23:59 on the last day of the month. The next month starts at the following 00:00 hour.

Shared Data Between Time Granularities

Aggregated data for each time granularity is independent of other granular data. Data for a given calendar week (Sunday through Saturday) can be included in reports for two consecutive calendar months if a new month begins in the middle of the week.

Data Retention

You can configure the data retention times for raw data and each aggregation time granularity (raw, hourly, or daily). There is no maximum value for retention time. If you set the retention time to 0, data is not retained for that granularity, and the data is purged once it is aggregated.

Below are the default data retention times for each time granularity:

Granularity	Retention Time
Raw	30 days
Hourly	720 hours
Daily	30 days
Data Files	30 days

Purging Data

Oracle Communications Session Delivery Manager performs a nightly purge of all expired data, CSV files, and reports based on configured data retention times.

4

Reports

The Report Manager provides a small set of predefined reports. Operational reports are the reports you run on aggregated HDR. To run a report, you must first configure collection groups. Consult the Report Manager Configuration chapter for more information.

If you enabled Single Sign On, clicking on Operational Reports in the Reports Manager slider will open BI Publisher in a new tab and sign you in to BI Publisher with the same account name used to sign in to SDM. If you did not enable Single Sign On, you will have to log in to BI Publisher manually.

Note: If you are signed in as the Administrator, you will not see the Operational Report section of the Report Manager slider. To access Operational Reports, you must be signed in as a user who has Full privileges under **Security Manager** > **Groups** > **Application management access** section. See the Configuration chapter for details about adding users.

Reports in BI Publisher

The upper-case groups (e.g., Performance, QoS, Registrations, etc.) correspond to the canned reports, while the lower-case groups (e.g., radius-stats, session-agent, sip-invites, etc.) correspond to the SBC's HDR groups. For more information about HDR groups, see the HDR Resource Guide for your software version.

Canned Reports

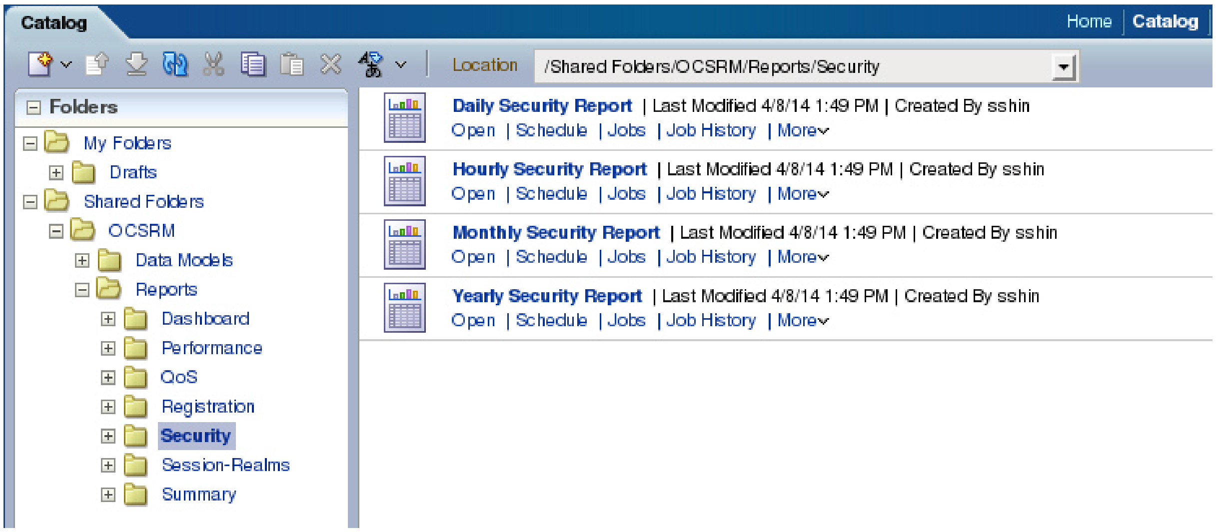
Report Manager comes with the following predefined reports:

- Dashboard—Displays space used, fan speed, temperature, and voltage.
- Performance—Displays CPU, memory, registration cache, and concurrent sessions.
- QoS—Displays RFactor, major exceeded, critical exceeded, and successful sessions.
- Registrations—Displays total registrations, initial registrations, refresh registrations, and de-registrations.
- Security—Displays ACL entries, requests and message status, ACL entry promotions and demotions, and demotions.
- Session Realm—Displays calls per second, QoS RFactor, answer seizure ratio, and one-way signalling latency.
- Summary—Displays sessions, session state, dialogs, and errors.

To run a canned report:

1. In the toolbar, click **Catalog**.
2. In the Folders section, navigate to **Shared Folders** > **OCSRM** > **Reports**.
3. Select one of the following folders:

- Dashboard
- Performance
- QoS
- Registrations
- Security
- Session Realm
- Summary



4. To run the report, select Open under the time granularity you want (Daily, Hourly, Monthly, Yearly).
5. To schedule a report, click **Schedule**.
6. To manage the job or edit start and end times, click **Jobs**.
7. To view the job history, click **Job History**.
8. To add the report to your Favorites, click **More** > **Add to Favorites**.

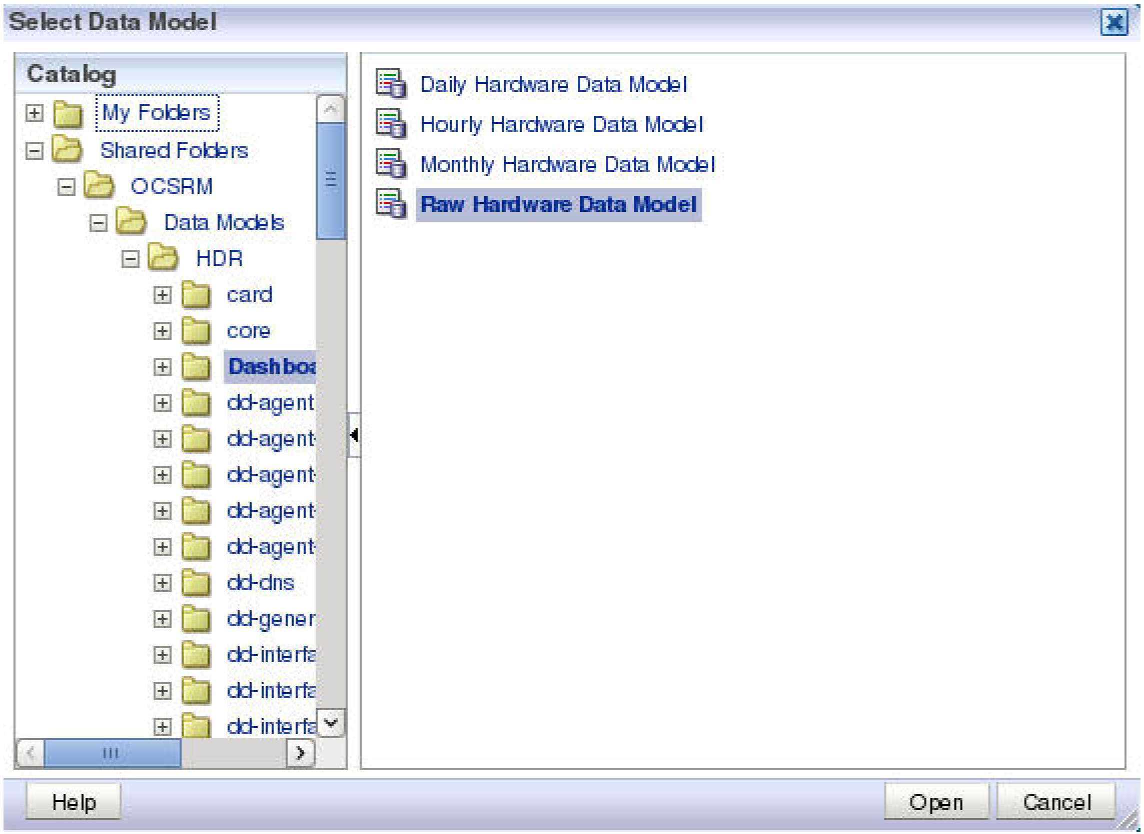
New Reports

To create a new report:

1. In the Create section, click **Report**.
2. If your data source is an existing data model, select **Use Data Model**, click the magnifying glass, and select an existing data model from the catalog. If your data source is in a spreadsheet, click **Upload Spreadsheet** and browse to the .xls file.

   If the uploaded spreadsheet contains multiple sheets, select the sheet to use as the data source. You can include data from only one sheet.

   A picture of selecting a data model from the catalog is shown.



3. After selecting a data model, click **Open**.

4. Click **Next**.

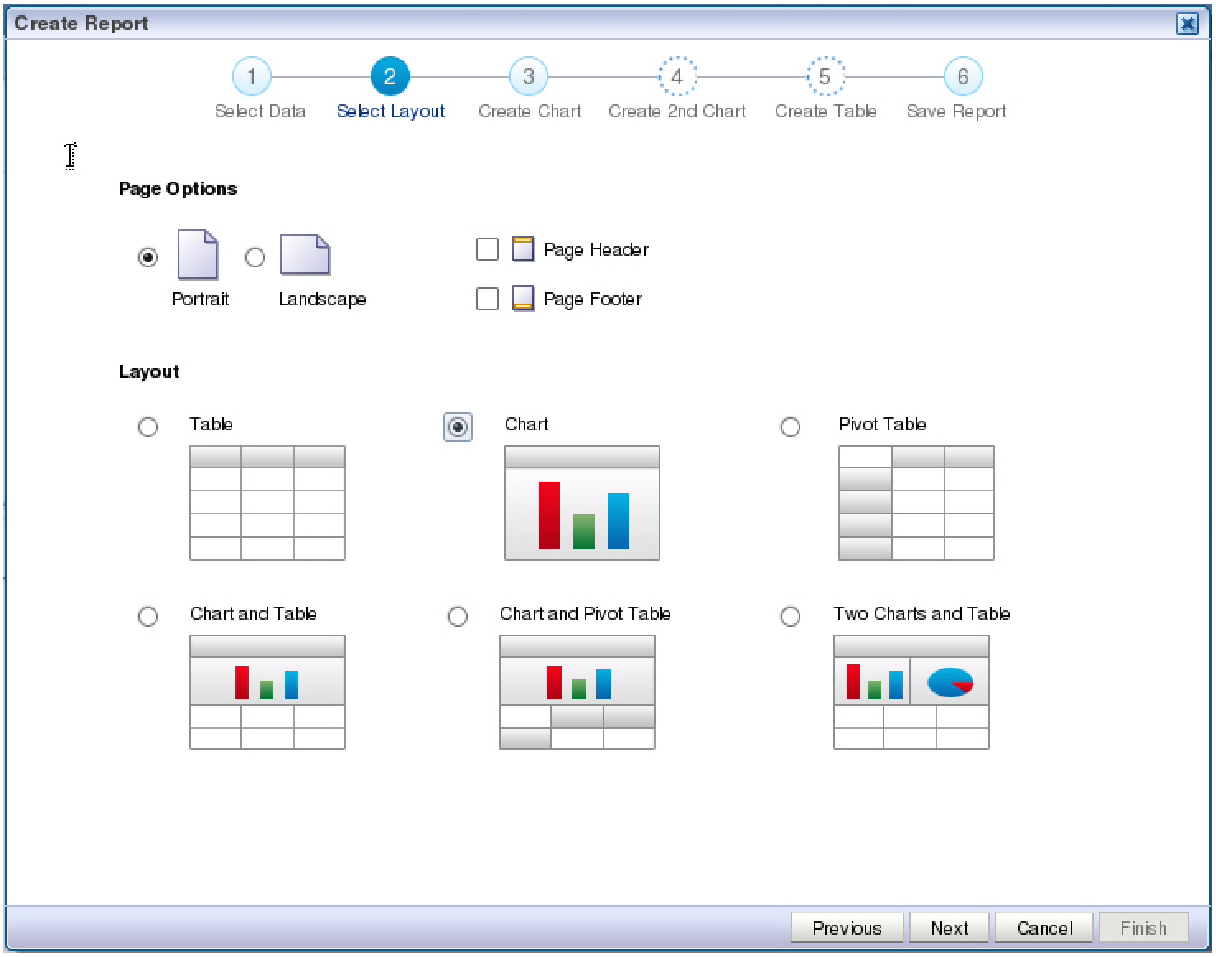
5. Select a layout for your report.

Page Options are:

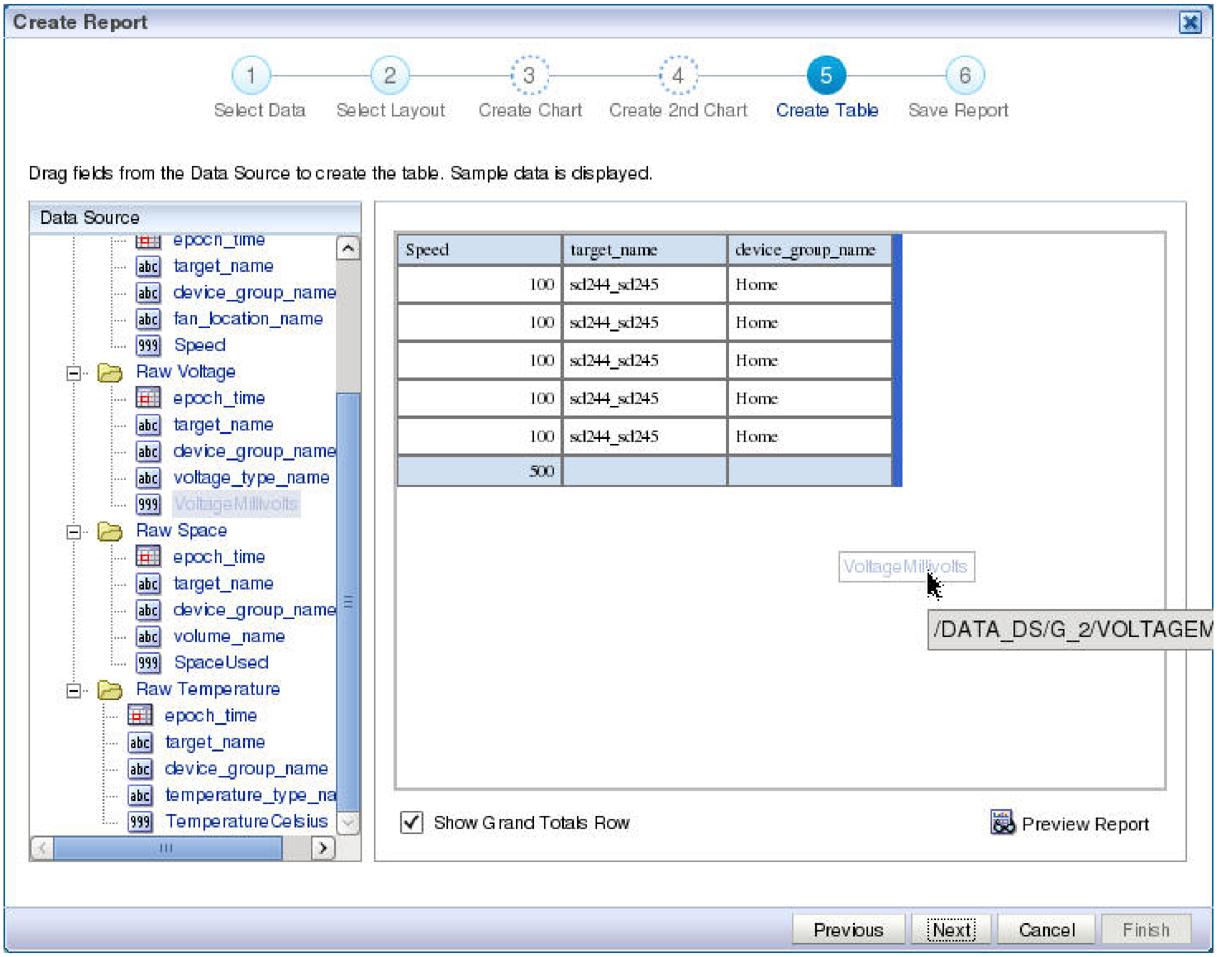
- Portrait
- Landscape
- Page Header
- Page Footer

Layout options are:

- Table
- Chart
- Pivot Table
- Chart and Table
- Chart and Pivot Table
- Two Charts and Table



6. Click **Next**.
7. Select the parameters you want in your table and drag them from the Data Source tree to the main window.



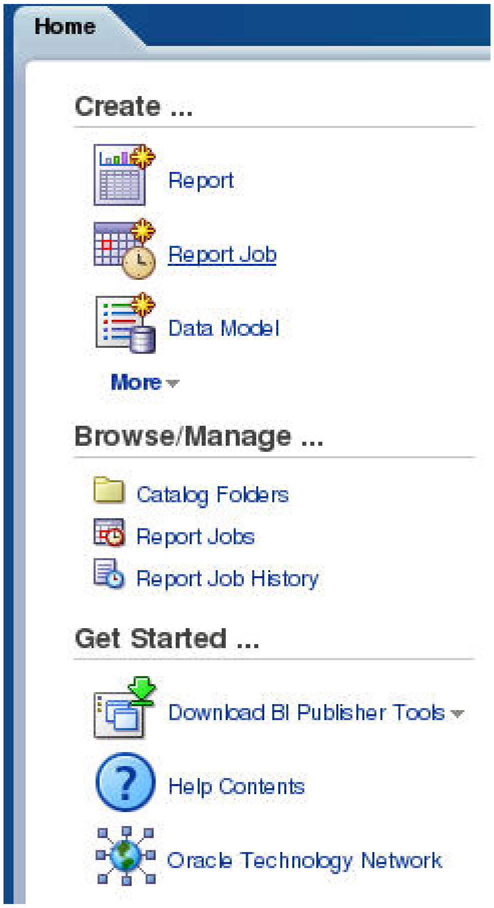
8. Select View Report and click **Finish**.
9. In the Save As dialog box, select a location to save the report and a title.
10. Click **Save**.
11. The report will begin automatically.

Note: For more information about running reports, see *Creating and Editing Reports* from the BI Publisher documentation.

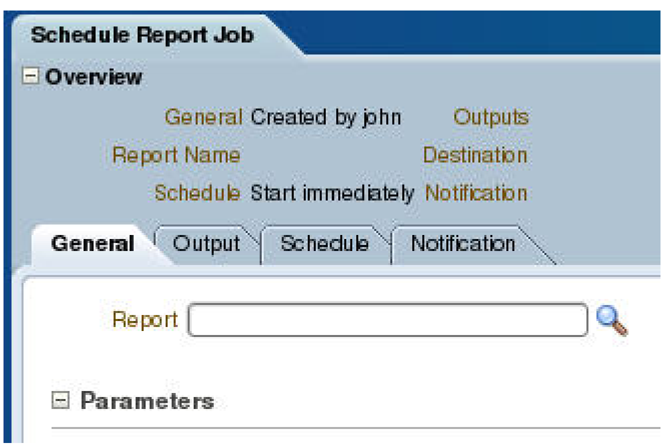
Scheduled Reports

To create a canned report in BI Publisher:

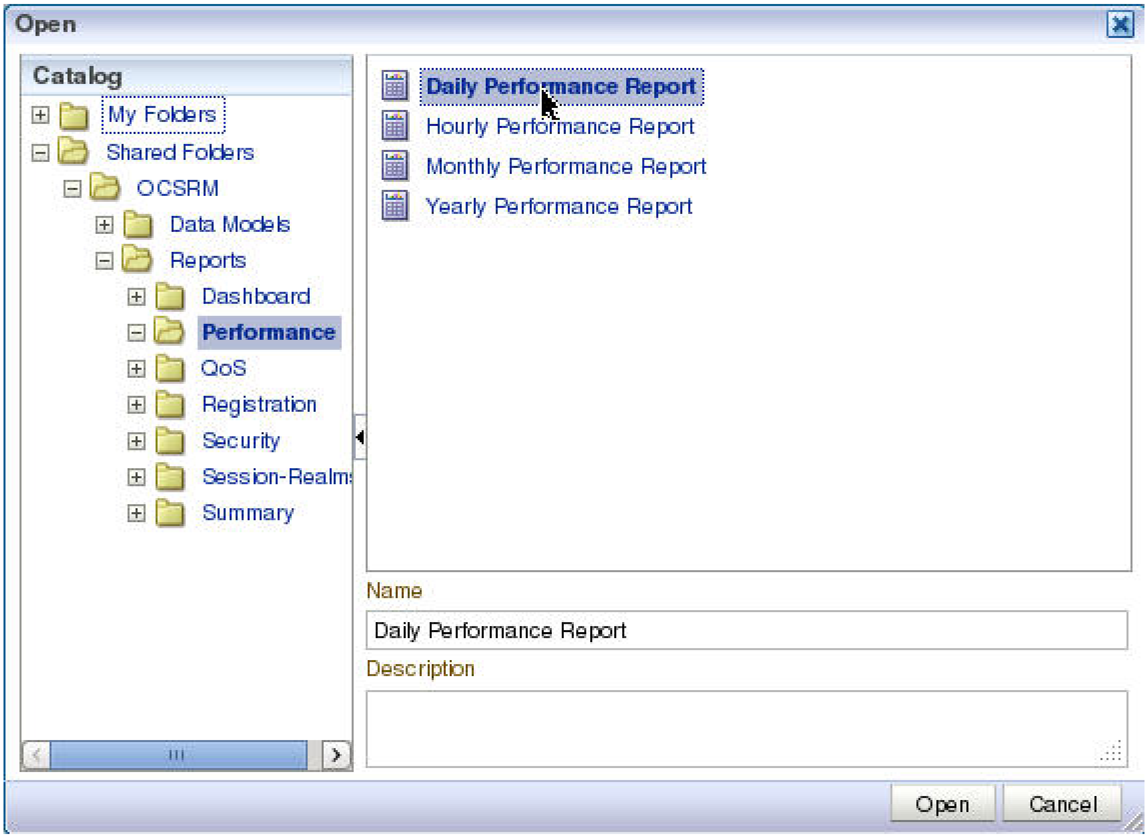
1. From the Report Manager slider, click **Operational Reports**.
   This will sign you in to BI Publisher.
2. Click on Report Job in the Create section of the Home tab.



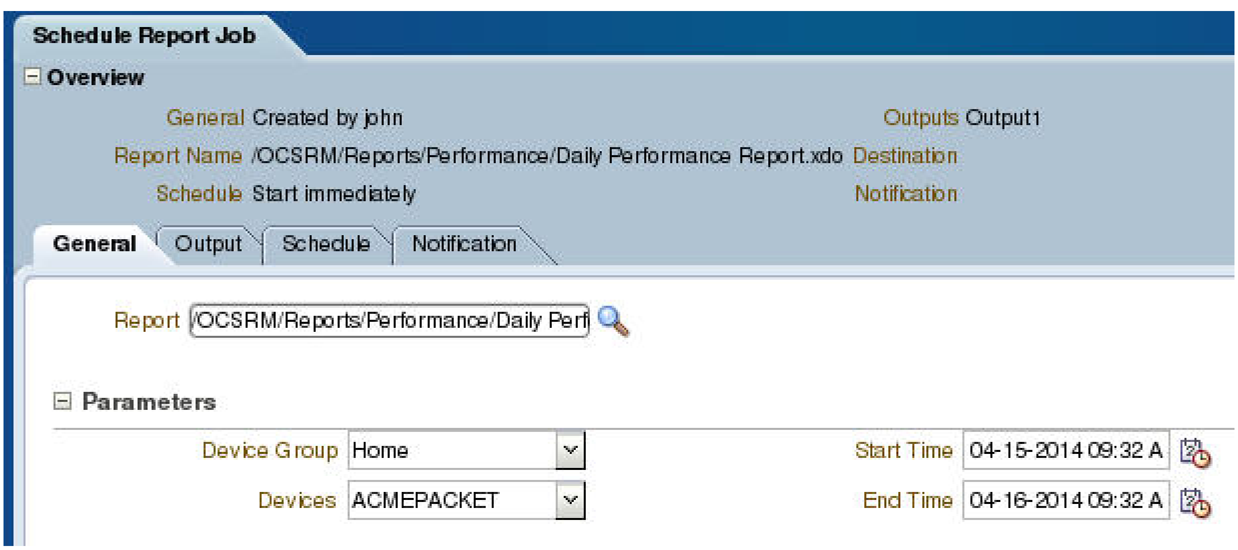
3. Click on the magnifying glass icon to select a report.



4. Expand **Shared Folders** > **OCSRM** > **Reports**.
5. Select the canned report you want. Then select the time granularity you want.



6. Click **Open**.
7. Select the Start Time and End Time.



8. Click **Submit** in the top right corner.

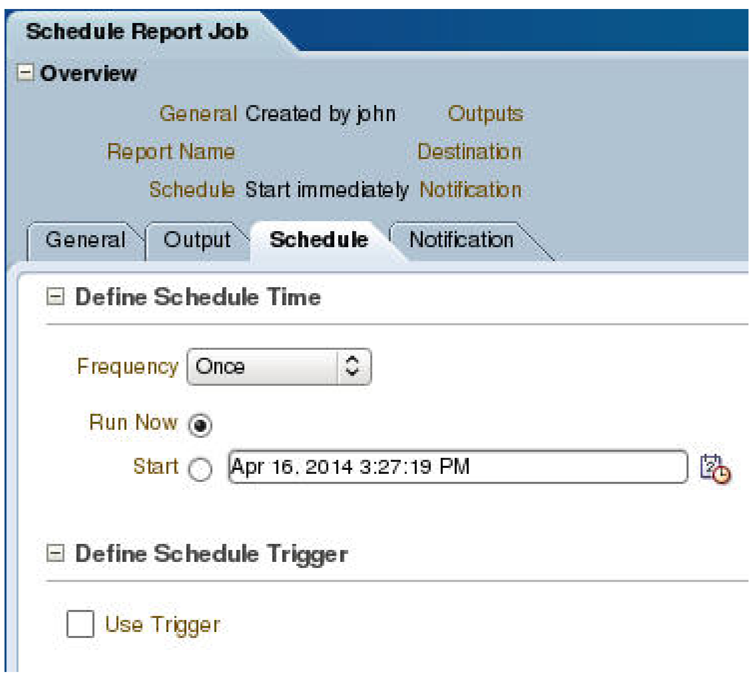
Scheduling Reports in BI Publisher

After a report is created, you may schedule the report to run at regular intervals.

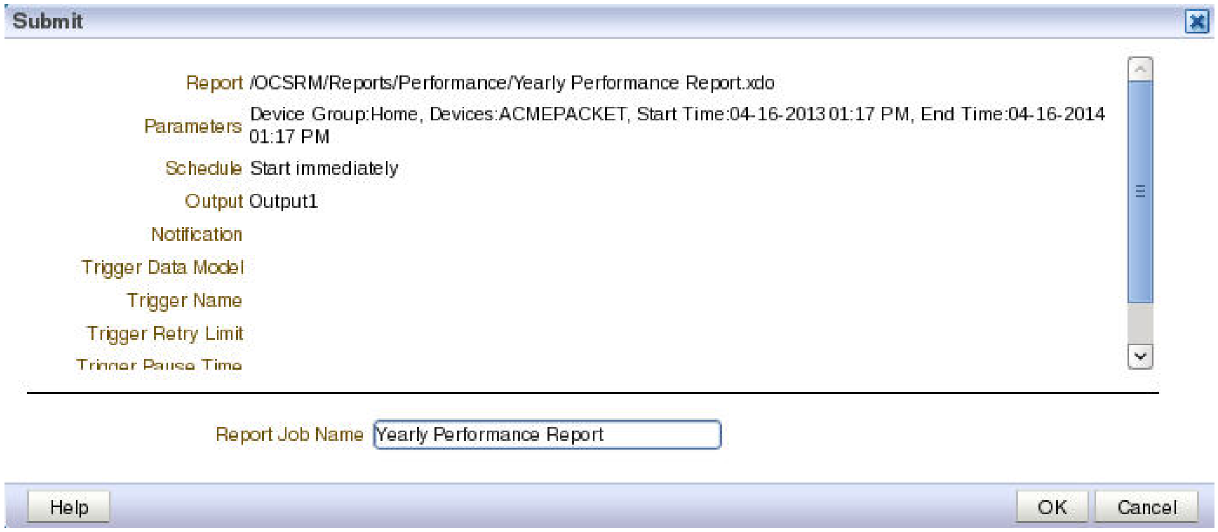
To schedule reports:

1. If you have already created the report, from the Home tab click **More** > **Schedule** under the report you want to schedule.

2. If you are in the process of creating a job, click on the Schedule tab.



3. Select the frequency from the drop-down list.
4. Select the start time and, if given, the stop time.
5. If you want to conditionally execute reports, select the Use Trigger check box and specify the relevant data model.
6. Enter a name for the report and click **OK**.



7. Click **Submit**.

Favorites

The Favorites region enables you to create your own list of objects for quick access. From the Favorites region you can view, schedule, configure, or edit the objects that you place there (providing you also have proper permissions)

There are several ways to add objects to the Favorites region:

- Locate the object in the catalog, click the **More** link, and then click **Add to Favorites**
- From the Report Viewer, click the **Actions** menu, and then click **Add to Favorites**
- Use the **Manage** link on the Home page to add reports

To add and delete reports from the Favorites region, click the **Manage** link to open the Favorites area for editing.

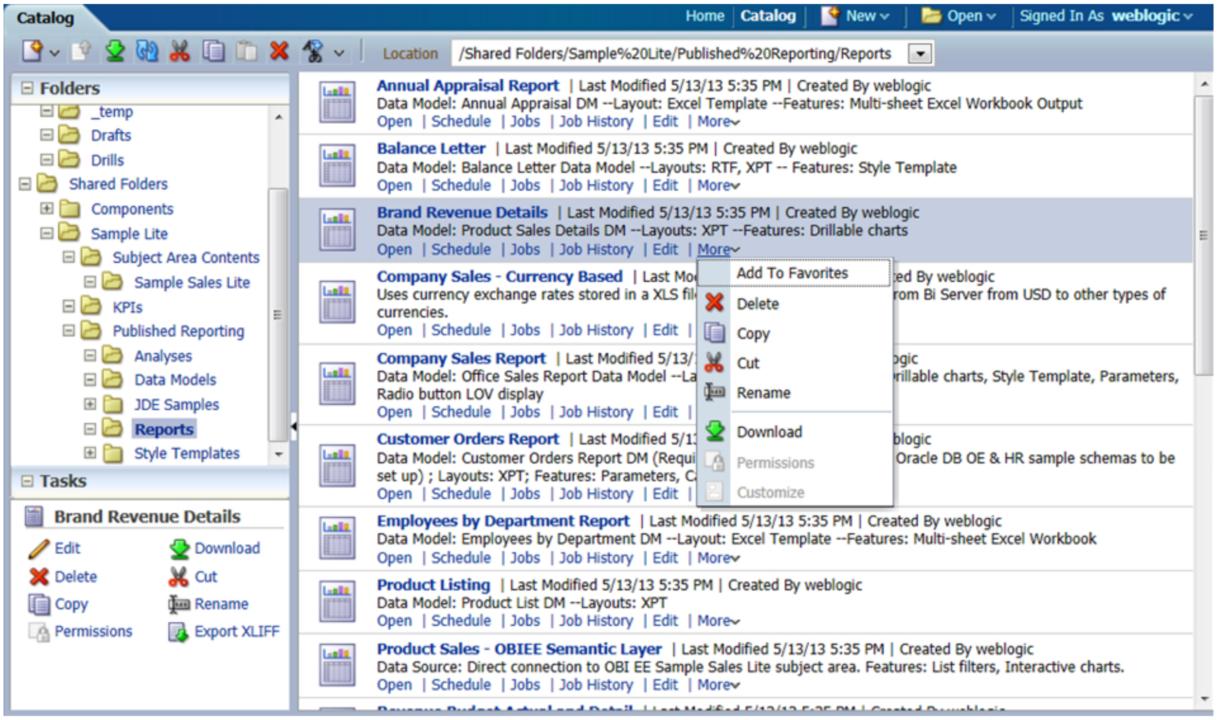
To add a report to Favorites:

1. Click the report in the catalog pane.
2. Drag the report to the Favorites region.

To delete an object from Favorites:

1. Locate the item and click the **More** link.
2. Click **Remove.**

Reports



Links to BI Publisher Documentation

Oracle provides extensive documentation for BI Publisher.

For a quick introduction about using BI Publisher, see the *BI Publisher Quick Start Guide*.

For instructions on viewing and running reports, see the *BI Publisher User's Guide*.

If you are the system administrator for BI Publisher, please review the *BI Publisher Administrator's Guide*.

For a list of all BI Publisher documentation, see the *BI Publisher Documentation Library*.