



# CHAPTER 10

## Using Reports

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The Reports tab displays information about your devices. You can save and email reports. You can also set specific times for emailed reports to be run and sent automatically.

The reports available are dependent on the groups of devices and individual devices you choose from the selector in the left pane.



**Note**

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Some of the subtabs may not be visible to some users.

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The following topics discuss the reports provided by WLSE:

- [Using the Basic Report Features, page 10-1](#)
- [Using the Device Center, page 10-7](#)
- [Displaying Radio Manager Reports, page 10-15](#)
- [Displaying Voice Reports, page 10-24](#)
- [Displaying Wireless Client Reports, page 10-37](#)
- [Displaying Current Reports, page 10-45](#)
- [Displaying Trends, page 10-84](#)
- [Displaying Real-Time Reports, page 10-98](#)
- [Displaying Intrusion Detection System Reports, page 10-104](#)

## Using the Basic Report Features

The WLSE reports share several common features. The following topics describe these features:

- [Using the Device Selector, page 10-2](#)
- [Sorting Table Data, page 10-2](#)
- [Exporting a Report, page 10-2](#)
- [Exporting URL-Based Report Data, page 10-2](#)
- [Emailing a Report, page 10-3](#)
- [Scheduling Email Jobs, page 10-5](#)

## Using the Device Selector

The WLSE contains a device selector and Search that can be used to select a group or devices or an individual device. For information about how to use the device selector, see [Using the Device Selector, page 1-12](#)

The search results, as well as the folders in the device selector, display icons indicating the alarm status of the devices. For an explanation of the icons, see [Understanding the Icons, page 1-12](#).

For information about the folders for device groups in the device selector, see [System-Defined Groups, page 4-78](#).

## Sorting Table Data

For information on how to sort table data, see [Sorting Table Data, page 1-13](#).

## Exporting a Report

### Procedure

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- Step 1 Click **Export**. An Export window appears.
  - Step 2 From the Output Format list, select the format in which you want the file exported: CSV, PDF, or XML.
  - Step 3 Click Submit. A window opens and you are prompted to open or save the output in the chosen format. If you select Open, the output opens in the selected application, for example a CSV file opens in an Microsoft Office Excel spreadsheet. If you select Save, the output is saved to the specified location and can be opened with any application.
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## Exporting URL-Based Report Data

The WLSE provides a feature that allows users to manually enter a URL in the WLSE to export report data, rather than using the GUI export function.



### Note

This procedure can only be performed by the users who have role access to Reports data.

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### Procedure

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- Step 1 After you have logged in to the WLSE, enter the following URL in your browser:

```
http://{WLSE name:port |  
ipaddress:port}/servlet/com.cisco.nm.wlse.util.WLSEReportsExportServlet?{parameters}
```

The parameters are as follows and are case sensitive:

```
reporttype={Wireless Client | group | device}  
id={group name | client macaddress | device name | device ip address}
```

**family**= {**Router** | **Switch** | **IOSAccessPoint** | **Wireless Client** | **EAP** | **RADIUS** | **PEAP** | **EAP-MD5** | **group**}

**reportName** = {*name*} Enter the name of the report.

**filetype**= {**csv** | **xml** | **pdf**}

**reportcategory**= {**current** | **trends**}

**tzOffset**= {*time*} The time zone offset in minutes for GMT/UTC. Add a + (plus) or - (minus) as appropriate. For example, -300 minutes means 5 hours.

For trend reports, you must add the following parameters:

**startdate**= {*YYYY-MM-DD-hh-mm-ss*}

**enddate**= {*YYYY-MM-DD-hh-mm-ss*}



**Note** The start date and end date are interpreted relative to the time zone offset provided.

**topNVal** This is required only to display Top N Reports.

**DataFrequency**= {**Hourly** | **Weekly** | **Daily** | **Monthly**}

**save** = { **yes** | **no** } When exporting data, enter yes to provide a dialog box to open or save the report in the selected format, or enter no to open the report in the same window.

Following is an example of a URL to generate XML output for Group Performance Report: RF Utilization:

```
http://172.19.28.139:1741/servlet/com.cisco.nm.wlse.reports.util.WLSEReportsExportServlet?id=AP%201100&reporttype=group&family=group&reportName=Group%20Performance%20Report%20%3A%20RF%20Utilization&tzOffset=330&filetype=xml&reportcategory=trends&startdate=2005-6-21-00-00-00&enddate=2006-8-21-23-59-59&DataFrequency=Hourly&save=no
```

## Emailing a Report

All reports can be exported via email. These reports can be mailed on-demand, as one-time scheduled jobs, or at recurring intervals. Although IT policies vary depending on the deployment environment, consider scheduling weekly email exports of trending reports and exporting inventory reports as needed. For example, some of the security configuration inventory reports might be exported on a monthly basis as part of an ongoing security audit.

### Before You Begin

Configure the mailroute so that the WLSE knows where to send the e-mails. Enter the mail server hostname or IP address by selecting **Administration** > **Appliance** > **Configure Mailroute**.

### Procedure

- Step 1** Click **Email Report**. A the right pane refreshes with an Email properties dialog box.

**Step 2** Enter the following:



**Tip** If email notification is not working, you may need to configure the mailroute by selecting **Administration > Appliance > Configure Mailroute**.

Field	Description
To	Enter the email address of the person to whom you want to send the report. An entry in this field is required.
Cc	Enter email addresses of persons that you want to copy on the email.
Subject	Enter a subject for the email.
Attachment Type	From the list, select the format in which you would like the report sent: CSV, PDF, or XML. CSV and XML formats are designed to be used by automated tools.
Message	Enter any message you would like to send.

**Step 3** To cancel the email, click **Cancel**.

**Step 4** To send the email immediately, click **Send Now**.

**Step 5** To schedule the email for later:

- a. Click **Schedule**. The schedule job dialog box appears.
- b. Enter the following:

Field	Description
Job Name	Enter a name for the job. For more information, see <a href="#">Naming Guidelines, page B-1</a> .
Report Data for Last	From the list, select the number of days, weeks, or months for which you want the hourly/daily, weekly, or monthly report data emailed. <b>Note</b> This entry is applicable to Trends reports only.
Start Date	From the list, select the date you would like to send the email.
Start Time	From the list, select the time you would like to send the email.
Repeat	
Enable	Check if you want to set up a scheduled job that periodically sends email.
Every	From the list, select the period of time you would like the email sent.

**Step 6** Do one of the following:

- Click **Cancel** to cancel the schedule.
- Click **Finish** to complete scheduling. You receive a confirmation message that your email has been scheduled.

**Step 7** To view, delete, or edit the scheduled email jobs, see [Scheduling Email Jobs, page 10-5](#)

## Scheduling Email Jobs

This window allows you to view information about email jobs you have scheduled. It also allows you to delete them and edit them.



Note

For information about creating an email job, see [Emailing a Report, page 10-3](#).

The length of time job data is retained is 30 days by default. To change the default setting, select **Devices > Discover > Inventory > Polling**.



Note

Your login determines whether you can use this option.

### Procedure

**Step 1** Select **Reports > Scheduled Email Jobs**. The Email Jobs window appears.

Field	Description
Job Name	The name of the job. For more information, see <a href="#">Naming Guidelines, page B-1</a> .
Recurring	Indicates whether it is a recurring job.
Next Schedule	Indicates when the job runs again.

**Step 2** To delete a job, select it, then click **Delete Email Job**.

**Step 3** To view an email job, select it, then click **View Email Job**. See [Viewing Email Job Details, page 10-5](#).

**Step 4** To edit a job, select it, then click **Edit Email Job**. See [Editing an Email Job, page 10-6](#).

## Viewing Email Job Details

The following tables are displayed in a window when you select a job in **Reports > Scheduled Email Jobs**, then click **View Email Job**.

### Report Properties

Column	Description
User Name	The name of the user who scheduled the job.
Report Type	The report type.
Report Name	The report name.

**Email Properties**

Column	Description
To	The username of the person to whom the report is being emailed.
Cc	The username of the person to whom the report is being copied.
Subject	The email subject.
Email Format	The format in which the report is being emailed.
Body	The text entered into the body of the email.

**Schedule Properties**

Column	Description
Email Job Name	The name of the email job.
Start Date	The date the report is emailed.
Frequency	The frequency with which the report is to be emailed.

**Editing an Email Job****Procedure**

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- Step 1** Click **Edit Email Report**. The selected email job is displayed.
- Step 2** Change any of the following email properties:

Field	Description
To	Edit the email address of the person to whom you want to send the report. An entry in this field is required.
Cc	Edit email addresses of persons that you want to copy on the email.
Subject	Edit the subject for the email.
Attachment Type	From the list, select the format in which you would like the report sent: CSV, PDF, or XML.
Message	Edit any message you would like to send.



**Tip** If email notification is not working, you may need to configure the mailroute by selecting **Administration > Appliance > Configure Mailroute**.

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**Step 3** Change any part of the following email schedule:

Field	Description
Start Date	Edit the date the report is emailed.
Start Time	Edit the time the report is emailed.
Repeat	Change the setting for scheduling a recurring job by deselecting or selecting the checkbox.
Every	Change the period of time you want the email sent.

**Step 4** Click **Save** to save your edits, or **Cancel** to discard them.

## Using the Device Center

The device center enables you to quickly access various types of reports for a particular device.



**Note**

Your login determines whether you can use this option.

### Procedure

**Step 1** Select **Reports > Device Center**. The Device Center appears above the device selector in the left pane.

**Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. See [Using the Device Selector, page 1-12](#).



**Note**

Device information might not display properly if you are viewing the reports with a Firefox browser; it does not support line breaks or long text (maximum 50 characters).

**Step 3** Click for different report types:

- [Access Points and Bridges, page 10-7](#)
- [WDS-WLSM, page 10-8](#)
- [WDS-AP, page 10-8](#)
- [Switches, page 10-8](#)
- [Routers, page 10-8](#)
- [Servers, page 10-9](#)

### Access Points and Bridges

- Summary Report—See [Displaying an AP Summary Report, page 10-65](#)
- Detailed Report—See [Displaying a Detailed Report, page 10-67](#)
- Fault Status—See [Viewing the Fault Status Report, page 10-13](#)
- Device History—See [Viewing Device History, page 10-13](#)
- Config History—See [Viewing Config History, page 10-14](#)

- Firmware History—See [Viewing Firmware History, page 10-14](#)
- AP Web Page—Opens up a browser window to the AP Summary Status.



**Tip** The HTTP port on access points must be set to 80 for this link to work. For information on setting up the HTTP port, see [Enter HTTP/HTTPS Port Settings—Access Points, page 4-13](#).

- AP Config—Displays the access point's current configuration.
- Auto Config Retry—[Viewing the Auto Config Retry Report, page 10-15](#).

#### WDS-WLSM

- WDS Summary Report—See [Viewing the WDS Summary Report, page 10-10](#).
- Fault Status—See [Viewing the Fault Status Report, page 10-13](#)
- Device History—See [Viewing Device History, page 10-13](#)
- WDS Registered APs—[Viewing the WDS Registered APs Report, page 10-12](#).
- WDS Mobility Groups—[Displaying a Mobility Groups Report, page 10-82](#)
- WDS Mobility ID Report—[Displaying a Mobility ID Report, page 10-83](#)

#### WDS-AP

- Summary Report—See [Displaying an AP Summary Report, page 10-65](#)
- Detailed Report—See [Displaying a Detailed Report, page 10-67](#)
- WDS Summary Report—See [Viewing the WDS Summary Report, page 10-10](#).
- WDS Registered APs—[Viewing the WDS Registered APs Report, page 10-12](#).
- Fault Status—See [Viewing the Fault Status Report, page 10-13](#)
- Device History—See [Viewing Device History, page 10-13](#)
- Config History—See [Viewing Config History, page 10-14](#)
- Firmware History—See [Viewing Firmware History, page 10-14](#)
- AP Web Page—Opens up a browser window to the AP Summary Status.



**Tip** The HTTP port on access points must be set to 80 for this link to work. For information on setting up the HTTP port, see [Enter HTTP/HTTPS Port Settings—Access Points, page 4-13](#).

- AP Config—Displays the access point's current configuration.
- Auto Config Retry—[Viewing the Auto Config Retry Report, page 10-15](#).

#### Switches

- Summary report—See [Displaying a Switch Summary Report, page 10-77](#)
- Fault Status—See [Viewing the Fault Status Report, page 10-13](#)
- Device History—See [Viewing Device History, page 10-13](#)

#### Routers

- Summary Report—See [Displaying a Router Summary Report, page 10-80](#)
- Fault Status—See [Viewing the Fault Status Report, page 10-13](#)

- Device History—See [Viewing Device History, page 10-13](#)

### Servers

Summary Report—See [Displaying a Server Summary Report, page 10-81](#).

## Viewing the WDS Summary Report

The following reports are displayed for the device's wireless domain services (WDS) summary:

- AP-WDS Report—See [AP-WDS Summary Report](#).
- WLSM-WDS Report—See [WLSM-WDS Summary Report](#)

**Table 10-1** AP-WDS Summary Report

Column	Description
Name	The access point name.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a>
MAC Address	The MAC address of the access point.
IP Address	The IP address of the access point. Click to open a browser window to the AP Summary Status. <b>Tip</b> The HTTP port on access points must be set to 80 for this link to work. For information on setting up the HTTP port, see <a href="#">Enter HTTP/HTTPS Port Settings—Access Points, page 4-13</a> .
Status	The operational status of the device: <ul style="list-style-type: none"> <li>• Admin standalone—Configured as the WDS but with no other devices participating.</li> <li>• Active—The WDS is actively performing as the WDS on the subnet.</li> <li>• Backup—The WDS is acting as a backup to the main WDS.</li> <li>• Candidate—The device is configured as a WDS candidate.</li> </ul>
WDS Priority	The access point's assigned WDS priority number.
Subnet Address	The access point's subnet address.
Subnet Mask	The access point's subnet mask.
Active WDS IP Address	The IP address of the active WDS.
Last WDS Election Time	The last time this access point was elected as a WDS.
Number of Infrastructure Nodes Registered with WDS	The number of access points registered with the WDS.
WLSE to WDS Authentication Status	The status of the authentication of the WLSE with the WDS.
WLSE IP Address Configured at WDS	The IP address of the WLSE.

**Table 10-2** *WLSM-WDS Summary Report*

Column	Description
Name	The access point name.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a>
MAC Address	The MAC address of the WLSM.
IP Address	The IP address of the WLSM.
Subnet Address	The WLSM subnet address.
Subnet Mask	The WLSM subnet mask.
Number of Infrastructure Nodes Registered with WDS	The number of access points registered with the WDS.
WLSE to WDS Authentication Status	The status of the authentication of the WLSE with the WDS.
WLSE IP Address Configured at WDS	The IP address of the WLSE.
Switch containing the WLSM	The IP address of the switch that contains the WLSM.
HSRP Redundant Status	The status of the hot standby router interface.
HSRP Virtual IP Address	The virtual IP address of the hot standby router interface.

## Viewing the WDS Registered APs Report

The following table provides information about the access points that are registered with the WDS.

*Table 10-3 WDS Registered APs Report*

Column	Description
AP Name	The access point name.
AP IP Address	The IP address of the access point.
Subnet Address	The access point's subnet address.
Subnet Mask	The access point's subnet mask.

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Viewing the Fault Status Report

The following table is displayed for the device's fault status:

**Table 10-4**      *Device Fault Status*

Column	Description
Type	The fault type.
Description	A description of the fault. Click to see fault details. See <a href="#">Viewing Fault Details, page 3-7</a> .
Severity	The fault severity level.
State	The current state of the fault.
Timestamp	The time the fault was reported. Click to see fault details. See <a href="#">Viewing Fault Details, page 3-7</a> . For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Viewing Device History

The following table is displayed for the device's history:

**Table 10-5**      *Device History*

Column	Description
Timestamp	The time the device's state last changed. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
Device Name	The name of the device.
IP Address	The IP address of the device.
State	The current state of the device.

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Viewing Config History

The following table is displayed for the device's configuration history:

**Table 10-6**      *Device Configuration History*

Column	Description
Start Time	The start time for the device's configuration.
End Time	The end time for the device's configuration.
Job Status	The state of the configuration job.
Template Name	The name of the configuration template used. An asterisk (*) indicates that the template has been modified since it was applied to the device.
Job Name	The name of the configuration job.
Job Type	The type of configuration job.

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Viewing Firmware History

The following table is displayed for the device's firmware history:

**Table 10-7**      *Device Firmware History*

Column	Description
Start Time	The start time for the device's firmware upgrade job.
End Time	The end time for the device's firmware upgrade job.
Job Status	The state of the firmware job.
Image Name	The name of the firmware image.
Image Version	The version of the firmware.
Image Device Type	The device type.
Job Protocol	The protocol used for the firmware job.
Job Name	The name of the firmware job.

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Viewing the Auto Config Retry Report

This report provides information about retries in uploading auto-configuration templates that are deployed using the Deployment Wizard.

**Table 10-8** Auto Config Retry

Column	Description
Name	The device name.
Device IP	The IP address of the device.
Status	The device status, which is one of the following Deployment Wizard phases: <ul style="list-style-type: none"> <li>• Error</li> <li>• Initial Startup Config</li> <li>• Initial Discovery Phase</li> <li>• Initial Inventory Phase</li> <li>• Auto Config Job Scheduled</li> <li>• Successfully Configured</li> <li>• Operation Aborted</li> </ul>
Boot Time	The time the device booted up.
Template Name	The name of the template designated as the auto config template.
Retry Number	The number of times the WLSE has attempted to upload the template to the device.
Retry Time	The time the auto config job will re-run.
Description	The status description
As Of	The time the status was last updated.  For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying Radio Manager Reports



### Note

If Radio Management has been disabled, the **Reports > Radio Manager** subtab will *not* be displayed. To reenable Radio Management, see [Enabling and Disabling Radio Management Features, page 11-4](#).

The Radio Manager reports allow you to view radio management information.

- Configured Radio Parameters Report—See [Viewing the Radio Configuration Parameters, page 10-16](#)
- Path Loss Between Managed APs Report—See [Viewing Current Path Loss Results, page 10-17](#)

- Path Loss Historical Report—See [Viewing Historical Path Loss Results, page 10-19](#)
- Channel Loading Report—See [Viewing Current Channel Load Results, page 10-19](#)
- Channel Loading Historical Report—See [Viewing Historical Channel Load Results, page 10-21](#)
- Radar Detection Report—See [Viewing Current Radar Detection Events, page 10-21](#)
- Radar Detection Historical Report—See [Viewing Historical Radar Detection Events, page 10-23](#)

## Viewing the Radio Configuration Parameters

Use the **Configured Radio Parameters** report to display the radio configuration parameters for a selected access point.

### Typical Scenarios and FAQs

- How can I display the current radio configuration parameters for an access point?



**Note**

Your login determines whether you can use this option.

### Before You Begin

- Perform an AP Radio Scan (see [Using AP Radio Scans to Collect RM Data, page 13-43](#))
- Configure the radio parameters by running either:
  - RM Assisted Configuration (see [Using Assisted Configuration, page 13-71](#))
  - Assisted Site Survey Wizard (see [Using the Location Manager Assisted Site Survey Wizard, page 13-17](#))

### Procedure

- Step 1** Select **Reports > Radio Manager**. The window refreshes with a device selector in the left pane.
- Step 2** From the device selector, click to expand the folder and select an access point or a folder. The right pane refreshes.
- Step 3** From the Report Name list, select **Configured Radio Parameters Report**.
- Step 4** Click **View**. The Configured Radio Parameters report displays the following information:

**Table 10-9 Configured Radio Parameters Report**

Column	Description
AP Name	The name of the access point.
Interface Name	The name of the radio interface.
MAC Address	The MAC address of the access point.
PHY	The physical interface type (11a, 11b, or 11g) of the radio interface.
Channel	The radio channel used.
Transmit Power	The power level of the radio transmission (in milliwatts).
Data Rate	The data rates supported by this interface (in Mbps).

Table 10-9 Configured Radio Parameters Report (continued)

Column	Description
Beacon	The amount of time between beacons (in kilo microseconds).  <b>Note</b> This is the configured beacon interval. The fact that the port status is up or down does not change the fact that the beacon interval is set to a certain value.
Admin Status	The administrative status of the access point.  For more information about the radio interface port's administrative status values, see <a href="#">Setting RF Port AdminStatus Threshold, page 3-35</a> .
Operational Status	The operational status of the access point.  For an explanation of the possible operational status values, see <a href="#">Viewing the WDS Summary Report, page 10-10</a> .
As Of	The time the WLSE polled information from the device.  For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

- [Displaying Radio Manager Reports, page 10-15](#)
- [Using the Basic Report Features, page 10-1](#)
- [Generating Radio Parameters, page 13-66](#)

## Viewing Current Path Loss Results

Use the **Path Loss Between Managed APs** report to:

- View the calculated path-loss data after you run AP Radio Scan.
- Periodically to check whether your WLAN radio environment has changed. If the changes are significant, you can use Auto Re-Site Survey (see [Evaluating AP Radio Performance, page 12-6](#)) to automatically trigger an alarm if the changes significantly degrade the network performance or capacity.

For a selected access point, this report displays:

- The surrounding access points that can hear the selected AP.
- The path loss (in decibels) between the selected AP and each of the surrounding APs.

**Typical Scenarios and FAQs**

- I have just finished running an AP Radio Scan. How can I view the calculated path loss data?
- I have not run an AP Radio Scan recently. How can I check to see if my WLAN radio network has changed?



**Note** Your login determines whether you can use this option.

#### Before You Begin

- Perform an AP Radio Scan (see [Using AP Radio Scans to Collect RM Data, page 13-43](#)).
- Be sure that Radio Monitoring is enabled. Radio Monitoring is enabled by default; if it has been disabled, you must re-enable it (see [Using Radio Monitoring to Collect RM Data, page 12-1](#)).

#### Procedure

- Step 1** Select **Reports > Radio Manager**. The window refreshes with a device selector in the left pane.
- Step 2** From the device selector, click to expand the folder and select an access point or a folder. The right pane refreshes.
- Step 3** From the Report Name list, select **Path Loss Between Managed APs Report**.
- Step 4** Click **View**. The report displays the following data for the selected access points:

**Table 10-10** Path Loss Between Managed APs Report

Column	Description
AP Name	The name of the access point.
Interface Name	The name of the radio interface.
PHY	The physical interface type (11a, 11b, or 11g) of the radio interface.
Channel	The radio channel used.
Neighbor AP Name	The name of the neighbor access point.
Neighbor Interface Name	The interface name of the neighbor access point.
Path Loss	The amount in decibels of path loss between the two access points.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

#### Related Topics

- [Viewing Historical Path Loss Results, page 10-19](#)
- [Displaying Radio Manager Reports, page 10-15](#)
- [Using the Basic Report Features, page 10-1](#)

## Viewing Historical Path Loss Results

The historical path loss report displays the previous path loss information for selected a AP (or group). The information is collected every 15 minutes and saved to the path loss historical table. The data in the historical table is trimmed every 60 minutes.



Note

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Your login determines whether you can use this option.

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### Before You Begin

- Perform an AP Radio Scan (see [Using AP Radio Scans to Collect RM Data, page 13-43](#))
- Be sure that Radio Monitoring is enabled. Radio Monitoring is enabled by default; if it has been disabled, you must re-enable it (see [Using Radio Monitoring to Collect RM Data, page 12-1](#)).

### Procedure

- 
- Step 1** Select **Reports > Radio Manager**. The window refreshes with a device selector in the left pane.
- Step 2** From the device selector, click to expand the folder and select an access point or a folder. The right pane refreshes.
- Step 3** From the Report Name list, select **Path Loss Historical Report**.
- Step 4** Click **View**. The report displays the previous path loss data for the selected access points. For more information about path loss data, see [Viewing Current Path Loss Results, page 10-17](#).
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### Related Topics

- [Viewing Current Path Loss Results, page 10-17](#)
- [Displaying Radio Manager Reports, page 10-15](#)
- [Using the Basic Report Features, page 10-1](#)

## Viewing Current Channel Load Results

Radio measurement data, the Clear Channel Assessment (CCA) measurement in particular, provides information about how heavily a channel is loaded. For a selected access point, you can use the **Channel Loading** report to display the percentage of time a channel is being used.



Note

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This type of report has very little use in case of an isolated office building, but can be very useful in crowded spaces (such as among New York high rise buildings with many WLANs from neighboring companies).

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The Channel Loading report shows the background loading of each AP—in particular, how often the channel is busy due to traffic that is not generated by the reporting AP radio. This information is useful even before running AP Radio Scan just to see how busy the environment is before deploying new sets of access points. You can also run this same report from time to time just to see whether this environment has changed.



Note

Channel load information is collected only from access points on the Radio Monitoring list.

**Typical Scenarios and FAQs**

- How can I determine the current channel loads for the existing access points in my network?
- How can I determine if the channel loads for the access points in my WLAN radio environment have changed?



Note

Your login determines whether you can use this option.

**Before You Begin**

- Perform an AP Radio Scan (see [Using AP Radio Scans to Collect RM Data, page 13-43](#)).
- Be sure that Radio Monitoring is enabled. Radio Monitoring is enabled by default; if it has been disabled, you must re-enable it (see [Using Radio Monitoring to Collect RM Data, page 12-1](#)).

**Procedure**

- Step 1** Select **Reports > Radio Manager**. The window refreshes with a device selector in the left pane.
- Step 2** From the device selector, click to expand the folder and select an access point or a folder. The right pane refreshes.
- Step 3** From the Report Name list, select **Channel Loading Report**.
- Step 4** Click **View**. The report displays the following data for the selected access points:

**Table 10-11 Channel Loading Report**

Column	Description
AP Name	The name of the access point.
PHY	The physical interface type (11a, 11b, or 11g) of the radio interface.
Channel	The radio channel used.
Average Near (%)	The average (of 15 minutes) channel loading detected by the access point from the nearest clients.
Average Far (%)	The average (of 15 minutes) channel loading detected by the access point from the farthest clients.
Peak Near (%)	The average (of 15 minutes) peak value detected by the access point from the nearest clients.
Peak Far (%)	The average (of 15 minutes) peak value detected by the access point from the farthest clients.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

- [Viewing Historical Channel Load Results, page 10-21](#)
- [Displaying Radio Manager Reports, page 10-15](#)
- [Using the Basic Report Features, page 10-1](#)

## Viewing Historical Channel Load Results

The historical channel load report displays the previous channel load information for selected a AP (or group). The information is collected every 15 minutes and saved to the channel load historical table. The data in the historical table is trimmed every 60 minutes.

**Note**

---

Your login determines whether you can use this option.

---

**Before You Begin**

- Perform an AP Radio Scan (see [Using AP Radio Scans to Collect RM Data, page 13-43](#)).
- Be sure that Radio Monitoring is enabled. Radio Monitoring is enabled by default; if it has been disabled, you must re-enable it (see [Using Radio Monitoring to Collect RM Data, page 12-1](#)).

**Procedure**

- 
- Step 1** Select **Reports > Radio Manager**. The window refreshes with a device selector in the left pane.
- Step 2** From the device selector, click to expand the folder and select an access point or a folder. The right pane refreshes.
- Step 3** From the Report Name list, select **Channel Loading Historical Report**.
- Step 4** Click **View**. The report displays the previous channel load data for the selected access points. For more information about channel load data, see [Viewing Current Channel Load Results, page 10-19](#).
- 

**Related Topics**

- [Viewing Current Channel Load Results, page 10-19](#)
- [Displaying Radio Manager Reports, page 10-15](#)
- [Using the Basic Report Features, page 10-1](#)

## Viewing Current Radar Detection Events

This report provides information about all currently-active radar detection events.

**Note**

---

Because DFS applies to only 802.11a and 802.11n radios (the 5GHz band), this report has no relevance to 11b or 11g radios because they operate in the 2.4GHz band.

---



**Note**

Your login determines whether you can use this option.

**Before You Begin**

- Configure your network for radio management (see [Getting Started with Radio Manager, page 12-1](#)).
- Be sure that Radio Monitoring is enabled. Radio Monitoring is enabled by default; if it has been disabled, you must re-enable it (see [Using Radio Monitoring to Collect RM Data, page 12-1](#)).
- Set the threshold condition for radar detection (**Faults > Manage Fault Settings > Radio 802.11a Policies > Dynamic Frequency Selection** and **Faults > Manage Fault Settings > Radio 802.11n(5 GHz) Policies > Dynamic Frequency Selection**).

**Procedure**

- Step 1** Select **Reports > Radio Manager**. The window refreshes with a device selector in the left pane.
- Step 2** From the device selector, click to expand the folder and select an access point or a folder. The right pane refreshes.
- Step 3** From the Report Name list, select **Radar Detection Event Report**.
- Step 4** Click **View**. The report displays the following data for the selected access points:

**Table 10-12 Radar Detection Event Report**

Column	Description
AP Name	The identity of the AP that detected radar.
PHY	The identity of the specific radio interface that detected radar contention.
Radar Detect Channel	The channel on which radar was originally detected.
Radar Detect Time	The time at which radar was originally detected.

**Related Topics**

- [Viewing Historical Radar Detection Events, page 10-23](#)
- [Displaying Radio Manager Reports, page 10-15](#)
- [Using the Basic Report Features, page 10-1](#)

## Viewing Historical Radar Detection Events

This report provides information about all recorded radar detection events.



Note

Because DFS applies only to 802.11a and 802.11n radios (the 5GHz band), this report has no relevance to 11b or 11g radios because they operate in the 2.4GHz band.



Note

Your login determines whether you can use this option.

### Before You Begin

- Configure your network for radio management (see [Getting Started with Radio Manager, page 12-1](#)).
- Be sure that Radio Monitoring is enabled. Radio Monitoring is enabled by default; if it has been disabled, you must re-enable it (see [Using Radio Monitoring to Collect RM Data, page 12-1](#)).
- Set the threshold condition for radar detection (**Faults > Manage Fault Settings > Radio 802.11a Policies > Dynamic Frequency Selection** and **Faults > Manage Fault Settings > Radio 802.11n(5 GHz) Policies > Dynamic Frequency Selection**).

### Procedure

- Step 1** Select **Reports > Radio Manager**. The window refreshes with a device selector in the left pane.
- Step 2** From the device selector, click to expand the folder and select an access point or a folder. The right pane refreshes.
- Step 3** From the Report Name list, select **Radar Detection Event Historical Report**.
- Step 4** Click **View**. The report displays the following data for the selected access points:

**Table 10-13** Radar Detection Event Historical Report

Column	Description
AP Name	The identity of the AP that detected radar.
PHY	The identity of the specific radio interface that detected radar contention.
Radar Detect Channel	The channel on which radar was originally detected.
Radar Detect Time	The time at which radar was originally detected.
New Channel	The channel to which the radio interface switched operation or an indicator that the first channel-switch attempt failed.
Channel Switch Time	The time at which the channel-switch was performed (if applicable).

### Related Topics

- [Viewing Current Radar Detection Events, page 10-21](#)

- [Displaying Radio Manager Reports, page 10-15](#)
- [Using the Basic Report Features, page 10-1](#)

## Displaying Voice Reports

The **Reports > Voice** option displays voice call information about the devices in your network. This information can be shown for an AP, a single floor, or the entire network. You can view, export, and email the reports. Using this option, you can view, export, and email the following report types:

- Group Reports:
  - [AP Group Call Summary: Current, page 10-24](#)
  - [AP Group Metrics Summary: Current, page 10-25](#)
- Access Point Reports:
  - [AP Detail: Current, page 10-27](#)
  - [AP Detail: Last Hour, page 10-29](#)
  - [Voice Queuing Delay, page 10-30](#)
  - [Voice Packet Loss, page 10-31](#)
  - [Voice Roaming, page 10-33](#)
  - [Bandwidth In Use, page 10-34](#)
  - [Voice Streams In Progress, page 10-35](#)
  - [Rejected Voice Streams, page 10-36](#)

### AP Group Call Summary: Current

The AP Group Call Summary: Current report allows you to view the current status of a group of APs.



**Note** Your login determines whether you can use this option.

---

#### Before You Begin

Satisfy the voice prerequisites (see [Guidelines for Using Voice, page 15-5](#)).

#### Procedure

---

- Step 1** Select **Reports > Voice**.
- Step 2** Select an AP group (that has voice capability) from the device selector.
- Step 3** From the Report Name list, select **AP Group Call Summary: Current**.

This report displays the following information:

Column	Description
Time	The time (month, day, hour, and minute) the WLSE polled information from the device (MM-DD-hh-mm). For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
AP Name	The name of the access point.
Percent Bandwidth Allocated	The percentage of the channel allocated for voice traffic.
Percent of Allocated Bandwidth in Use	The percentage of the configured bandwidth that is currently being used by voice traffic.
Voice Streams in Progress	The number of voice streams in progress on the AP. Each client participating in a call counts as one voice stream. There are at least two voice streams, one from each client, per call. For a conference call, the number of voice streams is equal to the number of clients participating in that call.
Additional Voice Streams	The AP's estimate of the number of voice streams it can admit, minus the roaming reserve.
Calls Rejected Due to Insufficient Bandwidth	Number of TSPEC requests denied due to insufficient bandwidth.
Calls Rejected Due to Other Reason	Number of TSPEC requests denied for other reasons.

**Step 4** Use the buttons to the right of the Report Name list to export, email, or refresh this report.

## AP Group Metrics Summary: Current

The AP Group Metrics Summary: Current report displays the consolidated metrics of all the clients collected in the current 90 second report.



**Note** This report displays the metrics for clients only.

You can use this report to highlight different information about the displayed APs. For example:

- Sort on the QOS to display the APs grouped into three QOS categories: Degraded (red), Fair (yellow) and Normal (green).
- Use a descending sort on the PLR (packet loss ratio) column to display the APs with the most errors.



**Note** Your login determines whether you can use this option.

**Before You Begin**

Satisfy the voice prerequisites (see [Guidelines for Using Voice, page 15-5](#)).

**Procedure**

**Step 1** Select **Reports > Voice**.

**Step 2** Select an AP group (that has voice capability) from the device selector.

**Step 3** From the Report Name list, select **AP Group Metrics Summary: Current**.

This report displays the following information:

Column	Description
Time	The time (month, day, hour, and minute) the WLSE polled information from the device (MM-DD-hh-mm). For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
AP Name	The name of the access point.
Interface Name	The name of the radio interface.
QOS	An indicator bar that shows whether the packet latency and packet loss rates are within normal limits. <ul style="list-style-type: none"> <li>• Green: The AP can admit both originating and roaming-in calls.</li> <li>• Yellow: The AP can only accept roaming-in calls.</li> <li>• Red: The AP is completely full and cannot accept any more calls.</li> </ul> This data comes from the Traffic Stream Metrics (see <a href="#">Understanding Voice Packet Latency, Jitter, and Loss, page 15-3</a> ).
% PLR (Downlink)	The percentage of packets lost per traffic stream (from the AP to the client).
% PLR (Uplink)	The percentage of packets lost per traffic stream (from the client to the AP).
Ave Queuing Delay (ms) (Downlink)	The average delay (in milliseconds) from the time a packet was queued in the AP's driver queue to the time the acknowledgement was received by the AP's driver from the client.
Ave Queuing Delay (ms) (Uplink)	The average delay (in milliseconds) from the time a packet was queued in the client's driver queue to the time the acknowledgement was received by the client's driver from the AP.
% Packets > 40ms Queuing Delay	The percentage of packets that experience more than 40 ms delay per cell.
% Packets > 20ms Queuing Delay	The percentage of packets that experience less than or equal to 40 ms and more than 20 ms delay per cell.

Column	Description
Client(s) Using U-APSD	Whether the AP's clients are using U-APSD (unsolicited automatic power save delivery).
Roaming Delay (ms)	The time (in milliseconds) between the last RTP packet seen on the old AP and the first RTP packet seen on the new AP.

**Step 4** Use the buttons to the right of the Report Name list to export, email, or refresh this report.

#### Related Topics

[Understanding Voice Packet Latency, Jitter, and Loss, page 15-3](#)

## AP Detail: Current

The AP Detail: Current report highlights information about the associated clients for the last 90 second interval. For example:

- Choosing a descending sort on a Packet Count column displays the busiest clients in the last 90 second interval.
- Choosing a descending sort on the Roaming Count column displays the clients with the most roams.
- Sorting on the Roaming Delay column displays the clients with the longest average roaming delays.



#### Note

Your login determines whether you can use this option.

#### Before You Begin

Satisfy the voice prerequisites (see [Guidelines for Using Voice, page 15-5](#)).

#### Procedure

- Step 1** Select **Reports > Voice**.
- Step 2** Select an AP (that has voice capability) from the device selector.
- Step 3** From the Report Name list, select **AP Detail: Current**.

The AP Detail: Current report displays the following information:

Column	Description
Time	The time (month, day, hour, and minute) the WLSE polled information from the device (MM-DD-hh-mm). For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
Client MAC	The client's MAC address.
Interface Name	The name of the radio interface.

Column	Description
QOS	<p>An indicator bar that shows whether the packet latency and packet loss rates are within normal limits.</p> <ul style="list-style-type: none"> <li>• Green indicates that the AP can admit both originating and roaming-in calls.</li> <li>• Yellow indicates that the AP can only accept roaming-in calls.</li> <li>• Red indicates that the AP is completely full and cannot accept any more calls.</li> </ul> <p>This data comes from the Traffic Stream Metrics.</p>
Packet Count (Downlink)	The total number of packets counted per traffic stream (from the AP to the client).
Packet Count (Uplink)	The total number of packets counted per traffic stream (from the client to the AP).
% PLR (Downlink)	The percentage of packets lost per traffic stream (from the AP to the client).
% PLR (Uplink)	The percentage of packets lost per traffic stream (from the client to the AP).
Ave Queuing Delay (ms) (Downlink)	The average delay (in milliseconds) from the time a packet was queued in the AP's driver queue to the time the acknowledgement was received by the AP's driver from the client.
Ave Queuing Delay (ms) (Uplink)	The average delay (in milliseconds) from the time a packet was queued in the client's driver queue to the time the acknowledgement was received by the client's driver from the AP.
% Packets > 40ms Queuing Delay	The percentage of packets that experience more than 40 ms delay per cell.
% Packets > 20ms Queuing Delay	The percentage of packets that experience less than or equal to 40 ms and more than 20 ms delay per cell.
Using U-APSD	Whether the AP's clients are using U-APSD (unsolicited automatic power save delivery).
Roaming Delay (ms)	The time (in milliseconds) it takes for a roaming call's association process to complete.
Roaming Count	The number of times a client has roamed to this AP.

**Step 4** Use the buttons to the right of the Report Name list to export, email, or refresh this report.

**Related Topics**

- [AP Detail: Last Hour, page 10-29](#)
- [Understanding Voice Packet Latency, Jitter, and Loss, page 15-3](#)
- [Using the Basic Report Features, page 10-1](#)

## AP Detail: Last Hour

The AP Detail: Last Hour report highlights information about the associated clients for the last hour. For example:

- Choosing a descending sort on a Packet Count column displays the busiest clients in the last hour.
- Sorting on the Roaming Delay column displays the clients with the longest average roaming delays.



### Note

Your login determines whether you can use this option.

### Before You Begin

Satisfy the voice prerequisites (see [Guidelines for Using Voice, page 15-5](#)).

### Procedure

**Step 1** Select **Reports > Voice**.

**Step 2** Select an AP (that has voice capability) from the device selector.

**Step 3** From the Report Name list, select **AP Detail: Last Hour**.

The AP Detail: Last Hour report displays the following information:

Column	Description
Time	The time (month, day, hour, and minute) the WLSE polled information from the device (MM-DD-hh-mm). For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
Interface Name	The name of the radio interface.
QOS	An indicator bar that shows whether the packet latency and packet loss rates are within normal limits. <ul style="list-style-type: none"> <li>• Green indicates that the AP can admit both originating and roaming-in calls.</li> <li>• Yellow indicates that the AP can only accept roaming-in calls.</li> <li>• Red indicates that the AP is completely full and cannot accept any more calls.</li> </ul> This data comes from the Traffic Stream Metrics.
% PLR (Downlink)	The percentage of packets lost per traffic stream (from the AP to the client).
% PLR (Uplink)	The percentage of packets lost per traffic stream (from the client to the AP).
Ave Queuing Delay (ms) (Downlink)	The average delay (in milliseconds) from the time a packet was queued in the AP's driver queue to the time the acknowledgement was received by the AP's driver from the client.
Ave Queuing Delay (ms) (Uplink)	The average delay (in milliseconds) from the time a packet was queued in the client's driver queue to the time the acknowledgement was received by the client's driver from the AP.

Column	Description
% Packets > 40ms Queuing Delay	The percentage of packets that experience more than 40 ms delay per cell.
% Packets > 20ms Queuing Delay	The percentage of packets that experience less than or equal to 40 ms and more than 20 ms delay per cell.
Client(s) Using U-APSD	Whether the AP's clients are using U-APSD (unsolicited automatic power save delivery).
Roaming Delay (ms)	The time (in milliseconds) it takes for a roaming call's association process to complete.

**Step 4** Use the buttons to the right of the Report Name list to export, email, or refresh this report.

**Related Topics**

- [AP Detail: Current, page 10-27](#)
- [Understanding Voice Packet Latency, Jitter, and Loss, page 15-3](#)
- [Using the Basic Report Features, page 10-1](#)

## Voice Queuing Delay

This graph displays:

- The average delay (in milliseconds) from the time a packet was queued in the AP's driver queue to the time the acknowledgement was received by the AP's driver from the client during the last hour.
- The average delay (in milliseconds) from the time a packet was queued in the client's driver queue to the time the acknowledgement was received by the client's driver from the AP during the last hour.



**Note**

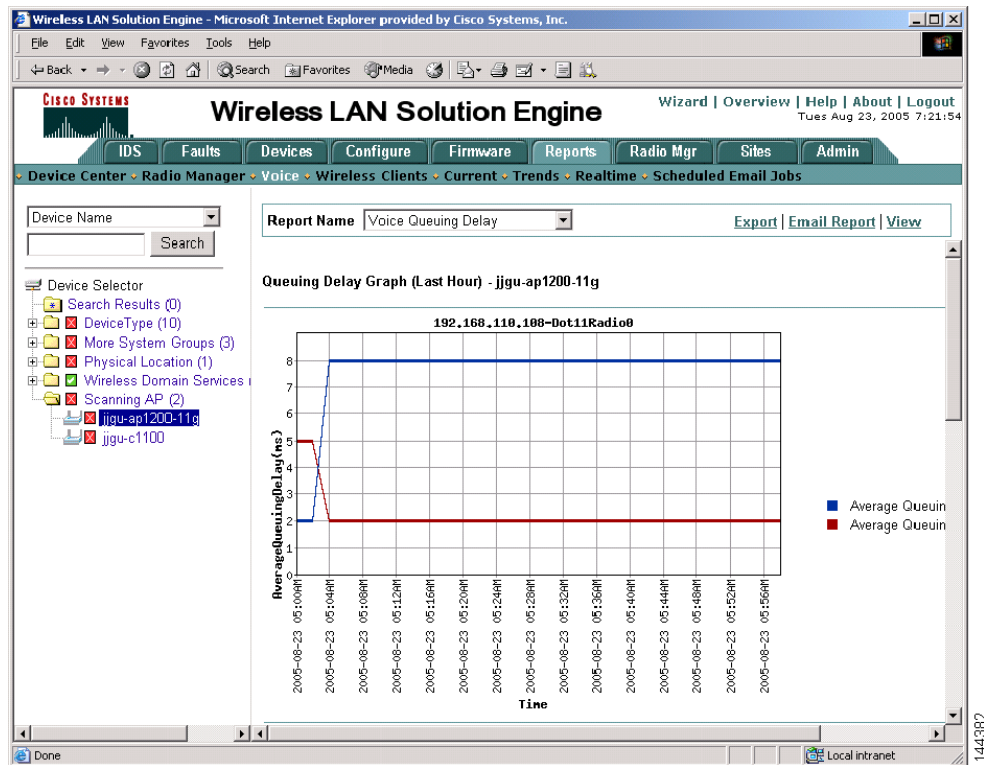
Your login determines whether you can use this option.

**Before You Begin**

Satisfy the voice prerequisites (see [Guidelines for Using Voice, page 15-5](#)).

**Procedure**

- Step 1** Select **Reports > Voice**.
- Step 2** Select an AP (that has voice capability) from the device selector.
- Step 3** From the Report Name list, select **Voice Queuing Delay**.



**Step 4** Use the buttons to the right of the Report Name list to export, email, or refresh this report.

### Related Topics

[Understanding Radio Management for VoWLAN, page 15-1](#)

## Voice Packet Loss

This graph displays:

- The total number of packets counted per traffic stream from the AP to the client during the last hour.
- The total number of packets counted per traffic stream from the client to the AP during the last hour.

Tracking the packet count is important for these reasons:

- If **VAD** (voice activity detection) is enabled, not all packets expected in the measurement interval might be transmitted by an endpoint due to talker silence during that interval. Therefore, by including the packet count, the actual packet loss rate (PLR) can be computed.
- Because different codecs employ different packetization intervals (typically 20 or 30ms), there can be a different number of packets transmitted by the different endpoints in the measurement interval.



### Note

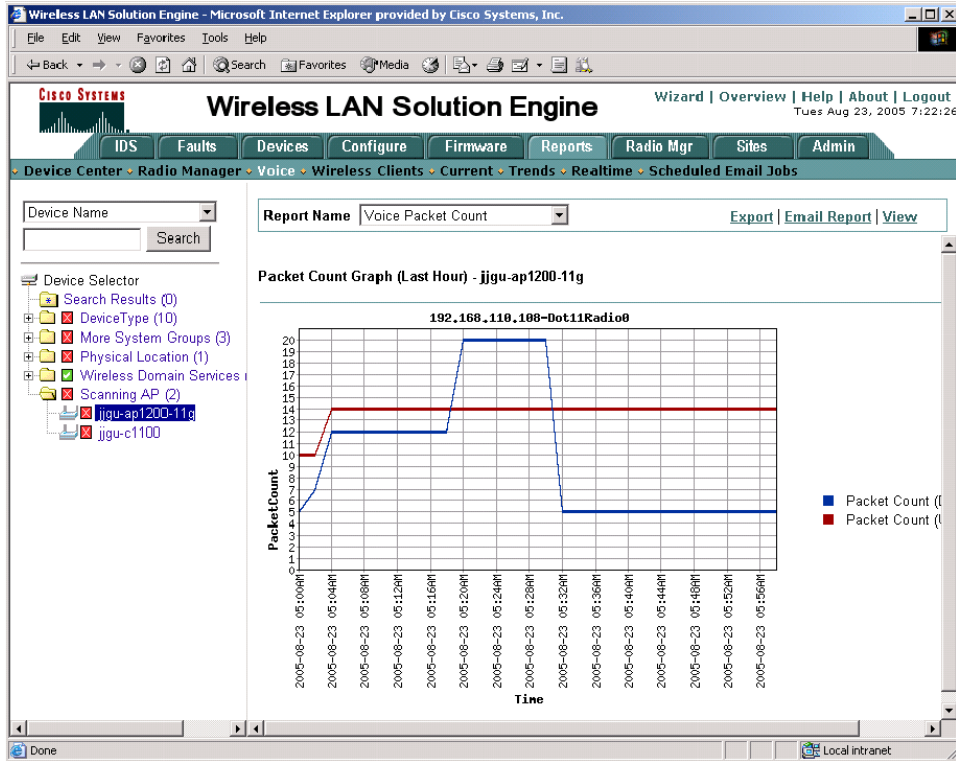
Your login determines whether you can use this option.

**Before You Begin**

Satisfy the voice prerequisites (see [Guidelines for Using Voice](#), page 15-5).

**Procedure**

- Step 1 Select **Reports > Voice**.
- Step 2 Select an AP (that has voice capability) from the device selector.
- Step 3 From the Report Name list, select **Voice Packet Loss**.



- Step 4 Use the buttons to the right of the Report Name list to export, email, or refresh this report.

**Related Topics**

[Understanding Radio Management for VoWLAN](#), page 15-1

## Voice Roaming

This graph displays:

- The roaming delay (in milliseconds) from the AP to the client during the last hour.
- The roaming delay (in milliseconds) from the client to the AP during the last hour.



### Note

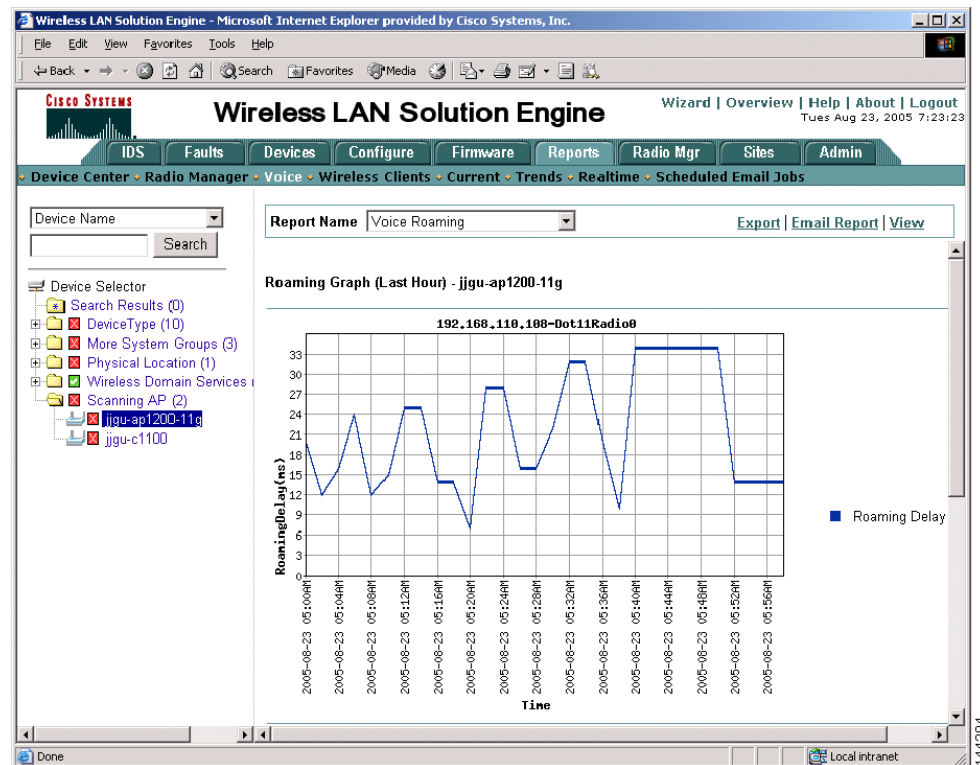
Your login determines whether you can use this option.

### Before You Begin

Satisfy the voice prerequisites (see [Guidelines for Using Voice](#), page 15-5).

### Procedure

- Step 1 Select **Reports > Voice**.
- Step 2 Select an AP (that has voice capability) from the device selector.
- Step 3 From the Report Name list, select **Voice Roaming**.



- Step 4 Use the buttons to the right of the Report Name list to export, email, or refresh this report.

### Related Topics

[Understanding Roaming](#), page 15-3

# Bandwidth In Use

This graph displays the percentage of allowed bandwidth that has been used by the AP during the last hour.



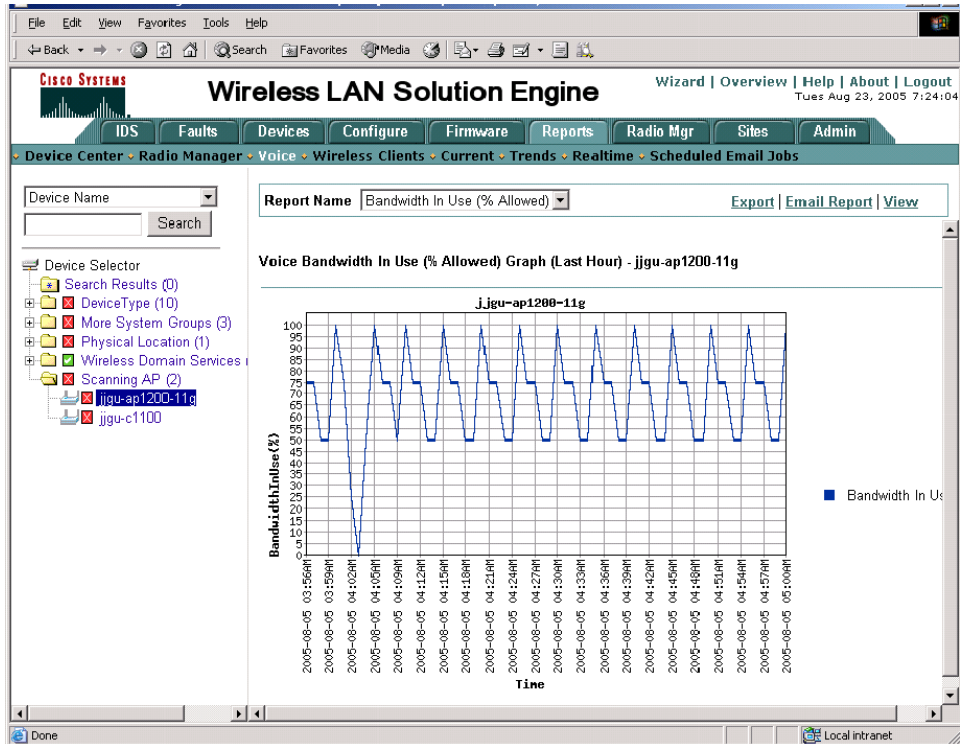
**Note** Your login determines whether you can use this option.

### Before You Begin

Satisfy the voice prerequisites (see [Guidelines for Using Voice, page 15-5](#)).

### Procedure

- Step 1** Select **Reports > Voice**.
- Step 2** Select an AP (that has voice capability) from the device selector.
- Step 3** From the Report Name list, select **Bandwidth in Use (% Allowed)**.



- Step 4** Use the buttons to the right of the Report Name list to export, email, or refresh this report.

### Related Topics

[Understanding Radio Management for VoWLAN, page 15-1](#)

## Voice Streams In Progress

This graph displays the number of voice streams in progress on the AP during the last hour.

Each client participating in a call counts as one voice stream. There are at least two voice streams, one from each client, per call. For a conference call, the number of voice streams is equal to the number of clients participating in that call.



### Note

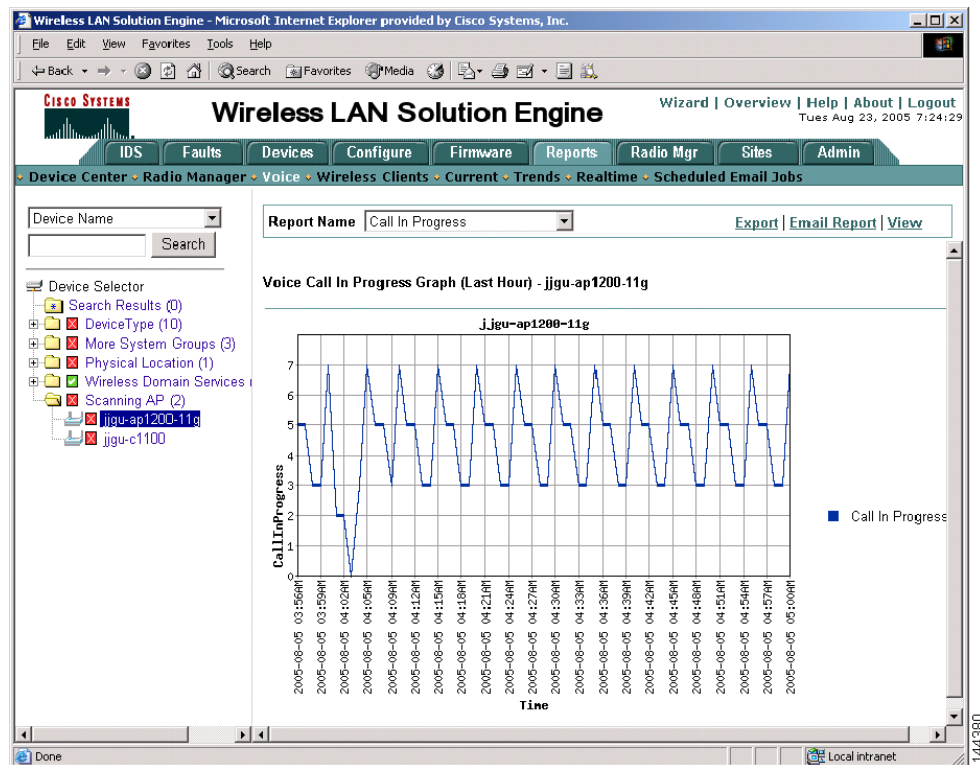
Your login determines whether you can use this option.

### Before You Begin

Satisfy the voice prerequisites (see [Guidelines for Using Voice, page 15-5](#)).

### Procedure

- Step 1 Select **Reports > Voice**.
- Step 2 Select an AP (that has voice capability) from the device selector.
- Step 3 From the Report Name list, select **Voice Streams In Progress**.



- Step 4 Use the buttons to the right of the Report Name list to export, email, or refresh this report.

### Related Topics

[Understanding Radio Management for VoWLAN, page 15-1](#)

# Rejected Voice Streams

This graph displays the number of voice streams rejected by the AP during the last hour.

Each client participating in a call counts as one voice stream. There are at least two voice streams, one from each client, per call. For a conference call, the number of voice streams is equal to the number of clients participating in that call.



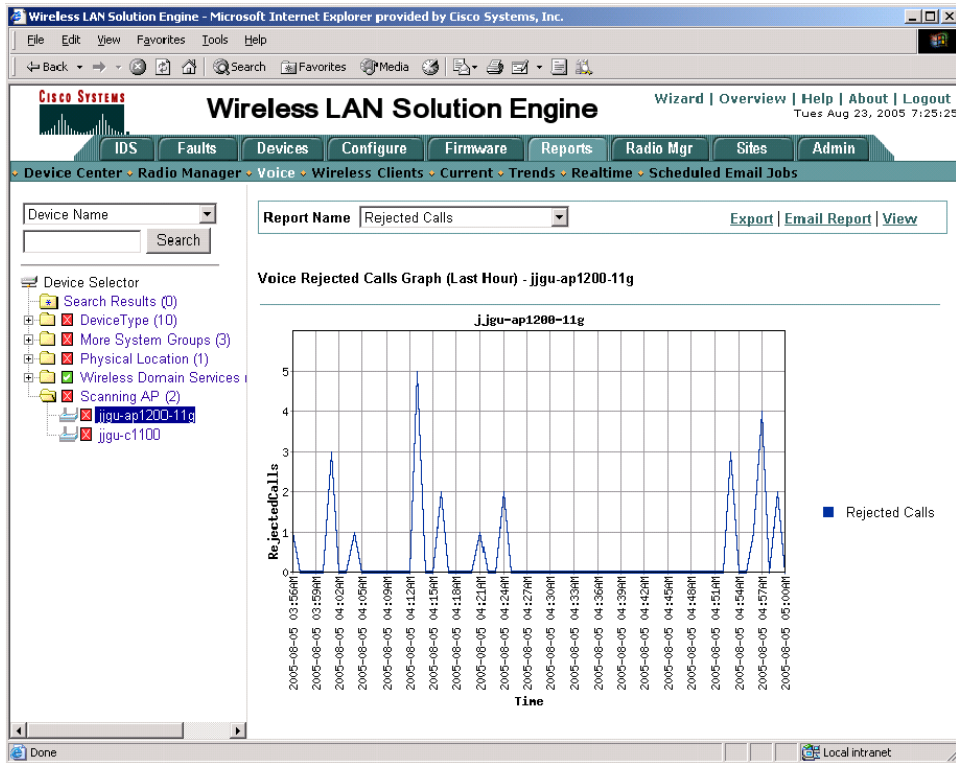
**Note** Your login determines whether you can use this option.

### Before You Begin

Satisfy the voice prerequisites (see [Guidelines for Using Voice, page 15-5](#)).

### Procedure

- Step 1 Select **Reports > Voice**.
- Step 2 Select an AP (that has voice capability) from the device selector.
- Step 3 From the Report Name list, select **Rejected Voice Streams**.



- Step 4 Use the buttons to the right of the Report Name list to export, email, or refresh this report.

### Related Topics

[Understanding Radio Management for VoWLAN, page 15-1](#)

# Displaying Wireless Client Reports

Wireless client reports provide information about:

- The type of client that is associating with an access point.
- How much bandwidth the client is using.
- A history of which access points the client has been associated with.
- The type of client activity.

Wireless client reports are not real-time reports. The information displayed in the reports is gathered by client polling and, for particular versions of firmware, client tracking. To understand more about wireless client reports and how the information for them is gathered, see [Client Tracking vs. Client Polling](#), page 4-22.



Note

Your login determines whether you can use this option.

You can view the following the report types:

- Client Detail Report—See [Displaying a Client Detail Report](#), page 10-37
- Client Statistics Report—See [Displaying a Client Statistics Report](#), page 10-39
- Client Historical Association Report—See [Displaying a Client Historical Association Report](#), page 10-40
- Client Access Failure—See [Displaying a Client Access Failure Report](#), page 10-42
- Voice Client Details: Last Hour—See [Voice Client Detail: Last Hour](#), page 10-44

## Displaying a Client Detail Report

Wireless client polling frequency is set to 51 minutes by default. To increase the accuracy of this report, increase the polling frequency. To change the default setting, select **Devices > Discover > Inventory > Polling**.



Caution

Increasing the polling frequency could have an effect on performance.

In some instances, report data may be missing for clients that are associated with access points in which client tracking is turned on for their corresponding WDS devices. This happens because the WDS does not include all the information displayed in the report when it sends notifications about client activity events to the WLSE. The missing data may be obtained by selecting **Devices > Discover > Inventory > Run Inventory** on the associated access point.

### Procedure

- Step 1** Select **Reports > Wireless Clients**. The Wireless Clients selector appears in the left pane.
- Step 2** From the list, select the method you want to use to search for clients.
- Step 3** Enter the Client EAP User Name, Client MAC Address, Client based on Mobility ID, Client based on AP IP Address, or Client based on SSID. (To search based on mobility ID, client tracking must be enabled.) You can use an asterisk (\*) as a wild card to denote numbers and letters.



**Note** The MAC address must be entered in hexadecimal, for example 0070eb37c90.

- Step 4** Click **Search**. A list appears in the left pane.
- Step 5** To generate the reports for all the clients, click **Client Group** (the first item in the list).
- Step 6** Click the username, MAC address, mobility ID number, IP address, or SSID. (To search based on mobility ID, client tracking must be enabled.) The right pane refreshes and displays the Client Detail Report, which is the default report.



**Note** You cannot specify start and end dates for this report.

**Table 10-14** Client Detail Report

Column	Description
Name	The client name. <b>Note</b> This field is empty for Cisco 7920 phones.
IP Address	The client IP address.
EAP User Name	The client used for EAP authentication.
Mobility ID	The client mobility identification number. <b>Note</b> Mobility IDs are only available when client tracking is enabled.
Client Type	The type of client. For example Workgroup Bridge, 350 Series, Ethernet AP, etc. <b>Note</b> Cisco 7920 phones will display in this field if they are running version 1.08 and associate to an AP running version 12.3(2) JA or later.
Connected To	The name or IP address of the AP. Click on this link to view the AP Detail Report and the Fault Summary. For more information, see <a href="#">Displaying a Detailed Report, page 10-67</a>
Role	The role of the wireless device. For example, client station, repeater, root bridge, etc. <b>Note</b> This field is empty for Cisco 7920 phones.
Radio Type	The type of radio model of the wireless device. For example, Cisco 3500, 3000, 4500, 340, or 350 radios.
SSID	The unique identifier the client device uses to associate with the access point.
State	The current state of the authentication and association process between the client and the access point or bridge.
Time Last Seen	The time the client was last seen by the system.

**Table 10-14** Client Detail Report (continued)

Column	Description
Software Version	The IOS version if the client is an access point, bridge or repeater. Otherwise, it is the firmware version of the client card. <b>Note</b> This field is empty for Cisco 7920 phones.
MAC Address	The MAC address of the client.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Client Statistics Report

Wireless client polling frequency is set to 51 minutes by default. If 0 (zero) values are displayed in the report or if you want to increase the accuracy of the report, increase the polling frequency. To change the default setting, select **Devices > Discover > Inventory > Polling**.

**Caution**

Increasing the polling frequency could have an effect on performance.

**Procedure**

- Step 1** Select **Reports > Wireless Clients**. The Wireless Clients selector appears in the left pane.
- Step 2** From the list, select the method you want to use to search for clients.
- Step 3** Enter the Client EAP User Name, Client MAC Address, Client based on Mobility ID, Client based on AP IP Address, or Client based on SSID. (To search based on mobility ID, client tracking must be enabled.) You can use an asterisk (\*) as a wild card to denote numbers and letters.
- Step 4** Click **Search**. A list appears in the left pane.
- Step 5** To generate the reports for all the clients, click **Client Group** (the first item in the list).
- Step 6** Click the username, MAC address, mobility ID number, IP address, or SSID. (To search based on mobility ID, client tracking must be enabled.) The right pane refreshes.
- Step 7** From the Report Name list, select **Client Statistics**.
- Step 8** Click **View**. You cannot specify start and end dates for this report.

**Table 10-15** Client Statistics Report

Column	Description
Name	The client name.
IP Address	The client IP address.
EAP User Name	The username used for EAP authentication.
MAC Address	The client MAC address.

**Table 10-15 Client Statistics Report (continued)**

Column	Description
Time last seen	The time the wireless client was last seen by the system.
Packets Transmitted	The number of packets transmitted.
Octets Transmitted	The number of octets transmitted.
Packets Received	The number of packets received.
Octets Received	The number of octets received.
Latest Received Signal Strength (dBm)	A tally of the received signal power.
Latest Signal Quality (%)	The current index of radio signal quality.
Received WEP errors	The number of WEP errors received.
Packet Errors	The number of packet errors received.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Client Historical Association Report

Wireless client polling frequency is set to 51 minutes by default. To increase the accuracy of this report, increase the polling frequency. To change the default setting, select **Devices > Discover > Inventory > Polling**.



**Caution**

Increasing the polling frequency could have an effect on performance.

Client tracking is available on all access points with firmware release 12.2(15)JA or later, and with WDS service enabled. To enable client tracking, select **Devices > Discover > Client Tracking**. (See [Prerequisites for Enhanced Client Tracking, page 4-21](#))

**Procedure**

- Step 1** Select **Reports > Wireless Clients**. The Wireless Clients selector appears in the left pane.
- Step 2** From the list, select the method you want to use to search for clients.
- Step 3** Enter the Client EAP User Name, Client MAC Address, Client based on Mobility ID, Client based on AP IP Address, or Client based on SSID. (To search based on mobility ID, client tracking must be enabled.) You can use an asterisk (\*) as a wild card to denote numbers and letters.
- Step 4** Click **Search**. A list appears in the left pane.
- Step 5** To generate the reports for all the clients, click **Client Group** (the first item in the list).
- Step 6** Click the username, MAC address, mobility ID number, IP address, or SSID. (To search based on mobility ID, client tracking must be enabled.) The right pane refreshes.
- Step 7** From the Report Name list, select **Client Historical Association**.

- Step 8** From the Start Date and End Date lists, select the start date and end date for the period of time for which you want trending information.
- Step 9** Click **View**. The Client Historical Association report displays in the right pane with the following information:

**Table 10-16** *Client Historical Association Report*

Column	Description
AP Name	The name of the access point.
AP IP Address	The IP address of the access point.
EAP User Name	<p>The RADIUS username used for EAP authentication. (Usernames are not available for non-EAP authentications.)</p> <p><b>Note</b> Data for this column is only available when the client tracking feature is enabled, and only for WDS access points with firmware version 12.2(15)JA or later. Otherwise, it is blank.</p> <p>The RADIUS username is generally available in all EAP authentication cases, except for PEAP and EAP-TTLS. In these instances, the availability of the information is dependent on vendor support.</p>
Authentication Type	The authentication type used.
Event Type	<p>The type of event that occurred:</p> <ul style="list-style-type: none"> <li>• <b>Refresh</b>—This event occurs whenever the WLSE syncs up with the WDS. It is a start up phase during which the WLSE learns about all the registered clients within a WDS domain.</li> </ul> <p>This can happen when the WLSE reboots and the WDS to WLSE management link is established or restored after being lost.</p> <ul style="list-style-type: none"> <li>• <b>Registered with WDS</b>—This event occurs when a client successfully registers with the WDS for the first time.</li> <li>• <b>Detach from WDS</b>—This event occurs when the access point indicates that a client has become inactive, or when the WDS performs a clean up of stale clients.</li> <li>• <b>Roam</b>—This event occurs when a client roams to another access point within the same WDS domain.</li> <li>• <b>Access Failure</b>—This event occurs during EAP authentication when client access to the AP fails.</li> <li>• <b>IP Address Change</b>—This event occurs when a client's IP address changes, and the change is detected at the AP to which the client is registered. The IP address change is sent from the WDS to the WLSE. An example of when an IP Address Change event is generated is when a DHCP server initially assigns an IP address to a client.</li> </ul>
MAC Address	The client MAC address.
WDS Address	The IP address of the WDS.
As Of	<p>The time the WLSE polled information from the device.</p> <p>For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a>.</p>
Event Time	The time the event occurred.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Client Access Failure Report

Wireless client polling frequency is set to 51 minutes by default. To increase the accuracy of this report, increase the polling frequency. To change the default setting, select **Devices > Discover > Inventory > Polling**.



**Caution**

Increasing the polling frequency could have an effect on performance.

Client tracking is available on all access points with firmware release 12.2(15)JA or later, and with WDS service enabled. To enable client tracking, select **Devices > Discover > Client Tracking**. (See [Prerequisites for Enhanced Client Tracking, page 4-21](#))

**Procedure**

- Step 1** Select **Reports > Wireless Clients**. The Wireless Clients selector appears in the left pane.
- Step 2** From the list, select the method you want to use to search for clients.
- Step 3** Enter the Client EAP User Name, Client MAC Address, Client based on Mobility ID, Client based on AP IP Address, or Client based on SSID. (To search based on mobility ID, client tracking must be enabled.) You can use an asterisk (\*) as a wild card to denote numbers and letters.
- Step 4** Click **Search**. A list appears in the left pane.
- Step 5** To generate the reports for all the clients, click **Client Group** (the first item in the list).
- Step 6** Click the username, MAC address, mobility ID number, IP address, or SSID. (To search based on mobility ID, client tracking must be enabled.) The right pane refreshes.
- Step 7** From the Report Name list, select **Client Access Failure**.
- Step 8** From the Start Date and End Date lists, select the start date and end date for the period of time for which you want trending information.
- Step 9** Click **View**. The Client Access Failure Report displays in the right pane with the following information:

**Table 10-17 Client Access Failure Report**

Column	Description
AP Name	The name of the access point.
AP IP Address	The IP address of the access point.
Client MAC Address	The MAC address of the client.

Table 10-17 Client Access Failure Report (continued)

Column	Description
EAP User Name	<p>The RADIUS username used for EAP authentication. (Usernames are not available for non-EAP authentications.)</p> <p><b>Note</b> Data for this column is only available when the client tracking feature is enabled, and only for WDS access points with firmware version 12.2(15)JA or later. Otherwise, it is blank.</p> <p>The RADIUS username is generally available in all EAP authentication cases, except for PEAP and EAP-TTLS. In these instances, the availability of the information is dependent on vendor support.</p>
Authentication Type	The authentication type used.
Event Type	<p>The type of event that occurred:</p> <ul style="list-style-type: none"> <li>• Refresh—This event occurs whenever the WLSE syncs up with the WDS. It is a start up phase during which the WLSE learns about all the registered clients within a WDS domain.</li> </ul> <p>This can happen when the WLSE reboots and the WDS to WLSE management link is established or restored after being lost.</p> <ul style="list-style-type: none"> <li>• Registered with WDS—This event occurs when a client successfully registers with the WDS for the first time.</li> <li>• Detach from WDS—This event occurs when the access point indicates that a client has become inactive, or when the WDS performs a clean up of stale clients.</li> <li>• Roam—This event occurs when a client roams to another access point within the same WDS domain.</li> <li>• Access Failure—This event occurs during EAP authentication when client access to the AP fails.</li> </ul>
WDS Address	The IP address of the WDS.
As Of	<p>The time the WLSE polled information from the device.</p> <p>For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a>.</p>
Event Time	The time this event occurred.

### Related Topics

[Using the Basic Report Features, page 10-1](#)

# Voice Client Detail: Last Hour

The Voice Client Detail: Last Hour report highlights the voice metrics of a specific client for the last hour.



**Note** Your login determines whether you can use this option.

### Before You Begin

Satisfy the voice prerequisites (see [Guidelines for Using Voice, page 15-5](#)).

### Procedure

- Step 1** Select **Reports > Wireless Clients**. The Wireless Clients selector appears in the left pane.
- Step 2** From the list, select the method you want to use to search for clients.
- Step 3** Enter the Client EAP User Name, Client MAC Address, Client based on Mobility ID, Client based on AP IP Address, or Client based on SSID. (To search based on mobility ID, client tracking must be enabled.) You can use an asterisk (\*) as a wild card to denote numbers and letters.
- Step 4** Click **Search**. A list appears in the left pane.
- Step 5** To generate the reports for all the clients, click **Client Group** (the first item in the list).
- Step 6** Click the username, MAC address, mobility ID number, IP address, or SSID. (To search based on mobility ID, client tracking must be enabled.) The right pane refreshes.
- Step 7** From the Report Name list, select **Voice Client Detail: Last Hour**.
- Step 8** Click **View**. The Voice Client Details: Last Hour report displays the following information:

Column	Description
Time	The time (month, day, hour, and minute) the WLSE polled information from the device (MM-DD-hh-mm). For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
QOS	An indicator bar that shows whether the packet latency and packet loss rates are within normal limits. <ul style="list-style-type: none"> <li>• Green indicates that the AP can admit both originating and roaming-in calls.</li> <li>• Yellow indicates that the AP can only accept roaming-in calls.</li> <li>• Red indicates that the AP is completely full and cannot accept any more calls.</li> </ul> This data comes from the Traffic Stream Metrics.
AP Name	The name of the access point.
Interface Name	The name of the radio interface.
Packet Count (Downlink)	The total number of packets counted per traffic stream (from the AP to the client).
Packet Count (Uplink)	The total number of packets counted per traffic stream (from the client to the AP).

Column	Description
% PLR (Downlink)	The percentage of packets lost per traffic stream from the AP to the client)
% PLR (Uplink)	The percentage of packets lost per traffic stream from the client to the AP.
Ave Queuing Delay (ms) (Downlink)	The average delay (in milliseconds) from the time a packet was queued in the AP's driver queue to the time the acknowledgement was received by the AP's driver from the client.
Ave Queuing Delay (ms) (Uplink)	The average delay (in milliseconds) from the time a packet was queued in the client's driver queue to the time the acknowledgement was received by the client's driver from the AP.
% Packets > 40ms Queuing Delay	The percentage of packets that experience greater than 40 milliseconds delay per cell.
% Packets > 20ms Queuing Delay	The percentage of packets that experience less than or equal to 40 milliseconds and greater than 20 milliseconds delay per cell.
Using U-APSD	Whether the client is using U-APSD (unsolicited automatic power save delivery).
Roaming Delay (ms)	The time it takes (in milliseconds) for a roaming call's association process to complete.
Roaming Count	The number of times a client has roamed to this AP.

**Step 9** Use the buttons to the right of the Report Name list to export, email, or refresh this report.

#### Related Topics

- [AP Detail: Current, page 10-27](#)
- [Understanding Voice Packet Latency, Jitter, and Loss, page 15-3](#)
- [Using the Basic Report Features, page 10-1](#)

## Displaying Current Reports

This window allows you to view current information about the monitored devices in your network. You can view, export, and email the reports.

The frequency with which configuration data is collected from the devices is 12 hours by default. To change the default setting, select **Devices > Discover > Inventory > Polling**.

Using this option, you can view the following types of current reports:

- Group Reports:
  - [Group Reports for APs, page 10-46](#)
  - [Group Reports for 1300 Wireless Bridges, page 10-46](#)
  - [Group Reports for 1400 Wireless Bridges, page 10-47](#)
  - [Group Reports for AP1100 and AP1200 in Workgroup Bridge Mode, page 10-47](#)
  - [Group Report for WLSM: Displaying a Group Mobility ID Report, page 10-61](#)

- [Access Point Reports, page 10-47](#)
- Bridge Reports:
  - [Wireless Bridge Reports \(BR1310 and BR1410\), page 10-48](#)
  - [Workgroup Bridge Reports \(AP1100 and AP1200 in WGB Mode\), page 10-48](#)
- [Switch Reports, page 10-48](#)
- [Router Reports, page 10-48](#)
- [Server Reports, page 10-48](#)
- [WLSM Reports, page 10-48](#)

**Note**

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Your login determines whether you can use this option.

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**Group Reports for APs**

- Group Client Association—See [Displaying a Group Client Association Report, page 10-49](#)
- Group Security Report—See [Displaying a Group Security Report, page 10-50](#)
- Group SSID Report—See [Displaying a Group SSID Report, page 10-52](#)
- Group MBSSID Report—See [Displaying a Group MBSSID Report, page 10-53](#)
- Group VLAN Report—See [Displaying a Group VLAN Report, page 10-54](#)
- Per VLAN Client Report—See [Displaying a Per VLAN Client Report, page 10-55](#)
- Group Client Report—See [Displaying a Group Client Report, page 10-56](#)
- Group Identity Report—See [Displaying a Group Identity Report, page 10-57](#)
- Group Serial Number Report—See [Displaying a Group Serial Number Report, page 10-58](#)
- Group Security Violation Report—See [Displaying a Group Security Violation Report, page 10-58](#)
- Group CDP Inline Power Report—See [Displaying a Group CDP Inline Power Report, page 10-59](#)
- Group Inventory Report—See [Displaying a Group Inventory Report, page 10-60](#)
- Group LBS Report—See [Displaying a Group LBS Report, page 10-61](#)
- Group Version Summary Report—See [Displaying a Group Version Summary Report, page 10-62](#)
- Group Auto Config Retry Report—See [Displaying a Group Auto Config Retry Report, page 10-63](#)
- Credentials Verification Report—See [Displaying a Credentials Verification Report, page 10-64](#)

**Group Reports for 1300 Wireless Bridges**

- Group Client Association—See [Displaying a Group Client Association Report, page 10-49](#)
- Group Security Report—See [Displaying a Group Security Report, page 10-50](#)
- Group SSID Report—See [Displaying a Group SSID Report, page 10-52](#)
- Group MBSSID Report—See [Displaying a Group MBSSID Report, page 10-53](#)
- Group VLAN Report—See [Displaying a Group VLAN Report, page 10-54](#)
- Per VLAN Client Report—See [Displaying a Per VLAN Client Report, page 10-55](#)
- Group Client Report—See [Displaying a Group Client Report, page 10-56](#)
- Group Identity Report—See [Displaying a Group Identity Report, page 10-57](#)
- Group Serial Number Report—See [Displaying a Group Serial Number Report, page 10-58](#)

- Group Security Violation Report—See [Displaying a Group Security Violation Report](#), page 10-58
- Group CDP Inline Power Report—See [Displaying a Group CDP Inline Power Report](#), page 10-59
- Group Inventory Report—See [Displaying a Group Inventory Report](#), page 10-60
- Group LBS Report—See [Displaying a Group LBS Report](#), page 10-61
- Group Version Summary Report—See [Displaying a Group Version Summary Report](#), page 10-62
- Group Auto Config Retry Report—See [Displaying a Group Auto Config Retry Report](#), page 10-63

#### Group Reports for 1400 Wireless Bridges

- Group Security Report—See [Displaying a Group Security Report](#), page 10-50
- Group SSID Report—See [Displaying a Group SSID Report](#), page 10-52
- Group MBSSID Report—See [Displaying a Group MBSSID Report](#), page 10-53
- Group VLAN Report—See [Displaying a Group VLAN Report](#), page 10-54
- Group Identity Report—See [Displaying a Group Identity Report](#), page 10-57
- Group Serial Number Report—See [Displaying a Group Serial Number Report](#), page 10-58
- Group Inventory Report—See [Displaying a Group Inventory Report](#), page 10-60
- Group LBS Report—See [Displaying a Group LBS Report](#), page 10-61

#### Group Reports for AP1100 and AP1200 in Workgroup Bridge Mode

- Group Security Report—See [Displaying a Group Security Report](#), page 10-50
- Group SSID Report—See [Displaying a Group SSID Report](#), page 10-52
- Group VLAN Report—See [Displaying a Group VLAN Report](#), page 10-54
- Group Identity Report—See [Displaying a Group Identity Report](#), page 10-57
- Group Serial Number Report—See [Displaying a Group Serial Number Report](#), page 10-58
- Group Inventory Report—See [Displaying a Group Inventory Report](#), page 10-60
- Group LBS Report—See [Displaying a Group LBS Report](#), page 10-61

#### Access Point Reports



Note

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These reports can be used for 1310 Wireless Bridges that are in AP mode.

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- Summary Report—See [Displaying an AP Summary Report](#), page 10-65
- Detailed Report—See [Displaying a Detailed Report](#), page 10-67
- Associations—See [Displaying an Associations Report](#), page 10-69
- RADIUS Authentication Report—See [Displaying a RADIUS Authentication Report](#), page 10-70
- QoS Report—[Displaying an QoS Report](#), page 10-70
- SSID Report—[Displaying an SSID Report](#), page 10-71
- MBSSID Report—[Displaying an MBSSID Report](#), page 10-72
- VLAN Report—[Displaying a VLAN Report](#), page 10-73
- Per VLAN Client Report—[Displaying a Per VLAN Client Report](#), page 10-74
- Hot Standby Report—[Displaying a Hot Standby Report](#), page 10-74

- EAP and MAC Failed Authentication Report—[Table 10-46 EAP and MAC Failed Authentication Report, page 10-76](#)
- Failed Authentication and Login Attempt per AP—[Displaying a Failed Authentication and Login Attempt per AP Report, page 10-76](#)

#### Wireless Bridge Reports (BR1310 and BR1410)

- Summary Report—See [Displaying an AP Summary Report, page 10-65](#)
- Detailed Report—See [Displaying a Detailed Report, page 10-67](#)
- VLAN Report—See [Displaying a VLAN Report, page 10-73](#)
- SSID Report—See [Displaying an SSID Report, page 10-71](#)
- QoS Report—See [Displaying an QoS Report, page 10-70](#)
- RADIUS Authentication Report—See [Displaying a RADIUS Authentication Report, page 10-70](#)
- MBSSID Report—See [Displaying an MBSSID Report, page 10-72](#)

#### Workgroup Bridge Reports (AP1100 and AP1200 in WGB Mode)

- Summary Report—See [Displaying an AP Summary Report, page 10-65](#)
- Detailed Report—See [Displaying a Detailed Report, page 10-67](#)
- VLAN Report—[Displaying a VLAN Report, page 10-73](#)
- SSID Report—[Displaying an SSID Report, page 10-71](#)
- QoS Report—[Displaying an QoS Report, page 10-70](#)
- RADIUS Authentication Report—See [Displaying a RADIUS Authentication Report, page 10-70](#)
- MBSSID Report—See [Displaying an MBSSID Report, page 10-72](#)

#### Switch Reports

- Switch Summary Report—See [Displaying a Switch Summary Report, page 10-77](#)
- AP and Bridge Connected to Switch Report—See [Displaying an AP and Bridge Connected to Switch Report, page 10-78](#)
- WLSM Modules Report—See [Displaying an WLSM Modules Report, page 10-79](#)

#### Router Reports

- Router Summary Report—See [Displaying a Router Summary Report, page 10-80](#)
- AP and Bridge Connected to Router Report—See [Displaying an AP and Bridge Connected to Router Report, page 10-80](#)

#### Server Reports

- Server Summary Report—See [Displaying a Server Summary Report, page 10-81](#)
- AP Usage Report—See [Displaying an AP Usage Report, page 10-82](#)

#### WLSM Reports

- WDS Summary Report—See [Viewing the WDS Summary Report, page 10-10](#)
- WDS Registered APs—See [Viewing the WDS Registered APs Report, page 10-12](#)
- WDS Mobility Groups—See [Displaying a Mobility Groups Report, page 10-82](#)
- Mobility ID Report—See [Displaying a Mobility ID Report, page 10-83](#)

## Displaying a Group Client Association Report

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** From the device selector in the left pane, click to expand the folder for the group reports you want to view. The right pane refreshes.
- Step 3** From the Report Name list, select **Group Client Association Report**.

**Table 10-18** Group Client Association Report

Column	Description
Number of Clients Associated with this Group	The total number of clients associated with the group of access points or bridges.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
AP Name	The name of the access point. Click to view the following: <ul style="list-style-type: none"> <li>Detailed Report—See <a href="#">Displaying a Detailed Report, page 10-67</a>.</li> <li>Fault Summary—See <a href="#">Viewing the Fault Status Report, page 10-13</a>.</li> <li>RADIUS Authentication Report—See <a href="#">Displaying a RADIUS Authentication Report, page 10-70</a>.</li> </ul>
AP IP Address	The IP address of the access point. Click to open a browser window to the AP Summary Status. <b>Tip</b> The HTTP port on access points must be set to 80 for this link to work. For information on setting up the HTTP port, see <a href="#">Enter HTTP/HTTPS Port Settings—Access Points, page 4-13</a> .
RF Interface	The radio interface name.
Number of Clients Connected	The number of wireless clients connected to the device.
Number of Bridges Connected	The number of bridges connected to the access point.
Number of AP-Repeaters Connected	The number of repeaters connected to the access point.
Status (Fault)	Click to view the Fault Summary. For more information, see <a href="#">Viewing the Fault Status Report, page 10-13</a> .
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group Security Report

Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** From the device selector in the left pane, click to expand the folder for the group security reports you want to view.
- Step 3** From the Report Name list, select **Group Security Report**.

*Table 10-19 Group SSID Security Report*

Column	Description
AP Name	The name of the device. Click to view the following: <ul style="list-style-type: none"> <li>• Detailed Report—<a href="#">Displaying a Detailed Report, page 10-67</a>.</li> <li>• Fault Summary—<a href="#">Viewing the Fault Status Report, page 10-13</a>.</li> <li>• RADIUS Authentication Report—<a href="#">Displaying a RADIUS Authentication Report, page 10-70</a>.</li> </ul>
AP IP Address	The IP address of the device. Click to open a browser window to the AP Summary Status. <b>Tip</b> The HTTP port on access points must be set to 80 for this link to work. For information on setting up the HTTP port, see <a href="#">Enter HTTP/HTTPS Port Settings—Access Points, page 4-13</a> .
RF Interface	The radio interface name.
SSID	The service set identifier name.
Authentication Type - Open System	Indicates whether the SSID is configured for open authentication.
Authentication Type - Shared Key	Indicates whether the SSID is configured for shared authentication.
Authentication Type - Cisco EAP	Indicates whether the SSID is configured for Cisco EAP authentication.
As Of	The time the fault was reported. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Table 10-20** Group VLAN Security Report

Column	Description
AP Name	The name of the device. Click to view the following: <ul style="list-style-type: none"> <li>Detailed Report—<a href="#">Displaying a Detailed Report, page 10-67.</a></li> <li>Fault Summary—<a href="#">Viewing the Fault Status Report, page 10-13.</a></li> <li>RADIUS Authentication Report—<a href="#">Displaying a RADIUS Authentication Report, page 10-70.</a></li> </ul>
AP IP Address	The IP address of the device. Click to open a browser window to the AP Summary Status. <b>Tip</b> The HTTP port on access points must be set to 80 for this link to work. For information on setting up the HTTP port, see <a href="#">Enter HTTP/HTTPS Port Settings—Access Points, page 4-13.</a>
VLAN ID	The VLAN identification number.
VLAN Name	The name of the VLAN.
Backup VLANs	The IDs of the backup VLANs for the VLAN, if any.
RF Interface	The radio interface type. <ul style="list-style-type: none"> <li>For devices with Version 12.3 or above, it will be 11a, 11b, and 11g.</li> <li>For devices with version 12.2(15) or below, it will display as N/A.</li> </ul>
Length of WEP Key 1	The length of the WEP key.
Length of WEP Key 2	
Length of WEP Key 3	
Length of WEP Key 4	
Encryption Mode	The encryption mode: None, WEP Encryption, or Cipher.
Cipher Type	The cipher type, which could be any combination of the following: AESCCM, CKIP, CMIC, TKIP, WEP 128, and WEP 40.
As Of	The time the fault was reported. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10.</a>

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group SSID Report

This report displays all the configured SSIDs (both primary and auxiliary) and their corresponding properties in all the devices in the group.

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group SSID Report**.

**Table 10-21** Group SSID Report

Column	Description
SSID	The unique identifier the client device uses to associate with the access point.
AP Name	The name of the access point. Click to view the following: <ul style="list-style-type: none"> <li>• Detailed Report—See <a href="#">Displaying a Detailed Report, page 10-67</a>.</li> <li>• Fault Summary—See <a href="#">Viewing the Fault Status Report, page 10-13</a>.</li> <li>• RADIUS Authentication Report—See <a href="#">Displaying a RADIUS Authentication Report, page 10-70</a>.</li> </ul>
AP IP Address	The IP address of the access point. Click to open a browser window to the AP Summary Status. <b>Tip</b> The HTTP port on access points must be set to 80 for this link to work. For information on setting up the HTTP port, see <a href="#">Enter HTTP/HTTPS Port Settings—Access Points, page 4-13</a> .
RF Interface	The radio interface name.
Guest Mode Status	Indicates whether the SSID guest mode is enabled or disabled.
SSIDL Information Element	What is it? <ul style="list-style-type: none"> <li>• For devices with versions 12.3 and above a combination of any of the following displays: SSIDL, WPS, Advertisements.</li> <li>• For devices with versions below 12.3, N/A is displayed.</li> </ul>
VLAN ID	The identification number of the VLAN.
VLAN Name	The name of the VLAN.
Backup VLANs	The IDs of the backup VLANs for the VLAN, if any.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group MBSSID Report

This report displays all the configured MBSSIDs and their corresponding properties in all the devices in the group.

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group MBSSID Report**.

**Table 10-22** *Group MBSSID Report*

Column	Description
SSID	The unique identifier the client device uses to associate with the access point.
BSSID	The unique Basic Service Set Identifier that is associated with the SSID.
AP Name	The name of the access point. Click to view the following: <ul style="list-style-type: none"> <li>Detailed Report—See <a href="#">Displaying a Detailed Report, page 10-67</a>.</li> <li>Fault Summary—See <a href="#">Viewing the Fault Status Report, page 10-13</a>.</li> <li>RADIUS Authentication Report—See <a href="#">Displaying a RADIUS Authentication Report, page 10-70</a>.</li> </ul>
AP IP Address	The IP address of the access point. Click to open a browser window to the AP Summary Status. <b>Tip</b> The HTTP port on access points must be set to 80 for this link to work. For information on setting up the HTTP port, see <a href="#">Enter HTTP/HTTPS Port Settings—Access Points, page 4-13</a> .
RF Interface	The radio interface name.
Guest Mode Status	Indicates whether the SSID guest mode is enabled or disabled.
MBSSID Status	Indicates whether MBSSID is enabled or disabled.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group VLAN Report

This report displays all the configured VLANs (normal and backup) and their corresponding properties in the group.

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group VLAN Report**.



**Note** VLAN information might not be displayed if the WEP keys have not been configured in each VLAN. When the WEP keys are configured in the access points, VLAN information is accessible by SNMP.

**Table 10-23** Group VLAN Report

Column	Description
VLAN ID	The identification number of the VLAN.
VLAN Name	The name of the VLAN.
Backup VLAN (Y/N)	Indicates whether the VLAN is normal or backup.
AP Name	The name of the access point. Click to view the following: <ul style="list-style-type: none"> <li>• Detailed Report—See <a href="#">Displaying a Detailed Report, page 10-67</a>.</li> <li>• Fault Summary—See <a href="#">Viewing the Fault Status Report, page 10-13</a>.</li> <li>• RADIUS Authentication Report—See <a href="#">Displaying a RADIUS Authentication Report, page 10-70</a>.</li> </ul>
AP IP Address	The IP address of the access point. Click to open a browser window to the AP Summary Status. <b>Tip</b> The HTTP port on access points must be set to 80 for this link to work. For information on setting up the HTTP port, see <a href="#">Enter HTTP/HTTPS Port Settings—Access Points, page 4-13</a> .
RF Interface	The radio interface name.
Class of Service	The configured class of service.
SSID	The unique identifier the client device uses to associate with the access point.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Per VLAN Client Report

Wireless client polling frequency is set to 51 minutes by default. To increase the accuracy of this report, increase the polling frequency. To change the default setting, select **Devices > Discover > Inventory > Polling**.

**Caution**

Increasing the polling frequency could have an effect on performance.

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Per VLAN Client Report**.

**Table 10-24** Per VLAN Client Report

Column	Description
VLAN ID	The identification number of the VLAN.
VLAN Name	The name of the VLAN.
Backup VLAN (Y/N)	Indicates whether the VLAN is normal or backup.
RF Interface	The radio interface name.
SSID	The unique identifier the client device uses to associate with the access point.
Client MAC Address	The MAC address of the client.
User Name	The name of the user.
Client Name	The name of the client.
Client IP Address	The IP address of the client.
ClientType	The type of client.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group Client Report

This report lists the clients configured on each of the access points in this group.

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group Client Report**. The following report displays:

*Table 10-25 Group Client Report*

Column	Description
AP Name	The name of the access point. Click to view the following: <ul style="list-style-type: none"> <li>• Detailed Report—See <a href="#">Displaying a Detailed Report, page 10-67</a>.</li> <li>• Fault Summary—See <a href="#">Viewing the Fault Status Report, page 10-13</a>.</li> <li>• RADIUS Authentication Report—See <a href="#">Displaying a RADIUS Authentication Report, page 10-70</a>.</li> </ul>
AP IP Address	The IP address of the access point. Click to open a browser window to the AP Summary Status.
RF Interface	The radio interface name.
SSID	The unique identifier the client device uses to associate with the access point.
Client MAC Address	The MAC address of the client.
Client Name	The name of the client.
EAP User Name	The username used for authentication.
Client IP Address	The IP address of the client.
Role	The role of the client.
Client Type	The type of client.
Time last seen	The time the client was last seen by the system.

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group Identity Report

This report lists information about the access points in the group such as their serial number, the switch to which they are connected, and other identifying features.

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group Identity Report**. The following report displays:

**Table 10-26** Group Identity Report

Column	Description
AP Name	The name of the access point. Click to view the following: <ul style="list-style-type: none"> <li>Detailed Report—See <a href="#">Displaying a Detailed Report, page 10-67</a>.</li> <li>Fault Summary—See <a href="#">Viewing the Fault Status Report, page 10-13</a>.</li> <li>RADIUS Authentication Report—See <a href="#">Displaying a RADIUS Authentication Report, page 10-70</a>.</li> </ul>
Version	The device version.
SSID	The .11 SSID configured on the interface.
Channel	The channel number configured in the radio interface.
AP IP Address	The IP address of the access point. Click to open a browser window to the AP Summary Status.
MAC Address (Ethernet)	The Ethernet MAC address.
MAC Address (Radio B/G)	The base MAC Address of the radio interface, if MBSSID is enabled in the AP.
MAC Address (Radio A)	The .11a radio MAC address. <b>Note</b> This field is empty for 350 access points that do not have an A radio.
Serial Number	The serial number of the access point.
Switch IP Address	The IP address of the switch to which the access point is connected.
Switch Port	The port of the switch to which the access point is connected.
Operating Frequency	The operating frequency band.
Operating Mode	The operating mode.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group Serial Number Report

This report lists the top assembly serial number on the access point.

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group Serial Number Report**. The following report displays:

**Table 10-27** *Group Serial Number Report*

Column	Description
AP Name	The name of the device.
AP IP Address	The IP address of the access point. Click to open a browser window to the AP Summary Status.
Description	The description of the access point.
Product ID	The device’s identification number.
Version ID	The devices’s version number.
Serial Number	The top assembly serial number.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group Security Violation Report

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group Security Violation Report**. The following report displays:

**Table 10-28** *Group Security Violation Report*

Column	Description
AP Name	The name of the device.
AP IP Address	The IP address of the access point. Click to open a browser window to the AP Summary Status.
RF Interface	The name of the interface.
Client MAC Address	The MAC address of the client.
Local MIC Failures	The number of MIC failures encountered on the radio interface.
Remote MIC Failures	The number of MIC failures reported by the client's radio interface.
TKIP Counter Measures Invoked	The number of TKIP counter measures invoked on this interface.
TKIP Replay Errors Detected	The number of TKIP replay errors detected on this interface.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group CDP Inline Power Report

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group CDP Inline Power Report**. The following report displays:

**Table 10-29** *Group CDP Inline Power Report*

Column	Description
AP Name	The name of the device.
AP IP Address	The IP address of the access point. Click to open a browser window to the AP Summary Status.
Power Source Type	Indicates the type of power source.
Current Power Value (mW)	Indicates, in milliwatts, the power value.

**Table 10-29** Group CDP Inline Power Report (continued)

Column	Description
Current Power Mode	Indicates the power mode.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group Inventory Report

This report lists the top assembly serial number on the access point.

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group Inventory Report**.

**Table 10-30** Group Inventory Report

Column	Description
AP Name	The name of the device.
AP IP Address	The IP address of the access point. Click to open a browser window to the AP Summary Status.
Radios Installed	The radios installed in the device.
Serial Number	The top assembly serial number.
Software Version	The software version running on the device.
Free Processor Memory (Bytes)	The amount, in bytes, of free processor memory available.
Used Processor Memory (Bytes)	The amount, in bytes, of used processor memory.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group LBS Report

This report is for access points and bridges running version 12.3(4)JA and above.

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group LBS Report**. The following report displays:

**Table 10-31** Group LBS Report

Column	Description
AP Name	The name of the device.
AP IP Address	The IP address of the access point. Click to open a browser window to the AP Summary Status.
Radio Interface	The radio interface name.
LBS Profile Name	The profile name configured in the AP.
LBS Position Server	The IP address of the positioning server configured in the AP.
LBS Track Method	The track method (RSSI).
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group Mobility ID Report

This report lists the mobility identification numbers configured on the WLSM. For Mobility ID to be displayed, a Network ID must be configured on the access point, and a client must associate to an access point using the SSID with which the Mobility ID (or Network ID on the access point) is configured.



### Note

Data is displayed only when the client tracking is enabled in the WLSE for the WLSM.

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group Mobility ID Report**. The following report displays:

**Table 10-32 Group Mobility ID Report**

Column	Description
WLSM IP Address	The IP address of the WLSM.
Mobility ID	The mobility ID configured on the WLSM. <b>Note</b> Mobility IDs are only available when client tracking is enabled.
Client MAC Address	The client's MAC address.
SSID	The unique identifier the client device uses to associate with the access point.
Associated AP IP Address	The associated access point's IP address.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group Version Summary Report

This report provides a summary of the versions for the devices in the group.

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group Version Summary Report**. The following report displays:

**Table 10-33 Group Version Summary Report**

Column	Description
Device Version	The software version.
Count of Devices	The number of devices with that version.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group Auto Config Retry Report

This report provides information about retries in uploading auto-configuration templates that are deployed using the Deployment Wizard.

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Group Auto Config Retry Report**. The following report displays:

**Table 10-34** Group Auto Config Retry Report

Column	Description
Name	The device name.
Device IP	The IP address of the device.
Status	The device status, which is one of the following Deployment Wizard phases: <ul style="list-style-type: none"> <li>• Error</li> <li>• Initial Startup Config</li> <li>• Initial Discovery Phase</li> <li>• Initial Inventory Phase</li> <li>• Auto Config Job Scheduled</li> <li>• Successfully Configured</li> <li>• Operation Aborted</li> </ul>
Boot Time	The time the device booted up.
Template Name	The name of the template designated as the auto config template.
Retry Number	The number of times the WLSE has attempted to upload the template to the device.
Retry Time	The time the auto config job will re-run.
Description	The status description
As Of	The time the status was last updated. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying a Credentials Verification Report

This report displays the results of running a credentials verification job (see [Enter Credentials Verification Job Settings, page 4-15](#)). The report consists of a summary section and a details section. The details section displays a table listing all managed access points that were checked. All access points that have failed at least one credential are listed first, followed by all the access points that have all the credentials. The entries in the table are sorted by host name.

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane. From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 2** From the Report Name list, select **Credentials Verification Report**. The following report displays:

**Table 10-35** Group Auto Config Retry Report

Column	Description
Devices Checked	The number of managed access points checked.
Devices Failing Verification	The number of access points that with credentials mismatch.
As Of	The time the report was last updated.
AP Name	The access point's name.
AP IP Address	The access point's IP address.
SSH Status	The result of the credentials verification check:
Telnet Status	<ul style="list-style-type: none"> <li>• Pass—Passed all credentials.</li> </ul>
SNMPGet Status	<ul style="list-style-type: none"> <li>• Failed—Failed at least one credential.</li> </ul>
SNMPSet Status	<ul style="list-style-type: none"> <li>• Login Failed—Failed to log in.</li> <li>• Not Selected—The corresponding check box in the Credentials Verification Job Settings page was not selected.</li> <li>• Not Configured—There were no credentials for the access point in the database.</li> <li>• Not Run—The access point was discovered after the job was run.</li> </ul>
Remarks	Click <b>View</b> to find the reason for the failed status if any.
As Of	The time the status of the access point was last updated. For access points that were discovered after the job was run, this field is empty.  For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying an AP Summary Report

### Procedure

- Step 1** Select **Reports > Current** or **Reports > Device Center**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **Summary Report**.



**Note** If the selected device has dual interfaces, information for each is displayed, one for each interface.

**Table 10-36** Summary Report

Column	Description
Full Name	The name for the device as entered in the Name Form field under Devices > Discover > Discover > Advanced Options.
MAC Address	The device's MAC address.
IP Address	The device's IP address.  Click to open a browser window to the AP Summary Status. <b>Tip</b> The HTTP port on access points must be set to 80 for this link to work. For information on setting up the HTTP port, see <a href="#">Enter HTTP/HTTPS Port Settings—Access Points, page 4-13</a> .
Description	A description of the device.
SysName	The system name.
Serial Number	The serial number of the access point.
Parent WDS for the Access Point <b>Note</b> This entry displays only on the Device Center summary report for WDS.	The access point that provides Wireless Domain Services.
Software Version	The IOS version on the device.
Model	The model number of the device.
Radio Port <b>Note</b> Displays only when the selected device has dual interfaces, and does not display for bridges.	The radio port.
Radio Type	The radio interface type used.
Radio MAC Address	The MAC address for the radio interface.

**Table 10-36** Summary Report (continued)

Column	Description
MBSSID Status	Indicates whether the MBSSID is enabled or disabled.
Number of Clients Connected	The number of wireless clients connected to the device.
Number of Bridges Connected	The number of wireless bridges connected to the device.
Number of AP-Repeaters Connected	The number of AP repeaters connected to the device.
Desired SSID	The unique identifier the client device uses to associate with the access point.
Guest Mode SSID	A list of all the SSIDs that have a guest mode enabled for the interface.
Current Operating Frequency Channel	The radio channel being used.
Link to the Detailed Report	Click to see details.
<b>Note</b> This entry displays only under Current > Summary Report.	For more information, see <a href="#">Displaying a Detailed Report, page 10-67</a> .
Link to the Association Report	Click to see associations.
<b>Note</b> This entry displays only under Current > Summary Report.	For more information, see <a href="#">Displaying an Associations Report, page 10-69</a> .
Link to the Access Point Web Page	Click to open a browser window to the AP Summary Status.
<b>Note</b> This entry displays only under Current > Summary Report.	<p>Please note:</p> <ul style="list-style-type: none"> <li>• The HTTP port on access points must be set to 80 for this link to work.</li> <li>• Access points with version 12.3 and above use HTTPS. The allowed port numbers for HTTPS are 443 (default) and port numbers greater than 1024. In addition, the device must be configured to use the HTTPS server.</li> </ul> <p>For information on setting up the HTTP and HTTPS ports, see <a href="#">Enter HTTP/HTTPS Port Settings—Access Points, page 4-13</a>.</p>
As Of	The time the WLSE polled information from the device.
	For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

To view information about the Fault Summary, see [Viewing the Fault Status Report, page 10-13](#)

#### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying a Detailed Report

### Procedure

- Step 1** Select **Reports > Current** or **Reports > Device Center**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **Detailed Report**.
- If viewing from the Device Center tab, only the Detailed Report is displayed.
  - If viewing from the Current tab, the Detailed Report, the Fault Summary, and the EAP Authentication Report are displayed.



**Note** If the selected device has dual interfaces, two summary reports are displayed, one for each interface.

**Table 10-37** *Detailed Report*

Column	Description
Full Name	The system name for the device as entered in the Name Form field under <b>Devices &gt; Discover &gt; Discover &gt; Advanced Options</b> .
MAC Address	The device's MAC address.
IP Address	The device's IP address.  Click to open a browser window to the AP Summary Status. <b>Tip</b> The HTTP port on access points must be set to 80 for this link to work. For information on setting up the HTTP port, see <a href="#">Enter HTTP/HTTPS Port Settings—Access Points, page 4-13</a> .
Description	A description of the device.  If this field is blank, select a device under <b>Devices &gt; Discover &gt; Managed Devices</b> , enter the description of the device in the Description field, and click <b>Save</b> . The next time you display a detailed report, this field will display the device's description.
Software Version	The IOS version on the device.
Model	Model number of the device.
Product ID	The device's identification number.
Version ID	The device's version number.
Serial Number	The top assembly serial number.
Subnet Mask	The subnet mask.
Hot StandBy	Indicates whether the hot standby unit is in monitoring mode.  If true, the current unit is in monitoring mode.

**Table 10-37 Detailed Report (continued)**

Column	Description
Switch IP (attached to this AP, requires CDP)	The IP address of the switch to which this access point is attached. <b>Note</b> CDP must be enabled for the switch information to be collected for this report.
Switch Name ((attached to this AP, requires CDP)	The name of the switch to which this access point is attached. <b>Note</b> CDP must be enabled for the switch information to be collected for this report.
Switch Port	The port number of the switch to which the access point is connected.
Device Uptime	The time since the device last rebooted per the last inventory poll.
SysName	The system name.
Radio Port <b>Note</b> Displays only when the selected device has dual interfaces.	The radio port.
Radio Type	The radio interface type used.
Radio MAC Address	The MAC address of the radio interface.
MBSSID Status	Indicates whether the MBSSID is enabled or disabled.
Number of Clients Connected	The number of wireless clients connected to the device.
Desired SSID	The unique identifier the client device uses to associate with the access point.  This field displays the SSID that is configured as the infrastructure SSID on the access point.
Guest Mode SSID	A list of all the SSIDs that have a guest mode enabled for the interface.
SSID Associated to the Native Vlan	The SSID that is mapped to the native VLAN.
Radio Cell Role	Indicates the role of the device.
Operating Frequency	The operating frequency band.
Operating Mode	The operating mode (legacy, mixed, or greenField).
Transmit Power	The access point's transmission power setting in milliwatts.
Authentication Type - Open System	Indicates whether any device, regardless of its WEP keys, can authenticate and attempt to associate.
Authentication Type - Shared Key	Indicates whether an access point sends a query to any device attempting to associate with the access point.
Authentication Type-Cisco EAP	Indicates whether a device using EAP can authenticate and attempt to associate with the access point.  This field reflects the authentication type configured for the infrastructure SSID (that is, the desired SSID). If the access point does not have any SSID in the infrastructure mode, this field will be blank.

**Table 10-37 Detailed Report (continued)**

Column	Description
Active MAC Addresses	Click to view the list of all active MAC addresses. Active MAC addresses are shown only when the MBSSID mode is enabled in the AP.
Link to the Access Point Web Page  <b>Note</b> This entry displays only under Current > Detailed Report.	Click to open a browser window to the AP Summary Status.  <b>Tip</b> The HTTP port on access points must be set to 80 for this link to work. For information on setting up the HTTP port, see <a href="#">Enter HTTP/HTTPS Port Settings—Access Points, page 4-13</a> .
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

- [Viewing the Fault Status Report, page 10-13](#)
- [Displaying a RADIUS Authentication Report, page 10-70](#)
- [Using the Basic Report Features, page 10-1](#)

## Displaying an Associations Report

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **Associations Report**.

**Table 10-38 Associations Report**

Column	Description
Name	The wireless client's name.
IP Address	The wireless client's IP address.
MAC Address	The wireless client's MAC address.
Device Type	The wireless client device type.
Role	The role of the client device in the network.

**Table 10-38** Associations Report (continued)

Column	Description
Radio Type	The type of client radio.
As Of	The time the client was last seen by the system. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a RADIUS Authentication Report

This device report lists all the authentication servers that are configured for the device.

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **RADIUS Authentication Report**.

**Table 10-39** RADIUS Authentication Report

Column	Description
Server IP Address	The IP address of the authentication server.
Server Protocol	The protocol used by the server.
Server Priority	The priority of the server when multiple servers are configured for the same service.
Authentication Port	The port setting used by the access point and the server for authentication.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying an QoS Report

This device report displays the configured QoS parameters on access points.

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **QoS Report**. The following report is displayed:

**Table 10-40 QoS Report**

Column	Description
RF Interface	The radio interface name.
Class of Service	The configured class of service.
Min Contention Window	The minimum contention window value.
Max Contention Window	The maximum contention window value.
Fixed Time Slot	The configured time slot.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying an SSID Report

This device report displays all the configured SSIDs (both primary and auxiliary) and their corresponding properties.

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **SSID Report**.

**Table 10-41 SSID Report**

Column	Description
SSID	The unique identifier the client device uses to associate with the access point.
RF Interface	The radio interface name.

**Table 10-41 SSID Report (continued)**

Column	Description
SSIDL Information Element	What is it? <ul style="list-style-type: none"> <li>For devices with versions 12.3 and above a combination of any of the following displays: SSIDL, WPS, Advertisements.</li> <li>For devices with versions below 12.3, N/A is displayed.</li> </ul>
Guest Mode Status	Indicates whether the guest mode is enabled or disabled for the interface.
VLAN ID	The VLAN identification number.
VLAN Name	The name of the VLAN.
Backup VLANs	The IDs of the backup VLANs, if any.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying an MBSSID Report

This device report displays all the configured MBSSIDs.

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **MBSSID Report**. The following report appears:

**Table 10-42 MBSSID Report**

Column	Description
SSID	The unique identifier the client device uses to associate with the access point.
RF Interface	The radio interface name.
MAC Address	The MAC address of the access point.
Guest Mode Status	Indicates whether the SSID guest mode is enabled or disabled.
MBSSID Status	Indicates whether MBSSID is enabled or disabled.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a VLAN Report

This device report displays all the configured VLANs (normal and backup) and their corresponding properties.

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **VLAN Report**.



**Note** VLAN information might not be displayed if the WEP keys have not been configured in each VLAN. When the WEP keys are configured in the access points, VLAN information is accessible by SNMP.

**Table 10-43** *VLAN Report*

Column	Description
VLAN ID	The identification number of the VLAN.
VLAN Name	The name of the VLAN.
Backup VLAN (Y/N)	Indicates whether the VLAN is normal or backup.
Class of Service	Lists the class of service.
RF Interface	The radio interface name.
SSID	The unique identifier the client device uses to associate with the access point.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Per VLAN Client Report

Wireless client polling frequency is set to 51 minutes by default. To increase the accuracy of this report, increase the polling frequency. To change the default setting, select **Devices > Discover > Inventory > Polling**.



**Caution** Increasing the polling frequency could have an effect on performance.

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **Per VLAN Client Report**. The report is displayed.

**Table 10-44 Per VLAN Client Report**

Column	Description
VLAN ID	The identification number of the VLAN.
VLAN Name	The name of the VLAN.
RF Interface	The radio interface name.
SSID	The unique identifier the client device uses to associate with the access point.
Client MAC Address	The MAC address of the client.
Client Name	The name of the client.
Client IP Address	The IP address of the client.
Client Type	The type of client associated to the access point.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying a Hot Standby Report

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.

- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **HotStandby Report**.

**Table 10-45** Hot Standby Report

Column	Description
AP Hot Standby	Indicates whether the access is enabled for hot standby.
Monitored AP MAC Address	The MAC address of the access point this access point is monitoring. <b>Note</b> This field displays the value 000000000000 when the MAC Address has not been configured on the access point.
Monitored AP IP Address	The IP address of the access point this access point is monitoring. <b>Note</b> This field is empty if the monitored device is not in the list of devices discovered by the WLSE.
Monitored AP Name	The name of the access point this access point is monitoring. <b>Note</b> This field is empty if the monitored device is not in the list of devices discovered by the WLSE.
Polling Frequency	The frequency with which this access point is polling the monitored access point in seconds.
Polling Timeout	The amount of time in seconds that this access point waits for a response from the monitored access point before it assumes the monitored access point has malfunctioned.

#### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying an EAP and MAC Failed Authentication Report

### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **EAP and MAC Failed Authentication Report**. The following report is displayed:

**Table 10-46 EAP and MAC Failed Authentication Report**

Column	Description
AP Name	The name of the access point.
AP IP Address	The IP address of the access point.
Client IP Address	The IP address of the client.
EAP Username	Username used for authentication.
Authentication Type	The authentication type used.
Event Type	The type of event that failed.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Failed Authentication and Login Attempt per AP Report

This report provides information about authentication and login failures for devices that are deployed using the Deployment Wizard.

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **Failed Authentication and Login Attempt per AP Report**. The report is displayed.

**Table 10-47 Failed Authentication and Login Attempt per AP Report**

Column	Description
AP Name	The name of the access point.
AP IP Address	The IP address of the access point.
Server Address	The IP address of the access server.
Server Type	The type of server (either RADIUS or TACACS).

**Table 10-47** Failed Authentication and Login Attempt per AP Report (continued)

Column	Description
Authentication Failures	The number of authentication failures.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Switch Summary Report

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **Switch Summary Report**.  
The group report is displayed with the following headings:

**Table 10-48** Switch Summary Report

Column	Description
System Name	The switch name.
IP Address	The switch IP address or hostname.
System Description	A description of the system.
Location	A description of the switch location.
Product Type	The switch type.
System Version	The software version on the switch.

**Table 10-48** *Switch Summary Report (continued)*

Column	Description
Link to the AP and Bridge Connected	Click for details. For more information, see <a href="#">Displaying an AP and Bridge Connected to Switch Report, page 10-78</a> .
Link to the WLSM Modules Contained	The WLSM Modules report displays with the following information <ul style="list-style-type: none"> <li>• Name—The name of the WLSM.</li> <li>• IP Address—The IP address of the WLSM.</li> <li>• Version—The version of the WLSM.</li> <li>• Redundant Status—The redundant status of the WLSM.</li> <li>• Virtual IP Address—The virtual IP address of the WLSM.</li> </ul>

**Related Topics**

- [Viewing the Fault Status Report, page 10-13](#)
- [Using the Basic Report Features, page 10-1](#)

## Displaying an AP and Bridge Connected to Switch Report

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **AP and Bridge Connected to Switch Report**.

The report is displayed with the following headings:

**Table 10-49** *AP and Bridge Connected to Switch Report*

Column	Description
Device Port	The device port.
AP Name	The name of the access point or bridge connected to the switch.
AP IP Address	The IP address of the access point or bridge connected to the switch.

**Table 10-49** AP and Bridge Connected to Switch Report (continued)

Column	Description
Status (Fault)	The fault status. Click for details. For more information, see <a href="#">Viewing the Fault Status Report, page 10-13</a> .
Reset Power	Click to begin a switch power cycle which will reload the access point. <b>Note</b> For switches with inline power only.  For this feature to work properly, you must run discovery from Administration > Discover > DISCOVER on the switch if the connectivity of access point has changed in any way. This includes activities such as swapping access points between ports. In addition, if you change the DHCP address for the access points, you must delete the access points from the WLSE, then re-discover them for this feature to work.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying an WLSM Modules Report

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **WLSM Modules Report**.  
The report is displayed with the following headings:

**Table 10-50** WLSM Modules Report

Column	Description
Name	The hostname of the WLSM.
IP Address	The IP address of the WLSM.
Version	The WLSM version number.
Redundant Status	The HSRP status of the WLSM.
Virtual IP Address	The HSRP virtual IP address of the WLSM.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Router Summary Report

**Procedure**

- 
- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
  - Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
  - Step 3** From the Report Name list, select **Router Summary Report**.
  - Step 4** Click **View**. The group report is displayed with the following headings:

*Table 10-51 Router Summary Report*

Column	Description
System Name	The router name.
IP Address	The router IP address.
System Description	A description of the router.
Location	The location of the router.
Product Type	The router hardware type.
System Version	The router version.

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**Related Topics**

- [Viewing the Fault Status Report, page 10-13](#)
- [Using the Basic Report Features, page 10-1](#)

## Displaying an AP and Bridge Connected to Router Report

**Procedure**

- 
- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
  - Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
  - Step 3** From the Report Name list, select **AP and Bridge Connected to Router Report**.

**Step 4** Click **View**. The report is displayed with the following headings:

**Table 10-52** *AP and Bridge Connected to Router Report*

Column	Description
Device Port	The device port.
AP Name	The name of the access point or bridge connected to the router.
AP IP Address	The IP address of the access point or bridge connected to the router.
Status (Fault)	The fault status.  Click for details. For more information, see <a href="#">Viewing the Fault Status Report, page 10-13</a> .

#### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying a Server Summary Report

#### Procedure

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **Summary Report** for the server.
- Step 4** Click **View**.

The report is displayed with the following headings:

**Table 10-53** *Summary Report*

Column	Description
Server Name	The name of the server.
Port	The port number used for authentication.
User Name	The user name used for authentication.

#### Related Topics

- [Viewing the Fault Status Report, page 10-13](#)
- [Using the Basic Report Features, page 10-1](#)

## Displaying an AP Usage Report

### Procedure

- Step 1 Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2 Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3 From the Report Name list, select **AP Usage Report**.
- Step 4 Click **View**. The report is displayed with the following headings:

**Table 10-54 AP Usage Report**

Column	Description
AP Name	The name of the access point.
AP IP Address	The IP address of the access point.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying a Mobility Groups Report

### Procedure

- Step 1 Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2 Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3 From the Report Name list, select **Mobility Groups**.
- Step 4 Click **View**. The report is displayed with the following headings:

**Table 10-55 Mobility Groups Report**

Column	Description
Network ID	The mobility network ID configured on the WLSM to uniquely identify the mobility group.
Tunnel IP Address	The IP address of the tunnel configured for the mobility group.

**Table 10-55** *Mobility Groups Report*

Column	Description
No. of Clients	The number of client associated with the mobility group as of given time.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Mobility ID Report

For Mobility ID to be displayed, a Network ID must be configured on the access point, and a client must associate to an access point using the SSID with which the Mobility ID (or Network ID on the access point) is configured.

**Note**

Data is displayed only when the client tracking is enabled in the WLSE for the WLSM.

**Procedure**

- Step 1** Select **Reports > Current**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **Mobility ID Report**.
- Step 4** Click **View**. The report is displayed with the following headings:

**Table 10-56** *Mobility ID Report*

Column	Description
WLSM IP Address	The IP address of the WLSM.
Mobility ID	The mobility network ID with which the client associates.
Client MAC Address	The client MAC address.
SSID	The service set identifier name.
Associated AP IP Address	The IP address of the associated access point.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .

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**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying Trends

The trending reports allow you to view performance and error rates over periods of time, which you can use to analyze peak network utilization periods (see [Using Trend Reports For Capacity Planning, page 10-85](#)). You can view trends about the monitored access points, bridges, and servers in your network, as well as view, export, and email the reports.

**Note**

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Trending reports are not shown for routers or switches.

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The frequency with which performance data is aggregated can be selected at the time you run the report. To change the default setting for the length of time the data is saved, **Devices > Discover > Inventory > Polling**.

There may be instances in which the data points on a graph do not appear at the interval you set. This occurs because the graph's contents are summarized when the space needed to show all the data is not available in the specified graph size. For example for a given date range, if there are 100 data points and only 25 can be plotted, the x-axis will be plotted for every 4th point.

Using this option, you can view the following types of trend reports:

- Group Reports for Access Points and Bridges
  - Group Performance Report: RF Utilization—[Displaying a Group Performance Report: RF Utilization, page 10-86](#)
  - Group Performance Report: Ethernet Utilization—See [Displaying a Group Performance Report: Ethernet Utilization, page 10-86](#)
  - Top N Number of Associations: Table—See [Displaying a Top N Number of Associations: Tabular Report, page 10-87](#)
  - Top N Number of Associations: Graph—See [Displaying a Top N Number of Associations: Graph Report, page 10-88](#)
  - Top N Percentage Errors—See [Displaying a Top N Percentage Errors Report, page 10-89](#)
- Group Reports for the AP1100 in Workgroup Bridge Mode
  - Group Performance Report: RF Utilization—[Displaying a Group Performance Report: RF Utilization, page 10-86](#)
  - Group Performance Report: Ethernet Utilization—See [Displaying a Group Performance Report: Ethernet Utilization, page 10-86](#)
- Access Point and Bridge Reports
  - RF Transmission Statistics—See [Displaying an RF Transmission Statistics Report, page 10-90](#)
  - Ethernet Transmission Statistics—See [Displaying an Ethernet Transmission Statistics Report, page 10-92](#)
  - RF and Ethernet Utilization: Graph—See [Displaying an RF and Ethernet Utilization Graph, page 10-93](#)

- RF and Ethernet Utilization: Tabular—See [Displaying an RF and Ethernet Utilization: Tabular Report, page 10-93](#)
- Top N Busiest Clients—See [Displaying Top N Busiest Clients, page 10-94](#)
- Top N Client Error Rate—See [Displaying Top N Client MIC Error Rate, page 10-95](#)
- AP1100 in Workgroup Bridge Mode
  - RF Transmission Statistics—See [Displaying an RF Transmission Statistics Report, page 10-90](#)
  - Ethernet Transmission Statistics—See [Displaying an Ethernet Transmission Statistics Report, page 10-92](#)
  - RF and Ethernet Utilization: Graph—See [Displaying an RF and Ethernet Utilization Graph, page 10-93](#)
  - RF and Ethernet Utilization: Tabular—See [Displaying an RF and Ethernet Utilization: Tabular Report, page 10-93](#)
- Server Report
  - Server Response Time Graph—See [Displaying a Server Response Time Graph, page 10-96](#)
  - WLSM Report

**Note**


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Your login determines whether you can use this option.

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**Related Topics**

- [Using Trend Reports For Capacity Planning, page 10-85](#)
- [Using the Basic Report Features, page 10-1](#)

## Using Trend Reports For Capacity Planning

Trend reports can help you analyze when peak network utilization occurs and make intelligent decisions about whether or not the network is supporting these peak utilizations adequately. If you see that there are a high number of errors during peak periods, or the peak periods correlate with many complaints about performance, you can take steps to improve the WLAN experience, perhaps by deploying more access points.

You can use trend reports to see which access points are most utilized, which are most underutilized, and which have the most errors. These data are useful for making intelligent decisions about the WLAN. Why is the WLAN most utilized in some areas and underutilized in others? Is it simply the location or is there another reason?

For example, in some retail and manufacturing deployments, WLAN administrators have used the WLSE trending reports to determine where the WLAN was underutilized. Using these data, they determined that the employees in these areas were inadequately trained on mobile applications. After this problem was identified and more training supplied to the employees, the WLAN administrators used the WLSE trend reports to validate that the WLAN usage patterns were consistent with expectations. This helped to maximize the return on investment of both the WLAN infrastructure and the wireless applications.

## Displaying a Group Performance Report: RF Utilization

### Procedure

- Step 1 Select **Reports > Trends**. The window refreshes with a device selector in the left pane.
- Step 2 From the device selector in the left pane, click the group folder for which you want a report. The right pane refreshes.



**Note** This report can be used for 1310 and 1410 Wireless Bridges.

- Step 3 From the Report Name list, select **Group Performance Report: RF Utilization**.
- Step 4 From the Start Date and End Date lists, select the start date and end date for the period of time for which you want trending information.
- Step 5 From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour's aggregation of data.

The following table is displayed:

**Table 10-57 Group Performance Report: RF Utilization**

Column	Description
AP Name	The name of the access point.
AP IP Address	The IP address of the access point.
RF Interface	The radio interface name.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
RF Utilization (%)	The percentage of radio frequency utilization.
Number of Associations	Shows the number of associations with clients.

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying a Group Performance Report: Ethernet Utilization

### Procedure

- Step 1 Select **Reports > Trends**. The window refreshes with a device selector in the left pane.
- Step 2 From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.



**Note** This report can be used for 1310 and 1410 Wireless Bridges.

- Step 3** From the Report Name list, select **Group Performance Report: Ethernet Utilization**.
- Step 4** From the Start Date and End Date lists, select the start date and end date for the period of time for which you want trending information.
- Step 5** From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour's aggregation of data.

The following table is displayed:

**Table 10-58** *Group Performance Report: Ethernet Utilization*

Column	Description
AP Name	The name of the access point.
AP IP Address	The IP address of the access point.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
Ethernet Utilization (%)	The percentage of Ethernet utilization.
Number of Associations	Shows the number of associations with clients.

#### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying a Top N Number of Associations: Tabular Report

This report lists the top number of access points which have the highest average number of associations over the selected period of time. The minimum and maximum number of associations are also displayed.

#### Procedure

- Step 1** Select **Reports > Trends**. The window refreshes with a device selector in the left pane.
- Step 2** From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 3** From the Report Name list, select **Top N Number of Associations: Tabular**.
- Step 4** From the Start Date and End Date lists, select the start date and end date for the period of time for which you want trending information.
- Step 5** From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour's aggregation of data.
- Step 6** In the N Value text box, enter the top number of associations you want to view.

The following table is displayed:

**Table 10-59 Top N Number of Associations: Tabular**

Column	Description
AP Name	The name of the access point.
AP IP Address	The IP address of the access point.
Number of Clients Connected (Avg)	The average number of clients connected to the access point.
Number of Clients Connected (Min)	The minimum number of clients connected to the access point.
Number of Clients Connected (Max)	The maximum number of clients connected to the access point.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Top N Number of Associations: Graph Report

This report lists the top number of access points which have the highest average number of associations over the selected period of time.

**Procedure**

- Step 1** Select **Reports > Trends**. The window refreshes with a device selector in the left pane.
- Step 2** From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
- Step 3** From the Report Name list, select **Top N Number of Associations: Tabular**.
- Step 4** From the Start Date and End Date lists, select the start date and end date for the period of time for which you want trending information.
- Step 5** From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour’s aggregation of data.
- Step 6** In the N Value text box, enter the top number of associations you want to view.

The following graph is displayed:

**Table 10-60 Top N Number of Associations: Graph**

Column	Description
Number of Clients Connected	The x-axis displays the time intervals. The y-axis displays the average number of clients connected

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**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Top N Percentage Errors Report

This report lists the top number of access points which have the highest average percentage of errors. The minimum and maximum percentage of errors during the selected period of time are also displayed.

**Procedure**

- 
- Step 1** Select **Reports > Trends**. The window refreshes with a device selector in the left pane.
  - Step 2** From the device selector in the left pane, click the group folder for which you want to see a report. The right pane refreshes.
  - Step 3** From the Report Name list, select **Top N Percentage Errors**.
  - Step 4** From the Start Date and End Date lists, select the start date and end date for the period of time for which you want trending information.
  - Step 5** From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour's aggregation of data.
  - Step 6** In the N Value text box, enter the top number of errors you want to view. The following table is displayed:

**Table 10-61**    *Top N Percentage Errors*

Column	Description
AP Name	The name of the access point.
AP IP Address	The IP address of the access point.
RF Interface	The radio interface name.
Packet Errors (Avg) (%)	The average percentage of error packets.
Packet Errors (Min) (%)	The minimum percentage of error packets.
Packet Errors (Max) (%)	The maximum percentage of error packets.

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**Related Topics**

[Using the Basic Report Features, page 10-1](#)

# Displaying an RF Transmission Statistics Report

This report displays the transmit and receive rates overlaid in a graph.

## Procedure

- Step 1 Select **Reports > Trends**. The window refreshes with a device selector in the left pane.
- Step 2 Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3 From the Report Name list, select **RF Transmission Statistics**.
- Step 4 From the Start Date and End Date lists, select the start date and end date for the period of time for which you want trending information.
- Step 5 From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour's aggregation of data. The following graphs are displayed:

The following graphs are displayed:

**Table 10-62 RF Transmission Statistics in Packets**

Column	Description
Transmit Rate	The x-axis displays the time intervals. The y-axis displays the number of packets transmitted per second.
Receive Rate	The x-axis displays the time intervals. The y-axis displays the number of packets received per second.

**Table 10-63 RF Transmission Statistics in Bytes**

Column	Description
Transmit Rate	The x-axis displays the time intervals. The y-axis displays the number of bytes transmitted per second.
Receive Rate	The x-axis displays the time intervals. The y-axis displays the number of bytes received per second.

**Table 10-64 RF Transmission Statistics Packet Errors**

Column	Description
Packet Errors	The x-axis displays the time intervals. The y-axis displays the percent of error packets per number of packets.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying an Ethernet Transmission Statistics Report

This report displays the transmit and receive rates overlaid in a graph.

### Procedure

- Step 1** Select **Reports > Trends**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **Ethernet Transmission Statistics**.
- Step 4** From the Start Date and End Date lists, select the start date and end date for the period of time for which you want trending information.
- Step 5** From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour's aggregation of data.

The following graphs are displayed:

**Table 10-65 Ethernet Transmission Statistics in Packets**

Column	Description
Transmit Rate	The x-axis displays the time intervals. The y-axis displays the number of packets transmitted per second.
Receive Rate	The x-axis displays the time intervals. The y-axis displays the number of packets received per second.

**Table 10-66 Ethernet Transmission Statistics in Bytes**

Column	Description
Transmit Rate	The x-axis displays the time intervals. The y-axis displays the number of bytes transmitted per second.
Receive Rate	The x-axis displays the time intervals. The y-axis displays the number of bytes received per second.

**Table 10-67 Ethernet Transmission Statistics Packet Errors**

Column	Description
Packet Errors	The x-axis displays the time intervals. The y-axis displays the percent of error packets per number of packets.

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying an RF and Ethernet Utilization Graph

This report displays the Ethernet utilization and RF utilization overlaid in a graph.

### Procedure

- Step 1** Select **Reports > Trends**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **RF and Ethernet Utilization Graph**.
- Step 4** From the Start Date list, select the start date for the graph, and from the For a period of list, select the number of days.
- Step 5** From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour's aggregation of data. The following graphs are displayed:

**Table 10-68** *RF and Ethernet Utilization Graph*

Column	Description
Ethernet Utilization	The x-axis displays the time intervals. The y-axis displays the percent of Ethernet utilization.
RF Utilization	The x-axis displays the time intervals. The y-axis displays the percent of radio frequency utilization.

**Table 10-69** *Number of Associations Graph*

Column	Description
Number of Associations	The x-axis displays the time intervals. The y-axis displays the number of client associations

### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying an RF and Ethernet Utilization: Tabular Report

### Procedure

- Step 1** Select **Reports > Trends**. The window refreshes with a device selector in the left pane.

- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **RF and Ethernet Utilization: Tabular**.
- Step 4** From the Start Date list, select the start date for the graph, and from the For a period of list, select the number of days.
- Step 5** From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour's aggregation of data. The following table is displayed:

**Table 10-70 RF and Ethernet Utilization: Tabular**

Column	Description
IP Address	The IP address of the access point or bridge.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
Number of Associations	The number of client associations.
Ethernet Utilization (%)	The amount of Ethernet utilization.
RF Interface	The radio interface name.
RF Utilization (%)	The amount of radio frequency utilization.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying Top N Busiest Clients

This report lists the top number of busiest clients in terms of average bit rate as perceived by the access point for the selected period of time. The minimum and maximum bit rates for the clients are also displayed.

Wireless client polling frequency is set to 51 minutes by default. If 0 (zero) values are displayed in the report or if you want to increase the accuracy of the report, increase the polling frequency. To change the default setting, select **Devices > Discover > Inventory > Polling**.



**Caution**

Increasing the polling frequency could have an effect on performance.

**Procedure**

- Step 1** Select **Reports > Trends**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).

- Step 3** From the Report Name list, select **Top N Busiest Clients**.
- Step 4** From the Start Date and End Date lists, select the start date and end date for the period of time for which you want trending information.
- Step 5** From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour's aggregation of data.
- Step 6** In the N Value text box, enter the top number of clients you want to view. The following table is displayed:

**Table 10-71** *Top N Busiest Clients*

Column	Description
Client Name	The name of the client.
Client IP Address	The IP address of the client.
Client MAC Address	The MAC address of the client.
Bit Rate (Avg) (in kbps)	The average bit rate for the client.
Bit Rate (Min) (in kbps)	The minimum bit rate for the client.
Bit Rate (Max) (in kbps)	The maximum bit rate for the client.

#### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying Top N Client MIC Error Rate

Wireless client polling frequency is set to 51 minutes by default. To increase the accuracy of this report, increase the polling frequency. To change the default setting, select **Devices > Discover > Inventory > Polling**.



#### Caution

Increasing the polling frequency could have an effect on performance.

This report lists the top number of clients in terms of Message Integrity Check (MIC) rate as perceived by the access point for the selected period of time.

#### Procedure

- Step 1** Select **Reports > Trends**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **Top N Client MIC Error Rate**.
- Step 4** From the Start Date and End Date lists, select the start date and end date for the period of time for which you want trending information.

- Step 5** From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour’s aggregation of data.
- Step 6** In the N Value text box, enter the top number of clients you want to view.

The following table is displayed:



**Note** Values such as MIC Error Rate might display empty because, when queried, access points sometimes return null values for the cDot11Client counters.

**Table 10-72 Top N Client MIC Error Rate**

Column	Description
Client Name	The name of the client.
Client IP Address	The IP address of the client.
Client MAC Address	The MAC address of the client.
MIC Error Rate (Avg) (per second)	The average value of the rate of Message Integrity Check (MIC) errors recorded for the client.
MIC Error Rate (Min) (per second)	The minimum value of the rate of Message Integrity Check (MIC) errors recorded for the client.
MIC Error Rate (Max) (per second)	The maximum value of the rate of Message Integrity Check (MIC) errors recorded for the client.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying a Server Response Time Graph

This graph plots the response time of the server over the period of time specified.



**Note** For PEAP servers, inventory must run twice before a graph is displayed.

**Procedure**

- Step 1** Select **Reports > Trends**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **Server Response Time Graph**.
- Step 4** From the Start Date list, select the start date for the graph, and from the For a period of list, select the number of days.

- Step 5** From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour's aggregation of data.

The following graph displays:

**Table 10-73** *Server Response Time Graph*

Column	Description
Server Response Time	The x-axis displays the time intervals. The y-axis displays the response time in milliseconds.

#### Related Topics

[Using the Basic Report Features, page 10-1](#)

## Displaying a Client Roaming Statistics Report

#### Procedure

- Step 1** Select **Reports > Trends**. The window refreshes with a device selector in the left pane.
- Step 2** Search for a device or select the device for which you want a report from the device selector in the left pane. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
- Step 3** From the Report Name list, select **Client Roaming Statistics**.
- Step 4** From the Start Date list, select the start date and from the For a period of list, select the number of days.
- Step 5** From the Frequency list, select the frequency with which you want the performance data aggregated. For example, if you choose hourly, the information displayed will be one hour's aggregation of data.

The following report displays:

**Table 10-74** *Client Roaming Statistics*

Column	Description
IP Address	The IP address of the WLSM.
As Of	The time the WLSE polled information from the device. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a>
Roams per five seconds	The number of roams in a five second period.
Roams per minute	The number of roams in a five second period.
Roams per five minutes	The number of roams in a five second period.

**Related Topics**

[Using the Basic Report Features, page 10-1](#)

## Displaying Real-Time Reports

The real-time reports allow you to view a snapshot of activity which is a useful tool for troubleshooting problems.

Using this option, you can view the following types of real-time reports:

- AP Memory Utilization
- AP CPU Utilization
- AP Packet Statistics
- AP Packet Errors
- AP Radio Utilization
- Associated Clients Statistics
- WLSM Roaming Statistics

**Procedure**

- 
- Step 1** Select **Reports > Real-time**. The window refreshes with a device selector in the left pane.
  - Step 2** From the list, select the method you want to use to search for devices.
  - Step 3** Enter the specific search criteria, or use an asterisk (\*) as a wild card to denote numbers and letters.
  - Step 4** Select the folder for which you want a report from the device selector in the left pane.



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**Note** You cannot select an entire group; only up to 10 devices at a time.

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The devices in the folder are displayed in the Available Devices list .

- Step 5** Select the devices for which you want to see a real time report and click **>>**.
  - Step 6** Click **Next**. The list of reports is displayed.
  - Step 7** Select the reports you want to view for the selected devices. (See [Viewing the Real-Time Reports, page 10-98](#).)
- 

## Viewing the Real-Time Reports

**Procedure**

- 
- Step 1** Select the frequency with which you want the device or devices polled from the **Poll every n minutes** list.
  - Step 2** Select the report or reports which you want to view.
  - Step 3** Click **Apply** to begin polling.

**Step 4** To view a report, click on the report name. The following reports are available:

- AP Memory Utilization—See [AP Memory Utilization](#), page 10-99
- AP CPU Utilization—See [AP CPU Utilization](#), page 10-100
- AP Packet Statistics—See [AP Packet Statistics](#), page 10-100
- AP Packet Errors—See [AP Packet Errors](#), page 10-101
- AP Radio Utilization—See [AP Radio Utilization](#), page 10-102
- Associated Clients Statistics—See [Associated Clients Statistics](#), page 10-102
- WLSM Roaming Statistics—See [WLSM Roaming Statistics](#), page 10-103

## AP Memory Utilization

**Table 10-75** AP Memory Utilization

Column	Description
Timestamp	The time the device's state last changed. For more information, see <a href="#">Understanding WLSE Time Displays</a> , page 1-10.
Device	The name of the device.
Memory Pool Name	The name of the memory pool.
Memory Free	The amount of free memory available.
Memory Used	The amount of memory used.
%Utilization	The total percentage of memory used.
Graph	Click the graph icon to see a graph of the data. For information on the graphs, see <a href="#">Viewing RealTime Graphs</a> , page 10-104

- To refresh the screen immediately, click **Now**.



**Note** If you turn off the auto refresh, and do not interact with the report at all, polling will be disabled.

- To turn on auto refresh, click **Auto**.
- To turn off the auto refresh, click **Off**.
- To close the report, click **Close**.

## AP CPU Utilization

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**Table 10-76 AP CPU Utilization**

Column	Description
Timestamp	The time the device's state last changed. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
Device	The name of the device.
CPU 5sec	Traffic rate for CPU utilization displayed at 5 seconds.
CPU 1 min	Traffic rate for CPU utilization displayed at 1 minute.
CPU 5 min	Traffic rate for CPU utilization displayed at 5 minutes.
Graph	Click the graph icon to see a graph of the data. For information on the graphs, see <a href="#">Viewing RealTime Graphs, page 10-104</a>

- To refresh the screen immediately, click **Now**.
- To turn off the auto-refresh, click **Off**.



**Note** If you turn off the auto refresh, and do not interact with the report at all, polling will be disabled.

- To turn on auto refresh, click **Auto**.
- To close the report, click **Close**.

## AP Packet Statistics

This report includes information for the the following:

- Radio Interfaces
- Ethernet Interfaces

**Table 10-77 AP Packet Statistics**

Column	Description
Timestamp	The time the device's state last changed. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
Device	The name of the device.
IfDecr	Identifies the interface.
Transmit (packets)	The number of packets transmitted.
Receive (packets)	The number of packets received.
Transmit (bytes)	The number of bytes transmitted.
Receive (bytes)	The number of bytes received.

**Table 10-77** AP Packet Statistics (continued)

Column	Description
Retries	The total number of retries.
Graph	Click the graph icon to see a graph of the data. For information on the graphs, see <a href="#">Viewing RealTime Graphs, page 10-104</a>

- To refresh the screen immediately, click **Now**.
- To turn off the auto-refresh, click **Off**.



**Note** If you turn off the auto refresh, and do not interact with the report at all, polling will be disabled.

- To turn on auto refresh, click **Auto**.
- To close the report, click **Close**.

## AP Packet Errors

This report includes information about packet errors for access points. The table displays the following:

**Table 10-78** AP Packet Errors

Column	Description
Timestamp	The time the device's state last changed. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
Device	The name of the device.
IfDece	Identifies the interface.
% Packet Errors	The total percentage of packet errors.
Graph	Click the graph icon to see a graph of the data. For information on the graphs, see <a href="#">Viewing RealTime Graphs, page 10-104</a>

- To refresh the screen immediately, click **Now**.
- To turn off the auto-refresh, click **Off**.



**Note** If you turn off the auto refresh, and do not interact with the report at all, polling will be disabled.

- To turn on auto refresh, click **Auto**.
- To close the report, click **Close**.

## AP Radio Utilization

This report includes information about the radio utilization and total number of clients for access points. The table displays the following:

**Table 10-79** *AP Radio Utilization and Total Number of Clients*

Column	Description
Timestamp	The time the device's state last changed. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
Device	The name of the device.
RF Interface	Identifies the interface.
Number of Clients Connected	The current number of clients connected to the access point.
% RF Utilization	The percentage of radio frequency utilization.
Graph	Click the graph icon to see a graph of the data. For information on the graphs, see <a href="#">Viewing RealTime Graphs, page 10-104</a>

- To refresh the screen immediately, click **Now**.



**Note** If you turn off the auto refresh, and do not interact with the report at all, polling will be disabled.

- To turn on auto refresh, click **Auto**.
- To turn off the auto-refresh, click **Off**.
- To close the report, click **Close**.

## Associated Clients Statistics

This report includes information for the following:

**Table 10-80** *Associated Client Statistics*

Column	Description
Timestamp	The time the device's state last changed. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
Device	The name of the device.
Client Name	The name of the associated client.
Client IP	The IP address of the client.
Client MAC	The MAC address of the client.
Tx (packets)	The number of packets transmitted.
Tx (octets)	The number of octets transmitted.

**Table 10-80** Associated Client Statistics (continued)

Column	Description
Rx (packets)	The number packets received.
Rx (Octets)	The number of octets received.
Signal Strength (dBm)	A tally of the received signal power.
Signal Quality (%)	The current percentage of radio signal quality.
Packet Errors	The total number of packet errors.
Graph	Click the graph icon to see a graph of the data. For information on the graphs, see <a href="#">Viewing RealTime Graphs, page 10-104</a>

- To refresh the screen immediately, click **Now**.
- To turn off the auto-refresh, click **Off**.



**Note** If you turn off the auto refresh, and do not interact with the report at all, polling will be disabled.

- To turn on auto refresh, click **Auto**.
- To close the report, click **Close**.

## WLSM Roaming Statistics

This report includes information for the following:

**Table 10-81** WLSM Roaming Statistics

Column	Description
Timestamp	The time the device's state last changed. For more information, see <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
Device	The name of the device.
Roams 1 min	The number of roams in a one-minute period.
Roams 5 min	The number of roams in a five-minute period
Graph	Click the graph icon to see a graph of the data. For information on the graphs, see <a href="#">Viewing RealTime Graphs, page 10-104</a>

- To refresh the screen immediately, click **Now**.
- To turn off the auto-refresh, click **Off**.



**Note** If you turn off the auto refresh, and do not interact with the report at all, polling will be disabled.

- To turn on auto refresh, click **Auto**.
- To close the report, click **Close**.

## Viewing RealTime Graphs

Using this feature, you can display the data in the table graphically. You can do the following:

- To refresh the screen immediately, click **Refresh Now**.
- To turn on auto refresh, click **Auto Refresh-On**.
- To perform operations on the graph, right mouse click, then select one of the available options.



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**Note** You cannot print or save graphs.

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## Displaying Intrusion Detection System Reports

To view Intrusion Detection System information (such as data concerning rogue and friendly APs, interference, unregistered clients, or ad-hoc networks), select **IDS > Reports** (see [Using the IDS Reports Subtab, page 14-5](#)).