

# Viewing and Managing Dashboards

Dashboards display at-a-glance views of the most important data in your network. They provide status and alerts, monitoring, and reporting information. Dashboards contain dashlets that consist of visual displays such as tables and charts.

#### **Related Topics**

- · Viewing Dashboards
- · Managing and Editing Dashboards
- · Adding Dashboards
- · Adding Dashlets

# Viewing Dashboards

Prime Infrastructure provides several types of dashboards that contain graphs and visual indicators:

- Overview—Provides summary information and includes tabs specific to alarms and events, clients, network devices, network interfaces, and service assurance.
- Wireless—Provides wireless information about Security, Mesh, CleanAir, and ContextAware.
- Performance—Provides a summary of performance metrics and includes tabs specific to sites, devices, access points, interfaces, applications, voice/video, end user experience, and WAN optimization.
- Network Summary—Provides an overview summary of your network including status metrics and a tab specific to incidents which includes alarm and event type graphs and critical, major, and minor alarm counts.
- Data Center—Provides information about Data Center and includes tabs specific to Compute and Host.



Prime Infrastructure filters the monitoring data for virtual domains, based on the end points assigned to the sites and not based on the datasource, hence the dashboards display information for all virtual domains, irrespective of the virtual domain assigned to the user.

#### **Related Topics**

- Overview Dashboards
- · Wireless Dashboards

- Performance Dashboards
- Network Summary Dashboards
- Data Center Dashboards

## **Overview Dashboards**

Table 7-1 describes the default information shown in each of the dashboards under **Dashboard** > **Overview**.

Table 7-1 Overview Dashboard Descriptions

To View This Information	Chose Dashboard > Overview >	
Network device summary graph, including the reachable and unreachable devices	General	
Top N CPU and memory utilization		
Client count by association/authentication		
Coverage area		
Top N sites with the most alarms	Incidents	
Alarm summary graph		
Alarm type graph		
Device reachability status		
Syslog summary and watch		
Client troubleshooting tool	Client	
Wired client speed distribution graph		
Client distribution graph		
Client alarms and events summary		
Client traffic graph		
Top 5 SSIDs by client count		
• Top 5 switches by client count		
Client posture status		
Top N CPU and memory utilization	<b>Network Devices</b>	
Top N environmental temperature		
Interface availability summary	Network Interface	
Top N interface utilization		
Interface utilization summary graph		
Top N interface errors and discards		
Top N applications	Service Assurance	
• Top N servers		
Top N resources by NetFlow		
• Top N clients		

#### **Related Topic**

• Managing and Editing Dashboards

## **Wireless Dashboards**

Table 7-2 describes the default information shown in each of the dashboards under **Dashboard** > **Wireless**.

Table 7-2 Wireless Dashboard Descriptions

To View This Information	Chose Dashboard > Wireless >	
Security Index, including the top security issues	Security	
Adaptive WIPS		
Rogue classification graph		
Rogue containment graph		
Attacks detected		
Malicious, unclassified, friendly, and custom rogue APs		
CleanAir security		
Adhoc rogues		
Most recent mesh alarms	Mesh	
Mesh work node hop count		
Mesh worst SNR link		
Mesh worst packet error rate		
Note The information in the worst interferer and interferer count charts is collected from the mobility services engines (MSE). If MSEs are not available, this chart does not show any results.	CleanAir	
802.11 average and minimum air quality		
Worst interferers		
Interferer count		
Recent security-risk interferers		
Recent CAS notifications for interferers		
MSE historical element count	ContextAware	
Rogue elements detected by CAS		
Location assisted client troubleshooting		
MSE tracking counts		
• Top 5 MSEs		

#### **Related Topic**

Managing and Editing Dashboards

## **Performance Dashboards**

Choose one of the dashboards under **Dashboard > Performance** to view a summary of performance metrics. Viewing the performance dashboards can show you the health of the networks, servers, and applications.

You can use performance graphs to compare the performance of different devices or interfaces.

Table 7-3 describes the default information shown in each of the dashboards under **Dashboard** > **Wireless**.

Table 7-3 Performance Dashboard Descriptions

	Chose Dashboard > Performance
To View This Information	>
For the specified site:	Site
• Client traffic (regular and optimized)	
<ul> <li>Device with most alarms</li> </ul>	
• Top N applications	
• Device reachability status f	
For the specified device:	Device
Device Availability Trend	
<ul> <li>Device memory and CPU utilization trend</li> </ul>	
Device Port Summary	
Device Health Information	
• Top N Interfaces by Netflow	
For the specified access point:	Access Point
<ul> <li>Access point details</li> </ul>	
<ul> <li>Top clients and applications</li> </ul>	
Channel utilization	
Client count	
For the specified interface:	Interface
• Interface details	
Interface Availability Trend	
• Interface In and Out Errors and Discards	
• Interface Tx and Rx utilization	
<ul> <li>Top applications and clients</li> </ul>	
Top application traffic over time	
• Number of clients over time	
DSCP classification	
<ul> <li>QoS class map statistics</li> </ul>	
Top QoS class map statistics trend	

Table 7-3 Performance Dashboard Descriptions (continued)

	Chose Dashboard > Performance	
To View This Information	>	
For the specified application:	Application	
Top clients and servers		
Application traffic analysis graph		
Application server performance		
Top interfaces over time		
Top RTP streams	Voice/Video	
<ul> <li>Worst RTP streams by packet loss</li> </ul>		
Works site-to-site connections by KPI		
For the specified client:	End User Experience	
Top applications		
• User sites summary		
Client traffic		
Multi-segment analysis	WAN Optimization	
<ul> <li>Traffic volume and compression ration</li> </ul>		
Transaction time		
• Average concurrent connections (optimized versus pass-through)		
Multi-segment network time		

#### **Related Topic**

Managing and Editing Dashboards

## **Network Summary Dashboards**

Choose one of the following dashboards under **Dashboard > Network Summary** to view a summary of important data points in your network. Table 7-4 describes the default information shown in each of the dashboards under **Dashboard > Network Summary**.

Table 7-4 Network Summary Dashboard Descriptions

To View This Information	Chose Dashboard > Network Summary>
Overall system health such as	Overview
• Reachability metrics for ICMP, Unified APs, and controllers	
Alarm summary metrics for all alarms and rogue alarms	
• Health metrics for system health, WAN link health, and service health	
• Coverage areas, including links to APs not assigned to map	
Client counts by association/authentication	
Top CPU and interface utilization	
Network topology	
Interface utilization summary	
Status of device manageability and autonomous AP.	
Alarm summary metrics for all alarms and rogue alarms	Incidents
• Health metrics for system health, WAN link health, and service health	
Alarms graph	
Top alarm and event types graphs	
Syslog summary	

#### **Related Topics**

- Viewing Options for Network Summary Metrics
- Managing and Editing Dashboards

### **Viewing Options for Network Summary Metrics**

You can perform the following actions on the Metrics, which are displayed at the top of the Network Summary dashboards:

- Add or remove metrics by select Settings > Add or Remove Metric Dashlet(s).
- Reorder the metrics by clicking near the metric title and dragging and dropping it to the area you
  prefer.
- Click any of the hyperlinks in any of the boxes to go the details for that metric. For example, if you click on a number displayed in the Alarm Summary metrics, you go to the alarm page to view more information about the alarm(s).

#### **Related Topic**

Managing and Editing Dashboards

### **Data Center Dashboards**

Table 7-5 describes the default information shown in each of the dashboards under **Dashboard > Data Center**.

Table 7-5 Data Center Dashboard Descriptions

To View This Information	Chose Dashboard > Data Center >
For the specified data center:	Compute
Virtual machine summary by OS	
Virtual machine resource usage summary	
Compute resource summary	
• Top 5 host usage summary by CPU	
For the specified host:	Host
• Host CPU usage	

#### **Related Topic**

Managing and Editing Dashboards

# **Managing and Editing Dashboards**

The Prime Infrastructure dashboards contain dashlets with charts, graphs, tables, and other information. There are various tools, options, and settings you can specify in order to customize the dashboards.

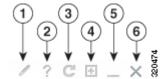
#### **Related Topics**

- Understanding Dashlet Icons
- · Adding Dashboards
- Adding Dashlets
- · Time Filters for Dashboards and Dashlets
- Overriding a Dashlet Filter
- Creating Generic Dashlets

## **Understanding Dashlet Icons**

Dashboards contain dashlets that consist of visual displays such as tables and charts. You can drag and drop dashlets to any location in the dashboards. Hover your mouse cursor over any dashlet, and the following icons appear in the top-right corner of the dashboard.

Figure 7-1 Dashlet Icons



1	Dashlet options include editing the dashlet title, refreshing the dashlet, or changing the dashlet refresh interval. (To disable refresh, unselect Refresh Dashlet.)
2	Dashlet help includes a picture of the dashlet, a description, the data sources used to populate the dashlet, and any filters you can apply to the dashlet's data.
3	Refresh the dashlet.
4	Maximize the dashlet. A restore icon appears, allowing you to restore the dashlet to its default size.
5	Collapse the dashlet so that only its title appears. An expand icon appears.
6	Remove the dashlet.

Dashlet badges indicate which filters were applied when generating the contents of each dashlet.

Figure 7-2 Dashlet Badges



1	Network aware filter. Use this filter to collect data for all devices, wired devices, wireless devices, or a specific wireless SSID.
2	Site filter. Use this filter to collect data associated with an AP or a controller located at a predefined location.
3	Application filter. Use this filter to collect data based on a service, an application within a service, up to ten separate applications, or all applications.
4	Time frame filter. Use this filter to collect data for a preset time period, or you can specify a beginning and ending date.

You can customize the predefined set of dashlets depending on your network management needs. You can organize the information in user-defined dashboards. The default view comes with default dashboards and pre-selected dashlets for each.

When using dashlets bear in mind:

- The label "Edited" next to the dashlet heading indicates that the dashlet has been customized. If you reset to the default settings, the Edited label is cleared.
- When an upgrade occurs, the arrangement of dashlets in a previous version is maintained. Because
  of this, dashlets or features added in a new release are not displayed. Click the Manage Dashboards
  link to discover new dashlets.
- The horizontal and vertical scrollbars are visible if you zoom the dashlets. Reset the zoom level back to zero, or no zoom for viewing the dashlets without the scrollbars.

#### **Related Topics**

· Adding Dashboards

- Restoring Dashboards
- · Adding Dashlets

# **Adding Dashboards**

Prime Infrastructure has a set of default dashboards. You can also create a custom dashboard to display information specific to your needs:

- Step 1 Click Settings at the top right of any dashboard page, and choose Add New Dashboard.
- Step 2 Enter a name for the new dashboard, then click Add.
- Step 3 Choose the new dashboard and add dashlets to it.

#### **Related Topics**

- Restoring Dashboards
- · Adding Dashlets
- · Viewing Dashboards

# **Adding Dashlets**

Each dashboard displays a subset of the available dashlets. You can add any dashlet that is not automatically displayed to any dashboard you want.

- **Step 1** Choose **Dashboard**, then select the dashboard to which you want to add the dashlet.
- Step 2 Click the Settings icon, then choose Add Dashlets.
- Step 3 Find the dashboard heading in the drop-down list; you can add any of the dashlets under that heading to that dashboard.

#### **Related Topic**

• Default Dashlets

### **Default Dashlets**

The following tables list the default dashlets that you can add to your Prime Infrastructure Home page or any dashboard:

Table 7-6 lists the default General Dashlets that you can add in your Prime Infrastructure home page.

Table 7-6 Default General Dashlets

Dashlet	Description
AP Join Taken Time	Displays the access point name and the amount of time (in days, minutes, and seconds) that it took for the access point to join.
Top N APs by Channel Utilization	Shows the top N APs with maximum channel utilization.
AP Uptime	Displays each access point name and amount of time it has been associated.
CAPWAP Uptime	Shows the APs based on the CAPWAP uptime.
Coverage Areas	Displays the list coverage areas and details about each coverage area.
Device Unreachability Summary	Displays the unreachability summary of APs, routers, and switches.
Network Topology	Displays the network topology map.
Unreachable MA-MC CAPWAP Tunnels	Displays the unreachability status between the mobility agent and mobility controller.
Device Uptime	Displays the devices based on the device uptime.
Ad hoc Rogues	Displays ad hoc rogues for the previous hour, previous 24 hours, and total active.
GETVPN Network Statistics	Shows available GETVPN network groups summary.
Job Information Status	Shows all user defined jobs.
Most Recent AP Alarms	Displays the five most recent access point alarms. Click the number in parentheses to open the Alarms page which shows all alarms.
Network Device Summary	Displays the total managed device count, number of available access points (APs) and total count of managed unreachable devices in the network.
	The Unified AP Reachability can be any of the following:
	Reachable—Operational status is registered and admin status is enable.
	• Unreachable—Operational status unregistered and admin status is enable.
	The network device summary dashlet for AP devices will be displayed only if the admin status is enabled.
	The AP reachability information is defined as follows:
	• Unified AP—Reachability is defined by the Operational Status. If the AP is registered to a wireless LAN controller, it is considered reachable. If it is not registered, it is not reachable.
	Autonomous AP—Reachability is defined by the device's SNMP Reachability field in the Device Work Center.
Recent Alarms	Displays the five most recent alarms by default. Click the number in parentheses to open the Alarms page.
Recent Coverage Holes	Displays the recent coverage hole alarms listed by access point.
Software Summary	Displays the software version and software type of all managed devices.

Table 7-7 lists the default Security Dashlets that you can add in your Prime Infrastructure home page.

Table 7-7 Default Security Dashlets

Dashlet	Description
Client Classification	Allows you to classify the clients that are added in Prime Infrastructure.

Table 7-8 lists the default Client Dashlets that you can add in your Prime Infrastructure home page.

Table 7-8 Default Client Dashlets

Dashlet	Description
Client Troubleshooting Dashlet	Allows you to enter a Client MAC address and starts the client troubleshooting tool
Client Distribution Dashlet	Shows the client distribution by protocol, EAP type, and authentication type. You can click a protocol to access the list of users belonging to that protocol. For example, if you click the 802.3 protocol, you can directly access the list of the wired clients and users in the Clients and Users page.
Client Alarms and Events Summary	Shows the most recent client alarms of both wired and wireless clients.
Dashlet	Client Association Failure
	Client Authentication Failure
	Client WEP Key Decryption Error
	Client WPA MIC Error Counter Activated
	Client Excluded
	Autonomous AP Client Authentication Failure
	Wired Client Authentication Failure
	Wired Client Authorization Failure
	Wired Client Critical VLAN Assigned
	Wired Client Auth fail VLAN Assigned
	Wired Client Guest VLAN Assigned
	Wired Client Security Violation
Wireless Client Traffic Dashlet	Reports the amount of bandwidth that client traffic is consuming for each network protocol used by the clients to connect to the network.
Wired Client Speed Distribution Dashlet	Shows the wired client speeds and the client count for each speed. There are three different speeds on which clients run:
	• 10 Mbps
	• 100 Mbps
	• 1 Gbps
	The ports are in the Auto Negotiate mode by default. For example, you get 100 Mbps speed for a client that runs in 100 Mbps speed.
Top 5 SSIDs by Client Count	Shows the count of currently associated and authenticated clients. You can choose to display the information in table form or in an area chart.
Top 5 Switches by Switch Count	Displays the five switches that have the most clients as well as the number of clients associated to the switch.

Table 7-8 Default Client Dashlets (continued)

Dashlet	Description
Client Posture Status Dashlet	Prime Infrastructure collects the posture status information from the Identity Services Engine (ISE). You need to add an ISE for authorization and authentication purpose. After you enable necessary functions in ISE, Prime Infrastructure shows the data in the Client Posture Status dashlet.
	This dashlet displays the client posture status and the number of clients in each of the following status categories:
	• Compliant
	Non-compliant
	• Unknown
	• Pending
	Not Applicable
	• Error
Client Count by IP Address Type	Displays a chart which shows client count trend over time by different IP addresses types. The types include IPv4, IPv6, Dual-Stack and Unknown.
IPv6 Assignment Distribution	Displays a pie chart which shows distribution of all clients based on how their IPv6 addresses get assigned. The type include Unknown, DHCPv6, Self-Assigned, and SLACC or Static.
User Auth Failure Count	Displays a chart which shows user authentication failure count trend over time.
Client Protocol Distribution	Displays the current client count distribution by protocols.
Client EAP Type Distribution	Displays the count based on the EAP type.
Guest Users Count	Displays Guest client count over a specified time.
Client CCX Distribution	Displays a pie chart which shows client distribution among different CCX versions
Top N Client Count	Displays a bar chart which shows top N elements based on client count. The elements include SSID, APs, Controller, Endpoint Type, Vendor, Switches, and Anchor Controllers. It is a generic top N chart to replace different individual top N charts.
	The Top N Client Count shows the anchor clients count on each anchor controller.
Client Mobility Status Distribution	Displays a pie chart which shows client distribution between local (not anchored) and anchored.
Client 11u Distribution	Displays a pie chart which shows 11u clients over non-11u clients.
11u Client Count	Displays a pie chart which shows 11u clients over non-11u clients
11u Client Traffic	Displays a chart which shows 11u client traffic trend over time.
PMIP Clients Distribution	Displays a pie chart which shows PMIP client over non-PMIP clients.
PMIP Client Count	Displays a chart which shows PMIP client count trend over time.
Top APs by Client Count	Displays the Top APs by client count.
Most Recent Client Alarms	Displays the most recent client alarms.
Recent 5 Guest User Accounts	Displays the most recent guest user accounts created or modified
Latest 5 logged in Guest Users	Displays the most recent guest users to log in.
Clients Detected by Context Aware Service	Displays the client count detected by the context aware service within the previous 15 minutes.

Table 7-8 Default Client Dashlets (continued)

Dashlet	Description
Client Authentication Type Distribution	Displays the client count based on the type of client authentication.
Client Count By Association/Authentication	Shows client count over a specified time interval. Count can be based on associated or authenticated clients.
Client Count By Wired/Wireless	Shows client count for wireless, wired or a combination of both.
Client Traffic By IP Address Type	Shows client traffic based on IP address type.
IP Address Type Distribution	Shows client distribution based on IP address type.

Table 7-9 lists the default Network Dashlets that you can add in your Prime Infrastructure home page.

Table 7-9 Default Network Dashlets

Dashlet	Description
CPU Utilization Summary	Displays the distribution of devices by CPU utilization across 4 CPU utilization bands (0-25%, 26-50%, 51-75%, 76-100%)
Device Availability Summary	Shows a summary, total device count and pie chart distribution of devices in a given site that are reachable (and Unreachable) through SNMP.
Interface Availability Summary	Shows the availability of the interface in percentage in the selected time range.
Interface Statistics	Shows the statistics information of the interface in a given site.
Interface Statistics Summary	Shows the total count of interfaces and a pie chart distribution of interface status (Up, Operationally Up, Administratively Down) in a given site.
Interface Utilization Summary	Shows pie chart distribution of devices by interface utilization across 4 Interface Utilization bands (0-25%, 25-50%, 51-75%, 75-100%) in a given site. The inner pie represents the received (Rx) utilization and the outer pie represents transmitted (Tx) utilization.
Top N CPU Utilization	Shows the top N devices with maximum CPU utilization.
Top N Environmental Temperature	Shows the top N tabulated list of average, maximum, minimum, current temperature associated with devices in the network. For the stacked switches, the device name will be appended with switch instance. For example: RB-Edison.Cisco.com-Switch-1, where Switch-1 is switch instance.
Top N Interface Errors and Discards	Displays the top N interfaces with highest input and output errors and discards.
Top N Interface Utilization	Shows pie chart distribution of devices by interface utilization-transmitted across 4 Interface Utilization bands (0-25%, 25-50%, 51-75%, 75-100%) in a given site.
Top N Memory Utilization	Shows the tabulated list of top N memory utilization in the network.

Table 7-10 lists the default Service Assurance Dashlets that you can add in your Prime Infrastructure home page.

Table 7-10 Default Service Assurance Dashlets

Dashlet	Description
Top N Applications	Shows top N applications with break down of wired/wireless/unknown in terms of total traffic volume/rate for a site/enterprise, client, and interface.
TOP N Clients	Shows top N clients based on total traffic volume/rate for site/enterprise and application, service or a set of applications.
Top N Interfaces by Netflow	Shows the top N interfaces with Netflow traffic based on volume.
Top N Resources by Netflow	Shows the Top N devices that are exporting Netflow traffic by volume or rate. It provides a toggle between Netflow exporting devices and sites with Netflow data.In Root Domain device list in the dashlet will not be VD aware.
Top N Servers	Shows Top N Servers by traffic rate.
Top N Sites by PFR	This dashlet lists the Top N Sites with the most PfR. out of policy counts in the selected time range
Top N WAN Interface	Shows the tabulated list of Top N WAN Interface utilization in the network.
Worst N Sites by MOS	Shows the worst sites by MOS score.
Worst N sites by Transaction Time	Shows site to site average transaction time for an application, service or a set of applications.

Table 7-11 lists the default Incident Dashlets that you can add in your Prime Infrastructure home page.

Table 7-11 Default Incident Dashlets

Dashlet	Description
Alarm Summary	Shows a pie chart distribution of alarms for Switches and Hubs, Ad hoc Rogue, Routers, AP, System, Rogue AP etc.
Device Reachability Summary	This dashlet shows a tabulated view of each device's SNMP reachability status.
Top N Alarm Types	Shows a horizontal bar chart of the top N alarm types with their associate counts.
Top N Events	Shows a horizontal bar chart of the events types and their counts.
Top N Sits with Most Alarms	Shows a horizontal bar chart of the top N sites with highest alarm counts.
Top N Syslog Sender	Shows a tabulated view of the top N devices that generated syslogs. The table shows the Syslog count by Severity.
Top N WAN Interface	shows a tabulated view of the top N WAN Interfaces that reported issues along with the severity.
Syslog Summary	Shows syslogs of severity 0,1 and 2.
Syslog Watch	The dashlet shows syslogs based on predefined filter, by default Environmental Monitor is selected.

#### **Related Topics**

- Adding Dashboards
- Restoring Dashboards

### Time Filters for Dashboards and Dashlets

You can filter dashboards and dashlets based on a period of time. There are two ways to display information for a specified time:

- By dashboard—Using the Filters at the top of the Dashboard page, select a value from the Time
  Frame pulldown menu. Using the Filters feature allows you to filter all dashlet information for a
  specified time.
- By dashlets—Edit the dashlet to override a dashboard filter.

#### **Related Topic**

Overriding a Dashlet Filter

### **Overriding a Dashlet Filter**

You can change the filter settings for just one dashlet. For example, to change the time frame during which data is collected for a single dashlet from the default to 24 hours:

- Step 1 Navigate to that dashlet and click **Dashlet Options** icon.
- Step 2 Select the Override Dashboard Time Filter check box, choose Past 24 Hours from the Time Frame drop-down list, then click Save And Close.

The dashlet displays the last 24 hours of data, regardless of what is specified in the Dashboard Time Frame pulldown menu. The label "Edited" next to the Time Frame dashlet badge with a red diagonal line over the badge indicates that the filter has been customized.

#### **Related Topics**

- · Adding Dashboards
- Restoring Dashboards

### **Creating Generic Dashlets**

You can add a generic dashlet to the Performance dashboards and to any dashboard under the Performance tab. The generic dashlet displays the values for all polled devices.

#### **Before You Begin**

You must create at least one custom monitoring policy (for example, see Creating New Monitoring Policies).

To create a generic dashlet:

- **Step 1** Choose any dashboard under **Dashboard > Performance**.
- Step 2 Click the Settings icon, then choose Add Dashlets.
- Step 3 Find the Generic Dashlet and click Add. The Generic Dashlet appears on the dashboard.
- **Step 4** To edit the dashlet, hover your cursor over the Generic Dashlet and click **Dashlet Options** icon.

- **Step 5** Rename the dashlet.
- Step 6 From the Template Name drop-down list, choose the custom template that you created, then click Save.

#### **Related Topics**

- Adding Dashboards
- Restoring Dashboards

# **Restoring Dashboards**

After an upgrade, the arrangement of dashlets in the previous version is maintained. Therefore, dashlets or features added in a new release are not displayed. To display new dashlets, click the **Settings** icon and choose **Manage Dashboards**.

To restore a dashboard to the default settings:

- Step 1 Click Settings at the top right of any dashboard page, then choose Manage Dashboards.
- Step 2 Choose a dashboard from the list, and click **Reset**.

#### **Related Topics**

- Adding Dashboards
- Adding Dashlets