Cisco Prime Collaboration Assurance Dashboards

This section explains the following:

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Cisco Prime Collaboration Assurance Dashboards

The Cisco Prime Collaboration Assurance dashboards provide consolidated information for devices, applications, and endpoints. With these dashboards, you can:

- Monitor all endpoints for a user using a single interface.

- Determine service experience for all endpoints.

  For Cisco Prime Collaboration Release 11.5 and later

  Determine Call Quality for all endpoints.

For data to be populated in the dashboards, you must complete the following tasks:

- Discover the devices

- Import the conference (for Conference-related dashboards)

- Poll the devices

Click the Toggle Navigation icon ![icon] on the **Cisco Prime Collaboration** Assurance page to view a list of dashlets and reports. You can click the pin icon at the top left to hide or display the left pane. You can also view indexes, set favorites, and use the search option in the same menu.

Note To view the complete title of the Cisco Prime Collaboration Assurance on the black ribbon frame, you must change the screen resolution of the computer. Click the Toggle pin button on the top left pane on the Index to view the title.

The following table describes the Cisco Prime Collaboration Assurance dashboards.

Dashboard	Description	Prime Collaboration Assurance Deployment
OpsView (**Monitor> System View> OpsView**)	Provides high-level information about the Cisco Unified CM and VCS clusters.	Prime Collaboration Assurance Advanced
Service Experience (**Monitor> System View> Service Experience**)	Information about sessions and alarms.	Prime Collaboration Assurance Advanced
Alarm (**Monitor> System View> Alarm**)	Information about management devices.	Prime Collaboration Assurance Advanced
Performance (**Monitor> System View> Performance**)	Provides details on critical performance metrics of each managed element.	Prime Collaboration Assurance Advanced
Contact Center Topology (**Monitor> System View> Contact Center Topology**)	Information about the Contact Center components such as CUIC, Finesse, MediaSense, CVP and UCCE.	Prime Collaboration Contact Center Assurance
Utilization Monitor (**Monitor> Utilization Monitor**)	Information about endpoints and their utilization, conferencing devices, and license usage.	Prime Collaboration Assurance Advanced

For Cisco Prime Collaboration Release 11.5 and later

Dashboard	Description	Cisco Prime Collaboration Deployment
OpsView (**Network Health Overview** > **OpsView**)	Provides high-level information about the Cisco Unified CM and VCS clusters.	Cisco Prime Collaboration Assurance Advanced
Call Quality (**Network Health Overview** > **Call Quality**)	Information about quality of service.	Cisco Prime Collaboration Assurance Advanced
Alarm (**Network Health Overview** > **Alarm**)	Information about alarm summaries.	Cisco Prime Collaboration Assurance Advanced
Performance (**Network Health Overview** > **Performance**)	Provides details on critical performance metrics of each managed element.	Cisco Prime Collaboration Assurance Advanced
Contact Center Topology(**Network Health Overview** > **Contact Center Topology**)	Information about Unified Contact Center Topology View.	Cisco Prime Collaboration Contact Center Assurance

If you have deployed Cisco Prime Collaboration Assurance in MSP mode, you can view the following dashboard from the Cisco Prime Collaboration Assurance home page:

Dashboard	Description
Customer Summary (**Monitor> System View> Customer Summary**)	Information about alarm, endpoints, and inventory aggregated per customer.
TelePresence Exchange (**Monitor> System View> Telepresence Exchange**)	Information about cluster node, call and session control devices, region summary, and conferencing devices. **Note** If CTX devices not managed, no data is populated in any of the dashlets.

For Cisco Prime Collaboration Release 11.5 and later

If you have deployed Cisco Prime Collaboration Assurance in MSP mode, you can view the following dashboard from the Cisco Prime Collaboration Assurance home page:

Dashboard	Description
Customer Summary(**Network Health Overview** > **Customer Summary**)	Information about alarm, endpoints, and inventory aggregated per customer.
TelePresence Exchange(**Network Health Overview** > **TelePresence Exchange**)	Information about cluster node, call and Conference control devices, region summary, and conferencing devices.

You can view detailed information on endpoints, infrastructure devices, and a logical top-level view of the network of a particular customer through the Customer Summary dashboard. This launches the other dashboards for individual customers mentioned in the preceding table.

Note

- The Enterprise dashboards (Service Experience, Alarm, Contact Center Topology, and Utilization Monitor, depending on the licenses you have) in Cisco Prime Collaboration Assurance do not filter content by default through the global customer selection field.

- **For Cisco Prime Collaboration Release 11.5 and later**

  The Enterprise dashboards (Call Quality, Alarm, Contact Center Topology depending on the licenses you have) in Cisco Prime Collaboration Assurance do not filter content by default through the global customer selection field.

- If you select another customer through global selection the user interface will refresh and the home page showing the Customer Summary dashboard is displayed.

- To change the customer you need to click the customer name from the Customer Summary dashboard.

You can view data either as a chart or in a tabular format. By default, reports are displayed as charts that are interactive; that is, you can click on the data to launch the associated page. When you view a report in the tabular format, you can export data in the CSV format.

In the dashboard, you can view data for:

• A day - Data collected from 00:00:00 hours to current time.

• A week - Data collected during the last seven days including today, starting from 00:00:00 hours.

• Four week - Data collected during the last 28 days including today, starting from 00:00:00 hours.

Note On all the pages, the time displayed is the Cisco Prime Collaboration Assurance server time.

Ops View

The Ops View or Cluster View in the Home page (**Monitor** > **System View** > **OpsView**) provides high-level information about the Cisco Unified CM and VCS clusters that are available in the system. Based on your mode of deployment, you can view the details of all the clusters in your system or clusters for a specific customer. The Ops View displays the unregistered count of the hard and soft endpoints as separate entity.

For Cisco Prime Collaboration Release 11.5 and later

The Ops View or Cluster View is in the Home page (**Network Health Overview** > **OpsView**).

For Cisco Prime Collaboration Release 11.6 and later

The OpsView tab also displays the details of SIP trunks that are connected to Unified Communications Manager cluster.

Prerequisites:

• The cluster must be discovered in Cisco Prime Collaboration Assurance for the cluster data to be displayed in the Ops View.

• A user must be associated to a domain or customer that has one or more Cisco Unified CM or VCS clusters in the system. However, this is not applicable for globaladmin users as they have access to all the domains.

• Add the Cisco Prime Assurance Server as a syslog receiver in the CUCM. This ensures that the Ops View is dynamically updated to reflect the trunk status changes in a cluster.

Note In case the Ops View is blank, refer to the note in the section *Getting Started with Prime Collaboration Assurance* in the Cisco Prime Collaboration Assurance and Analytics Install and Upgrade Guide.

You can view the details of the cluster either in Treemap view or List view.

You can use the treemap view to…	You can use the list view to …
View high-level summary of the faults and also the split up of Critical, Major, Minor, and Warning alarms. By clicking on the Total alarms count link, you can cross launch to the Alarms browser, in the Alarms & Events page. **Note** The Total alarm count displayed in the Ops View not only includes the alarms raised on the cluster nodes, but also the alarms raised on the individual devices (provided it is associated with the Cisco Unified CM or VCS cluster).	View high-level summary of the faults and also the split up of Critical, Major, Minor, and Warning alarms. By clicking on the Total alarms count, you can cross-launch to the Alarms browser, in the Alarms & Events page.
View the registration information (number of endpoints that are registered, unregistered-hard endpoints or soft clients, registered with backup, and unknown) of all the different types of devices in the cluster—phones, media resources (hardware and software), MGCP gateways (including each port), CTI Route Points, CTI ports, and Voice Mail Ports. Click the registration status counts for Endpoints to cross launch to the **Endpoint Diagnostics** page and the registration status counts for the other device types to cross launch to the **Connected Devices** tab with all the devices for that device type filtered.	View the number of Registered, Unregistered-hard endpoints or soft clients, Registered with Backup, and Unknown phone counts for each device type. Click the phone counts for Endpoints to launch the Endpoints Diagnostics page and the phone counts for all the other device types (Media Resources, Voice Mail Ports, and MGCP Gateways) to launch the Connected Devices tab with all the devices for that device type filtered. The **CTI Ports** and **CTI Route Points** device types are displayed by default.
Launch the Summary View for that cluster, by clicking on the cluster name.	Launch the Summary View for that cluster, by clicking on the cluster name.

Note

- The data displayed in the Treemap view depends on the components that are available in the system. However, the information about Alarms is displayed for all the clusters.

- When you click a VCS cluster in the treemap view or list view, only the Topology page is launched. The Summary, Endpoint by Device Pool, Connected Devices, Route Pattern Summary, and Device Search tabs are applicable only for Cisco Unified CM clusters.

- For deployment of more than ten clusters, the treemap view displays title links for each cluster.

In the treemap view, you can also view the above mentioned details in a quick view, by clicking on the Alarms component for alarm details and device type components for the registration status information.

The treemap view auto refreshes every two minutes. To disable the auto refresh functionality, uncheck the **Auto Refresh** check box at the top right corner of the treemap view.

Color Codes in the Treemap View:

In the treemap view, the device types and alarms in a cluster are classified based on the following severity categories:

For severity…	The color displayed is …	If there are…
Critical	Red	• One or more critical alarms in the cluster. Or • More than or equal to 10% Unregistered hard endpoints. Or • **For Cisco Prime Collaboration Release 11.6 and later** At least one Unified Communications Manager SIP trunk in "No Service" state. **Note** When the Red color is displayed, Ops View displays the hard and soft Unregistered endpoint count separately.
Major	Orange	• One or more major alarms in the cluster. Or • Less than 10% Unregistered hard endpoints. Or • **For Cisco Prime Collaboration Release 11.6 and later** At least one Unified Communications Manager SIP trunk in "Partial Service" state, and no Unified Communications Manager SIP trunk in "No Service" state. **Note** When the Orange color is displayed, Ops View displays the hard and soft Unregistered endpoint count separately.

For severity…	The color displayed is …	If there are…
Minor/Warning	Yellow	• One or more minor/warning alarms in the cluster. Or • Any device in the Registered with BackUp state. Or • **For Cisco Prime Collaboration Release 11.6 and later** At least one Unified Communications Manager SIP trunk in "UNKNOWN-Options Ping Enabled" state, and no Unified Communications Manager SIP trunk in "No Service" and "Partial Service" state.
Normal	Green	• No critical, major, or minor alarms. Or • All devices are in the registered or unknown state. Or • **For Cisco Prime Collaboration Release 11.6 and later** All the Unified Communications Manager SIP trunk in "Full Service" state. Or • No Unified Communications Manager SIP trunk defined for a cluster.

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| Note | **For Cisco Prime Collaboration Release 11.6 and later**

For the SIP Trunks that are associated with Unified Communications Manager cluster, the list view displays the column names for the following states:

- No Service

- Partial Service

- UNKNOWN-Options Ping Enabled

- Full Service

Troubleshooting

1. **Issue**: The Ops View does not display the clusters

   Recommended Action: Check that the following conditions are met:

   - Ensure the cluster has been discovered and Cisco Unified CM is in managed state in Inventory Management

   - Ensure the CDT discovery is completed for the clusters, and are displayed in Inventory Management

   - The Endpoint Diagnostics displays all the endpoints

2. **Issue**: The Registration status does not display the correct count

   Recommended Action: Check that the following conditions are met:

   - Ensure the CDT discovery had updated the count information

   - You must re-trigger the CDT discovery if the CDT discovery is not completed successfully

   - Ensure Cisco Unified CM is enabled to send syslogs to Cisco Prime Collaboration Assurance.

3. **Issue**: The leaf color of the UCM SIP Trunk does not change as expected.

   Recommended Action: Check that the following conditions are met:

   - Check if the Prime Collaboration Assurance is added as a syslog receiver in the CUCM since the trunk status change comes as a syslog update to Cisco Prime Collaboration Assurance.

   - Another workaround is to rediscover the CUCM.

4. **Issue**: Sometimes the globaladmin user is unable to view the **OpsView Dashlets** page.

   Recommended Action: Run the following script:

   A new script **opsview_globaladmin.sh** is created.

   Recommended path: Save the script at the following path: **/opt/emms/emsam/bin**

Summary

The Summary tab provides the system utilization status for each Unified CM node in the cluster.

It includes the following dashlets:

- Summary

- Call Processor Health Summary

- Alarm Summary

- Registration Summary

- License Summary

Summary

Provides high-level cluster information along with inter-cluster details such as the number of H323 & MGCP Gateways Configured, SIP Trunks Configured, and the Device Pools.

You can also view the cluster version, database replication status, and number of Unified CM nodes in the cluster. Click **Cluster Call Activity** to view the last 24 hours call activity graph for all the Unified CM nodes in the cluster.

Call Processor Health Summary

Provides information on CPU usage, Virtual Memory usage, Disk usage, and the number of calls attempted or completed (in the current hour and peak hour). Click **Call Activity** to view the last 24 hours call activity graph for the selected Unified CM node. Click the CPU Usage, VM Usage, or Disk Usage value to launch the Performance tab with the System Summary dashboard for that cluster type selected.

You can also view long term call activity trend for the Cisco Unified CM cluster—select one or more cluster nodes and choose **Call Activity** from the **Trend** drop-down list.

Note For those fields that are not applicable for IM & Presence, it is displayed as N/A.

Alarm Summary

Provides a high-level summary of the faults on all clusters managed by Cisco Prime Collaboration Assurance. You can click the alarm data in the Total column to cross-launch to the Alarms browser, in the Alarms & Events page.

Registration Summary

Provides information about the registration status of the phones, media resources (hardware and software), MGCP gateways (including each port), CTI Route Points, CTI Ports, and Voice Mail Ports in the cluster.

The following information is displayed for the endpoints:

- Number of endpoints that are registered

- Number of endpoints that are registered with backup

- Number of endpoints that are unregistered

- Number of endpoints that are unknown or rejected

You can click the endpoints data for each of the above mentioned registration status to launch the Connected Devices tab for that device type.

License Summary

Provides licensing information for the Cisco Unified CM cluster. For versions 9.0 and above, click the **Click here for CUWL License Details** link to launch the login page for Cisco Prime License Manager.

For versions below 9.0, it retrieves and displays the licensing information—Licence Type, Units Authorized, Units Used, and Units Remaining.

Endpoint by Device Pool

The Endpoint by Device Pool tab provides the summary of phones in the cluster at the device pool level.

It displays the following information:

- Total number of endpoints configured to this device pool

- Number of endpoints that are registered

- Number of endpoints that are registered with backup

- Number of endpoints that are unregistered

- Number of endpoints that are in unknown or rejected states

- Service Quality Endpoints and Events.

You can click the endpoints data for any of the above-mentioned registration status to cross launch to the **Endpoint Diagnostics** page.

Click the endpoints data in the **SQ Issues** column to launch the **Impacted Phones Report** page. This page lists all the phones in the device pool that are impacted by voice quality issues.

The events count link in the **SQ Issues** column launches the **SQ Alert Report** page. This page lists the details of the events raised for that particular device pool in the cluster.

Note
- A flag is displayed against the device pool name whenever the Phones Unregistered Threshold Exceeded or Service Quality Threshold Exceeded alarm for that device pool is raised.

- The count of Endpoints and Events in the **SQ Issues** column is shown only for the last 4 hours.

Topology—Cisco Unified Communications Manager or Cisco TelePresence Video Communication Server Cluster

The cluster topology displays a logical top-level view of the following clusters:

- Cisco Unified Communications Manager (Unified CM)

- Cisco TelePresence Video Communication Server (VCS)

You can use the Cluster Topology View to:

- View devices registered to the Unified CM or VCS, the states in which the devices are, and the registration status of the devices in the cluster.

- View alarms and act on alarms on individual devices and the cluster level.

- View database replication status.

- Search for devices in a cluster.

Prerequisites

- All devices should be in managed state in Cisco Prime Collaboration Assurance.

- The Unified CM publisher should be in Managed state.

- For VCS cluster to be shown in Ops View (now called Network Health Overview), the cluster name (FQDN of VCS) has to be configured on VCS.

Note • Only the public IP address and DNS name is displayed in the topology.

Access the Unified CM or VCS Cluster Topology

To access the Cisco Unified CM Topology View, choose **Monitor** > **System View** > **OpsView**. Click on a Unified CM cluster name, and then go to the **Topology** tab.

To access the Cisco VCS Topology View, choose **Monitor** > **System View** > **OpsView**. Click on a VCS cluster.

For Cisco Prime Collaboration Release 11.5 and later

To access the Cisco Unified CM Topology View, choose **Network Health Overview** > **OpsView**. Click on a Unified CM cluster name, and then go to the **Topology** tab.

To access the Cisco VCS Topology View, choose **Network Health Overview** > **OpsView**. Click on a VCS cluster.

You can also view the Topology tab from Device 360 View of Unified CM or VCS. Click the Cluster ID value in the Device 360 View. This launches the Cluster View page for that cluster. Now click **Topology** to launch the Topology View.

Cluster Topology—Components

For a Unified CM or VCS cluster, the following components or details (if applicable) appear:

Unified CM Cluster	VCS Cluster
Cluster Name	Cluster Name
Unified CM	VCS
Endpoints	Endpoints
Unknown Devices	Cisco TelePresence Management Suite (TMS)
Application Servers	Cisco TelePresence Conductor

Unified CM Cluster	VCS Cluster
Gateways (H323, MGCP, and SIP)	Cisco TelePresence Server
	Cisco Multipoint Control Unit
Cisco TelePresence Manager	-
Cisco IM and Presence	-
Cisco TelePresence Conductor	-
Cisco TelePresence Server	-
Cisco Multipoint Control Unit	-
Cisco Unity Connection	-
Cisco Unified Border Element	-
Cisco TelePresence Multipoint Switch	-
Cisco Unified MeetingPlace	-
Cisco Unified MeetingPlace Express	-
Cisco MediaSense	-
Cisco Unified Customer Voice Portal	-
Cisco Emergency Responder	-
Cisco Unity Express	-
Cisco Unified Contact Center Express	-
Cisco Unified Contact Center Enterprise	-

For Cisco Prime Collaboration Release 11.5 and later

Note For a Unified CM or VCS cluster, Cisco TelePresence Manager, Cisco TelePresence Multipoint Switch, and Cisco Unified MeetingPlace Express does not appear.

When you hover an Inter Cluster Trunk (ICT), the tool tip displays the following information:

- Source

- Gatekeeper IP

- Target

- Protocol

- Trunk Name

Click on the ICT icon to launch the Topology view for the ICT cluster. If you are using Internet Explorer version 11, when you click on the ICT icon, it will take a few moments to launch the Unified CM topology as the browser gets refreshed.

Note   If you do not have privileges for domains or customers to view the cluster, the ICT Cluster Topology view does not appear.

The link status of the links between the following are shown:

- Unified CM cluster—Unified CM, and MGCP, Voice Mail ports (Cisco Unity Connection with SCCP), Media Devices, CTI Ports, and CTI Route points

- VCS cluster—VCS, and MCU, and Cisco TelePresence Server

On hovering over the link, a tool tip appears to show the status of the link.

When a link between devices and Unified CM is down, you can click the link, to launch the Registered Devices tab. The list of devices is automatically filtered to show the devices with Registration Status as Unregistered. To view the registration status of other devices, filter on the Registration Status field.

If a Warning or Critical icon appears on the link, it denotes:

- Warning icon - Either Registration, or Link status is down.

- Critical icon - Registration and Link status, both are down.

View Information in the Cluster

You can view the following information from the cluster.

Viewing Options

You can choose to view:

- The IP Address or DNS of the devices or hide both the labels by selecting from the drop-down list available. By default, DNS is displayed. Hide label does not hide the labels for Inter Cluster Trunks and unmanaged endpoints.

- All devices or devices with alarms only (select Show Devices with Alarms check box). This is applicable only for devices in the cloud, and not the Unified CM or VCS node, Inter Cluster Trunks (ICTs), or Unmanaged Devices group.

- Cluster map in Distributed, Hierarchic or Circular layout by selecting from the drop-down list available. By default, the page displays Circular layout.

The preceding viewing options are preserved when you launch the cluster view from an earlier used browser.

If any group has more than 50 devices, by default it appears in a collapsed form. You have to expand to view the devices.

The page is refreshed every two minutes by default.

Endpoints in the Cluster

All endpoints part of the cluster are shown as a single group with an icon. Point to the group icon, to view the following details in the tool tip:

- Total Endpoints

- Registered Endpoints

- Unregistered Endpoints (Hard and Soft)

- Unknown Endpoints

You can click on the quick view icon of the endpoint group, and then click on the counts to launch the Endpoint Diagnostics page, which displays information filtered on the selected endpoints.

List of Unmanaged Devices in the Cluster

You can view the list of unmanaged devices in the cluster by clicking on the Unmanaged group icon. The Unmanaged Devices pop up window appears. The Unmanaged Devices table shows the Device IP Address/Host name, Type (device type), and Linked to information. You can search for a device using the Quick Filter or Advanced Filter

You can add or discover a device from the Unmanaged Devices page. Click the Add Device button to discover the devices from the Inventory Management.

Device Details

If you point your cursor on any device, you can view the IP Address, Host name, Status, and Capability of that device. Click on the device icon to launch its Device 360 degree view.

Database Replication Status for Cisco Unified Communications Manager Clusters

A green tick icon shows that Database replication successful between Cisco Unified Communications Managers in the cluster. A red cross shows that Database replication error between Cisco Unified Communications Managers in the cluster. This feature is applicable for Unified CM cluster only.

Alarm Details

Alarm icons appear next to the device when an alarm is raised on the device or the cluster. When an alarm is raised, it remains in the Topology View until it is cleared or manually cleared.

To view the alarms of a device, click on the device, The Device 360 degree view pop up window of the device appears, listing the alarms under the Alarm tab in the bottom pane of the window.

To view the cluster-level alarms, click on the alarm icon in the cluster cloud. The Cluster Alarm pop up window is displayed. Now click **Alarm Details** to cross launch to the Alarms & Events page. The Alarms are filtered according to the cluster.

You can also go to the Summary tab (Choose OpsView, and click on the cluster). In the Alarm Summary dashlet, click on the value of the **Total** column of the cluster. The Alarms & Events page is displayed. The Alarms are filtered according to the cluster.

Cluster level alarms are available for Unified CM clusters only.

> **Note** Information alarm is not displayed.
>
> Device icons are grayed out in the following conditions:
>
> • When the device is in Unreachable state in Inventory Management.
>
> • When the *deviceunreachable* alarm is raised on the device.

Search for Devices

You can search for devices by host name, and IP address using the search box in the Topology View pane. The device which matches the search query is highlighted with a box and moved to the center. If the search query matches two or more devices, all these devices are highlighted with a box.

When the searched device is part of a group that has more than 50 devices then:

• If the group is not been expanded before, then the entire group is highlighted. You have to expand the group to see the device, which is highlighted after expansion of group.

• If the group is expanded before, then the group expands by default, and the device is highlighted.

> **Note** Search for phones is not supported.

Connected Devices

The Connected Devices tab helps you perform a device search based on the Device Type, Registration Status, and IP filter.

Performance

The **Performance** tab displays pre-defined dashboards based on the Unified CM publisher node you select in the Ops View. You cannot select any other cluster node from the **Cluster or Device** drop-down list. It also allows you to create custom performance dashboards.

For custom dashboards that you create, you can enable historical trending. See section Create Custom Performance Dashboards.

Route Pattern Summary

The Route Pattern Summary displays information regarding utilization and call volume for each route group. It also displays the route lists or gateways configured in the cluster.

> **Note** Click the route group name link to launch the **Report** pop-up window. This window displays the utilization, call volume, and channel usage for the selected route group.

You can view the following information:

• Route List or Gateway

• Route Pattern associated with the Route Group

Device Search

The Device Search tab helps you perform a search for devices in the selected Unified CM cluster. For more details, see section Unified CM Device Search.

Endpoint Registration Summary

Provides a summary of the status of all the endpoints in the network. You can view a summary for hard endpoints (such as E20, Phones), soft clients (Cisco Unified Personal Communicator, Cisco IP Communicator, iPhone, Android, Cisco Jabber, and Client Services Framework [CSF]), and Jabber endpoints separately also.

Prerequisites

• All devices should be in managed state in Cisco Prime Collaboration Assurance.

• The cluster should be discovered in Cisco Prime Collaboration Assurance.

For Cisco Prime Collaboration Release 11.5 and later

Prerequisite

• The cluster should be discovered in Cisco Prime Collaboration Assurance.

The dashboard displays the summary as a pie chart or table. It provides information about the endpoints in the following modes:

• Unregistered—Endpoints that are not registered with Cisco Unified Communications Manager and VCS. Displayed in red. The count displayed for "Unregistered from UCM" includes the devices that are in Energy Save mode.

• Registered—Endpoints that are registered with Cisco Unified CM and Cisco VCS. Displayed in green. The count displayed for "Registered Hard Phones" includes the Cisco TelePresence endpoints.

• Unknown—Endpoints that are in Unknown state (registration status of the endpoints is unknown). Displayed in grey.

For Cisco Prime Collaboration Release 11.1 and earlier

Click the pie chart to view the Endpoint Health Troubleshooting window, which has the links to the following pages:

• Endpoint Diagnostics

• Phone Report

• UCM Troubleshoot

• VCS Troubleshoot

The phone counts shown in the UC Topology View, Diagnostics Summary View, and Endpoint Registration Summary dashlet will be in synchronized, with a maximum of 10 minutes delay. You can schedule cluster discovery to trigger this synchronization manually, if required. Cluster discovery will also resynchronize the registration status for all phones. If cluster discovery is not scheduled manually, synchronization takes place as part of nightly cluster discovery.

Availability Summary

Provides the most recent data about the devices listed under the Unified Communications device group.

The Availability Summary dashlet tracks a subset of supported critical events for each device type in Cisco Prime Collaboration Assurance and displays the device as **Down**. To view the list of events, see the Service Availability Summary Events. For event description and device type, see the Supported Alarms and Events for Cisco Prime Collaboration Assurance.

The X axis displays the number of applications. The Y axis displays the application type.

Green indicates applications that are active. Red indicates applications that are down.

Click the bar to open a popup that provides links to Cluster View and Alarms browser.

Note   This dashlet does not display any data when there are no devices added in Cisco Prime Collaboration Assurance.

Service Experience/Call Quality

The Service Experience dashboard helps you identify the most impacted TelePresence endpoints with call quality alarms, poor call quality locations, sessions with alarms, and call failure locations.

It contains the following dashlets:

- Top 5 Poor Voice Call Quality Locations

- Top 5 Call Failure Locations

- Top 10 TelePresence Endpoints with Call Quality Alarms

- Conference with Alarms

Note   The Call Quality dashlets display incorrect information if the location of the device is different from the location of the device pool that is assigned to the device. Ensure that you configure the same location at the device and the device pool level. The Location field displays the location that is configured on a device pool instead of the location that is configured on the device, when you set the device location to one of the system locations (Hub_None, Phantom, or Shadow).

For Cisco Prime Collaboration Release 11.5 and later

The Service Experience dashboard is renamed as Call Quality.

Top 5 Poor Voice Call Quality Locations

Provides information about the top five locations that experienced the poorest call quality in the last hour. You can view the call data older than the last hour from the CDR & CMR reports under Assurance Reports.

For Cisco Prime Collaboration Release 11.5 and later

Provides information about the top five locations that experienced the poorest call quality in the last hour. You can view the call data older than the last hour from the CDR & CMR reports under Reports.

The X axis shows the location. The Y axis shows the number of poor calls. The Z axis shows the percentage of poor calls, represented as bubbles. If the percentage of failed calls in a location is less than 0.5, the location is ignored.

If you have deployed Cisco Prime Collaboration Assurance in the Enterprise Mode, the Top 5 Poor Voice Call Quality Locations report contains data associated with a specific domain that you have selected in the global selection drop-down list (top-right of the home page).

If you have deployed Cisco Prime Collaboration Assurance in MSP Mode, the Top 5 Poor Voice Call Quality Locations report contains customer name, data that is associated with a specific customer (that is selected from Home > Customer Summary).

Note Cisco TelePresence call details are not included in this dashlet.

Click the bubble in the Z axis to view the following details:

- Cluster

- Poor calls

- Total calls

For Cisco Prime Collaboration Release 11.1 and earlier

Click **Troubleshoot** to open the Call Quality Troubleshooting page. The Call Quality Trend pane shows the poor calls for the last 24 hours, per location. The Impacted Devices pane shows the devices that were involved in the call for that particular hour. Click any bar in the Impacted Devices pane to open the Call Details pane.

Note To view the call details, phone access switch must be monitored or discovered from the phone using CDP neighbor discovery.

Top 5 Call Failure Locations

Displays the top five locations that experienced the most call failures in the last hour. Cisco Prime Collaboration Assurance aggregates the available CDR data at fixed time intervals and displays it in this dashlet.

The top five locations are chosen taking into account all the Cisco Unified Communications Manager clusters that are added in Cisco Prime Collaboration Assurance. For example, if three Cisco Unified Communications Manager clusters are added in Cisco Prime Collaboration Assurance, and each cluster has 30 locations, then the top five locations are chosen from among these 90 locations.

If there are fewer than five locations that are experiencing call failures, only those locations are shown. If the percentage of failed calls in a location is less than 0.5, the location is ignored.

If you have deployed Cisco Prime Collaboration Assurance in the Enterprise Mode, Top 5 Call Failure Locations report contains data associated with a specific domain that you have selected in the global selection drop-down (top-right of the home page).

If you have deployed Cisco Prime Collaboration Assurance in MSP mode, the Top 5 Call Failure Locations report contains customer name, data that is associated with a specific customer (that is selected from Home > Customer Summary).

You can click the bubble in the Z axis to view the following details:

- Cluster

- Failed Calls

- Total Calls

For Cisco Prime Collaboration Release 11.1 and earlier

Click **Troubleshoot** to open the Call Failure Troubleshooting page.

Top 10 TelePresence Endpoints with Call Quality Alarms

Displays the top 10 endpoints with call quality alarms (for packet loss, jitter, and latency).

You can click on the alarm data to launch the Alarms page.

Conference with Alarms

Displays the number of in-progress conferences with alarms.

You can launch the **360 Conference View** from this dashlet.

Alarm Dashboard

The Alarm dashboard helps you identify the most impacted TelePresence endpoints with alarms, devices with alarms, and infrastructure alarm summary.

For Cisco Prime Collaboration Release 11.5 and later

The Alarm dashboard helps you identify the most impacted TelePresence endpoints with alarms, devices with alarms, and device alarm summary.

It contains the following dashlets:

Top 10 TelePresence Endpoints with Alarms

Displays the top 10 TelePresence endpoints with alarms. You can click on the bar chart to open a quick view that has the summary of all the alarm severity count. The alarm count includes alarm with the severity Cleared.

By clicking on the Total alarms count, you can cross-launch to the Alarm browser to view the alarm details. You can view the graph for endpoints and service infrastructure devices.

Top 10 Devices with Alarms

Displays the top 10 devices with alarms. You can click on the bar chart to open a quick view that has the summary of all the alarm severity count. The alarm count includes alarms with the severity Cleared.

By clicking on the Total alarms count, you can cross-launch to the Alarm browser to view the alarm details. You can view the graph for endpoints and service infrastructure devices.

You can launch the Inventory Management and click either on the Endpoint or Service Infrastructure links to view the device details.

Note Clusters are not treated as devices and are not shown in this dashlet.

Infrastructure Alarm Summary/Device Alarm Summary

Displays the number of infrastructure devices with and without alarms. In addition, you can also view the number of devices, based on the alarm severity.

You can click on the total device data to launch the Inventory page. You can also click on the devices with alarms data to launch the Alarms and Events page.

By default, the information is displayed in a pie chart. The pie chart is updated when the user interface is refreshed. You can change this display to a table.

For Cisco Prime Collaboration Release 11.5 and later

Note Infrastructure Alarm Summary dashlet is renamed as Device Alarm Summary.

Utilization Monitor

The Utilization Monitor (**Monitor** > **Utilization Monitor**) page provides information about the trunks utilization, trunk/route groups utilization, location CAC bandwidth utilization, conferencing devices, and conductor bridge pool utilization.

Note Cisco Prime Collaboration Assurance supports SNMPv2c and SNMPv3 for managing the gateway. However, performance polling (GSU) with SNMPv3 is not supported in Cisco Prime Collaboration Assurance.

Trunk Utilization

For Cisco Prime Collaboration Release 11.1 and earlier

Provides information about the most utilized trunks in terms of channel usage.

You can view the utilization, associated gateway IP and name, and associated route group details.

Cisco Prime Collaboration Assurance allows you to configure maximum capacity for SIP trunks. Click the SIP Trunks Capacity Settings link, under SIP Trunk Max Capacity tab, select the Gateway that is a Border Element and select the IP of the Border Element. Specify the maximum number of calls that can go through the SIP Trunk.

Note You must have admin privileges to access the SIP Trunks Capacity Settings link.

Click the percentage link in the Utilization column to display a graph that plots trunk utilization against time. The data for the last polling cycle is displayed.

You can view popups that display the usage as a percentage when you place the cursor on the X axis coordinates for each four-minute interval. To open a detailed performance graph showing trunk or route usage, click the points on the graph or the channel utilization bar that correspond to the X axis coordinates.

Note HSRP-enabled devices are not supported in Cisco Prime Collaboration Assurance.

The following table provides an overview of the utilization report for various types of SIP trunks in Cisco Prime Collaboration Assurance.

Table 1: Utilization Report for SIP Trunk Types

SIP Trunk Type	Utilization Report	
	Data Source	**Support**
Intercluster Trunks	CDR	Available. These trunks do not display the data if the intercluster trunk is a Unified Communications Manager, and if you need to display the data correctly, these trunks should associate with a Voice Gateway.
SIP trunk connected to Cisco Unified Border Element (CUBE)	Polling the CUBE directly	Available
UCM SIP trunk (These trunks are not provided by service provider but are created by Enterprise administrator. For example, ICT, Trunk to WebEx, etc).	RTMT UCM SIP Performance Counter	NA. Only RTMT performance dashboard to check Call Volume at a given time.
SIP trunk not connected to CUBE (for example, ACME).	RTMT UCM SIP Performance Counter	NA. Only RTMT performance dashboard to check Call Volume at a given time.

Note You cannot monitor T1/E1 Channel Associated Signaling (CAS) trunk utilization on Cisco Integrated Services Routers (ISR) and Cisco ISR G2, as these platforms do not provide the required SNMP instrumentation.

For Cisco Prime Collaboration Release 11.5 and earlier

Note Cisco Prime Collaboration Assurance supports utilization only for the SIP Trunks that are connected to Cisco Unified Border Element (CUBE). Cisco Prime Collaboration Assurance does not support utilization for SIP trunks that are configured in Unified Communications Manager.

T1/E1 Trunks

For Cisco Prime Collaboration Release 11.5 and later

Provides information about the most utilized T1/E1 trunks in terms of channel usage.

You can view the utilization, associated gateway IP and name, and associated route group details.

Click the percentage link in the Utilization column to display a graph that plots trunk utilization against time. The data for the last polling cycle is displayed.

You can view popups that display the usage as a percentage when you place the cursor on the X axis coordinates for each four-minute interval. To open a detailed performance graph showing trunk or route usage, click the points on the graph or the channel utilization bar that correspond to the X axis coordinates.

Note HSRP-enabled devices are not supported in Cisco Prime Collaboration Assurance.

Note You cannot monitor T1/E1 Channel Associated Signaling (CAS) trunk utilization on Cisco Integrated Services Routers (ISR) and Cisco ISR G2, as these platforms do not provide the required SNMP instrumentation.

The following VG ISR4K Cube device versions does not support ISDN mib which will impact the T1/E1 trunk utilization (in Utilization Monitor API):

- 16.8.x

- 16.7.x

- 16.6.x

CUBE SIP Trunk

For Cisco Prime Collaboration Release 11.5 and later

Provides information about the most utilized SIP trunks in terms of channel usage.

You can view the SIP trunk utilization, the default value of the maximum concurrent calls, the value of maximum concurrent calls that is configured on Cisco Unified Border Element (CUBE), and associated CUBE IP details.

Note The 'Max Concurrent Calls (Configured on CUBE)' column contains the maximum calls that you configure at the dial-peer level in CUBE.

Cisco Prime Collaboration Assurance allows you to configure maximum concurrent calls for CUBE-connected SIP trunks. In the SIP Trunk page, check the check box corresponding to the SIP trunk that you want to configure. Click the **Set Max Concurrent Call** button to specify the maximum number of concurrent calls that can go through the SIP Trunk in Cisco Prime Collaboration Assurance.

Click the percentage link in the Utilization column to display a graph that plots SIP trunk utilization against time. The data for the last polling cycle is displayed.

You can view popups that display the usage as a percentage when you place the cursor on the X axis coordinates for each four-minute interval. To open a detailed performance graph showing trunk or route usage, click the points on the graph or the channel utilization bar that correspond to the X axis coordinates.

For Cisco Prime Collaboration Release 12.1 and later

You will be able to view the CUBE SIP Trunks with session server group configuration on the **Utilization Monitor** page **Monitor** > **Utilization Monitor** > **CUBE SIP Trunk** tab in Cisco Prime Collaboration Assurance User Interface.

In the **CUBE SIP Trunk** page, check the check box corresponding to the server group configuration to enable the Raise/Suppress buttons. By default, the alarms will be in **Raise** state. The state is updated only when you change it.

The **Alarm Status** column indicates whether the alarm can be raised or not.

The following table provides an overview of the utilization report for various types of SIP trunks in Cisco Prime Collaboration Assurance.

Table 2: Utilization Report for SIP Trunk Types

SIP Trunk Type	Utilization Report	
	Data Source	**Support**
Intercluster Trunks	CDR	Available. These trunks do not display the data if the intercluster trunk is a Unified Communications Manager, and if you need to display the data correctly, these trunks should associate with a Voice Gateway.
SIP trunk connected to Cisco Unified Border Element (CUBE)	Polling the CUBE directly	Available
UCM SIP trunk (These trunks are not provided by service provider but are created by Enterprise administrator. For example, ICT, Trunk to WebEx, etc).	RTMT UCM SIP Performance Counter	NA. Only RTMT performance dashboard to check Call Volume at a given time.
SIP trunk not connected to CUBE (for example, ACME).	RTMT UCM SIP Performance Counter	NA. Only RTMT performance dashboard to check Call Volume at a given time.

Note Cisco Prime Collaboration Assurance supports utilization only for the SIP trunks that are connected to Cisco Unified Border Element (CUBE). Cisco Prime Collaboration Assurance supports utilization for SIP trunks that are configured in Unified Communications Manager in the UCM SIP Trunk page.

For Cisco Prime Collaboration Release 11.6 and later

Cisco Prime Collaboration Assurance supports utilization for both CUBE-connected SIP trunks as well as SIP trunks that are configured in Unified Communications Manager.

Modify the Default Value of SIP Trunk Maximum Concurrent Calls

As a super administrator, system administrator or network operator, you can configure the default value of maximum concurrent calls for CUBE-connected SIP trunks.

Prerequisite - Root access feature is mandatory to perform this task, hence you should raise a TAC case to obtain root access.

To configure the default value of the maximum concurrent calls for SIP Trunks:

1. Log in as a root user.

2. Navigate to the `/opt/emms/cuom/gpf` folder and edit the *gpf.properties* file.

3. Find the line **SipTrunkMaxCapacity=100** and change the value from '100' to your desired numeric value.

4. To restart Cisco Prime Collaboration Assurance server, login as *root* and execute the following commands:

   a. **Stop the processes:**

   ```
   root@<hostname>~#/opt/emms/emsam/bin/cpcmcontrol.sh stop
   ```

   b. **Check the status of the processes** - Verify whether the processes have stopped:

   ```
   root@<hostname>~#/opt/emms/emsam/bin/cpcmcontrol.sh status
   ```

   c. **Restart the processes:**

   ```
   root@<hostname>~#/opt/emms/emsam/bin/cpcmcontrol.sh start
   ```

UCM SIP Trunks

For Cisco Prime Collaboration Release 11.6 and later

Provides information on all the SIP trunks that are connected to the Unified Communications Manager cluster.

UCM SIP Trunk is added as a tab on the Utilization Monitor page **Monitor** > **Utilization Monitor** > **UCM SIP Trunk** in Cisco Prime Collaboration Assurance User Interface.

You can view the SIP trunk utilization (audio and video maximum calls, and total active calls), the default value of the maximum concurrent calls, the SIP trunk status and flag.

Note The 'Utilization' column contains the utilization details for both audio and video calls.

Status	Description
Single	The SIP trunk is running on one node in the cluster.
Multiple	The SIP trunk is running on multiple nodes in the cluster.
Run On All Nodes	The SIP trunk is running on all nodes in the cluster.

Note   For SIP trunks with 'Single or Multiple' status, you can expand the particular SIP trunk from the SIP Trunk Name column to view an additional table that contains information on the remote destinations, and audio and video call status for each of the nodes.

Cisco Prime Collaboration Assurance allows you to configure maximum concurrent calls for audio or video for one or more SIP trunks. In the SIP Trunk page, check the check box corresponding to the SIP trunk that you want to configure. Click the **Max Concurrent Call** button to specify the maximum number of concurrent calls that can go through the SIP trunk in Cisco Prime Collaboration Assurance. The Audio Max Calls and the Video Max Calls columns are populated with the entered value. If you do not configure the audio and video maximum calls value by using the Max Concurrent Call option, a default value from Unified Communications Manager is used to populate the two columns.

For Cisco Prime Collaboration Release 12.1 SP4 and later

Update the status in the User Interface and the Database as **Under Maintenance** when you select one or more SIP trunk and click **Stop Monitoring**

Provide the latest status update in the User Interface and Database, as in the CUCM, for the selected SIP trunks after completing maintenance and when you click **Resume Monitoring**.

Note   • From the OpsView tab, you can also cross-launch to the UCM SIP Trunks page.

   • UCM SIP Trunks is not supported in MSP mode.

Route Group Utilization

Provides information about the most utilized route groups in terms of channel usage.

You can also view the utilization and associated cluster details. Click the percentage link in the Utilization column to display a graph that plots route group utilization against time. The data for the last polling cycle is displayed.

You can select a route group to view the Associated Gateways/Trunks table. The table contains information on the trunk, gateway name, and gateway IP. Click Save to add the selected trunk to the route group.

Note   Even if trunks are associated to the route group, if polling does not happen then No Data Available error is displayed.

Note   The Utilization column displays the "Trunks Not Selected" message if you do not select the trunk for a route group.

You can view popups that display the usage as a percentage when you place the cursor on the X axis coordinates for each four-minute interval. To open a detailed performance graph showing trunk or route usage, click the points on the graph or the channel utilization bar that correspond to the X axis coordinates.

For Cisco Prime Collaboration Release 11.1 and earlier

Cisco Prime Collaboration Assurance allows you to calculate the Route Group aggregation. Click the Route Group Aggregation Settings link, and in the Trunk Utilization Settings page, click the Route Group Aggregation tab. Select the Unified Communication System (UCS) cluster, Route Group, then select the Trunks that belong to the specified Route Group.

Note You must have admin privileges to access the Route Group Aggregation Settings link.

If Cisco Unified Border Element (CUBE) is configured with POTS dial-peers and/or T1/E1 voice interfaces, and you still cannot view any values in the Gateway field under the Trunk Utilization settings, enter the IOS IP address in the file */opt/emms/emsam/conf/cube_ip.txt* for identifying it as CUBE.

Troubleshooting

Issue: Unable to see the correct route groups.

Recommendation: Ensure that the route groups are associated to a route list in Unified Communication Manager and then rediscover.

Trunk Group Utilization

Provides information about most utilized trunk groups in terms of channel usage.

Note When polling for trunk groups does not happen, the No Data Available error message is displayed.

You can create user-defined trunk groups. Click the Trunk Group Settings link, and in the Trunk Utilization Settings page, click the Custom Trunk Group Management tab. Select the trunks and click the Add New Group button. The New Group dialog box is displayed. Fill in the details and click Save. A message notifies you that the group is created successfully. You can add other devices to an existing user-defined trunk group by clicking the Add to Group button. All user-defined groups are listed in the Custom Trunk Group pane on the left side of the user interface. You can use the search field available under the Custom Trunk Group pane to search for a user-defined trunk group. If these user-defined trunk groups are among the top ten utilized trunk groups, their utilization information appears on the dashlet under Trunk Groups.

Note You must have admin privileges to access the Trunk Group Settings link.

Click the percentage link in the Utilization column to display a graph that plots trunk utilization against time. The data for the last polling cycle is displayed.

You can view popups that display the usage as a percentage when you place the cursor on the X axis coordinates for each four-minute interval. To open a detailed performance graph showing trunk or route usage, click the points on the graph or the channel utilization bar that correspond to the X axis coordinates.

For Cisco Prime Collaboration Release 11.6 and later

Note In both Route Group Utilization and Trunk Group Utilization pages, the Unified Communications Manager SIP trunks are also listed that are used to calculate the utilization for both route groups and trunk groups.

Location CAC Bandwidth Usage

Provides information about the locations at which bandwidth usage is the highest.

You can view the location name, associated cluster, maximum bandwidth, utilization, and number of failed calls details.

Click the Failed Calls icon in the Calls Failed column to launch the Location Out of Resource performance graph.

By default, the table is sorted based on the number of failed calls.

If the maximum bandwidth value is set to Unlimited or None, polling does not occur and the table does not display any data.

Data is polled every 4 minutes.

Location polling in Cisco Prime Collaboration Assurance is performed from a Unified CM node where Location Bandwidth Manager service is enabled. The Location Bandwidth Manager run on any Unified CM subscriber or as a standalone service on a dedicated Unified CM server in the cluster. A minimum of one instance of Location Bandwidth Manager must run in each cluster to enable Enhanced Locations CAC in the cluster.

Note In Cisco Unified Communications Manager if the **Use Video Bandwidth for Immersive** parameter is set to True, Cisco Prime Collaboration Assurance does not poll the Immersive counters and the table does not display any data for Immersive Bandwidth.

Conferencing Devices

Displays the conferencing devices in your network.

You can see the following details:

- Status—Displays whether the device is normal, suspended or contains errors. You can click on the status icon to launch the Alarm browser.

  This icon is displayed when there is a critical service infrastructure, unreachable, or inaccessible alarm.

- Name and IP Address—You can click on the device name or IP address to launch it in a browser.

  Rest your mouse pointer over the Name column and click the quick view icon to view the:

    - Media Processing Engine, Call Control Process, Conference Manager, Security Key Exchange.

    - Audio Load, Video Load, Media Load, Video ports in use, Battery Status, Temperature Status and Voltage status (for MCU only).

    - CPU and memory utilization.

- Device Type

- Video Ports Used

- Audio Ports Used

- Master Conductor

Click the utilization value of Video Ports or Audio Ports Used columns to launch the Detailed Video Port Utilization or Detailed Audio Port Utilization graph. You can choose to view Utilization in percentage or Absolute Utilization, or both (click **All**). You can also use the slider and select a small time interval also (such as a minute) to view actual data for that interval. You can use this information to increase the number or ports according to the utilization.

Utilization is shown from when the device is in Managed State for the first time in Cisco Prime Collaboration Assurance. For example, the graph enables you to view data for 5 days by default, but data is shown for 4 days as the device is in Managed state for 4 days only.

Conductor Bridge Pool Utilization

Provides information about the cumulative utilization of the conference bridges for each conductor pool in your network.

You can see the following details:

- Status—Displays the status of the conductor pool, depending on the status of the conference bridges associated with each conductor pool. You can click on the status icon to cross-launch the Alarm browser to view the individual status of the conference bridges in the conductor pool.

- Pool name—You can click on the pool name to cross-launch the device window in a separate browser.

- Video Ports Used—Click the utilization value of Video Ports/Screen License Utilization columns to launch the Detailed Video Port Conductor Utilization graph. You can choose to view the Utilization in either percentage or absolute value. You can also use the slider and select a small time interval also (such as a minute) to view actual data for that interval. You can use this information to increase the number or ports according to the utilization. Utilization is shown from when the device is in Managed State for the first time in Cisco Prime Collaboration Assurance. For example, the graph enables you to view data for 7 days by default.

Note Cisco Prime Collaboration Assurance supports only the Screen License mode for Cisco TelePresence Conductor.

- Conference Bridge Type

- Conductor Name

Note At least one conference bridge has to be present in the conductor pool to display the utilization monitor.

TelePresence Endpoint

This dashboard helps you to identify the No Show endpoints, most commonly used and least used TelePresence endpoints, and endpoint models.

Note   IP Phones and Software Clients details are not included in the TelePresence Utilization reports.

For Cisco Prime Collaboration Release 12.1 SP4 and later

In IE browser , charts can be best viewed at page zoom of 100%.

For Cisco Prime Collaboration Release 12.1 SP2 and later

Prerequisites for Telepresence Endpoint

The following are required for Telepresence Endpoint:

- Unified CM and Cisco VCS must be in the Managed state.

- Endpoints and controllers, such as MCU must be in the Managed state.

- Ensure to set the visibility of the devices to "Full Visibility" state.

- JTAPI must be configured on Unified Communications Manager. For information on how to enable JTAPI on Unified Communications Manager, see the Configure Devices for Cisco Prime Collaboration Assurance.

- Cisco Prime Collaboration Assurance server must be registered as a feedback server in Cisco VCS.

- For Conference Diagnostics and Audio Phone Feature Synthetic Tests to work, ensure that CUCM is as per the listed version(s) before applying Cisco Prime Collaboration Assurance Service Pack 1 bundle. For more information, see Supported Devices for Cisco Prime Collaboration Assurance for 12.1 Service Pack 1.

It contains the following dashlets:

Top 10 Utilized TelePresence Endpoints

Displays the top 10 utilized endpoints in your network.

You can view the graph either by duration or conference.

- By duration—The utilization is by usage hours. For example, if the utilization is shown as 0.634 hours, it means the endpoint has been utilized for approximately 38 minutes (0.634 x 60).

- By conference—The utilization is by number of conference. Here, only *completed* conference are considered. If the number of conference is one, the value of the x-axis is displayed in decimals (0.2, 0.4...). If the number of conference is more than one, the value of the x-axis is displayed in absolute numbers (1, 2, 3...).

You can click on the bar chart to launch the All Conference Summary Report for the selected endpoint.

Top 10 Utilized TelePresence Endpoint Models

Displays the utilization, based on specific endpoint models.

You can view the data:

- For a day—The maximum utilization is ten hours. That is, if the utilization is 120 minutes for a day, the average utilization for a day is 20% ((120/[10*60])*100).

- For a week—The maximum utilization is 50 hours. That is, if the utilization is 1500 minutes for a week, the average utilization for a week is 50% ((1500/[50*60])*100).

- For four weeks—The maximum utilization is 200 hours. That is, if the utilization is 10,800 minutes for a month, the average utilization for a month is 90% ((10,800/[200*60])*100).

You can click on the bar chart to launch the Endpoint Utilization Report for the selected endpoint model.

Top 10 No Show TelePresence Endpoints

Displays the top 10 endpoints that did not participate in the scheduled conference.

You can click on the bar chart to launch the No Show Conference Summary Report for the selected endpoint.

Least 10 Utilized TelePresence Endpoints

Displays the least 10 utilized endpoints in your network.

You can view the graph either by duration or conference.

- By duration—The utilization is by usage hours. For example, if the utilization is shown as 0.634 hours, it means, the endpoint has been utilized for approximately 38 minutes (0.634 * 60).

  If the utilization is zero, this is not shown in the bar chart. To see this data, you should launch the tabular format.

- By conference—The utilization is by number of conference. Here, only *completed* conference are considered. If the number of conference is one, the value of the x-axis is displayed in decimals (0.2, 0.4...). If the number of conference is more than one, the value of the x-axis is displayed in absolute numbers (1, 2, 3...).

You can click on the bar chart to launch the All Conference Summary Report for the selected endpoint.

Least 10 Utilized TelePresence Endpoint Models

Displays the utilization, based on specific endpoint models. If the utilization is zero, this is not shown in the bar chart. To see this data you should launch the tabular format.

You can view the data:

- For a day—The maximum utilization is ten hours. That is, if the utilization is 120 minutes for a day, the average utilization for a day is 20% ((120/[10*60])*100).

- For a week—The maximum utilization is 50 hours. That is, if the utilization is 1500 minutes for a week, the average utilization for a week is 50% ((1500/[50*60])*100).

- For four weeks—The maximum utilization is 200 hours. That is, if the utilization is 10,800 minutes for a month, the average utilization for a month is 90% ((10,800/[200*60])*100).

You can click on the bar chart to launch the Endpoint Utilization Report for the selected endpoint model.

Number of TelePresence Conference

Displays the number of in-progress and completed conference. Click on the chart to launch the Conference Detail report for a particular conference.

The Conference data is aggregated for every two hours. For example, on a day, assume that you had only two conference. The first conference started at 01:00 hours and ended at 03:00 hours, and the second conference started from 02:20 hours and ended at 05:50 hours.

The data is displayed as:

- 0:00—Zero

- 2:00—1; an in-progress conference from 01:00 to 03:00 is displayed between 0:00 and 02:00 hours.

- 4:00—2; a completed conference from 01:00 to 03:00 and an in-progress conference from 02:20 to 05:50 are displayed between 02:00 and 04:00 hours.

- 6:00—1; a completed conference from 02:20 to 05:50 is displayed between 04:00 and 06:00 hours.

- 8:00—Zero; no conference occurred between 06:00 and 08:00 hours.

- 10:00—Zero

- 12:00—Zero

- ...

- 24:00—Zero; no conference occurred between 22:00 and 24:00 hours.

You can view the data as a chart or in a tabular format. You can also export the data into an Excel spreadsheet.

License Usage

The License Usage tab displays the licensing information for Prime License Manager (licenses usage of all UC applications), VCS (license usage for VCS clusters), CVP (license usage for CVP call servers), and Contact Center Enterprise License Usage(license usage for CCE). It contains the following portlets:

- Prime License Manager

- VCS License Usage

- Customer Voice Portal License Usage, on page 33

- Contact Center Enterprise License Usage, on page 33

Prime License Manager

The licensing information for voice is categorized under Prime License Manager licenses. This dashlet displays usage of all Unified Communications applications licenses (Cisco Unified CM and Cisco Unity Connection). Whenever the ELM and Unified CM co-reside, you must activate the Enterprise License Management Resource API manually. For a list, see Setting Up Devices for Cisco Prime Collaboration Assurance and Configure Devices for Cisco Prime Collaboration Assurance.

You can see the following details:

- License Type—Displays the different types of licenses available, such as, CUWLPremium, CUWLStandard, UCM Advanced, and so on.

- Product —The product type to which the license type belongs.

- Status—The status for a license type - valid, violated, demo.

- Remaining—Count of licenses available or unused, for each license type.

This dashlet is populated once, after nightly CDT discovery is completed, by default. This dashlet is also refreshed after every CDT discovery.

Troubleshooting

Issue: Standalone Prime Licensing Manager (PLM) shows as a non-Cisco Device in Cisco Prime Collaboration Assurance 11.6.

Recommended Action: This is likely to happen when PLM has a SNMP community string configured. To discover PLM correctly, ensure there is no community string configured. If it is, delete it and proceed to discover PLM in Cisco Prime Collaboration Assurance. Basically, PCA does not support SNMP community string configuration for PLM discovery.

Note Not every co-resident PLM uses OS-Admin user to get license information. It depends on the user roles created on CUCM. In most customer deployments, the web administrator has privileges assigned to the CLI/OS Admin. The Cisco Prime Collaboration Assurance can get the license information from this user.

VCS License Usage

You can view the Traversal and Non Traversal license usage for all VCS clusters, individual VCS servers in a cluster, standalone VCS server(s), Cisco Expressway-Core, Cisco Expressway-Edge or a Cisco VCS with Cisco Collaboration Edge or Core. For Cisco Expressway-Core and Cisco Expressway-Edge clusters, you can also view the peak number of calls since last restart in the **Expressway Peak Concurrent Video Calls** column.

Note The licenses must be installed for the peak number of calls to be displayed. For VCS clusters, the column for peak number of calls displays N/A when the license is not installed or when the value is zero.

This dashlet does not auto refresh. You have to refresh the dashlet to get current data.

For VCS version 7.0 and later, any traversal or non-traversal call licenses that have been installed on a cluster peer are available for use by any peer in the cluster. For versions earlier than 7.0 licenses are not shared across the cluster; each peer can only use the licenses that are installed in it.

The number of licenses that can be installed on any one individual peer is limited to the maximum capacity of each VCS unit, as follows:

- 500 non-traversal calls
- 100 traversal calls
- 2,500 registrations

The registration licenses are not shared across a cluster. If a cluster peer becomes unavailable, the shareable licenses installed on that peer will remain available to the rest of the cluster peers for two weeks from the time the cluster lost contact with the peer. This will maintain the overall license capacity of the cluster - however, each peer is still limited by its physical capacity as listed above. After this two week period, the licenses associated with the unavailable peer are removed from the cluster. To maintain the same capacity for your cluster, you should ensure that either the problem with the peer is resolved or new option keys are installed on another peer in the cluster.

Customer Voice Portal License Usage

The Customer Voice Portal (CVP) License Usage is categorized under Prime License Manager licenses. This dashlet displays the license usage of CVP call server.

Prerequisites:

- CVP with call server capability must be in managed state in Inventory Management.

- Contact Center Assurance License must be available.

This dashlet display entries based on polling data time interval. The default polling interval is 4 minutes.

This dashlet displays the latest count of polled records for the last 7 days.

You can view the following details:

- Device - CVP call server

- Ports In Use - Number of ports used

- Ports Available - Number of available ports

- Ports Requested - Number of ports requested

- Ports Requests Denied - Number of denied port request

When Contact Center Assurance License expires, the CVP license dashlet does not display the license usage of CVP call server. To continue to use this feature, you must purchase required number of Cisco Prime Collaboration Contact Center Assurance concurrent agent licenses. For more information on licensing, see the Manage License chapter.

Note Click the values (other than zero) under the various columns to display the respective graphs that plot the columns field against time.

Troubleshooting

1. **Issue**: CVP License Usage dashlet displays **No Data Available**.

   Recommended Action: check the following conditions are met.

   - CVP device must be in managed state in Inventory Management.

   - CVP device must have call server capability.

2. **Issue**: CVP License Usage dashlet display entries, but value of the ports display as zero or keeps changing.

   Recommended Action: As CVP License Usage dashlet display entries based on polling data time interval, the value of ports display as zero or keeps changing.

Contact Center Enterprise License Usage

This dashlet displays the license usage of Unified Contact Center Enterprise (Unified CCE).

Prerequisites:

- Unified CCE Router or Unified CCE Peripheral Gateway must be in managed state in Inventory Management.

• Contact Center Assurance License must be available.

This dashlet displays the latest count of polled records for the last 7 days.

You can view the following details:

• Device - Device Name

• Capability - Capability of the device such as router or peripheral gateway

• Agents Logged On - Number of agents currently logged on

This dashlet displays entries based on polling data time interval. The default polling interval is 1 minute.

When Contact Center Assurance License expires, the Unified CCE license dashlet does not displays the license usage of Contact Center Enterprise. To continue to use this feature, you must purchase the required number of Cisco Prime Collaboration Contact Center Assurance concurrent agent licenses. For more information on licensing, see the Manage License chapter.

Note Click the values (other than zero) under **Agents Logged On** column to display the respective graphs that plot the columns field against time.

Troubleshooting

1. **Issue**: Unified CCE License Usage dashlet displays **No Data Available**.

   Recommended Action: Check the following conditions are met.

   • Unified CCE device must be in managed state in Inventory Management.
   • Unified CCE device must have either Unified CCE Router or Unified CCE PG capability or both.

2. **Issue**: Unified CCE License Usage dashlet displays entries, but **Agents Logged On** value display as zero or keeps changing.

   Recommended Action: As Unified CCE License Usage dashlet displays entries based on polling data time interval, the value of **Agents Logged On** display as zero or keeps changing.

Customer Summary Dashboard

You can view detailed information on endpoints, infrastructure devices, and a logical top-level view of the network of a particular customer through the Customer Summary dashboard.

If you have deployed Cisco Prime Collaboration Assurance in MSP mode, you can view the following dashboards from the Cisco Prime Collaboration Assurance home page:

Dashboard	Description
Customer Summary	Information about alarm, endpoints, and inventory aggregated per customer.

Dashboard	Description
For Cisco Prime Collaboration Release 11.1 and earlier TelePresence Exchange	Information about cluster node, call and session control devices, region summary, and conferencing devices. **Note** If CTX devices are not managed, no data is populated in any of the dashlets.

The Customer Summary dashboard provides information about alarm, endpoints, conference alarms and inventory aggregated per customer. It contains the following dashlets:

Dashlet	Description
Alarm Summary	Displays the list of alarms consolidated per customer based on the severity. Each customer level it gives the total alarms based on the Severity. You can see the following details: • Customer • Total • Critical • Major • Minor • Warnings
Device Summary	Displays the list of alarms consolidated per customer based on the severity. Each customer level it gives the total alarms based on the severity. You can see the following details: • Customer • Total • Managed • Unmanaged • Suspended

Dashlet	Description
Endpoint Summary	Displays the list of endpoints for each category, based on the Registration status, per customer. You can see the following details: • Customer • Total -Registered • Total -Unregistered • Hard Endpoints -Registered • Hard Endpoints -Unregistered • Soft Clients -Registered • Soft Clients -Unregistered
Conferences in Alarms	Displays the number of in-progress conferences with alarms. You can see the following details: • Conference Structure • Conference Type • Watched Conferences • **For Cisco Prime Collaboration Release 11.1 and earlier** Troubleshooting Status • Conference Subject • Scheduler's Org • Start Time
Voice Call Quality Events Summary	Displays summary of active Service Quality (SQ) events with the impacted endpoints. Active SQ events data for the last four hours and the summary of impacted endpoints count are displayed.

Contact Center Assurance Dashboards

The Cisco Prime Collaboration Contact Center Assurance performance dashboards help you to monitor your network by providing near real-time information about the Contact Center components such as Cisco Unified Intelligence Center (CUIC), Finesse, MediaSense, Customer Voice Portal (CVP), Unified Contact Center Enterprise (Unified CCE), Unified Contact Center Express (Unified CCX), and Virtualized Voice Browser.

For Finesse, you can see these dashlets only—System Summary, CPU and Memory, Disk Usage, and Process.

Note If clustering has been configured for CUIC, Finesse, and MediaSense devices the dashboard will also display data for associated devices that belong to a cluster.

If you have deployed Cisco Prime Collaboration Assurance in Enterprise mode, to view the dashboards, go to **Monitor** > **System View** > **Performance**, select the product and cluster from the Cluster drop-down list and then select the required dashboard from the Dashboard drop-down list.

If you have deployed Cisco Prime Collaboration Assurance in MSP mode, to view the dashboards, go to **Monitor > System View > Customer Summary**, click a customer's name and then click Performance. Select the product and cluster from the Cluster drop-down list and then select the required dashboard from the Dashboard drop-down list.

For Cisco Prime Collaboration Release 11.5 and later

If you have deployed Cisco Prime Collaboration Assurance in Enterprise mode, to view the dashboards, go to **Network Health Overview** > **Performance**, select the product and cluster from the Cluster drop-down list and then select the required dashboard from the Dashboard drop-down list.

If you have deployed Cisco Prime Collaboration Assurance in MSP mode, to view the dashboards, go to **Network Health Overview** > **Customer Summary**, click a customer's name and then click Performance. Select the product and cluster from the Cluster drop-down list and then select the required dashboard from the Dashboard drop-down list.

For Cisco Prime Collaboration Release 12.1 and later

Note   The cluster has to be discovered with all the nodes for displaying the information on the report exported. The polling happens only for the discovered nodes.

Contact Center Assurance Topology Dashboard

Cisco Prime Collaboration Assurance Advanced provides you with the logical top-level view of an entire IP-based Contact Center, where the Unified Contact Center devices, managed by Cisco Prime Collaboration Assurance, are displayed in a simple topology.

The Contact Center topology lets you view the entire set of devices in an IP-based Contact Center, considered as primary data center (represented as side A in the topology), which is connected to a secondary data center (represented as side B) via the private and public clouds.

If you have deployed Cisco Prime Collaboration Assurance in Enterprise Mode, go to **Monitor** > **System View** > **OpsView** > **Contact Center Topology**.

For Cisco Prime Collaboration Release 11.5 and later

If you have deployed Cisco Prime Collaboration Assurance in Enterprise Mode, go to **Network Health Overview** > **Contact Center Topology**.

If you have deployed Cisco Prime Collaboration Assurance in MSP mode, all devices that are managed by Cisco Prime Collaboration Assurance, for a specific customer, are displayed in this dashboard. To navigate to the Contact Center Topology page: go to the Home page, click a customer (Customer Summary > Customer name). Click Contact Center Topology to view the corresponding Topology for that customer. Managed IP address is displayed for devices in the topology view.

For the clouds (public and private clouds) in the topology, the corresponding interface information, which has been configured, is displayed.

Click on the performance counter name or value (displayed below each device icon in the topology) to view the performance dashboard for that counter in a new tab. For more information on Performance dashboard, see Create Custom Performance Dashboards.

The Contact Center Assurance topology focuses on relationship between various devices in a contact center. Rest your mouse-pointer over a device to view the IP address and host name details. The following devices are displayed in the Contact Center Topology dashboard.

For a list of devices, see Supported Devices for Cisco Prime Collaboration Assurance.

For Cisco Prime Collaboration Release 11.6 and later

The following table lists the link status between devices in the Unified Contact Center:

Device 1	Device 2	Link Status
IPCC	VRU PG	Yes
IPCC	Agent PG	Yes
VRU PG	CVP Call Server	Yes
CVP	VXML Gateway	No
Agent PG	CUCM	Yes
CUCM	Media Sense	Yes
Agent PG	Finesse	Yes
AW/HDS	CUIC	Yes
UCCE Router	Public Cloud	Yes
UCCE Router	Private Cloud	Yes
UCCE Router	CTI	Yes
CTI	CTIOS	Yes
UCCE Router	MR PG	Yes
VRU PG	CVP Reporting Server	No
UCCE Router	Logger	No
UCCE Router	AW/HDS	Yes
CVP	Virtualized Voice Browser (VVB)	No

Note You can view Virtualized Voice Browser (VVB) devices in the Contact Center Assurance topology, when VVB is integrated with CVP 11.5 and later versions.

You can select Contact Center deployment router pair from the **Select Any Router** drop-down list. The topology is displayed for the selected router pair. If a router is deleted from inventory, then the drop-down list does not list the deleted router and corresponding side (Side A or Side B) to which that router belongs to does not appear in the topology.

This is applicable only if you have deployed Cisco Prime Collaboration Assurance in Enterprise mode.

Troubleshooting through Topology View

In the Contact Center Assurance topology view, alarm icons appear next to the device when an alarm is generated on the device. The topology also helps you troubleshoot the issue by allowing a quick launch to

the Device 360° view when you rest the mouse over the device IP address. From the Device 360° view, you can see the Alarm and Interface. It also allows you to perform a trace route, ping the device, or go the Alarms and Events page. For details on Device 360° view, see "Managing Inventory" chapter in the Cisco Prime Collaboration Assurance Guide - Advanced.

For a device with alarms, the highest severity of the alarm only will be displayed. When an alarm is generated, it remains in the Contact Center Assurance topology view until it is cleared. The cleared alarm is removed after you invoke the Cisco Prime Collaboration Assurance purge operation.

If you have deployed Cisco Prime Collaboration Assurance in the MSP mode, the shared components are managed under a common deployment. For the device that is shared, you can view the IP address only. If you do not have access to devices that are shared, you cannot launch Device 360° for them (shared devices will be in the view-only mode for those customers who have no access to such devices).

Note

- If you have deployed Cisco Prime Collaboration Assurance in the MSP mode, topology view is not supported in cases where you manage both shared (4 K Shared Contact Center) and dedicated deployment models.

- The topology view is automatically refreshed every two minutes.
- Cisco Prime Collaboration Assurance supports single Unified CCE enterprise deployment only.
- Expand/collapse icons are available for abstract devices only.
- Unified CCE Topology is not supported if more than one peripheral gateway (PG) server is managed in either side. Delete the additional peripheral gateways (PGs) from Inventory Management for the topology to launch successfully.

View Historical Trends

Historical trending is enabled by default for the dashlets (CPU Usage, Virtual Memory Usage, and Common Partition Usage) under the System Summary dashboard. Click **Zoom** at the bottom-right corner of the dashlet to view the Trend View graph.

Prerequisites

All devices should be in managed state in Cisco Prime Collaboration Assurance. In case of clusters, all the nodes should be in managed state.

For voice devices (Cisco Unified CM, Cisco Packaged Contact Center Enterprise, Cisco Unified Presence, Cisco Unity Connection, Cisco Media Sense, Cisco Finesse, Cisco Unified IC, and Cisco Unified Contact Center Express), along with the system-defined dashboards, you can also view trends for the device related metrics.

For Cisco Prime Collaboration Release 11.5 and later

For voice devices (Cisco Unified CM, Cisco Packaged Contact Center Enterprise, Cisco Unified Presence, Cisco Unity Connection, Cisco Media Sense, Cisco Finesse, Cisco Unified IC, Cisco Unified Contact Center Express, and Cisco Virtualized Voice Browser), along with the system-defined dashboards, you can also view trends for the device related metrics.

Note

- The device related metrics vary based on the device type you select.

- Historical trending is not supported for non-voice devices such as Cisco Unified CCE, Cisco Voice Portal, MCU/TPS, Cisco Unified Border Element, Cisco Voice Gateways, Cisco Unified Communications Manager Express, and ISDN Gateway.

Trend Dashboard

To view trends for metrics, select **Trend** from the Dashboard drop-down list and then from the Metrics Selection dialog box, select the metrics for which you want to enable trend, and click **Add**. You can select any number of metrics that you want, but we recommend that you select only a maximum of six metrics for every device type.

You can also perform the following:

- View data either as a chart or in a tabular format.

- Compare the trends for two or more performance metrics by clicking the **Merge** option.

- Click **Zoom** to view the trend graph in a detailed view. This option also helps you view the history, hourly average, maximum, and minimum data. Using the zoom selector graph displayed in the detailed view, you can adjust the pointer in the time window (x axis) of the graph to view the trend for the selected time period.

- Add more trends using the Add Graph (+) button at the top-right corner of the user interface.

- Change the chart type.

Customer Voice Portal (CVP)

Cisco Prime Collaboration Assurance provides you the call server based CVP dashboards, which are system defined and available when you add the Customer Voice Portal. It also allows you to create custom dashboards based on your monitoring needs. For details on the performance counters, see the Operations Guide for Cisco Unified Customer Voice Portal.

To view the dashboards, go to **Monitor** > **System View** > **Performance**, select CVP and cluster from the Cluster drop-down list and then select the required dashboard from the Dashboard drop-down list. Information related to the selected dashboard is displayed in different dashlets, and each dashlet displays the Server details, Current Usage and Maximum value received in the last three minutes.

Note For the data to be displayed for CVP dashboards in Cisco Prime Collaboration Assurance, turn on the Cisco CVP Call Server and Cisco CVP VXML services in the Customer Voice Portal and enable the ICM, SIP, and IVR subsystems under the CVP Call Server on the operations console (OAMP).

System Summary

Displays information about total memory, page faults per second, handle count, Cisco ICM router calls, and services.

Available Bytes

Displays the amount of physical memory, in bytes, immediately available for allocation to a process or for system use.

Committed Bytes

Display the amount of committed virtual memory, in bytes.

Processor Time

Displays the amount of time a process takes to run, including all the small amounts of time the CPU spends on the process.

Threads

Displays a single sequence of instructions. A process (a running instance of a program) consists of one or more threads.

Page Faults Per Second

Displays the average number of pages faulted per second. It is measured in number of pages faulted per second because only one page is faulted in each fault operation; hence this is also equal to the number of page fault operations.

Call Server ICM Aggregate Statistics

Displays total lookup requests, total number of calls, total number of switch legs, and VRU legs.

Call Server Stats ICM Total Lookup Requests
Displays the total number of external Unified CVP VXML Server call routing requests sent to the Unified ICM application since system start time. Calls originating in an external Unified CVP VXML Server need call routing instructions from the Unified ICM application.

Call Server Stats ICM Total Calls
Displays the total number of new calls received by the Unified ICM application for follow-on VRU treatment and routing to a Contact Center agent since system start time.

Call Server Stats ICM Total SIP Switch Legs
Displays the number of VoIP calls received by the ICM application from the Session Initiation Protocol (SIP) since system start time.

Call Server Stats ICM Total VRU Legs
Displays the number of calls that have received VRU treatment from the Unified ICM application since system start time. The VRU treatment includes playing pre-recorded messages, asking for Caller Entered Digits (CED) or Speech Recognition Techniques to understand the customer request.

Call Server ICM Interval Statistics

Displays lookup requests, number of new calls received, number of SIP switch legs, and VRU legs

Call Server Stats ICM Interval SIP Switch Legs
Displays the number of calls received by the ICM application from SIP during the current interval. The Unified ICM application accepts VoIP calls that originate from the Session Initiation Protocol (SIP).

Call Server Stats ICM Interval Lookup Requests
Displays the number of external Unified CVP VXML Server call routing requests sent to the Unified ICM application during the current interval. Calls originating in an external Unified CVP VXML Server need call routing instructions from the Unified ICM application.

Call Server Stats ICM Interval VRU Legs

Displays the number of calls receiving VRU treatment from the Unified ICM application. The VRU treatment includes playing pre-recorded messages, asking for Caller Entered Digits (CED) or speech recognition techniques to understand the customer request during the current interval.

Call Server Stats ICM Interval New Calls

Displays the number of new calls received by the Unified ICM application for follow-on Voice Response Unit (VRU) treatment and routing to a Contact Center agent during the current interval.

Call Server ICM Real Time Statistics

Displays information about active calls, VRU Legs, SIP Switch Legs, and the Lookup Requests.

Call Server Stats ICM Active VRU Legs

Displays the current number of calls receiving Voice Response Unit (VRU) treatment from the Unified ICM server. The VRU treatment includes playing pre-recorded messages, asking for Caller Entered Digits (CED) or Speech Recognition Techniques to understand the customer request.

Call Server Stats ICM Active SIP Switch Legs

Displays the number of calls received by the Unified ICM Server from the SIP protocol. Active SIP Switch Legs indicates the current number of calls received by the ICM Server from the Unified CVP Call Server using the SIP protocol.

Call Server Stats ICM Active Lookup Requests

Displays the current number of external VXML Server call routing requests sent to the ICM Server. Calls originating from an external Unified CVP VXML Server need call routing instructions from the Unified ICM Server.

Call Server Stats ICM Active Calls

Displays the current number of calls being serviced by the ICM Server for a Unified CVP Call Server. This value represents a count of calls currently being serviced by the ICM for the Unified CVP Call Server for follow-on routing to a Contact Center agent.

Call Server Infrastructure JVM Real Time Statistics

Displays information about real time JVM threads in use, total memory, peak memory usage, peak threads usage, current memory usage and available memory.

Call Server Stats RT JVM Threads In Use

Displays the number of threads currently in use in the Java Virtual Machine. This number includes all of the Unified CVP standalone and thread pool threads, and those threads created by the Web Application Server running within the same JVM.

Call Server Stats RT JVM Total Mem

Displays the amount of memory in megabytes available to the Java Virtual Machine. The number indicates how much system memory is available for the Java Virtual Machine.

Call Server Stats RT JVM Peak Mem Usage

Displays the greatest amount of memory used by the Java Virtual machine since startup. The number reported is in megabytes and indicates the peak amount of memory ever used simultaneously by this Java Virtual Machine.

Call Server Stats RT JVM Peak Threads

Displays the greatest amount of threads used simultaneously in the Java Virtual Machine since startup. The peak number of threads used by the Java Virtual Machine includes all Unified CVP standalone and thread pool threads, and threads created by the Web Application Server running within the same JVM.

Call Server Stats RT JVM Current Mem Usage

Displays the current number of megabytes of memory used by the Java Virtual Machine.

Call Server Stats RT JVM Avail Mem

Displays the amount of available memory in the Java Virtual Machine. The number reported is in megabytes and indicates how much of the current system memory claimed by the Java Virtual Machine is not currently being used.

Call Server Infrastructure Thread Pool Real Time Statistics

Displays real time idle pool threads, maximum threads used, running pool threads, maximum threads that exists and core pool threads statistics.

Call Server Stats RT Idle Pool Threads

Displays the number of idle threads waiting for some work.

Call Server Stats RT Max Threads Used

Displays the maximum number of thread pool threads ever simultaneously tasked with some work to process.

Call Server Stats RT Running Pool Threads

Displays the number of running thread pool threads currently processing some work.

Call Server Stats RT Max Threads

Displays the maximum number of thread pool threads that will ever exist simultaneously.

Call Server Stats RT Core Pool Threads

Displays the number of thread pool threads that will never be destroyed no matter how long they remain idle.

Call Server IVR Aggregate Statistics

Displays maximum and average HTTP requests received per second interval, total HTTP requests received, maximum calls aggregate, and maximum HTTP requests processed.

Call Server Stats IVR Max HTTP Req Sec Inter Aggregate Statistics

Displays the current number of simultaneous HTTP requests processed per second by the IVR Service. Maximum number of active HTTP requests processed at the same time since the IVR service started. This is also known as high water marking.

Call Server Stats IVR Max HTTP Requests Inter Aggregate Statistics

Displays the current number of simultaneous HTTP requests processed by the IVR Service.

Call Server Stats IVR Avg HTTP Req Sec Inter Aggregate Statistics

Displays the average number of simultaneous HTTP requests processed per second by the IVR Service.

Call Server Stats IVR Max Calls Agg

Displays the maximum number of simultaneous calls processed by the IVR Service since the service started.

Call Server Stats IVR Total HTTP Req Agg

Displays the number of HTTP Requests received from all clients. This metric is the total number of HTTP Requests received by the IVR Service since system startup.

Call Server IVR Call Interval Statistics

Displays calls finished interval, maximum calls interval, minimum call latency interval, new calls interval, average call latency interval, and maximum call latency interval statistics.

Call Server Stats IVR Calls Finished Inter

Displays the number of Unified CVP Calls that have finished during this interval. A Call, for the purpose of the Call Finished metric, includes both the Switch leg and the IVR leg of the Unified CVP call. When both legs of the call are finished, the *Calls Finished* metric increases.

Call Server Stats IVR Max Calls Inter

Displays the maximum number of calls handled by the IVR service at the same time during this interval.

Call Server Stats IVR Min Call Latency Inter

Displays the minimum amount of time in milliseconds that the IVR Service takes to process a New Call Request or a Request Instruction Request.

Call Server Stats IVR New Calls Inter

Displays the number of New Call requests received from the IOS Gateway. A New Call includes the Switch leg of the call and the IVR leg of the call. This metric counts the number of New Call Requests received by the IVR Service.

Call Server Stats IVR Avg Call Latency Inter

Displays the average amount of time in milliseconds that the IVR Service takes to process a New Call or Call Result Request.

Call Server Stats IVR Max Call Latency Inter

Displays the maximum amount of time in milliseconds that the IVR Service takes to process a New Call Request or a Request Instruction Request.

Call Server IVR HTTP Interval Statistics

Displays maximum & average HTTP requests received per second interval and maximum & active HTTP requests interval statistics.

Call Server Stats IVR Max HTTP Req Sec Inter
Displays the number of HTTP Requests the IVR Service receives each second from all clients. Peak HTTP Requests per Second is the maximum number of HTTP Requests that were processed by the IVR Service in any given second. This is also known as high water marking.

Call Server Stats IVR Max HTTP Requests Inter
Displays the maximum number of HTTP Requests received from a client by the IVR Service during this time interval.

Call Server Stats IVR Avg HTTP Req Sec Inter
Displays the average number of HTTP Requests the IVR Service receives per second.

Call Server Stats IVR Active HTTP Requests Inter

Displays the current number of simultaneous HTTP requests being processed by the IVR Service. Peak Active Requests is a metric that represents the maximum simultaneous HTTP requests being processed by the IVR Service during this time interval.

Call Server IVR Real Time Statistics

Displays IVR active calls and active HTTP requests statistics.

Call Server Stats IVR Active Calls

Displays the number of active calls being serviced by the IVR service.

Call Server Stats IVR Active HTTP Requests

Displays the number of active HTTP requests being serviced by the IVR service.

Call Server SIP Agent Greeting Aggregate Statistics

Displays total greeting answered and total greeting failed.

Call Server Stats SIP Total Greeting Answered

Displays the total number of calls for which agent greeting was successful since the system start time.

Call Server Stats SIP Total Greeting Failed

Displays the total number of calls for which agent greeting failed since the system start time.

Call Server SIP Agent Greeting Interval Statistics

Displays interval greeting answered and interval greeting failed statistics.

Call Server Stats SIP Int Greeting Answered

Displays the number of calls for which agent greeting was successful during the interval.

Call Server Stats SIP Int Greeting Failed

Displays the number of calls for which agent greeting was failed during the interval.

Call Server SIP Aggregate Statistics

Displays information about average LAT first & second aggregate, fail XFR pre & post aggregate, connects received post aggregate, and NC subs aggregate statistics.

Call Server Stats SIP Avg LAT Second Agg

Displays the average latency computation for the calls that have been answered in the second and subsequent transfers.

Call Server Stats SIP Fail XFR Post Agg

Displays the number of failed re-invite requests on the inbound or outbound legs of the call since start time. After a SIP dialog is established, re-INVITE messages perform transfers. Re-invite requests can originate from the endpoints or initiated by a Unified CVP transfer from the Unified ICME script. This counter includes failures for re-invite requests.

Call Server Stats SIP Conn Recpt Post Agg

Displays the number of Connect messages received by SIP service to perform a Unified CVP Transfer, since system start time. Connects Received includes the regular Unified CVP transfers, and Refer transfers. Any label coming from the ICM service is a Connect message, whether it is a label to send to the VRU or a label to transfer to an agent.

Call Server Stats SIP Avg LAT First Agg

Displays the average latency computation for the calls that have been answered in the first transfer.

Call Server Stats SIP Fail XFR Pre Agg
Displays the total number of failed transfers on the first CVP transfer since system start time. A SIP dialog is established after the first CVP transfer finishes. The metric does not include rejections due to SIP being out of service. The metric includes failed transfers that are after a label is returned from the ICM in a CONNECT message.

Call Server Stats SIP NC Subs Agg
Displays the number of SIP Invite messages received by Unified CVP since system start time. It includes the failed calls, and calls rejected due to the SIP service being out of service.

Call Server SIP Interval Statistics

Displays connects received interval, NC subs interval, average LAT second interval, fail XFR pre & post interval, and interval post call answered statistics.

Call Server Stats SIP Conn Recpt Inter

Displays the number of CONNECT messages received by SIP service in order to perform a call Transfer, in the last statistics aggregation interval. Connects Received includes the regular Unified CVP transfers as well as Refer transfers. Any label coming from the ICM service is considered a CONNECT message, whether it is a label to send to the VRU or a label to transfer to an agent.

Call Server Stats SIP NC Subs Inter
Displays the number of SIP Invite messages received by Unified CVP in the current interval. It includes the failed calls, and calls rejected due to the SIP service being out of service.

Call Server Stats SIP Avg LAT Second Inter
Displays the period of time between the CONNECT from ICM and when the call is answered. The metric includes the average latency computation for the calls that have been answered in the last statistics aggregation interval.

Call Server Stats SIP Int Post Call Answered
Displays the number of service calls answered during the interval.

Call Server Stats SIP Fail XFR Post Inter
Displays the number of failed re-invite requests on either the inbound or outbound legs of the call during the interval. After a SIP dialog is established, re-INVITE messages perform transfers. Re-invite requests can originate from the endpoints or else be initiated by a Unified CVP transfer from the Unified ICME script. This counter includes failures for both kinds of re-invite requests.

Call Server Stats SIP Fail XFR Pre Inter
Displays the number of failed SIP transfers since system start time. When Unified CVP attempts to make a transfer to the first destination of the call, it sends the initial INVITE request to set up the caller with the ICM routed destination label. The metric does not include rejections due to the SIP Service not running. The metric includes failed transfers that were made after a label was returned from the ICM Server in a CONNECT message.

Call Server SIP Real Time Statistics

Displays number of greeting calls, active calls, whisper calls, total calls.

Call Server Stats SIP Greeting Calls

Displays the total number of greeting calls handled by the SIP service.

Call Server Stats SIP Active Calls

Displays a real time snapshot metric indicating the count of the number of current calls being handled by the SIP service.

Call Server Stats SIP Whisper Calls

Displays the total number of whisper calls handled by the SIP service.

Call Server Stats SIP Total Calls

Displays the total number of calls being handled by the SIP service. The metric includes incoming, outgoing, and ringtone type calls. For each active call in the SIP service, there will be an incoming call, and an outgoing call to the destination of the transfer label.

Call Server SIP Whisper Announcement Interval Statistics

Displays interval whisper answered and interval whisper failed statistics.

Call Server Stats SIP Int Whisper Failed

Displays the number of calls for which whisper announcement was failed during the interval.

Call Server Stats SIP Int Whisper Answered

Displays the number of calls for which whisper announcement was successful during the interval.

Call Server SIP Whisper Announcement Statistics

Displays total whisper answered and total whisper failed.

Call Server Stats SIP Total Whisper Answered

Displays the total number of call for which whisper announce was successful since the system start time.

Call Server Stats SIP Total Whisper Failed

Displays the total number of calls for which whisper announce failed since the system start time.

VXML Infrastructure JVM Memory Real Time Statistics

Displays information about real time JVM available memory, total memory, current memory usage, uptime, and peak memory usage.

VXML Server Stats RT JVM Avail Mem
Displays the amount of available memory in the Java Virtual Machine. The number reported is in megabytes and indicates how much of the current system memory claimed by the Java Virtual Machine is not currently being used.

VXML Server Stats RT JVM Total Mem
Displays the amount of memory in megabytes available to the Java Virtual Machine. The number indicates how much system memory is available for the Java Virtual Machine.

VXML Server Stats RT JVM Current Mem Usage
Displays the current number of megabytes of memory used by the Java Virtual Machine.

VXML Server Stats RT JVM Uptime
Displays the time that the Java Virtual Machine has been running. This time is measured in hh:mm:ss and shows the amount of elapsed time since the Java Virtual Machine process began.

VXML Server Stats RT JVM Peak Mem Usage
Displays the greatest amount of memory used by the Java Virtual machine since startup. The number reported is in megabytes and indicates the peak amount of memory ever used simultaneously by this Java Virtual Machine.

VXML Infrastructure JVM Thread Real Time Statistics

Displays the number of threads currently in use and the peak number of threads used simultaneously in the Java Virtual Machine.

VXML Server Stats RT JVM Threads in Use

Displays the number of threads currently in use in the Java Virtual Machine. This number includes all of the Unified CVP standalone and thread pool threads, and those threads created by the Web Application Server running within the same JVM.

VXML Server Stats RT JVM Peak Threads

Displays the greatest amount of threads used simultaneously in the Java Virtual Machine since startup. The peak number of threads used by the Java Virtual Machine includes all Unified CVP standalone and thread pool threads, and threads created by the Web Application Server running within the same JVM.

VXML Infrastructure Thread Pool Real Time Statistics

Displays real time idle pool threads, core pool threads, maximum threads used, running pool threads, and maximum threads statistics.

VXML Server Stats RT Idle Pool Threads
Displays the number of idle threads waiting for some work.

VXML Server Stats RT Core Pool Threads
Displays the number of thread pool threads that will never be destroyed no matter how long they remain idle.

VXML Server Stats RT Max Threads Used
Displays the maximum number of thread pool threads ever simultaneously tasked with some work to process.

VXML Server Stats RT Running Pool Threads
Displays the number of running thread pool threads currently processing some work.

VXML Server Stats RT Max Threads
Displays the maximum number of thread pool threads that will ever exist simultaneously.

VXML Server Aggregate Statistics

Displays total sessions aggregate, lookup successes aggregate, lookup responses aggregate, lookup failures aggregate, lookup requests aggregate, and reporting events aggregate statistics.

VXML Server Stats Total Sessions Agg
Displays the number of sessions in the Unified CVP VXML server since startup.

VXML Server Stats ICM Lookup Successes Agg
Displays the number of requests from the Unified CVP VXML server to the ICM Service since startup. For each ICM lookup request that succeeded, this metric increases one.

VXML Server Stats ICM Lookup Responses Agg
Displays the number of responses the ICM Service has sent to the Unified CVP VXML server since startup. For each ICM lookup request (successful or failed), this metric increases by one. When multiple

response messages are sent back to the Unified CVP VXML server to a single request, this metric increases per response message from the ICM Service.

VXML Server Stats ICM Lookup Failures Agg
Displays the number of requests from the Unified CVP VXML server to the ICM Service since startup. For each ICM lookup request that failed, this metric increases by one. This metric will increase when an ICM failed message was received or in the case the Unified CVP VXML server generates a failed message.

VXML Server Stats ICM Lookup Requests Agg
Displays the number of requests from the Unified CVP VXML server to the ICM Service. For each ICM lookup request (successful or failed), this metric increases by one.

VXML Server Stats Reporting Events Agg
Displays the number of reporting events sent from the Unified CVP VXML server since startup.

VXML Server Interval Statistics

Displays reporting events interval, lookup success interval, lookup request interval, lookup responses interval, lookup failure interval, and session interval statistics.

VXML Server Stats Reporting Events Inter
Displays the number of events sent to the Reporting Server from the Unified CVP VXML server.

VXML Server Stats ICM Lookup Success Inter
Displays the number of successful requests from the Unified CVP VXML server to the ICM Service in the current interval.

VXML Server Stats ICM Lookup Request Inter
Displays the number of requests from the Unified CVP VXML server to the ICM Service.

VXML Server Stats ICM Lookup Responses Inter
Displays the number of responses to failed and successful ICM Lookup Requests that the ICM Service sends to the Unified CVP VXML server. In the case that multiple response messages are sent back to the Unified CVP VXML server to a single request, this metric increases per response message from the ICM Service.

VXML Server Stats ICM Lookup Failure Inter
Displays the number of requests from the Unified CVP VXML server to the ICM Service in the current interval. This metric increases when an ICM failed message is received or when the Unified CVP VXML server generates the failed message.

VXML Server Stats Session Inter
Displays the number of sessions in the Unified CVP VXML server.

VXML Server Real Time Statistics

Displays the number of active ICM lookup requests and active sessions statistics.

VXML Server Stats Active ICM Lookup Requests
Displays the number of current ICM requests being handled by the Unified CVP VXML server.

VXML Server Stats VXML Active Sessions
Displays the number of current sessions being handled by the Unified CVP VXML server.

Unified Contact Center Enterprise (Unified CCE)

Cisco Prime Collaboration Assurance provides you the Unified CCE dashboards, which are system defined and available when you add the Unified CCE. It also allows you to create custom dashboards based on your

monitoring needs. For details on the performance counters, see the Serviceability Best Practices Guide for Cisco Unified ICM/Contact Center Enterprise.

To view the dashboards, go to **Monitor** > **System View** > **Performance**, select Unified CCE and cluster from the Cluster drop-down list and then select the required dashboard from the Dashboard drop-down list. Information related to the selected dashboard is displayed in different dashlets, and each dashlet displays the Server details, Current Usage and Maximum value received in the last three minutes.

Note The Unified Contact Center Enterprise should be functioning, for the data to be displayed for Unified CCE dashboards in Cisco Prime Collaboration Assurance.

System Summary

Displays information about total memory, page faults per second, handle count, Cisco ICM router calls, and services.

Total Memory

Displays the total amount of virtual memory utilization on the system.

Page Faults Per Second

Displays the average number of pages faulted per second. It is measured in number of pages faulted per second because only one page is faulted in each fault operation; hence this is also equal to the number of page fault operations.

Handle Count

Displays the total count of handles currently open by this process. This number is equal to the sum of the handles currently open by each thread in this process.

Cisco ICM Router Calls

Displays the (calculated) inbound call rate measured in the number of calls received per second.

Services

Displays the name of the service, the status (whether the service is up, down, activated, stopped by the administrator, starting, stopping, or in an unknown state), and the elapsed time during which the services existed in a particular state for the server or for a particular server in a cluster (if applicable).

CTI SVR Agent Status

Displays the ready agent count & not ready agent count, logged in & logged out agent count, talking agent count, and work not ready agent count.

Ready Agent Count

Displays the number of Agents that are logged in and are ready to accept calls.

Work Not Ready Agent Count

Agents occupied with work associated with the last call. This implies that agent is no longer connected to the call. These agents are not ready to receive additional calls when they exit this state.

Not Ready Agent Count

Displays the number of Agents that are logged in, but occupied with tasks other than accepting incoming calls.

Logged In Agent Count

Displays the Agents that have logged in. This does not necessarily indicate that they are ready to accept calls.

Talking Agent Count

Displays the number of Agents currently talking on Inbound or Outbound calls.

Logged Out Agent count

Displays the number of Agents that are logged out of the system. This count helps in validating the statistics if there are any state mismatches.

CTI SVR Session Status

Displays sessions closed, sessions failed, sessions unknown, sessions open, total sessions, and sessions opening.

Sessions Closed
Displays the total number of sessions that are terminated by the CTI Server.

Sessions Failed
Displays the number of sessions that failed due to various reasons like missing heartbeat, open request timeout, session inactivity, and so on. These timers are configurable parameters in CTI Server.

Sessions Unknown
Displays the number of sessions for which there is no socket connection made yet.

Sessions Open

Displays the number of sessions that were successfully setup.

Total Sessions

Displays the total number of sessions maintained by CTI Server.

Sessions Opening

Displays the number of sessions that are in the process of setting up a connection.

CTI SVR Call Count

Displays active call count, private call count, cleared call count and deactivated call count.

Active Call Count
Displays the number of calls that are currently in progress.

Private Call Count
Displays the number of calls that are privately tracked by CTI Server and which are not reported to OPC.

Cleared Call Count
Displays the number of calls that no longer exist in the system.

Deactivated Call Count
Displays the number of calls that are not currently active and eventually cleared.

EAPIM Calls And Messages Count

Displays calls per second, messages per second, invalid call count, agent count, call count, and messages sent.

Calls Per Sec

Displays the number of incoming calls per second.

Messages Per Sec

Displays the number of call events, agent events exchanged per second between the JTAPI Gateway and CM PIM.

Invalid Call Count

Displays the number of calls that are not in any of the valid call states.

Agent Count

Displays the number of agents that are currently configured in system.

Call Count

Displays the number of calls that are in progress.

Messages Sent

Displays the number of call events, agent events, and CSTA messages sent today.

OPC SideA Agent Count

Displays sideA agent count, work ready & work not ready sideA agent count, ready & not ready sideA agent count, and talking sideA agent count.

Work Not Ready SideA Agent Count

Displays the agents occupied with work associated with the last call. This implies that agent is no longer connected to the call. These Agents are not ready to receive additional calls when they exit this state.

Ready SideA Agent Count

Displays the number of Agents that are logged in and are ready to accept calls.

Not Ready SideA Agent Count

Displays the number of Agents that are logged in, but occupied with task other than accepting incoming calls.

Talking SideA Agent Count

Displays the number of Agents currently talking on Inbound or Outbound calls.

SideA Agent Count

Displays the number of Agents that are configured in the system.

Work Ready SideA Agent Count

Displays the agents occupied with work associated with the last call. This implies that agent is no longer connected to the call and is ready to receive additional calls when they exit this state.

OPC Call Count

Displays alerting call count, failed call count, call count, queued call count, connected call count, and initiated call counts.

OPC Alerting Call Count

Displays the number of calls for which the device is in alerting (ringing) state. This indicates that a call wishes to become connected to a device.

OPC Failed Call Count

Displays the number of calls for which the normal state progression has been aborted. This state generally refers to the condition when a device tries to become connected to a call or a call tries to become connected to a device and the attempt fails. Failed can result because of failure to connect the calling device and call, failure to connect the called device and call, failure to create the call, and other reasons.

OPC Call Count

Displays the number of Calls that are currently active.

OPC Queued Call Count

Displays the number of calls for which the normal state progression has been stalled. This state generally refers to two conditions but can apply to others as well. One condition is when a device is trying to establish a connection with a call, and the process is stalled. The second condition is when a call tries to establish a connection with a device and that process is stalled.

OPC Connected Call Count

Displays the number of calls for which the device is actively participating in the call.

OPC Initiated Call Count

Displays the number of calls for which the device has requested for a service. Often this is the dialing state.

OPC SideA Skill Group And Service Count

Displays skill group count and services count.

OPC Skill Group Count

Displays a group of agents who share a common set of skills and who can, therefore, all handle specific types of calls. Each skill group contains one or more agents. If supported by the peripheral, each agent can be a member of more than one skill group. This counter gives the number of various skill groups available for the agents to sign in.

OPC Service Count

Displays the number of services that are configured to process the calls. A service is a type of processing the caller requires. A peripheral might have services defined for sales, technical support, or opening new accounts. Each service has one or more skill groups whose members can provide the service. Each skill group can be associated with more than one service.

VRUPIM Call and Messages Count

Displays VRUPIM new calls, pre routed calls, calls at VRU, messages to VRU, messages from VRU, and connection resets count.

VRUPIM New Calls

Displays the rate at which new calls arrive at the Voice Response Unit (VRU). New calls are calls not under ICM script control when arriving at a Service Control VRU.

VRUPIM Pre Routed Calls

Displays the rate at which Pre-Routed calls arrive at VRU. Pre-Routed calls are calls under ICM script control when arriving at a Service Control VRU.

VRUPIM Calls at VRU

Displays the number of calls that are currently at VRU. For a VRU that only uses a Call Routing Interface, this value is zero.

VRUPIM Messages To VRU

Displays the rate at which messages are sent to VRU. This counter is active only when enabled in ICM registry.

VRUPIM Messages From VRU

Displays the rate at which messages are received from VRU. This counter is active only when enabled in ICM registry.

VRUPIM Connection Resets

Displays the number of times the TCP connection between ICM and the Voice Response Unit changed from an established state to a closed state since the application started.

ICM Router Call Status

Displays number of calls in the router, router calls, calls in queue, and calls in progress.

ICM Router Calls in Router

Displays the number of active calls in the Router, including the calls sent to VRU for treatment or queuing and the calls the Router is waiting for response from the routing client.

ICM Router Calls

Displays the (calculated) inbound call rate measured in the number of calls received per second.

ICM Router Calls In Queue

Displays the number of calls queued in all network Voice Response Units (VRUs), from the Router's perspective, including those calls that are in the process of transferring to the VRU for queuing.

ICM Router Calls In Progress

Displays the number of calls currently in progress (being controlled by the CCE application).

ICM Router Status

Displays router rejection percentage, router size in KB, messages processed, maximum & average process time, and congestion level.

ICM Router Rejection Percentage

Displays the number of calls rejected due to high call rates.

ICM Router State Size in KB

Displays the current Router state size - the total size of all of the state transfer objects in Router memory; this size is measured in kilobytes. After one Router side goes out of service, when it returns in-service, the Router state is transferred from the surviving Router side to the returning Router side.

ICM Router Messages Processed

Displays the number of MDS messages Router processed. By default, this counter is disabled.

ICM Router Max Process Time in ms

Displays the maximum time (in milliseconds) the Router spends processing a MDS message.

ICM Router Avg Process Time

Displays the average time the Router spends processing a MDS message.

ICM Router Congestion Level

Displays the number of calls queued or blocked due to high call rates.

ICM Logger DB Write

Displays write average time, write records processed, and number of DB writes.

ICM Logger Number of DB Write

Displays the number of database writes (records/rows) in the historical logger process that is written to the database at the time the counter is polled.

ICM Logger DB Write Average Time

Displays the average amount of time, in 100 nanosecond units, required to write data to a table in the central controller database. This value represents the average time per write of the write operations that occurred in the past second. This object is a good indicator of contention for database access.

ICM Logger DB Write Records Processed

Displays the number of records processed – written to the database – in the Historical Logger Process in the past second.

ICM Distributor Real Time Agent Queue

Displays agent queue depth, skill group queue depth, agent DB write average time & write records processed, and agent skill group DB write records processed & write average time.

ICM Distributor Real Time Agent Queue Depth

Displays the queue depth – number of pending write transactions – for the Agent table in the Real-time Client process.

ICM Distributor Real Time Agent Skill Group Queue Depth

Displays the queue depth – number of pending write transactions – for the Agent Skill Group table in the Real-time Client process.

ICM Distributor Real Time Agent DB Write Records Processed

Displays the number of Agent table records written by the Real-time Client process in the past 1 second interval.

ICM Distributor Real Time Agent DB Write Average Time

Displays the average time - in units of 100 ns - for the Real-time Client process to write an Agent table transaction within the past 1 second interval.

ICM Distributor Real Time Agent Skill Group DB Write Average Time

Displays the average time - in units of 100 ns - for the Real-time Client process to write an Agent Skill Group table transaction within the past 1 second interval.

ICM Distributor Real Time Agent Skill Group DB Write Records Processed

Displays the number of Agent Skill Group table records written by the Real-time Client process in the past 1 second interval.

Distributor Real Time Route DB Write

Displays the number of write records processed, queue depth, and average time taken to write an route table transaction.

ICM Distributor Real Time Route DB Write Average Time

Displays the average time – in units of 100 ns – for the Real-time Client process to write an Route table transaction within the past 1 second interval.

ICM Distributor Real Time Route DB Write Records Processed

Displays the number of Route table records written by the Real-time Client process in the past 1 second interval.

ICM Distributor Real Time Route Queue Depth

Displays the queue depth – number of pending write transactions – for the Route table in the Real-time Client process.

Distributor Real Time Service DB Write

Displays service DB write records processed, queue depth, and average time.

ICM Distributor Real Time Service DB Write Records Processed

Displays the number of Service table records written by the Real-time Client process in the past 1 second interval.

ICM Distributor Real Time Service Queue Depth

Displays the queue depth – number of pending write transactions – for the Service table in the Real-time Client process.

ICM Distributor Real Time Service DB Write Average Time

Displays the average time – in units of 100 ns – for the Real-time Client process to write an Service table transaction within the past 1 second interval.

Distributor Real Time Skill Group DB Write

Displays skill group write records processed, average time, and queue depth.

ICM Distributor Real Time Skill Group DB Write Records Processed

Displays the number of Skill Group table records written by the Real-time Client process in the past 1 second interval.

ICM Distributor Real Time Skill Group Queue Depth

Displays the queue depth – number of pending write transactions – for the Skill Group table in the Real-time Client process.

ICM Distributor Real Time Skill Group DB Write Average Time

Displays the average time – in units of 100 ns – for the Real-time Client process to write an Skill Group table transaction within the past 1 second interval.

Distributor Real Time CallType DB Write

Displays call type DB write average time, records processed, and queue depth.

ICM Distributor Real Time Call Type DB Write Average Time

Displays the average time – in units of 100 ns – for the Real-time Client process to write an CallType table transaction within the past 1 second interval.

ICM Distributor Real Time Call Type DB Records Processed

Displays the number of CallType table records written by the Real-time Client process in the past 1 second interval.

ICM Distributor Real Time Call Type Queue Depth

Displays the queue depth – number of pending write transactions – for the CallType table in the Real-time Client process.

Distributor Replication DB Write

Displays distributor replication DB average time and records processed.

ICM Distributor Replication DB Write Average Time
Displays the average time – in units of 100 nanoseconds – for database write operations in the HDS Replication process during the past 1 second interval.

ICM Distributor Replication DB Records Processed
Displays the number of records written by the HDS Replication process in the past 1 second interval.

Cisco Unified Intelligence Center

Cisco Prime Collaboration Assurance provides you the Cisco Unified Intelligence Center dashboards, which are system defined and available when you add Cisco Unified Intelligence Center. Cisco Prime Collaboration Assurance also allows you to create custom dashboards based on your monitoring needs. For details on the performance counters, see the Administration Console User Guide for Cisco Unified Intelligence Center .

To view the dashboards, go to **Monitor** > **System View** > **Performance**, select Intelligence Center and cluster from the Cluster drop-down list and then select the required dashboard from the Dashboard drop-down list. Information related to the selected dashboard is displayed in different dashlets, and each dashlet displays the Server details, Current Usage and Maximum value received in the last three minutes.

Prerequisites:

- Cisco Unified Intelligence Center must be managed in Cisco Prime Collaboration Assurance.

- Cisco Unified Intelligence Center of version 9.x and later must be reachable for the data to be displayed for Cisco Unified Intelligence Center dashboards in Cisco Prime Collaboration Assurance.

The following are the newly supported Cisco Unified Intelligence Center dashboards:

System Summary

Displays information about CPU usage, Virtual Memory usage, Common Partition Usage, and the Critical Services status. As a system administrator you can monitor the System Summary dashlets to analyze the slow response of the system.

CPU Usage

Displays the real time CPU usage and the maximum value in the past 3 minutes.

Limitation: You have to use other reports also to monitor the system at the per-process level to determine which process or processes are causing CPU issues.

Virtual Memory Usage

Displays the real-time Virtual Memory usage and the maximum value in the past 3 minutes.

Common Partition Usage

Displays the real-time Common Partition Usage and the maximum value in the past 3 minutes.

Services

Displays the name of the service, the status (whether the service is up, down, activated, stopped by the administrator, starting, stopping, or in an unknown state), and the elapsed time during which the services existed in a particular state for the server or for a particular server in a cluster (if applicable).

> **Note** If the service status is displayed as Unknown State, the system cannot determine the state of the service.

CPU and Memory

Displays information about CPU usage, virtual memory usage, memory usage, and processors for the server.

CPU Usage

Displays the total CPU that is consumed, and the maximum CPU that is consumed in the last 3 minutes.

Virtual Memory Usage

Displays the total virtual memory that is consumed, and the maximum virtual memory that is consumed in last 3 minutes.

Memory Usage

Displays the following information:

- % VM Used: Represents the percentage of system virtual memory utilization on the system. The value of the % VM Used counter is equal to the value that is derived from either of the following two equations:

```
(Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes +
Shared KBytes + Used Swap KBytes ) / (Total KBytes + Total Swap
KBytes)
```

```
Used VM KBytes / Total VM KBytes
```

- Total: Represents the total amount of memory in the system in kilobytes.

Used

Represents the amount of system physical memory that is in use, in kilobytes, in the system. The value of the Used KBytes counter is equal to the value that is derived from the following equation:

```
Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes + Shared
KBytes
```

The Used KBytes value is different from the Linux Used value that is shown in top or free command output. The used value that is shown in Linux top or free command output is equal to `Total KBytes - Free KBytes`, and it also includes the sum of Buffers KBytes and Cached KBytes.

Free

Represents the total amount of memory that is available in the system, in kilobytes.

Shared

Represents the amount of shared memory in the system, in kilobytes.

Buffers

Represents the capacity of buffers in the system, in kilobytes.

Cached

Represents the amount of cached memory, in kilobytes.

Total Swap

Represents the total amount of swap space, in kilobytes, in the system.

Used Swap

Represents the amount of swap space, in kilobytes, that is in use on the system.

Free Swap

Represents the amount of free swap space, in kilobytes, that is available in the system.

Processors

Displays the following information:

- Processor: Instance of the processor. For example, a a quad-core CPU has four processors: 0, 1, 2, and 3.

- % CPU: The processor's share of the elapsed CPU time excluding the idle time since last update, expressed as a percentage of CPU time.

- User: Displays the percentage of CPU utilization that the CPU spent executing at the user level (application).

- Nice: Displays the percentage of CPU utilization that the CPU spent executing at the user level with nice priority.

- System: Displays the percentage of CPU utilization that the CPU spent executing at the system level (kernel).

- Idle: Displays the percentage of time that the CPU or CPUs were idle and the system did not have an outstanding disk I/O request.

- IRQ: Displays the percentage of time that the processor spent executing the interrupt request, which is assigned to devices for interrupt, or sending a signal to the computer when it finished processing.

- Soft IRQ: Displays the percentage of time that the processor spent executing the software interrupt (softirq), which means that task switching is deferred until later to achieve better performance.

- IO Wait: Displays the percentage of time that the CPU or CPUs were idle, during which the system had an outstanding disk I/O request.

Disk Usage

Displays information about disk usage on the node. It has the following dashlets: Common Partition Usage, Swap Partition Usage, Spare Partition Usage, Shared Memory Partition Usage, Active Partition Usage, Boot Partition Usage.

Each of the dashlets displays the following information:

Used

Represents the percentage of disk space that is in use on this file system.

Max Past 3 min

Represents the percentage of disk space that is in use on this file system in the past 3 minutes.

Used Space

Represents the amount of disk space, in megabytes, that is in use on this file system.

Total Space

Represents the amount of total disk space, in megabytes, that is on this file system. The number in this counter may differ from other total size values for disk space that you may see on the system, because the value of the Total Mbytes counter is the sum of Used Mbytes performance counter and the Free value that is shown in the CLI (show status) output. The Total Mbytes value is less than this CLI output for Total, which includes the minfree percentage of reserved file system disk blocks. Keep a minfree reserved to ensure a sufficient amount of disk space for the file system to operate at high efficiency.

Process

Displays information about the processes that are running on the node.

Process

Name of the process.

PID

The task's unique process ID, which periodically wraps, although it never restarts at zero.

& CPU

The task's share of the elapsed CPU time since the last update and is expressed as a percentage of total CPU time.

Status

The task's process status:

- 0: Running

- 1: Sleeping

- 2: Uninterruptible disk sleep

- 3: Zombie

- 4: Traced or stopped (on a signal)

- 5: Paging

- 6: Unknown

Shared Memory

The amount of shared memory, in kilobytes, that a task is using. Other processes could potentially share the same memory.

Nice

The nice value of the task. A negative nice value indicates that the process has a higher priority while a positive nice value indicates that the process has a lower priority. If the nice value equals zero, do not adjust the priority when you are determining whether to run the task.

VmRSS

The virtual memory (Vm) resident set size (RSS) that is currently in physical memory in kilobytes, including Code, Data, and Stack.

VmSize

The total amount of virtual memory, in kilobytes, that the task is using. It includes all code, data, shared libraries, and pages that have been swapped out: Virtual Image = swapped size + resident size.

VmData

The virtual memory usage of the heap for the task in kilobytes.

Thread Count

The number of threads that are currently grouped with the task. The negative value −1 indicates that this counter is currently not available because thread statistics (including all performance counters in the Thread object as well as the Thread Count counter in the Process object) have been turned off because the system's total processes and threads have exceeded the default threshold value.

Datastack Size

The stack size for task memory status.

Page Fault Count

The number of major page faults that a task encountered that required the data to be loaded into memory.

Historical Data Aggregated

Displays information about the reporting engine info report historical runtime total.

Reporting Engine Info Report Historical Runtime Total

Displays the total amount of seconds spent running reports.

Tomcat

The Tomcat provides information about Tomcat non-secure and secure Hypertext Transport Protocol (HTTP) connectors. A Tomcat Connector represents an endpoint that receives requests and sends responses.

The Connector handles HTTP/HTTPS requests and sends HTTP/HTTPS responses that occur when Cisco Unified Intelligence Center web pages are accessed.

It displays information about MBytes received, MBytes sent, threads busy, threads maximum, connector errors, and connector requests.

Cisco Tomcat Connector MBytes Received

Displays the total number of data received by the Tomcat connector.

Cisco Tomcat Connector MBytes Sent

Displays the total number of data that the Tomcat connector has sent.

Cisco Tomcat Connector Threads Busy

Displays the Tomcat connector's current number of busy/in-use request processing threads.

Cisco Tomcat Connector Threads Max

Displays the Tomcat connector's maximum number of request processing threads.

Cisco Tomcat Connector Errors

Displays the total number of HTTP errors (for example, 401 Unauthorized) encountered by the Tomcat connector.

Cisco Tomcat Connector Requests

Displays the total number of requests that have been handled by the Tomcat connector.

Live Data

Displays information about live messages processed, live messages processed size, live messages processing latency, live messages received size, live messages received, and live messages transmitted.

Reporting Engine Info Live Messages Processed

Displays the total number of Live Data messages processed to OpenFire.

Reporting Engine Info Live Messages Processed Size

Displays the total size of Live Data messages processing (bytes) to OpenFire.

Reporting Engine Info Live Messages Processing Latency

Displays the total amount of time spent in processing the Live Data milliseconds(ms) to OpenFire.

Reporting Engine Info Live Messages Received Size

Displays the total size of Live Data messages received (bytes) from the streaming data sources.

Reporting Engine Info Live Messages Received

Displays the total number of Live Data messages received from the streaming data sources.

Reporting Engine Info Live Messages Transmitted

Displays the total number of Live Data messages transmitted from the streaming data sources.

Tomcat JVM

The Tomcat Java Virtual Machine (JVM) object provides information about the Tomcat JVM, which represents, among other things, a pool of common resource memory used by Unified Intelligence Center.

Displays information about the KBytes memory free, KBytes memory maximum, and KBytes memory total.

Cisco Tomcat JVM KBytes Memory Free

Displays the amount of free dynamic memory block (heap memory) in the Tomcat Java Virtual Machine. The dynamic memory block stores all objects created by Tomcat and its web applications such as Unified Intelligence Center. When the amount of free dynamic memory is low, more memory is automatically allocated and total memory size (represented by the KbytesMemoryTotal counter) increases up to the maximum (represented by the KbytesMemoryMax counter). You can determine the amount of memory in use by subtracting KBytesMemoryFree from KbytesMemoryTotal.

Cisco Tomcat JVM KBytes Memory Max

Displays the maximum dynamic memory block size for the Unified Intelligence Center Tomcat Java Virtual Machine.

Cisco Tomcat JVM KBytes Memory Total

Displays the current total dynamic memory block size - including free and in-use memory - for the Tomcat Java Virtual Machine.

Realtime Data

Displays the report realtime cells retrieved, report realtime completed, report realtime running, report realtime runtime, report realtime waiting, and report realtime rows retrieved.

Reporting Engine Info Report Realtime Cells Retrieved

Displays the total number of cells (rows times columns) that have been retrieved from all data sources.

Reporting Engine Info Report Realtime Completed

Displays the total number of reports that have been successfully executed.

Reporting Engine Info Report Realtime Running

Displays the number of reports that are currently running. A report is currently running when the Runnable object has been assigned a thread from the pool. It does not include those that are waiting in a queue for a thread to become available.

Reporting Engine Info Report Realtime Runtime

Displays the total amount of seconds spent running reports.

Reporting Engine Info Report Realtime Waiting

Displays the total number of reports that are currently queued for execution.

Reporting Engine Info Report Realtime Rows Retrieved

Displays the total number of rows that have been retrieved by Unified Intelligence Center from data sources.

Realtime Interval

Displays information about report realtime cells retrieved interval, report realtime completed interval, report realtime running interval, report realtime runtime interval, report realtime waiting interval, and report realtime rows retrieved interval.

Reporting Engine Info Report Realtime Cells Retrieved Interval

Displays the total number of cells (rows times columns) that have been retrieved from all data sources over the last interval.

Reporting Engine Info Report Realtime Completed Interval

Displays the change of counter Report (H/RT) Completed over the last interval.

Reporting Engine Info Report Realtime Running Interval

Displays the interval measurement of the Report (H/RT) Running counter.

Reporting Engine Info Report Realtime Runtime Interval

Displays the change of counter Report (H/RT) Runtime over the last interval.

Reporting Engine Info Report Realtime Waiting Interval

Displays the change of counter ReportRealtimeWaiting over the last interval.

Reporting Engine Info Report Realtime Rows Retrieved Interval

Displays the interval measurement of the Report (H/RT) RowsRetrievedTotal counter.

Historical Data

Displays the report historical cells retrieved, report historical completed, report historical rows retrieved, report historical running, report historical runtime, and report historical waiting.

Reporting Engine Info Report Historical Cells Retrieved

Displays the total number of cells (rows times columns) that have been retrieved from all data sources.

Reporting Engine Info Report Historical Completed

Displays the total number of reports that have been successfully executed.

Reporting Engine Info Report Historical Rows Retrieved

Displays the total number of rows that have been retrieved by Unified Intelligence Center from data sources.

Reporting Engine Info Report Historical Running

Displays the number of (H/RT) reports that are currently running. A report is currently running when the Runnable object has been assigned a thread from the pool. It does not include those that are waiting in a queue for a thread to become available.

Reporting Engine Info Report Historical Runtime

Displays the total amount of seconds spent running reports.

Reporting Engine Info Report Historical Waiting

Displays the total number of reports that are currently queued for execution.

Historical Data Interval

Displays information about the report historical cells retrieved interval. report historical completed interval, report historical rows retrieved interval, report historical running interval, report historical runtime interval, and report historical waiting interval.

Reporting Engine Info Report Historical Cells Retrieved Interval

Displays the total number of cells (rows times columns) that have been retrieved from all data sources over the last interval.

Reporting Engine Info Report Historical Completed Interval

Displays the change of counter Report (H/RT) Completed over the last interval.

Reporting Engine Info Report Historical Rows Retrieved Interval

Displays the interval measurement of the Report (H/RT) RowsRetrievedTotal counter.

Reporting Engine Info Report Historical Running Interval

Displays the interval measurement of the Report (H/RT) Running counter.

Reporting Engine Info Report Historical Runtime Interval

Displays the change of counter Report (H/RT) Runtime over the last interval.

Reporting Engine Info Report Historical Waiting Interval

Displays the change of counter ReportRealtimeWaiting over the last interval.

Cisco MediaSense

Cisco Prime Collaboration Assurance provides you the MediaSense dashboards, which are system defined and available when you add Cisco MediaSense. Cisco Prime Collaboration Assurance also allows you to create custom dashboards based on your monitoring needs. For details on the performance counters, see the Cisco MediaSense User Guide.

To view the dashboards, go to **Monitor** > **System View** > **Performance**, select MediaSense and cluster from the Cluster drop-down list and then select the required dashboard from the Dashboard drop-down list. Information related to the selected dashboard is displayed in different dashlets, and each dashlet displays the Server details, Current Usage and Maximum value received in the last three minutes.

Prerequisites:

- Cisco MediaSense must be managed in Cisco Prime Collaboration Assurance.

- Cisco MediaSense must be reachable, for the data to be displayed on MediaSense dashboards in Cisco Prime Collaboration Assurance.

The following are the newly supported Cisco MediaSense dashboards:

System Summary

Displays information about CPU usage, Virtual Memory usage, Common Partition Usage, and the Critical Services status. As a system administrator you can monitor the System Summary dashlets to analyze the slow response of the system.

CPU Usage

Displays the real time CPU usage and the maximum value in the past 3 minutes.

Limitation: You have to use other reports also to monitor the system at the per-process level to determine which process or processes are causing CPU issues.

Virtual Memory Usage

Displays the real-time Virtual Memory usage and the maximum value in the past 3 minutes.

Common Partition Usage

Displays the real-time Common Partition Usage and the maximum value in the past 3 minutes.

Services

Displays the name of the service, the status (whether the service is up, down, activated, stopped by the administrator, starting, stopping, or in an unknown state), and the elapsed time during which the services existed in a particular state for the server or for a particular server in a cluster (if applicable).

Note If the service status is displayed as Unknown State, the system cannot determine the state of the service.

CPU and Memory

Displays information about CPU usage, virtual memory usage, memory usage, and processors for the server.

CPU Usage

Displays the total CPU that is consumed, and the maximum CPU that is consumed in the last 3 minutes.

Virtual Memory Usage

Displays the total virtual memory that is consumed, and the maximum virtual memory that is consumed in last 3 minutes.

Memory Usage

Displays the following information:

- % VM Used: Represents the percentage of system virtual memory utilization on the system. The value of the % VM Used counter is equal to the value that is derived from either of the following two equations:

  ```
  (Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes +
  Shared KBytes + Used Swap KBytes ) / (Total KBytes + Total Swap
  KBytes)
  ```

  ```
  Used VM KBytes / Total VM KBytes
  ```

- Total: Represents the total amount of memory in the system in kilobytes.

Used

Represents the amount of system physical memory that is in use, in kilobytes, in the system. The value of the Used KBytes counter is equal to the value that is derived from the following equation:

```
Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes + Shared
KBytes
```

The Used KBytes value is different from the Linux Used value that is shown in top or free command output. The used value that is shown in Linux top or free command output is equal to `Total KBytes - Free KBytes`, and it also includes the sum of Buffers KBytes and Cached KBytes.

Free

Represents the total amount of memory that is available in the system, in kilobytes.

Shared

Represents the amount of shared memory in the system, in kilobytes.

Buffers

Represents the capacity of buffers in the system, in kilobytes.

Cached

Represents the amount of cached memory, in kilobytes.

Total Swap

Represents the total amount of swap space, in kilobytes, in the system.

Used Swap

Represents the amount of swap space, in kilobytes, that is in use on the system.

Free Swap

Represents the amount of free swap space, in kilobytes, that is available in the system.

Processors

Displays the following information:

- Processor: Instance of the processor. For example, a a quad-core CPU has four processors: 0, 1, 2, and 3.

- % CPU: The processor's share of the elapsed CPU time excluding the idle time since last update, expressed as a percentage of CPU time.

- User: Displays the percentage of CPU utilization that the CPU spent executing at the user level (application).

- Nice: Displays the percentage of CPU utilization that the CPU spent executing at the user level with nice priority.

- System: Displays the percentage of CPU utilization that the CPU spent executing at the system level (kernel).

- Idle: Displays the percentage of time that the CPU or CPUs were idle and the system did not have an outstanding disk I/O request.

- IRQ: Displays the percentage of time that the processor spent executing the interrupt request, which is assigned to devices for interrupt, or sending a signal to the computer when it finished processing.

- Soft IRQ: Displays the percentage of time that the processor spent executing the software interrupt (softirq), which means that task switching is deferred until later to achieve better performance.

- IO Wait: Displays the percentage of time that the CPU or CPUs were idle, during which the system had an outstanding disk I/O request.

Disk Usage

Displays information about disk usage on the node. It has the following dashlets: Common Partition Usage, Swap Partition Usage, Spare Partition Usage, Shared Memory Partition Usage, Active Partition Usage, Boot Partition Usage.

Each of the dashlets displays the following information:

Used

Represents the percentage of disk space that is in use on this file system.

Max Past 3 min

Represents the percentage of disk space that is in use on this file system in the past 3 minutes.

Used Space

Represents the amount of disk space, in megabytes, that is in use on this file system.

Total Space

Represents the amount of total disk space, in megabytes, that is on this file system. The number in this counter may differ from other total size values for disk space that you may see on the system, because the value of the Total Mbytes counter is the sum of Used Mbytes performance counter and the Free value that is shown in the CLI (show status) output. The Total Mbytes value is less than this CLI output for Total, which includes the minfree percentage of reserved file system disk blocks. Keep a minfree reserved to ensure a sufficient amount of disk space for the file system to operate at high efficiency.

Process

Displays information about the processes that are running on the node.

Process

Name of the process.

PID

The task's unique process ID, which periodically wraps, although it never restarts at zero.

& CPU

The task's share of the elapsed CPU time since the last update and is expressed as a percentage of total CPU time.

Status

The task's process status:

- 0: Running
- 1: Sleeping
- 2: Uninterruptible disk sleep
- 3: Zombie
- 4: Traced or stopped (on a signal)
- 5: Paging
- 6: Unknown

Shared Memory

The amount of shared memory, in kilobytes, that a task is using. Other processes could potentially share the same memory.

Nice

The nice value of the task. A negative nice value indicates that the process has a higher priority while a positive nice value indicates that the process has a lower priority. If the nice value equals zero, do not adjust the priority when you are determining whether to run the task.

VmRSS

The virtual memory (Vm) resident set size (RSS) that is currently in physical memory in kilobytes, including Code, Data, and Stack.

VmSize

The total amount of virtual memory, in kilobytes, that the task is using. It includes all code, data, shared libraries, and pages that have been swapped out: Virtual Image = swapped size + resident size.

VmData

The virtual memory usage of the heap for the task in kilobytes.

Thread Count

The number of threads that are currently grouped with the task. The negative value −1 indicates that this counter is currently not available because thread statistics (including all performance counters in the Thread object as well as the Thread Count counter in the Process object) have been turned off because the system's total processes and threads have exceeded the default threshold value.

Datastack Size

The stack size for task memory status.

Page Fault Count

The number of major page faults that a task encountered that required the data to be loaded into memory.

Incoming Call Breakdown

Displays information about the service classified for recording, service classified for playback, service classified for reject, and service classified as anything else.

Cisco MediaSense Call Control Service Classified for Recording

Displays the number of calls handled as recording requests.

Cisco MediaSense Call Control Service Classified for Playback

Displays the number of calls handled as playback requests.

Cisco MediaSense Call Control Service Classified for Reject

Displays the number of calls rejected based on the configuration.

Cisco MediaSense Call Control Service Classified as Anything Else

Displays the number of calls accepted but not handled as playback or recording requests.

Error Analysis

Displays information about the service number of recorded sessions with errors, agent rejected convert requests, agent rejected RTSP monitoring requests, agent rejected RTSP playback requests, and agent rejected raw download requests.

Cisco MediaSense Call Control Service Number of Recorded Sessions with Errors

Displays the number of recorded sessions completed with errors.

Cisco MediaSense Storage Management Agent Rejected Convert Requests

Displays the number of rejected convert requests.

Cisco MediaSense Storage Management Agent Rejected RTSP Monitoring Requests

Displays the number of rejected RTSP monitoring requests.

Cisco MediaSense Storage Management Agent Rejected RTSP Playback Requests

Displays the number of rejected RTSP playback requests.

Cisco MediaSense Storage Management Agent Rejected Raw Download Requests

Displays the number of rejected raw download requests.

Performance Summary

Displays information about the service mean setup delay, service max setup delay, service mean query response time, and service max query response time.

Cisco MediaSense Call Control Service Mean Setup Delay

Displays the average delay (in milliseconds) between the initial receipt of the SIP Invite from Unified CM and the SIP response to the Unified CM rolling window time.

Cisco MediaSense Call Control Service Max Setup Delay

Displays the maximum delay (in milliseconds) between the initial receipt of the SIP Invite from Unified CM and the SIP response to the Unified CM rolling window time.

Cisco MediaSense API Service Mean Query Response Time

Displays the average query response time in the last hour.

Cisco MediaSense API Service Max Query Response Time

Displays the maximum query response time in the last hour.

Cisco Unified Contact Center Express

Cisco Prime Collaboration Assurance provides you the Cisco Unified Contact Center Express (Unified CCX) dashboards, which are system defined and available when you add Unified CCX. Cisco Prime Collaboration Assurance also allows you to create custom dashboards based on your monitoring needs. For details on the performance counters, see the Unified Contact Center Express Operations Guide.

To view the dashboards, go to **Monitor** > **System View** > **Performance**, select Contact Center Express and cluster from the Cluster or Device drop-down list and then select the required dashboard from the Dashboard drop-down list. Information related to the selected dashboard is displayed in different dashlets, and each dashlet displays the Server details, Current Usage and Maximum value received in the last three minutes.

Prerequisites:

- Unified CCX must be managed in Cisco Prime Collaboration Assurance.

- Unified CCX must be reachable, for the data to be displayed on Contact Center Express dashboards in Cisco Prime Collaboration Assurance.

The following are the newly supported Unified CCX dashboards:

System Summary

Displays information about CPU usage, Virtual Memory usage, Common Partition Usage, and the Critical Services status. As a system administrator you can monitor the System Summary dashlets to analyze the slow response of the system.

CPU Usage

Displays the real time CPU usage and the maximum value in the past 3 minutes.

Limitation: You have to use other reports also to monitor the system at the per-process level to determine which process or processes are causing CPU issues.

Virtual Memory Usage

Displays the real-time Virtual Memory usage and the maximum value in the past 3 minutes.

Common Partition Usage

Displays the real-time Common Partition Usage and the maximum value in the past 3 minutes.

Services

Displays the name of the service, the status (whether the service is up, down, activated, stopped by the administrator, starting, stopping, or in an unknown state), and the elapsed time during which the services existed in a particular state for the server or for a particular server in a cluster (if applicable).

Note If the service status is displayed as Unknown State, the system cannot determine the state of the service.

CPU and Memory

Displays information about CPU usage, virtual memory usage, memory usage, and processors for the server.

CPU Usage

Displays the total CPU that is consumed, and the maximum CPU that is consumed in the last 3 minutes.

Virtual Memory Usage

Displays the total virtual memory that is consumed, and the maximum virtual memory that is consumed in last 3 minutes.

Memory Usage

Displays the following information:

- % VM Used: Represents the percentage of system virtual memory utilization on the system. The value of the % VM Used counter is equal to the value that is derived from either of the following two equations:

```
(Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes +
Shared KBytes + Used Swap KBytes ) / (Total KBytes + Total Swap
KBytes)
```

```
Used VM KBytes / Total VM KBytes
```

- Total: Represents the total amount of memory in the system in kilobytes.

Used

Represents the amount of system physical memory that is in use, in kilobytes, in the system. The value of the Used KBytes counter is equal to the value that is derived from the following equation:

`Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes + Shared KBytes`

The Used KBytes value is different from the Linux Used value that is shown in top or free command output. The used value that is shown in Linux top or free command output is equal to `Total KBytes - Free KBytes`, and it also includes the sum of Buffers KBytes and Cached KBytes.

Free

Represents the total amount of memory that is available in the system, in kilobytes.

Shared

Represents the amount of shared memory in the system, in kilobytes.

Buffers

Represents the capacity of buffers in the system, in kilobytes.

Cached

Represents the amount of cached memory, in kilobytes.

Total Swap

Represents the total amount of swap space, in kilobytes, in the system.

Used Swap

Represents the amount of swap space, in kilobytes, that is in use on the system.

Free Swap

Represents the amount of free swap space, in kilobytes, that is available in the system.

Processors

Displays the following information:

- Processor: Instance of the processor. For example, a a quad-core CPU has four processors: 0, 1, 2, and 3.

- % CPU: The processor's share of the elapsed CPU time excluding the idle time since last update, expressed as a percentage of CPU time.

- User: Displays the percentage of CPU utilization that the CPU spent executing at the user level (application).

- Nice: Displays the percentage of CPU utilization that the CPU spent executing at the user level with nice priority.

- System: Displays the percentage of CPU utilization that the CPU spent executing at the system level (kernel).

- Idle: Displays the percentage of time that the CPU or CPUs were idle and the system did not have an outstanding disk I/O request.

- IRQ: Displays the percentage of time that the processor spent executing the interrupt request, which is assigned to devices for interrupt, or sending a signal to the computer when it finished processing.

- Soft IRQ: Displays the percentage of time that the processor spent executing the software interrupt (softirq), which means that task switching is deferred until later to achieve better performance.

- IO Wait: Displays the percentage of time that the CPU or CPUs were idle, during which the system had an outstanding disk I/O request.

Disk Usage

Displays information about disk usage on the node. It has the following dashlets: Common Partition Usage, Swap Partition Usage, Spare Partition Usage, Shared Memory Partition Usage, Active Partition Usage, Boot Partition Usage.

Each of the dashlets displays the following information:

Used

Represents the percentage of disk space that is in use on this file system.

Max Past 3 min

Represents the percentage of disk space that is in use on this file system in the past 3 minutes.

Used Space

Represents the amount of disk space, in megabytes, that is in use on this file system.

Total Space

Represents the amount of total disk space, in megabytes, that is on this file system. The number in this counter may differ from other total size values for disk space that you may see on the system, because the value of the Total Mbytes counter is the sum of Used Mbytes performance counter and the Free value that is shown in the CLI (show status) output. The Total Mbytes value is less than this CLI output for Total, which includes the minfree percentage of reserved file system disk blocks. Keep a minfree reserved to ensure a sufficient amount of disk space for the file system to operate at high efficiency.

Process

Displays information about the processes that are running on the node.

Process

Name of the process.

PID

The task's unique process ID, which periodically wraps, although it never restarts at zero.

& CPU

The task's share of the elapsed CPU time since the last update and is expressed as a percentage of total CPU time.

Status

The task's process status:

- 0: Running

- 1: Sleeping

- 2: Uninterruptible disk sleep

- 3: Zombie

- 4: Traced or stopped (on a signal)

- 5: Paging

- 6: Unknown

Shared Memory

The amount of shared memory, in kilobytes, that a task is using. Other processes could potentially share the same memory.

Nice

The nice value of the task. A negative nice value indicates that the process has a higher priority while a positive nice value indicates that the process has a lower priority. If the nice value equals zero, do not adjust the priority when you are determining whether to run the task.

VmRSS

The virtual memory (Vm) resident set size (RSS) that is currently in physical memory in kilobytes, including Code, Data, and Stack.

VmSize

The total amount of virtual memory, in kilobytes, that the task is using. It includes all code, data, shared libraries, and pages that have been swapped out: Virtual Image = swapped size + resident size.

VmData

The virtual memory usage of the heap for the task in kilobytes.

Thread Count

The number of threads that are currently grouped with the task. The negative value –1 indicates that this counter is currently not available because thread statistics (including all performance counters in the Thread object as well as the Thread Count counter in the Process object) have been turned off because the system's total processes and threads have exceeded the default threshold value.

Datastack Size

The stack size for task memory status.

Page Fault Count

The number of major page faults that a task encountered that required the data to be loaded into memory.

Virtualized Voice Browser

Cisco Prime Collaboration Assurance provides you the Virtualized Voice Browser dashboards, which are system defined and available when you add Virtualized Voice Browser. Cisco Prime Collaboration Assurance also allows you to create custom dashboards based on your monitoring needs.

To view the dashboards, go to **Monitor** > **System View** > **Performance**, select Virtualized Voice Browser and device IP address/host name from the Cluster or Device drop-down list and then select the required dashboard from the Dashboard drop-down list. Information related to the selected dashboard is displayed in different dashlets, and each dashlet displays the Server details, Current Usage and Maximum value received in the last three minutes.

Prerequisites:

- Virtualized Voice Browser must be managed in Cisco Prime Collaboration Assurance.

- Virtualized Voice Browser must be reachable, for the data to be displayed on Virtualized Voice Browser dashboards in Cisco Prime Collaboration Assurance.

The following are the newly supported Virtualized Voice Browser dashboards:

System Summary

Displays information about CPU usage, Virtual Memory usage, Common Partition Usage, and the Critical Services status. As a system administrator you can monitor the System Summary dashlets to analyze the slow response of the system.

CPU Usage

Displays the real time CPU usage and the maximum value in the past 3 minutes.

Limitation: You have to use other reports also to monitor the system at the per-process level to determine which process or processes are causing CPU issues.

Virtual Memory Usage

Displays the real-time Virtual Memory usage and the maximum value in the past 3 minutes.

Common Partition Usage

Displays the real-time Common Partition Usage and the maximum value in the past 3 minutes.

Services

Displays the name of the service, the status (whether the service is up, down, activated, stopped by the administrator, starting, stopping, or in an unknown state), and the elapsed time during which the services existed in a particular state for the server or for a particular server in a cluster (if applicable).

✎

Note   If the service status is displayed as Unknown State, the system cannot determine the state of the service.

CPU and Memory

Displays information about CPU usage, virtual memory usage, memory usage, and processors for the server.

CPU Usage

Displays the total CPU that is consumed, and the maximum CPU that is consumed in the last 3 minutes.

Virtual Memory Usage

Displays the total virtual memory that is consumed, and the maximum virtual memory that is consumed in last 3 minutes.

Memory Usage

Displays the following information:

- % VM Used: Represents the percentage of system virtual memory utilization on the system. The value of the % VM Used counter is equal to the value that is derived from either of the following two equations:

```
(Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes +
Shared KBytes + Used Swap KBytes ) / (Total KBytes + Total Swap
KBytes)

Used VM KBytes / Total VM KBytes
```

- Total: Represents the total amount of memory in the system in kilobytes.

Used

Represents the amount of system physical memory that is in use, in kilobytes, in the system. The value of the Used KBytes counter is equal to the value that is derived from the following equation:

```
Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes + Shared
KBytes
```

The Used KBytes value is different from the Linux Used value that is shown in top or free command output. The used value that is shown in Linux top or free command output is equal to `Total KBytes - Free KBytes`, and it also includes the sum of Buffers KBytes and Cached KBytes.

Free

Represents the total amount of memory that is available in the system, in kilobytes.

Shared

Represents the amount of shared memory in the system, in kilobytes.

Buffers

Represents the capacity of buffers in the system, in kilobytes.

Cached

Represents the amount of cached memory, in kilobytes.

Total Swap

Represents the total amount of swap space, in kilobytes, in the system.

Used Swap

Represents the amount of swap space, in kilobytes, that is in use on the system.

Free Swap

Represents the amount of free swap space, in kilobytes, that is available in the system.

Processors

Displays the following information:

- Processor: Instance of the processor. For example, a a quad-core CPU has four processors: 0, 1, 2, and 3.

- % CPU: The processor's share of the elapsed CPU time excluding the idle time since last update, expressed as a percentage of CPU time.

- User: Displays the percentage of CPU utilization that the CPU spent executing at the user level (application).

- Nice: Displays the percentage of CPU utilization that the CPU spent executing at the user level with nice priority.

- System: Displays the percentage of CPU utilization that the CPU spent executing at the system level (kernel).

- Idle: Displays the percentage of time that the CPU or CPUs were idle and the system did not have an outstanding disk I/O request.

- IRQ: Displays the percentage of time that the processor spent executing the interrupt request, which is assigned to devices for interrupt, or sending a signal to the computer when it finished processing.

- Soft IRQ: Displays the percentage of time that the processor spent executing the software interrupt (softirq), which means that task switching is deferred until later to achieve better performance.

- IO Wait: Displays the percentage of time that the CPU or CPUs were idle, during which the system had an outstanding disk I/O request.

Disk Usage

Displays information about disk usage on the node. It has the following dashlets: Common Partition Usage, Swap Partition Usage, Spare Partition Usage, Shared Memory Partition Usage, Active Partition Usage, Boot Partition Usage.

Each of the dashlets displays the following information:

Used

Represents the percentage of disk space that is in use on this file system.

Max Past 3 min

Represents the percentage of disk space that is in use on this file system in the past 3 minutes.

Used Space

Represents the amount of disk space, in megabytes, that is in use on this file system.

Total Space

Represents the amount of total disk space, in megabytes, that is on this file system. The number in this counter may differ from other total size values for disk space that you may see on the system, because the value of the Total Mbytes counter is the sum of Used Mbytes performance counter and the Free value that is shown in the CLI (show status) output. The Total Mbytes value is less than this CLI output for Total, which includes the minfree percentage of reserved file system disk blocks. Keep a minfree reserved to ensure a sufficient amount of disk space for the file system to operate at high efficiency.

Process

Displays information about the processes that are running on the node.

Process

Name of the process.

PID

The task's unique process ID, which periodically wraps, although it never restarts at zero.

& CPU

The task's share of the elapsed CPU time since the last update and is expressed as a percentage of total CPU time.

Status

The task's process status:

- 0: Running

- 1: Sleeping

- 2: Uninterruptible disk sleep

- 3: Zombie

- 4: Traced or stopped (on a signal)

- 5: Paging

- 6: Unknown

Shared Memory

The amount of shared memory, in kilobytes, that a task is using. Other processes could potentially share the same memory.

Nice

The nice value of the task. A negative nice value indicates that the process has a higher priority while a positive nice value indicates that the process has a lower priority. If the nice value equals zero, do not adjust the priority when you are determining whether to run the task.

VmRSS

The virtual memory (Vm) resident set size (RSS) that is currently in physical memory in kilobytes, including Code, Data, and Stack.

VmSize

The total amount of virtual memory, in kilobytes, that the task is using. It includes all code, data, shared libraries, and pages that have been swapped out: Virtual Image = swapped size + resident size.

VmData

The virtual memory usage of the heap for the task in kilobytes.

Thread Count

The number of threads that are currently grouped with the task. The negative value –1 indicates that this counter is currently not available because thread statistics (including all performance counters in the Thread object as well as the Thread Count counter in the Process object) have been turned off because the system's total processes and threads have exceeded the default threshold value.

Datastack Size

The stack size for task memory status.

Page Fault Count

The number of major page faults that a task encountered that required the data to be loaded into memory.

Performance Dashboards

Performance page displays system-defined dashboards based on the performance counters.

Note
- If both cluster name and host name are same in Unified Communications Manager, you must rename the cluster name and rediscover Unified Communications Manager in Cisco Prime Collaboration Assurance, to view performance dashboards for the selected cluster.

- If you have already created custom dashboard for performance counters, you must reconfigure the same in Cisco Prime Collaboration Assurance 12.1 for the following device types:

Device Type	Version
Finesse	10 or higher
Socialminer	10 or higher

To view the dashboards, select the product and cluster from the Cluster or Device drop-down list and then select the required dashboard from the Dashboard drop-down list.

Along with the system-defined dashboards for every cluster or device, you can also view trends for the device related metrics using the Trend dashboard. For more information on how to view trends, see Trend Dashboard.

For Cisco Prime Collaboration Release 11.1 and later

Unified CM and Unity Connection

The following system-defined dashboards are available for Unified CM:

Note For Unity Connection, you can see these dashlets only- System Summary, CPU and Memory, Disk Usage, Process, and Port Monitor.

System Summary

Displays information about CPU usage, Virtual Memory usage, Common Partition Usage, and the Critical Services status. As a system administrator you can monitor the System Summary dashlets to analyze the slow response of the system.

CPU Usage

Displays the real time CPU usage and the maximum value in the past 3 minutes.

Limitation: You have to use other reports also to monitor the system at the per-process level to determine which process or processes are causing CPU issues.

Virtual Memory Usage

Displays the real-time Virtual Memory usage and the maximum value in the past 3 minutes.

Common Partition Usage

Displays the real-time Common Partition Usage and the maximum value in the past 3 minutes.

Services

Displays the name of the service, the status (whether the service is up, down, activated, stopped by the administrator, starting, stopping, or in an unknown state), and the elapsed time during which the services existed in a particular state for the server or for a particular server in a cluster (if applicable).

✎

Note   If the service status is displayed as Unknown State, the system cannot determine the state of the service.

Communications Manager Summary

Displays registered phones, calls in progress, and active gateway ports and channels.

Registered Phones

Displays the total number of phones that are registered and the delta of phones that are registered in the last minute. A negative value indicates that phones were unregistered; a positive value indicates new phones were registered.

Calls in Progress

Displays the total number of calls in progress and the delta calls in progress in the last minute. A negative value indicates that calls were completed or dropped; a positive value indicates new calls were established.

Active MGCP Ports and Channels

Displays the total number of active MGCP ports and channels and the delta of active MGCP ports and channels in the past minute. A negative value indicates that active MGCP ports and channels decreased; a positive value indicates that active MGCP ports and channels increased.

Call Activity

Call Activity

Displays the call activity on Cisco Unified Communications Manager, including calls completed, calls attempted, calls in progress, and logical partition total failures. This includes all servers in the cluster, if applicable.

Calls Completed

Displays the number of calls that were actually connected (when a voice path or video stream is established) through Cisco Unified Communications Manager. This number increases when the call terminates.

Calls Attempted

Displays the total number of calls attempted. An attempted call occurs any time when a phone goes off hook and back on hook, regardless of whether any digits dialed, or connected to a destination. The system considers few call attempts during feature operations like transfer and conference as calls attempted.

Calls in Progress

Displays the total number of calls in progress and the delta calls in progress in the past 1 minute. A negative value indicates that calls were completed or dropped; a positive value indicates that new calls were established.

Logical Partition Failures

Displays the total Logical Partition Failures. Also displays the delta of Logical Partition Failures in the past 1 minute.

Gateway Activity

Displays gateway activity on Cisco Unified Communications Manager, including active ports, ports in service, and calls completed. Gateway Activity includes all nodes in the cluster, if applicable.

MGCP FXS

- Ports in Service: Displays the number of FXS ports that are currently available for use in the system.

- Ports Active: Displays the number of FXS ports that are currently in use (active) on this Unified CM.

- Calls Completed: Displays the total number of successful calls that were made from all the FXS port instances on the MGCP FXS device.

MGCP FXO

- Ports in Service: Displays the number of FXO ports that are currently available for use in the system.

- Ports Active: Displays the number of FXO ports that are currently in use (active) on this Unified CM.

- Calls Completed: Displays the total number of successful calls that were made from all the FXO port instances on the MGCP FXO device.

MGCP T1

- Spans in Service: Displays the number of T1 CAS spans that are currently available for use.

- Channel Active: Displays the number of T1 CAS voice channels that are in an active call on this Unified CM.

- Calls Completed: Displays the total number of successful calls that were made from all the instances of MGCP T1 CAS device.

MGCP PRI

- Spans In Service: Displays the number of PRI spans that are currently available for use.

- Channel Active: This represents the number of PRI voice channels that are in an active call on this Unified CM.

- Calls Completed: Displays the total number of successful calls that were made from all the instances of MGCP PRI device.

Displays the trunk activity on Cisco Unified Communications Manager, including calls in progress and calls completed. This counter includes all nodes in the cluster, if applicable.

H323

Calls In Progress: Displays the total number of calls currently in progress on all the instances of Cisco H323 device.

Calls Completed: Displays the total number of successful calls made from all the instances of Cisco H323 device.

SIP Trunk

Calls In Progress: Displays the total number of calls that are currently in progress on all the instances of SIP device, including all active calls. When all calls that are in progress are connected, the number of calls in progress and the number of active calls are the same.

Calls Completed: Displays the total number of calls that were actually connected (a voice path was established) from all the instances of SIP device. This number increments when the call is terminated.

SDL Queue

Displays SDL queue information, including the number of signals in queue and number of processed signals.

Signals in SDL Queue

High: Indicates the number of high-priority signals in the Unified CM queue. High-priority signals include timeout events, internal Unified Communications Manager KeepAlives, certain gatekeeper events, and internal process creation, among other events. A large number of high-priority events will cause degraded performance on Unified CM, resulting in slow call connection or loss of dial tone. Use this counter in conjunction with the Queue Signals Processed High counter to determine the processing delay on Unified CM.

Normal: Indicates the number of normal-priority signals in the Unified CM queue. Normal priority signals include call processing functions, key presses, and on-hook and off-hook notifications, among other events. A large number of normal-priority events will cause degraded performance on Unified CM, sometimes resulting in delayed dial tone, slow call connection, or loss of dial tone. Use this counter in conjunction with the Queue Signals Processed Normal counter to determine the call processing delay on Unified CM. Remember that high-priority signals must complete before normal-priority signals begin to process, so check the high-priority counters as well to get an accurate picture of the potential delay.

Low: Indicates the number of low-priority signals in the Unified CM queue. Low-priority signals include station device registration (except the initial station registration request message), among other events. A large number of signals in this queue could result in delayed device registration.

Lowest: Indicates the number of lowest-priority signals in the Unified CM queue. Lowest priority signals include the initial station registration request message during device registration. A large number of signals in this queue could result in delayed device registration.

Processed SDL Signals

High: Indicates the number of high-priority signals that are processed by Unified CM for each 1-second interval. Use this counter in conjunction with the Queue Signals Present High counter to determine the processing delay on this queue.

Normal: Indicates the number of normal-priority signals that are processed by Unified CM for each 1-second interval. Use this counter in conjunction with the Queue Signals Present Normal counter to determine the processing delay on this queue. Remember that high-priority signals are processed before normal-priority signals.

Low: Indicates the number of low-priority signals that are processed by Unified CM for each 1-second interval. Use this counter in conjunction with the Queue Signals Present Low counter to determine the processing delay on this queue. The number of signals that are processed gives an indication of how much device registration activity is being processed in this time interval.

Lowest: Indicates the number of lowest-priority signals processed by Unified CM for each 1-second interval. Use this counter in conjunction with the Queue Signals Present Lowest counter to determine the processing delay on this queue. The number of signals that are processed gives an indication of how many devices began the Unified CM registration process in this time interval.

Cisco TFTP

Displays Cisco trivial file transfer protocol (TFTP) status on the Cisco Unified Communications Manager node, including total TFTP requests, total TFTP requests found, and total TFTP requests aborted.

TFTP Requests

This counter includes all nodes in the cluster, if applicable. This counter represents the total number of file requests (such as requests for XML configuration files, phone firmware files, and audio files) that the TFTP server handles. This counter represents the sum total of the following counters after the TFTP service has started: RequestsProcessed, RequestsNotFound, RequestsOverflow, RequestsAborted, RequestsInProgress.

CPU and Memory

Displays information about CPU usage, virtual memory usage, memory usage, and processors for the server.

CPU Usage

Displays the total CPU that is consumed, and the maximum CPU that is consumed in the last 3 minutes.

Virtual Memory Usage

Displays the total virtual memory that is consumed, and the maximum virtual memory that is consumed in last 3 minutes.

Memory Usage

Displays the following information:

- % VM Used: Represents the percentage of system virtual memory utilization on the system. The value of the % VM Used counter is equal to the value that is derived from either of the following two equations:

```
(Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes +
Shared KBytes + Used Swap KBytes ) / (Total KBytes + Total Swap
KBytes)

Used VM KBytes / Total VM KBytes
```

- Total: Represents the total amount of memory in the system in kilobytes.

Used

Represents the amount of system physical memory that is in use, in kilobytes, in the system. The value of the Used KBytes counter is equal to the value that is derived from the following equation:

```
Total KBytes - Free KBytes - Buffers KBytes - Cached KBytes + Shared
KBytes
```

The Used KBytes value is different from the Linux Used value that is shown in top or free command output. The used value that is shown in Linux top or free command output is equal to `Total KBytes - Free KBytes`, and it also includes the sum of Buffers KBytes and Cached KBytes.

Free

Represents the total amount of memory that is available in the system, in kilobytes.

Shared

Represents the amount of shared memory in the system, in kilobytes.

Buffers

Represents the capacity of buffers in the system, in kilobytes.

Cached

Represents the amount of cached memory, in kilobytes.

Total Swap

Represents the total amount of swap space, in kilobytes, in the system.

Used Swap

Represents the amount of swap space, in kilobytes, that is in use on the system.

Free Swap

Represents the amount of free swap space, in kilobytes, that is available in the system.

Processors

Displays the following information:

- Processor: Instance of the processor. For example, a a quad-core CPU has four processors: 0, 1, 2, and 3.

- % CPU: The processor's share of the elapsed CPU time excluding the idle time since last update, expressed as a percentage of CPU time.

- User: Displays the percentage of CPU utilization that the CPU spent executing at the user level (application).

- Nice: Displays the percentage of CPU utilization that the CPU spent executing at the user level with nice priority.

- System: Displays the percentage of CPU utilization that the CPU spent executing at the system level (kernel).

- Idle: Displays the percentage of time that the CPU or CPUs were idle and the system did not have an outstanding disk I/O request.

- IRQ: Displays the percentage of time that the processor spent executing the interrupt request, which is assigned to devices for interrupt, or sending a signal to the computer when it finished processing.

- Soft IRQ: Displays the percentage of time that the processor spent executing the software interrupt (softirq), which means that task switching is deferred until later to achieve better performance.

- IO Wait: Displays the percentage of time that the CPU or CPUs were idle, during which the system had an outstanding disk I/O request.

Disk Usage

Displays information about disk usage on the node. It has the following dashlets: Common Partition Usage, Swap Partition Usage, Spare Partition Usage, Shared Memory Partition Usage, Active Partition Usage, Boot Partition Usage.

Each of the dashlets displays the following information:

Used

Represents the percentage of disk space that is in use on this file system.

Max Past 3 min

Represents the percentage of disk space that is in use on this file system in the past 3 minutes.

Used Space

Represents the amount of disk space, in megabytes, that is in use on this file system.

Total Space

Represents the amount of total disk space, in megabytes, that is on this file system. The number in this counter may differ from other total size values for disk space that you may see on the system, because the value of the Total Mbytes counter is the sum of Used Mbytes performance counter and the Free value that is shown in the CLI (show status) output. The Total Mbytes value is less than this CLI output for Total, which includes the minfree percentage of reserved file system disk blocks. Keep a minfree reserved to ensure a sufficient amount of disk space for the file system to operate at high efficiency.

CTI Manager

Displays information about the devices and applications that interfaces with the CTI Manager. Its displays the following information

Open Devices

The number of devices open by all applications that are connected to CTI Manager.

Open Lines

The number of lines open by all applications that are connected to CTI Manager.

CTI Connection

The number of applications that are connected to CTI Manager.

CM Links

The active Unified Communication Manager link to CTI Manager.

Heartbeat

Displays heartbeat information for the Cisco Unified Communications Manager and Cisco TFTP service.

CMs Heartbeat

Current Value represents the heartbeat of Unified CM. This is an incremental count that indicates that Unified CM is running. If the count does not increment, then Unified CM is down. Past 1 min displays the delta; a value of 0 indicates that Unified Communications Manager is down.

TFTPs Heartbeat

Current Value represents the heartbeat of the TFTP server. This is an incremental count that indicates that the TFTP server is running. If the count does not increment, then the TFTP server is down. Past 1 min displays the delta; a value of 0 indicates the TFTP server is down.

SIP Activity

Displays SIP activity on Cisco Unified Communications Manager, including summary requests, summary responses, summary of failure responses in, summary of failure responses out, retry requests out, and retry responses out. SIP Activity includes all nodes in the cluster, if applicable.

Summary Requests

Displays the summation of total number of SIP request messages received by the SIP device, including retransmissions + the total number of SIP request messages sent out (originated and relayed) by the device. Where a particular message is sent more than once, for example as a retransmission or as a result forking, each transmission is counted separately.

Summary Responses

Displays the summation of total number of SIP response messages received by the SIP device, including retransmissions + the total number of SIP response messages sent (originated and relayed) by the SIP device, including retransmissions.

Summary Failure Responses In

Displays the summation of total number of 4xx class SIP responses received by the SIP device, including retransmissions. This class of responses indicates request failure by a SIP device that provides a client function + the total number of 5xx class SIP responses received by the SIP device, including retransmissions. This class of responses indicates failure responses received by a SIP device that provides a client function + the total number of 6xx class SIP responses received by the SIP device, including retransmissions. This class of responses indicates failure responses received by a SIP device that provides a client function. The responses generally indicate that a node has definitive information about a particular called party, not just the particular instance indicated in the Request-URI.

Summary Failure Responses Out

Displays the summation total number of 4xx class SIP responses sent by the SIP device, including retransmissions. This class of responses indicates request failure by a SIP device that provides a node function + the total number of 5xx class SIP responses sent by the SIP device, including retransmissions. This class of responses indicates failure responses sent by a SIP device that provides a node function + the total number of 6xx class SIP responses sent by the SIP device, including retransmissions. This class of responses indicates failure responses sent by a SIP device that provides a node function. The responses generally indicate that a node has definitive information about a particular called party, not just the particular instance indicated in the Request-URI.

Retry Requests Out

Displays the total number of Request retries that have been sent by the SIP device.

Retry Responses Out

Displays the summation of the total number of Final Response retries that have been sent by the SIP device + the total number of non-Final Response retries that have been sent by the SIP device.

Process

Displays information about the processes that are running on the node.

Process

Name of the process.

PID

The task's unique process ID, which periodically wraps, although it never restarts at zero.

& CPU

The task's share of the elapsed CPU time since the last update and is expressed as a percentage of total CPU time.

Status

The task's process status:

- 0: Running

- 1: Sleeping

- 2: Uninterruptible disk sleep

- 3: Zombie

- 4: Traced or stopped (on a signal)

- 5: Paging

- 6: Unknown

Shared Memory

The amount of shared memory, in kilobytes, that a task is using. Other processes could potentially share the same memory.

Nice

The nice value of the task. A negative nice value indicates that the process has a higher priority while a positive nice value indicates that the process has a lower priority. If the nice value equals zero, do not adjust the priority when you are determining whether to run the task.

VmRSS

The virtual memory (Vm) resident set size (RSS) that is currently in physical memory in kilobytes, including Code, Data, and Stack.

VmSize

The total amount of virtual memory, in kilobytes, that the task is using. It includes all code, data, shared libraries, and pages that have been swapped out: Virtual Image = swapped size + resident size.

VmData

The virtual memory usage of the heap for the task in kilobytes.

Thread Count

The number of threads that are currently grouped with the task. The negative value −1 indicates that this counter is currently not available because thread statistics (including all performance counters in the Thread object as well as the Thread Count counter in the Process object) have been turned off because the system's total processes and threads have exceeded the default threshold value.

Datastack Size

The stack size for task memory status.

Page Fault Count

The number of major page faults that a task encountered that required the data to be loaded into memory.

Database Summary

Provides connection information for the server, such as the change notification requests that are queued in the database, change notification requests that are queued in memory, the total number of active client connections, the number of devices that are queued for a device reset, the number of replicates that have been created, and the status of the replication.

Change Notification Requests Queued in DB

Displays the number of records from the DBCNQueue table.

Change Notification Requests Queued in Memory

Displays the number of change notification requests that are queued in memory.

Total Number of Connection Clients

Displays the number of change notification requests that are queued in memory.

Replicates Created

Displays the number of replicates that were created by Informix for the DB tables. Every table contains at least one replicate. This counter displays information during Replication Setup.

Replication Status

Displays the state of replication:

- 0 = Initializing ReplTask thread

- 1 = Replication setup script fired from this node

- 2 = Replication is good; replication is set up correctly and most of the tables in the database should be in sync for all nodes of the cluster

> **Note** Run the CLI command **utils dbreplication status** to see if any tables are out of sync

- 3 = Replication data transfer is bad in the cluster

> **Note** When the counter shows a value of 3, replication is bad in the cluster. This value does not mean that replication is bad on that particular node. Run the CLI command **utils dbreplication status** find out where and what exactly is broken.

- 4 = Replication Setup did not succeed

Phone Summary

Displays information about the Cisco Unified Communications Manager node, including the number of registered phones, registered SIP phones, registered SCCP phones, partially registered phones, and the number of failed registration attempts. This includes all nodes in the cluster, if applicable.

Registered Devices

Displays the number of SIP phones, SCCP phones and total phones that are registered in Unified CM. The Past 1 Minute column displays the delta of phones that were registered or unregistered in the past 1 minute.

Registration Issues

Displays the registration issues of all the phones in Unified CM. The Failed Attempts tab displays the number of attempts that are failed to register phones; the Partial Registration tab displays the number of partial registrations of phones. The Past 1 Minute column displays the delta of values in the past 1 minute.

Device Summary

Displays information about the Unified CM node, including the number of registered phone devices, registered gateway devices, and registered media resource devices. Device Summary includes all nodes in the cluster, if applicable.

Registered Phones

Displays the total phones registered in Unified CM cluster; Past 1 Minute displays the delta of total registered phones in the past 1 minute.

Registered Gateways

Displays the total gateways (FXS, FXO, T1CAS and PRI) registered in Unified CM cluster; Past 1 Minute displays the delta of total registered gateways in the past 1 minute.

Registered Media Resources

Displays the total media resources (MOH, MTP, XCODE and CFB) that are registered in Unified CM cluster; Past 1 Minute displays the delta of total registered media resources in the past 1 minute.

Registered Other Station Devices

Displays the total other station devices registered in Unified CM cluster; Past 1 Minute displays the delta of total other station devices in the past 1 minute.

Registered Services

Displays the details of all different types of devices: Phones, Gateways, Media Resources, and Other Station devices. Details for each type are displayed separately.

IM and Presence Summary

PE Active JSM Conferences

The Number of Active JSM Conferences performance counter contains the number of client emulation conferences between the Cisco Presence Engine and Cisco XCP Router. The value of this counter should always equal the number of licensed users on the box.

Past 1 Minute displays the delta of counter value in the past 60 seconds.

Active Calendar Subscriptions

The Number of Active Calendar Subscriptions performance counter contains the number of calendar subscriptions that are currently active on the box.

Past 1 Minute displays the delta of counter value in the past 60 seconds.

Incoming SIP Subscriptions

The Number of Active Inbound SIP Subscriptions performance counter contains the current number of active inbound SIP subscriptions that are maintained by the Cisco XCP SIP Federation Connection Manager service on the IM and Presence Service node. Monitor this counter if the IM and Presence Service node is configured for SIP Interdomain Federation or SIP Intradomain Federation.

Past 1 Minute displays the delta of counter value in the past 60 seconds.

Outgoing SIP Subscriptions

The Number of Active Outbound SIP Subscriptions performance counter contains the current number of active outgoing SIP subscriptions being maintained by the Cisco XCP SIP Federation Connection Manager service on the IM and Presence Service node. Monitor this counter if IM and Presence Service node is configured for SIP Interdomain Federation or SIP Intradomain Federation.

The total combined count of SubscriptionsOut and SubscriptionsIn must not rise above 260,000 on any single IM and Presence Service node.

Past 1 Minute displays the delta of counter value in the past 60 seconds.

Total Ad Hoc Chat Rooms

The Total Ad Hoc Group Chat Rooms performance counter contains the total number of ad hoc chat rooms that are currently hosted on the node.

Note Ad hoc chat rooms are automatically destroyed when all users leave the room, so this counter rises and falls in value regularly.

Past 1 Minute displays the delta of counter value in the past 60 seconds.

Total Persistent Chat Rooms

The Total Persistent Chat Rooms performance counter contains the total number of persistent chat rooms that are hosted on the node. The room owner must explicitly destroy persistent chat rooms. This counter can be monitored to identify whether the total number of persistent chat rooms is very large and also to help identify whether some persistent chat rooms are not being used regularly anymore.

Past 1 Minute displays the delta of counter value in the past 60 seconds.

Cisco Jabber Summary

Jabber Login Failures

Represents the number of failed login requests that were received by the Cisco Simple Object Access Protocol (SOAP) interface. After 1 minute, the counter displays the delta of counter value in the last 60 seconds.

Current Connected Jabber or XMPP Clients

Contains the current number of XMPP clients that are connected to the Cisco XCP Connection Manager on an individual IM and Presence Service server. This number rises and falls based on the usage patterns of your deployment. Further investigation may be required if this number is higher than expected for your user base. After 1 minute, the counter displays the delta of counter value in the last 60 seconds.

IM Packets Since Last Restart

Provides the total number of IM packets that are handled by the IM and Presence Service node across all users. After 1 minute, the counter displays the delta of counter value in the last 60 seconds.

IM Packets in Last 60 Seconds

The total number of IM packets that are handled by the IM and Presence Service node across all users in the past 60 seconds. This counter is reset to zero every 60 seconds. The same rules for counting IM packets apply as for TotalMessagePackets. Monitor this counter to help identify the busy IM hours in your organization. After one minute, the counter displays the delta of counter value in the last 60 seconds.

Learned Patterns

Learned Pattern reports and Service Advertisement Framework (SAF) forwarder reports support the Call Control Discovery feature. When you configure the Call Control Discovery feature, Cisco Unified Communications Manager advertises itself and its hosted DN patterns to other remote call-control entities that use the SAF network. Likewise, these remote call-control entities advertise their hosted DN patterns, which Unified CM can learn and insert in digit analysis.

Column	Description
Pattern	Displays the name of the learned pattern from the remote call-control entity.
TimeStamp	Displays the date and time that the local Unified CM marked the pattern as a learned pattern.
Status	Indicates whether the learned pattern was reachable or unreachable.
Protocol	Displays the protocol for the SAF-enabled trunk that was used for the outgoing call to the learned pattern. If the remote call-control entity has QSIG tunneling configured for the SAF-enabled trunk, the data indicates that QSIG tunneling was used; for example, EMCA is listed along with H.323 in this column.
AgentID	Displays the name of the remote call-control entity that advertised the learned pattern.
IP Address	Displays the IP address for the call-control entity that advertised the learned pattern; Displays the port number that the call-control entity uses to listen for the call.
ToDID	Displays the PSTN failover configuration for the learned pattern.
CUCMNodeId	Displays the ID from the local Unified CM node.

Port Monitor

The Port Monitor lets you monitor the activity of each Cisco Unity Connection voice messaging port in real-time. This information can help you determine whether they system has too many or too few ports.

The Port Monitor displays the information for each port as described in the following table.

Field	Description
Port Name	The display name of the port in Cisco Unity Connection Administration.
Caller	For incoming calls, the phone number of the caller.
Called	For incoming calls, the phone number that was dialed.
Reason	If applicable, the reason why the call was redirected.
Redir	The extension that redirected the call. If the call was redirected by more than one extension, this field shows the extension prior to the last extension
Last Redir	The last extension that redirected the call.
Application Status	The name of the conversation that Cisco Unity Connection is playing for the caller. When the port is not handling a call, the status appears as Idle.
Display Status	The action that the conversation is currently performing. When the port is not handling a call, the status appears as Idle.
Conversation Status	Specific details about the action that the conversation is performing. When the port is not handling a call, the status appears as Idle.
Port Ext	The extension of the port.
Connected To	For Cisco Unified Communications Manager SCCP integrations, the IP address and port of the Cisco Unified Communications Manager node to which the ports are registered.

View Historical Trends

Historical trending is enabled by default for the dashlets (CPU Usage, Virtual Memory Usage, and Common Partition Usage) under the System Summary dashboard. Click **Zoom** at the bottom-right corner of the dashlet to view the Trend View graph.

Prerequisites

All devices should be in managed state in Cisco Prime Collaboration Assurance. In case of clusters, all the nodes should be in managed state.

For voice devices (Cisco Unified CM, Cisco Packaged Contact Center Enterprise, Cisco Unified Presence, Cisco Unity Connection, Cisco Media Sense, Cisco Finesse, Cisco Unified IC, and Cisco Unified Contact

Center Express), along with the system-defined dashboards, you can also view trends for the device related metrics.

For Cisco Prime Collaboration Release 11.5 and later

For voice devices (Cisco Unified CM, Cisco Packaged Contact Center Enterprise, Cisco Unified Presence, Cisco Unity Connection, Cisco Media Sense, Cisco Finesse, Cisco Unified IC, Cisco Unified Contact Center Express, and Cisco Virtualized Voice Browser), along with the system-defined dashboards, you can also view trends for the device related metrics.

Note
- The device related metrics vary based on the device type you select.

- Historical trending is not supported for non-voice devices such as Cisco Unified CCE, Cisco Voice Portal, MCU/TPS, Cisco Unified Border Element, Cisco Voice Gateways, Cisco Unified Communications Manager Express, and ISDN Gateway.

Trend Dashboard

To view trends for metrics, select **Trend** from the Dashboard drop-down list and then from the Metrics Selection dialog box, select the metrics for which you want to enable trend, and click **Add**. You can select any number of metrics that you want, but we recommend that you select only a maximum of six metrics for every device type.

You can also perform the following:

- View data either as a chart or in a tabular format.

- Compare the trends for two or more performance metrics by clicking the **Merge** option.

- Click **Zoom** to view the trend graph in a detailed view. This option also helps you view the history, hourly average, maximum, and minimum data. Using the zoom selector graph displayed in the detailed view, you can adjust the pointer in the time window (x axis) of the graph to view the trend for the selected time period.

- Add more trends using the Add Graph (+) button at the top-right corner of the user interface.

- Change the chart type.

Create Custom Performance Dashboards

For Cisco Prime Collaboration Release 11.5 and later

You can add customized dashboards in the home page (**Network Health Overview** > **Performance**); either in the graphical view (limited to 6 counters) or tabular view (up to 50 counters). By default, the graphical view is enabled. The Min., Max., and Avg. values for the counters are also displayed.

Note All the custom dashboard metadata are stored in the database. However, the counter values are obtained live from the devices and are saved in the cache memory. If a performance dashboard is not open for more than 30 minutes, the polling stops and the cache memory is cleared until the next time the custom dashboard is launched. If the historical trend is enabled for custom dashboard counter(s), the polled data is stored in the database for seven days. For information on the purge policies, see Cisco Prime Collaboration Assurance Guide- Advanced.

In graphical view, the graph depicts the current values of a counter for every few seconds or minutes, as specified in the polling interval. You can also mouse over the various red points in the line to view the value of the counter as a tool tip.

Note Click **See Average** to view the Min., Max., and Avg. values for the counter in the graphical view.

You can also:

- Add events to the custom dashboard.

- Switch between the graphical and tabular views.

   Note When you create customized dashboards in the graphical view or when you switch from tabular view to graphical view using the edit option, ensure that the number of counters you select is less than or equal to 6. If the number of counters is more than 6, you need to remove the excess counters to view the dashboard in the graphical view.

To create custom dashboards:

Procedure

Step 1 Choose the product and the cluster from the Cluster or Device drop-down list.

Step 2 Click the + button adjacent to the Dashboard drop-down list.

Step 3 On the Custom Dashboard page, enter the dashboardname (**//dashboardname//**), select the polling interval, view, and server.

You can collect historical data for custom graph from the Custom Performance Dashboard.

For Cisco Prime Collaboration Release 11.6 and earlier

Note When two different login users create custom dashboards using the same dashboard name, cluster and counter details or with different dashboard name with same cluster and counter group details, the application displays incorrect dashboard details for the respective users.

For Cisco Prime Collaboration Release 12.1 and later

Note The custom dashboard name is changed from **Custom-//dashboardname//** to **Custom-//dashboardname_loggedInUser//** so that different users can view their respective dashboard details with correct data though the dashboard name, cluster name, and counter group details remains the same.

You can enable the historical trend for the performance counters that you select, while creating custom dashboards in the graphical view. This option is disabled when you create custom dashboards in tabular view or switch from graphical to tabular view. A warning message appears stating that the historical trend data is lost, when you switch from graphical to tabular view.

Note • For the Historical Trend option to be enabled, the polling interval must be greater than or equal to 60 seconds.

• The polling interval must be greater than or equal to 30 seconds, if you have a mega-cluster with more than 10 communications manager nodes configured.

Step 4 Select the desired performance counters from the Select Performance Counters pane. Expand the counter group and select the counter. The instances corresponding to the counter is displayed in the Select Instances pane.

Step 5 Select the instances of your choice and click **Add**.

Note You can also perform a search that is case sensitive, for a counter group, counter, or instance using the search option available in the Select Performance Counters or Select Instances pane.

Step 6 Click **Create**.

You can also edit or delete a custom dashboard you created, using the **Edit** and **Delete** buttons. For information about creating a new performance counter event, see . When you create custom events from the custom dashboards, you need not provide the cluster details.

Note Only the dashboard name appears on the Edit or Delete Custom Dashboard dialog box.

Click the **Zoom** link at the bottom-right of the dashlet, to view the Trend View graph for the performance counter. You can export the historical trend data in either CSV or PDF format using the Export option available in the Trend View graph.

You can also click **Merge** to view the Merge View graph for one or more dashlets that you have created. The collected trend data is stored for seven days, and then purged.

Note The Zoom and Merge options are available only if you have enabled the historical trend option for that custom dashboard.

Add a Customized Dashboard

You can add customized dashboards in the home page.

You can also do the following:

• Add the existing dashlets to a different dashboard.

• Move the dashlets around under a dashboard by dragging and dropping them.

To add a new dashboard:

Procedure

Step 1   Click the "Settings" icon on the top-right corner of the home page, and then click **Add New Dashboard**.

Step 2   Enter a name in the box provided, and click **Apply**.

Step 3   Click **Add Dashlet(s)**.

Step 4   Click **Add** adjacent to the dashlets you want to add.