
ClarusIPC®

Dashboard Guide

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DASHBOARD

The Dashboard allows you to graphically view various aspects of your CUCM system, such as Performance (Key Performance Indicators), Service (call analysis), and Configuration (configuration change tracking).

To access the Dashboard, click on the **dashboard** link from ClarusIPC, or enter

```
http://<clarus_server>/dashboard/launchDashboard.do
```

into any browser window. If more than one Collector is running, the Dashboard will list all results. You may access individual Collectors by opening the Dashboard, then selecting the Collector by name from the drop down menu shown.

Dashboard Performance views are defined by Collectors, which control which data is polled and collected for the views. Service views are generated using KPI and CDR/CMR data, gathered as defined in the Cluster definition. Configuration views rely on Snapshots to show changes to your system's configuration.

CDR and Device registration timestamps are generated by the CUCM server, and will reflect the time zone in which the CUCM server is located. KPI are timestamped by the ClarusIPC installation. For this reason, a CDR or Device Registration event which occur at 3:00pm Eastern Standard Time will appear in a Pacific Standard Time zone browser shortly after noon PST, with a 3:00pm timestamp. A KPI event which occurs at 3:00pm EST will appear with a 12:00pm PST timestamp.

The Dashboard offers three main interfaces:

- **Performance** views offer graphic representation of KPI and Device Registration data.
- **Service** views offer graphic representation of CDR/CMR data.
- **Configuration** views offer graphic representation of changes to your system over time.

All displays allow you to filter the information shown, and drill down into its specifics.

NOTE: Adobe Flash Player is required for the Dashboard.

Dashboard Components

The Dashboard offers views into both CDR and Performance data. Performance data is updated in real-time; CDR data is queried on demand.

The window is subdivided into tabs, allowing you to monitor individual aspects of your system.

- **Performance** tab displays Collectors' data (as defined in the **setup > collectors** window). Performance views display KPI and device registration information.
- **Service** tab displays CDR and CMR data (according to the collection schedule defined and enabled in the Cluster Details window).
- **Configuration** tab allows you to analyze changes to the CUCM configuration over time, both by type of change, and by detailed change views.

Performance displays include:

- **Device Registration**, which lists the registration status of the device type selected from the pulldown menu (Phones, Gateways, Voice Mail, CTI, H323, or Media Resources), summarizes Device Registration by Cluster and Device Pool, and allows you to drill down to view only devices in a specific registration state.
- **Server Health**, which shows CPU Usage, Memory Usage, Disk Usage, and Network Interface traffic for the selected servers.
 - The **Server Health Stats** and **Services** buttons allow you to toggle between a graphed representation of the overall health of your servers, and a list of services.
- **Call Process**, which illustrates call activity for a specified Route List or Route Group.
- **Media Availability**, which graphs the availability of Transcoders, MOH Resources, MTP Resources, and Conference Bridges within the selected Media Resource Group or Group List.

The Performance tab also include a Playback option, which allows you to review data gathered while your Collectors were running.

Service displays include:

- **Alert Summary**, which displays a pie chart of Alerts by Policy Name and by Rule Name for the selected Cluster and time interval.
- **Call Failure**, which displays call setup failures encountered on either the originating or destination leg of the call.
- **Call Volume**, which graphs the number of inbound, outbound, and internal calls by selected time interval.
- **Resource Utilization**, which charts the Originating and Destination Devices for the selected time period.
- **Voice Quality Analysis**, which shows the call quality breakdown for all calls established during the designated time frame.

Configuration displays include:

- **Change Tracking**, which shows changes to your system for the selected time period.

Performance Views

The Performance tab allows you to view KPI and Device Registration data, as defined by Collectors.

If more than one Collector is running, Performance views allow you to select the Collector to view. The URL for each Collector allows you to quickly access the Dashboard view filtered against data from the selected Collector. You may also access the same view by opening the Dashboard, then selecting the Collector by name from the **Select Collector** drop down menu.

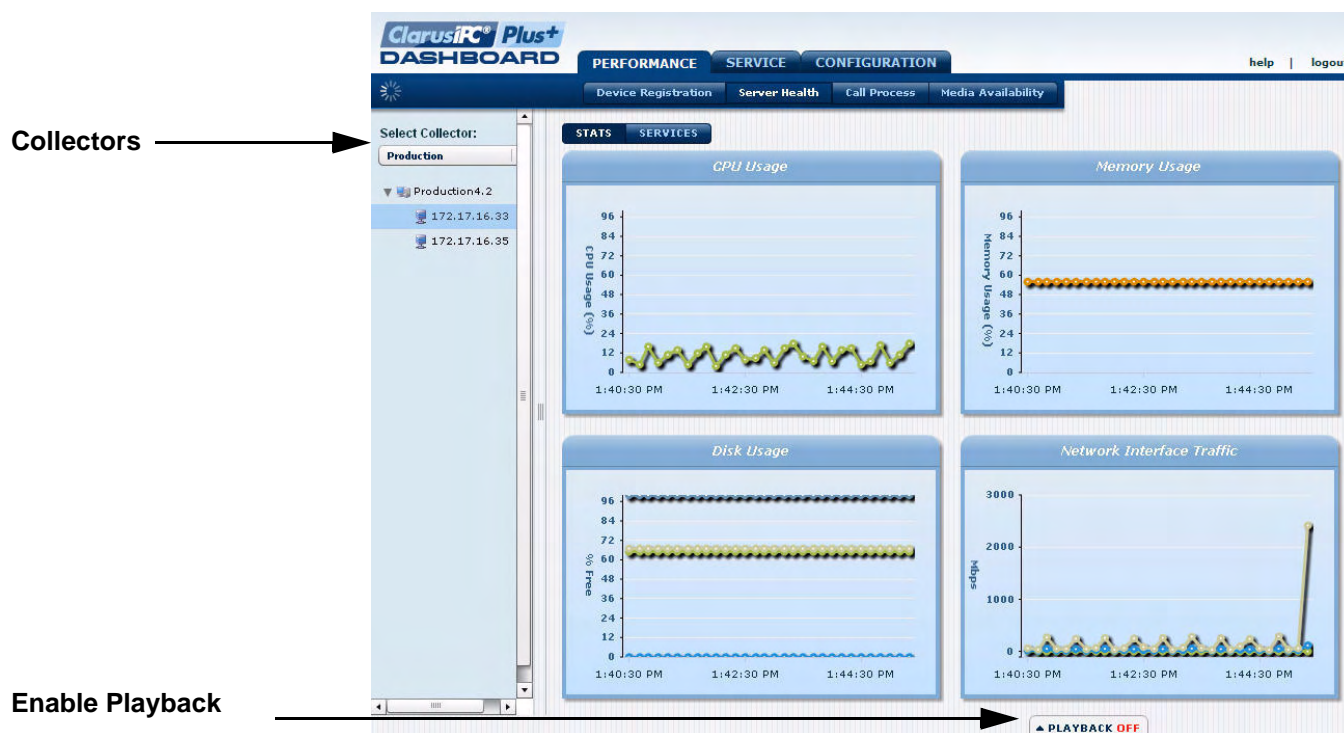


Figure 1 Dashboard Window

NOTE: Mouse over a node in any graph for more information on that data point.

Device Registration

The **Device Registration** window displays registration status for Device Pools included in the selected Collector. Use the pulldown menus to select the Collector, and then the device type for which data will be shown: Phones, MGCP Endpoints, Voice Mail, CTI, H.323 Gateways, or Media Resources. (If multiple Clusters have been included in your Collector, you may exclude registration status for a particular Cluster by unchecking the box to the left of the Cluster name.)



Figure 2 Device Registration Window

The two main panes summarize registration status by Cluster and by Device Pool for the selected Device type. Counts are listed for registration status.

- **Registered:** devices registered to a CUCM.
- **Unregistered:** devices not registered to any CUCM.
- **Rejected:** devices for which the registration attempt was rejected by CUCM.
- **Unknown:** devices for which CUCM was unable to determine status.
- **DBOnly:** devices which do not have a registration state, but which exist in the CUCM database. These devices have either never been registered, or their registration status with the CUCM has expired.
- **Failed-Over:** devices currently registered to their non-primary CUCM.

Clicking a count in the **Device Pool summary** pane opens a details pane, in which details for that count are listed. This pane displays the Device's DN, Name, Description, IP Address, Status, Last Registered, Model, Active CM, and Primary CM.

DN	Device Name	Description	IP Address	Status	Last Registered	Model	Active CM	Primary CM
2836	SEP000D6075C47E	Dipen Shah CIPC	10.1.1.174	Registered	04/24/2008 12:37 PM	Cisco IP Communicator	172.17.16.33	172.17.16.33
2851	SEP00059A3C7800	Dylan Essner CIPC	10.1.1.178	UnRegistered	04/23/2008 7:22 PM	Cisco IP Communicator	172.17.16.35	172.17.16.33
2852	SEP0015580A9F21	David Roberts CIPC1	172.17.16.79	UnRegistered	04/24/2008 9:49 AM	Cisco IP Communicator	172.17.16.35	172.17.16.33
2875	SEP0019D24138DF	Kedar CIPC	172.17.16.221	UnRegistered	04/23/2008 10:58 PM	Cisco IP Communicator	172.17.16.35	172.17.16.33
2877	SEP001F3A4840	Gurmeet Lamba	10.1.1.174	UnRegistered	04/24/2008	Cisco IP	172.17.16.33	172.17.16.33

Figure 3 Device Registration Details Pane

A question mark (?) indicates that data is not available for the field. An orange listing (Failed-Over Numbers, and Active and Primary CM fields) indicates that the phone is no longer registered to its Primary Communications Manager. IP addresses of listed phones link to the phone's Device Information web page.

To close the details pane, simply click the **x** in the upper right corner of the pane.

Server Health

The Server Health window displays Server Performance data.

Use the **Select Collector** pulldown menu in the left pane of the window to select the Collector you wish to view, then select individual servers from the tree generated beneath it. Use the Stats and Services buttons to toggle between the two views.

Server Health: Stats

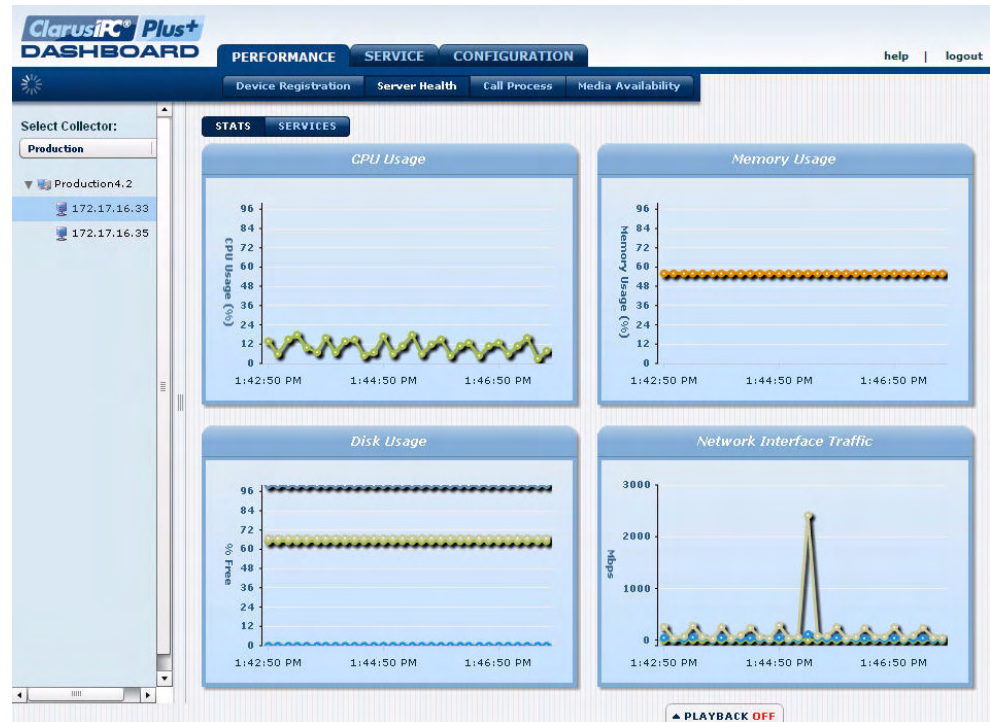


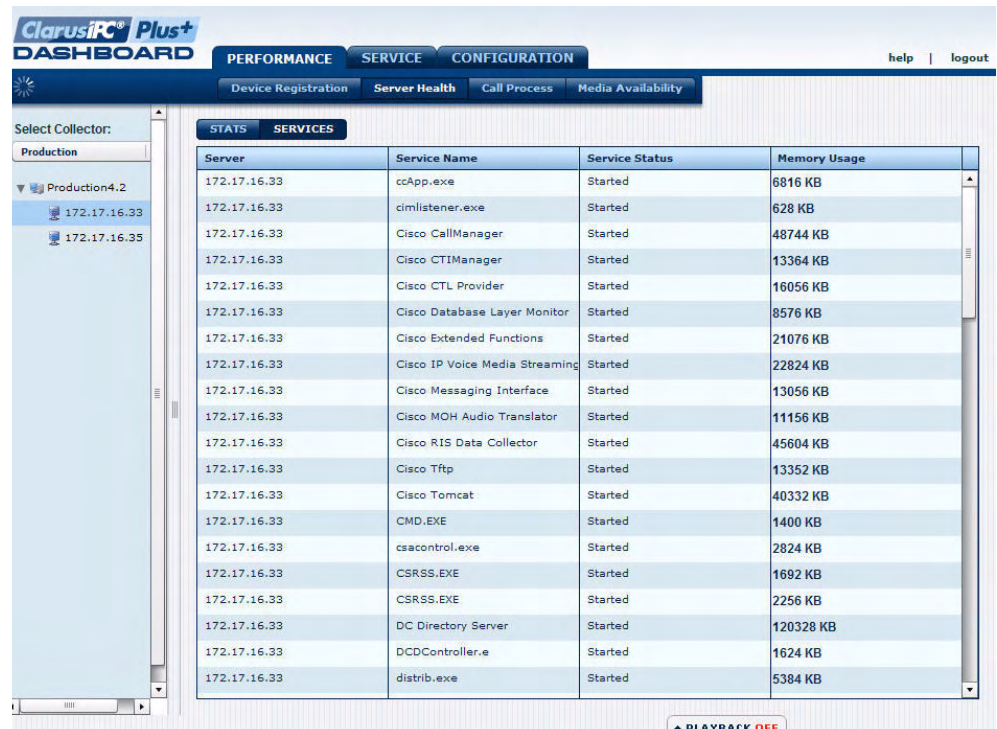
Figure 4 Server Health: Stats Window

The **Server Health: Stats** window displays server health for the selected Cluster. Server Health statistics include:

- **CPU Usage:** shows the percentage of CPU space available per core. (Displays one line per installed CPU.)
- **Memory Usage:** shows the used RAM as a percentage of total RAM available.
- **Disk Usage:** shows the percentage of available disk space per hard drive. (Displays one line per logical disk volume.)
- **Network Interface Traffic:** shows the traffic in Mbps per data collection interval. (Displays one line per network interface.)

Mouse over any line to see detailed information for the data point.

Server Health: Services



Server	Service Name	Service Status	Memory Usage
172.17.16.33	ccApp.exe	Started	6816 KB
172.17.16.33	cimlistener.exe	Started	628 KB
172.17.16.33	Cisco CallManager	Started	48744 KB
172.17.16.33	Cisco CTIManager	Started	13364 KB
172.17.16.33	Cisco CTL Provider	Started	16056 KB
172.17.16.33	Cisco Database Layer Monitor	Started	8576 KB
172.17.16.33	Cisco Extended Functions	Started	21076 KB
172.17.16.33	Cisco IP Voice Media Streaming	Started	22824 KB
172.17.16.33	Cisco Messaging Interface	Started	13056 KB
172.17.16.33	Cisco MOH Audio Translator	Started	11156 KB
172.17.16.33	Cisco RIS Data Collector	Started	45604 KB
172.17.16.33	Cisco Tftp	Started	13352 KB
172.17.16.33	Cisco Tomcat	Started	40332 KB
172.17.16.33	CMD.EXE	Started	1400 KB
172.17.16.33	csacontrol.exe	Started	2824 KB
172.17.16.33	CSRSS.EXE	Started	1682 KB
172.17.16.33	CSRSS.EXE	Started	2256 KB
172.17.16.33	DC Directory Server	Started	120328 KB
172.17.16.33	DCDController.e	Started	1624 KB
172.17.16.33	distrib.exe	Started	5384 KB

Figure 5 Server Health: Services Window

The **Server Health: Services** window lists server health statistics by service.

For **CUCM 5.X** and **6.X**, all Cisco Services and their states are displayed. For **CUCM 4.X**, all *known* processes display their Windows service name and state. For example, *ccm.exe* is displayed as *Cisco CallManager*. *Indeterminate* processes display only the process (such as *dllhost.exe*), and not its state.

NOTE: Because indeterminate processes are displayed for CUCM 4.X, rather than services, a service that has never been running during *collection* may not be displayed. However, if a service has changed from *running* to *stopped*, then the list will display a *stopped* state.

Server Health counters collected include:

- Cisco services (CUCM 4.X (where determinate), 5.X, and 6.X)
 - Name (such as Cisco Tftp)
 - Status: running, stopped, or restarted
 - Memory (CUCM 4.X only)
- Processes (CUCM 4.X only)
 - Name (such as dllhost.exe)
 - Memory

Call Process

The Call Process window allows users to view call activity across Clusters and Device Pools, to help troubleshoot call routing and load problems. Call Process illustrates call activity for a specified Route List (RL) or Route Group (RG). The Call Process window will display activity for a selected RL or RG, or for individual gateway devices within a selected RL or RG.

Use the **Select Collector** pulldown menu in the left pane of the window to select the Collector you wish to view, then select a Route List, Route Group, or gateway device from the tree generated in the pane below.



Figure 6 Call Process Window

Available Graphs

- Call Activity
- MGCP FXS and FXO Port Status (if applicable)
- MGCP PRI and T1/E1 Channel Status (if applicable)

NOTE: Calls placed into or out of Analog gateway ports are excluded from the Call Activity graph.

Media Availability

The Media Availability window is designed to help users understand their media resource capacity and current levels. Media resources such as MTP, MOH servers, and transcoders have limits and should be closely monitored.

Users may view availability for resources in a specific Media Resource Group List or Group by selecting the appropriate entry in the navigation tree. Once a Group List or Group is selected, you may filter by individual Media Resources using the pulldown menus under the generated graphs.



Figure 7 Media Availability Window

Graphs

- Transcoder Availability
- MOH Resource Availability
- MTP Resource Availability
- Conference Bridge Availability

Enable Playback

The Performance tab also offers a **Playback** pane, which allows you to review data collected during a previously occurring period in your IPT system. For example, if you determine that one of the CUCM server services stopped over the weekend, Playback allows you to see how the system performed just before it crashed, how much memory was being used, and which other processes were running. By default, the Playback pane displays the previous hour's data.

NOTE: A Collector must have been running for its Playback data to be available.

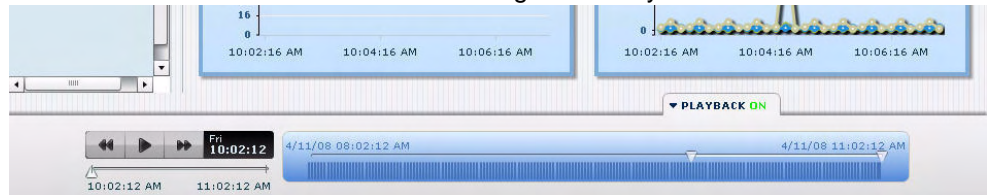


Figure 8 Enable Playback Pane

To enable Playback:

1. Begin Playback by clicking the **Playback** tab at the bottom of the Dashboard.
2. Use the main slider to select the time frame during which you wish to review data. (The endpoints of the time slot may also be adjusted.)
3. Click the **Play** button to move through the data at the rate of one collection interval per second.
4. Use the fast forward (>>) and fast back (<<) buttons to step through the playback frames; or use the bottom slider to move through data collections during the selected time frame.

While in playback mode, archived data (excluding device registration) will display across all windows of the Performance tab.

The Playback mode automatically corrects for differences in time zones for multi-time zone installations. For example, events which occur at 3:00pm Eastern Standard Time may be viewed on the west coast by setting the Playback tool to display 12:00pm PST. Events occurring at 3:00pm PST may be viewed on the east coast by displaying 6:00pm EST.

To end Playback mode and resume current data display, click the **Playback** tab to close the pane.

NOTE: While summary registration information is available in Playback mode, detailed registration information is not.

Service Views

The **Service** tab offers graphic representations of your system, based on the CDR/CMR data collection defined in your Clusters.

Select a Company, then a Cluster from the left pane. Select the desired Service view from the pulldown menu in the top right of the screen. Select a time frame to display, and click **Go** to generate your graph.

Double clicking on a node in the generated graph will drill down through the information displayed, moving from a Monthly view, to the Daily view, to Hourly, to a Custom Query based on the specific bit of information clicked.

To generate a spreadsheet display, click the **Custom Query** button. Custom Queries list data by CDR/CMR record type, and may be sorted and filtered by column. Use the pulldown menus at the top of each column to filter and sort the Results.

The Custom Query view also offers a **Filters** button, which opens a pane at the bottom of the window that lists the filters and sort functions applied to the window, and a **CSV** button, which copies the contents of the window to the clipboard as a comma separated value file.

Alert Summary

The Alert Summary window displays a pie chart of Alerts by Policy Name and by Rule Name for the selected Cluster and time interval.

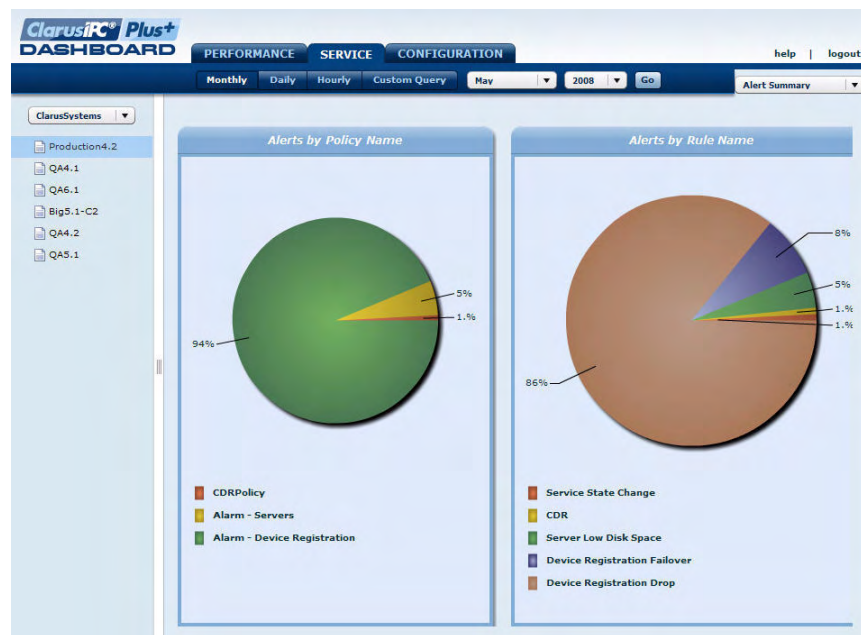


Figure 9 Alert Summary Window

Call Failure

The Call Failure window displays call setup failures resulting from non-user-error problems encountered on either the originating or destination leg of the call. The Trend tab charts the call failures over time. The Distribution tab shows pie charts of the Origination and Destination Cause Code failures.

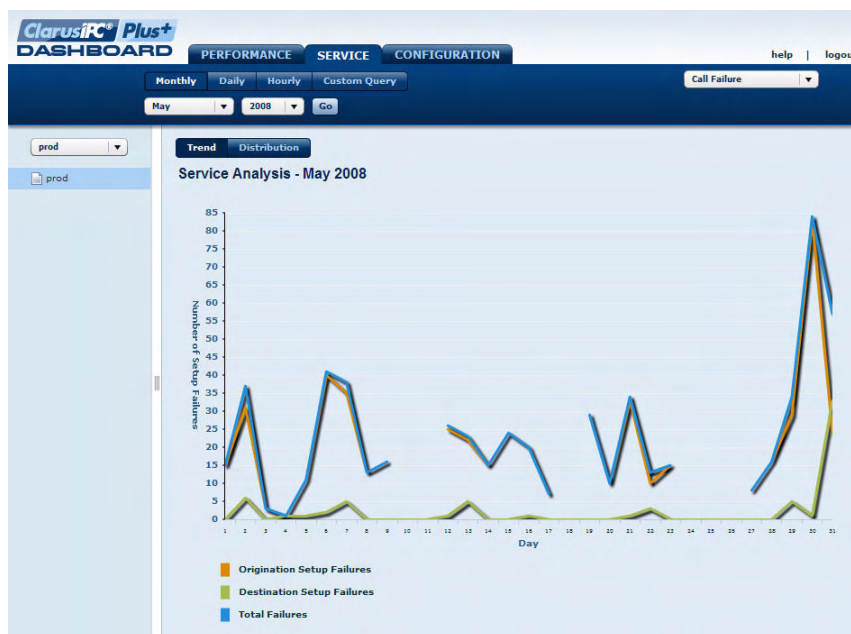


Figure 10 Service: Call Failure Trend Window

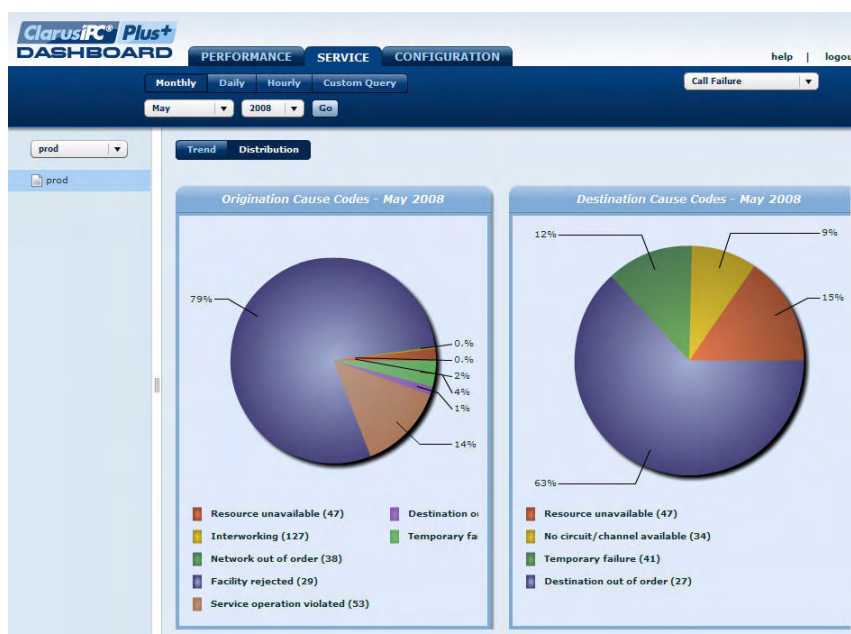


Figure 11 Service: Call Failure Distribution Window

Call Volume

The Call Volume window graphs the number of inbound, outbound, and internal calls by selected time interval.



Figure 12 Service: Call Volume Window

Resource Utilization

The Resource Utilization graph charts the Originating and Destination Devices for the selected time period.

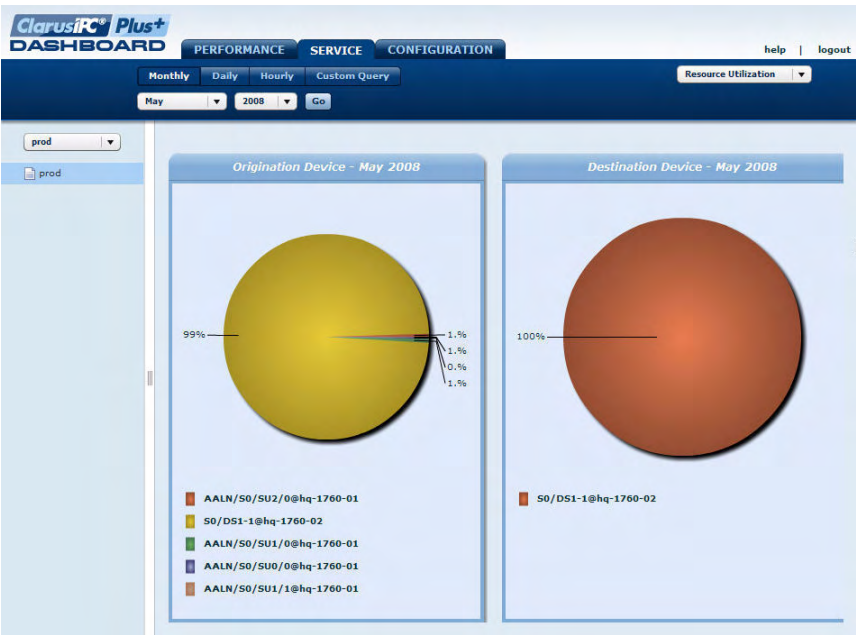


Figure 13 Service: Resource Utilization Window

Voice Quality Analysis

This window shows the call quality breakdown for all calls established during the designated time frame. The custom query view will list the 100 calls with the worst call quality, based on the minimum MOS (MVTQmn) score.



Figure 14 Service: Voice Quality Analysis Trend Window

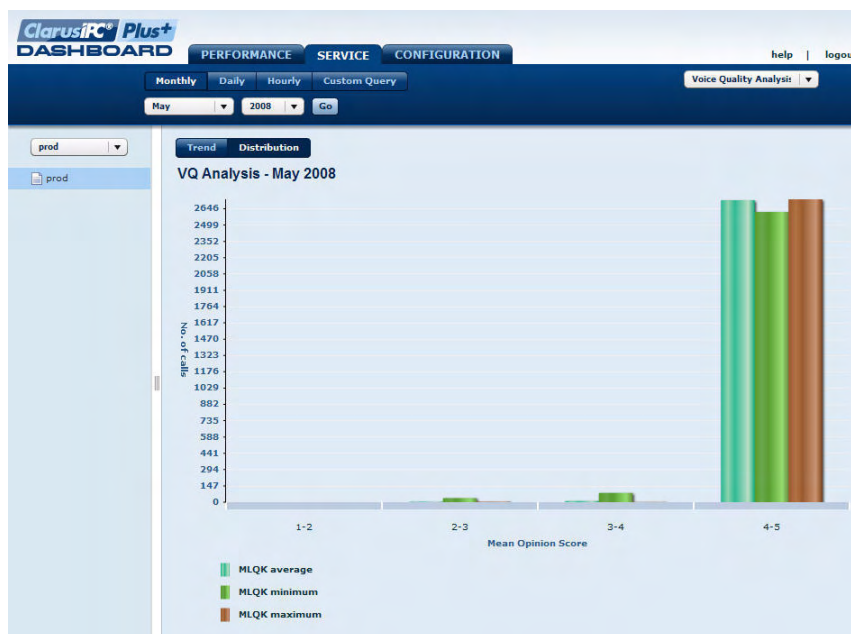


Figure 15 Service: Voice Quality Analysis Distribution Window

Configuration Views

The Configuration tab offers an overview of your system, based on Snapshots, allowing you to:

- View configuration changes across multiple clusters, over time, or by type of change.
- Drill down from Cluster-level to a particular device or user phone.
- Create detailed tabular views for sorting, filtering and locating specific entries (phones, route patterns, etc).
- View Unity data in conjunction with CUCM data.

NOTE: The **Configuration** tab charts differences between Snapshots; therefore, this Dashboard view requires that Track Changes be selected for Sync.

This window Displays a tree structure on the left pane outlining the CallManager elements, including System, License, Route Plan, Devices, Phone, Media, and Voice Mail.

- Select a time frame, then select Snapshot A and B from the generated pull-down menus. These menus are automatically populated with all available Snapshots from the selected time period.
- Once elements and Snapshots items are selected, click **submit**.

The system will return all changes for the selected element type(s) between the 2 Snapshots. As with the other Dashboard views, double clicking on a node in the generated graph will drill down through the information displayed.

To generate a spreadsheet display, click the **Grid** view. This view may be sorted and filtered by column. Use the pulldown menus at the top of each column to filter and sort the Results.

The Grid view also offers a **Filters** button, which opens a pane at the bottom of the window that lists the filters and sort functions applied to the window, and a **CSV** button, which copies the contents of the window to the clipboard as a comma separated value file.

Trend

This view displays all changes for the selected element between selected Snapshots. The number of changes made to the selected item are mapped against the selected Snapshots. Click a data point to display a more detailed breakdown of changes for that point.

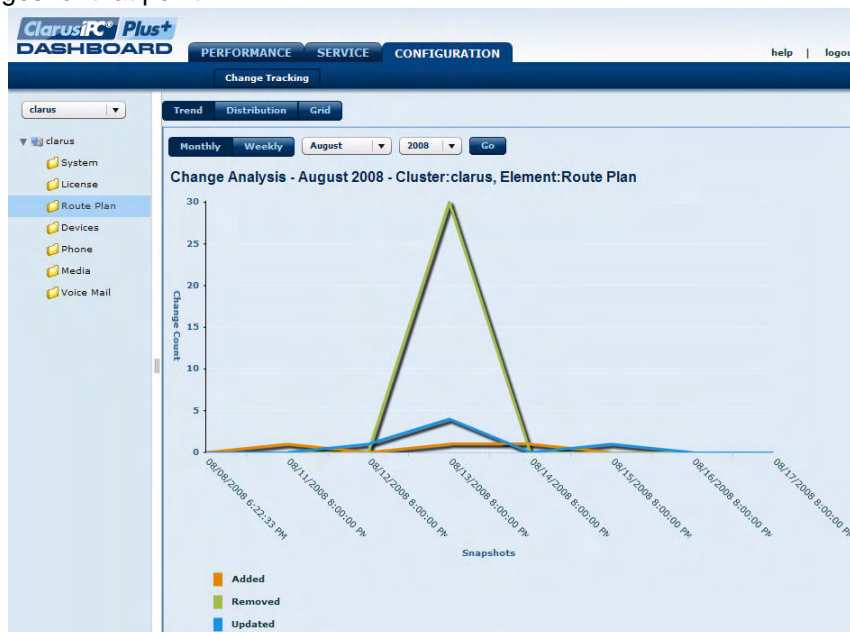


Figure 16 Configuration: Change Tracking Trend Window

Distribution

This view shows the percentage change of the selected element, from the selected Snapshot to the previous Snapshot. Select an element to display, a time frame for which Snapshots will be listed, and the Snapshot you wish to evaluate. The Distribution view plots changes for the selected elements against the previous Snapshot.

Figure 17 Configuration: Change Tracking Distribution Window

NOTE: Please note that the percent displayed is in relation to the sum of all changes found.

Grid

The Grid view offers a sortable spreadsheet of listed changes between two selected Snapshots. As with the other similar Dashboard views, this offers Filters and a CSV export button, and may be sorted and filtered using the pulldown menus at the top of each column.

The Grid view also allows you to drill down by selecting specific elements from the left-hand tree under the element groups. Using the tree enables you to quickly filter views, before using the pulldown menus to fine tune your selection.

The screenshot displays the ClarusIP Plus+ Dashboard in the CONFIGURATION tab. The 'Change Tracking' section is active, showing a grid view of changes between two snapshots. The left-hand tree is expanded to show the 'QA4.1' group, which includes 'Media' and 'Voice Mail'. The main grid area shows a table of changes with columns for Element Type, Element Name, Type, Attribute, and Value. The table is filtered to show changes for the 'All' element type and 'All' element name. The table shows several rows of changes, including MOH Servers and Conference Bridge Type. The bottom of the grid has buttons for 'Filters' and 'CSV'.

Element Type	Element Name	Type	Attribute	Value as of 07/21/2008 10:26:42 ...	Val
All	All	All	All	All	All
MOH Servers	MOH_QA-SVR-A	Updated	location	<None>	
MOH Servers	MOH_QA-SVR-B	Updated	location	Clarus	Cl
Conference Bridge Type	CFB_QA-SVR-B	Updated	location	Clarus	Cl
Conference Bridge Type	ClarusSFO_ConfB	Updated	registrationState	0	2
Conference Bridge Type	ClarusSFO_ConfB	Updated	description		12
Conference Bridge Type	ClarusSFO_ConfB	Updated	location	<None>	

Figure 18 Configuration: Change Tracking Grid Window

