CA Unified Communications Monitor

Release Notes

Version 3.4

Contact CA Technologies

Contact CA Support

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- Online and telephone contact information for technical assistance and customer services
- Information about user communities and forums
- Product and documentation downloads
- CA Support policies and guidelines
- Other helpful resources appropriate for your product

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Chapter 1: Welcome to Release 3.4

CA Unified Communications Monitor (UC Monitor) ensures the performance of your unified communications systems. UC Monitor employs passive monitoring to maintain a continuous record of setup traffic and of the quality of audio and video calls.

These *Release Notes* provide information about the enhancements and open issues in UC Monitor version 3.4. This information supplements and supersedes information listed in the product documentation.

New in this Release

UC Monitor version 3.4 provides the following enhancements:

- **Support for Cisco Unified Communications Manager version 8.6**. UC Monitor now supports versions 4.2 through 8.6. For more information about supported products, see Supported Unified Communications Systems (see page 8).
- **Support for Microsoft Lync Server 2013**. UC Monitor now supports Lync Server 2010 and Lync Server 2013. For more information about supported products, see Supported Unified Communications Systems (see page 8).
- **New Service Level Agreement view in CA Performance Center**. The new view uses call data from UC Monitor to let managed service providers assure their clients that SLA commitments are being met.
- **Support for reporting per-hop MOS from medianet-enabled devices**. Several reports now provide MOS for audio streams that traverse medianet-enabled devices. New charts graph MOS over the length of the stream leg for ingress and egress interfaces of medianet-enabled devices. In addition, MOS entries in the tables are accompanied by a color-coded indicator of MOS severity.
  - Call Details
  - Call Watch Details
  - Midstream Metric Details
  - Midstream Legs
- **New codec information on the Midstream Legs List**. Entries in the report now identify the codec that was in use for a stream leg. Cisco IOS release 15.2 or later is required for codec monitoring.
- **New filtering option on the Midstream Legs report**. You can now filter the Midstream Legs report by voice gateway. Click the Settings link to select the voice gateways for the report.

- **Ability to select multiple Locations to easily change the monitoring status**. You can select multiple Locations in the Locations List, and then click Edit to simultaneously change the status for all of the selected Locations.
- **Improved usability of the auto refresh feature**. Simply expand the Options menu and toggle between Enable Auto Refresh and Disable Auto Refresh.
- **Finer granularity of options for pruning abandoned call data**. With this release, you can prune the data about abandoned calls in the UC Monitor database in increments as small as one day or as large as 24 months.
- **Support for reporting on call quality metrics from authenticated SIP traffic in Cisco environments**. This support is disabled by default. Contact CA Technical Support for information about configuring UC Monitor to receive authenticated packets.

Support for CA Performance Center

UC Monitor version 3.4 is supported as a data source for CA Performance Center version 2.0 (and later) and CA NetQoS Performance Center version 6.1. Specific versions of each product are required to support selected features.

Support for groups and IP domains

Requires UC Monitor version 3.1 (or later) and one of the following:

- CA Performance Center version 2.0 (or later)
- CA NetQoS Performance Center version 6.1

Support for tenants

Requires both of the following:

- CA Performance Center version 2.0 (or later)
- UC Monitor version 3.3 (or later)

Important: Do not install UC Monitor on the same server as CA Performance Center.

Supported Unified Communications Systems

This section provides the most recent information available about the unified communications systems that you can monitor with UC Monitor. The CA Quality Assurance team tested all systems and devices listed in the topics in this section. Other systems and devices may work but have not been tested.

For information about configuring supported systems so that they work seamlessly with UC Monitor, see the *CA Unified Communications Monitor Installation Guide*.

Avaya Support

UC Monitor supports the following Avaya unified communications systems and devices. One management console can process a maximum of 4500 simultaneous calls (roughly 90,000 calls per hour) without an impact to performance. The number of phones and the number of collectors are irrelevant.

- Avaya Communications Manager versions 3, 4, 5x
- Avaya Aura Communication Manager versions 5.2 and 6.0. Later versions may work but have not been tested.
- Avaya voice gateways that send RTCP data for reporting call quality
- Avaya phones that send RTCP data for reporting call quality:
  - Avaya 1600 Series (call center phones)
  - Avaya 4600 Series (desktop [hard] phone)
  - Avaya 9600 Series (SP or H.323 business desktop phone)
  - one-X SIP softphones

  Note: At this time, only Avaya digital phones (such as model 5410) do not send RTCP data for reporting call quality.

Cisco Support

UC Monitor supports the following Cisco unified communications systems and devices. CA Technologies tested UC Monitor with gateways of the indicated types using the major call setup protocols: SIP, H.323, and MGCP. UC Monitor supports call volumes of up to ten million calls per month.

System or Device	Notes
Cisco Unified Communications Manager	Versions 4.2 through 8.6. Later versions may work but have not been tested. **Note**: Versions 8.0 and later are supported only by UC Monitor versions 3.1 and later.
Cisco voice gateways, with T1/E1-PRI connections	Including the H.323 and MGCP protocols and SIP trunks to voice gateways.
Analog-type gateways	■ Voice gateways that make an FXO connection are monitored for call performance data. ■ Call Watch is supported for calls through an FXO connection only if the H.323 protocol is used.

System or Device	Notes
Cisco VG-224 gateways	■ These devices provide only call setup metrics. ■ Call quality reporting and Call Watch are not supported for these devices.
Cisco ATA 186 analog telephone adapters	■ These devices provide only call setup metrics. ■ Call quality reporting and Call Watch are not supported for these devices.
Catalyst 6000 WS-X6608-T1/E1 Blade for Voice	■ Call Watch is not supported for this device. ■ This device returns limited call quality metrics for UC Monitor performance reports.
Cisco Unified IP phones	■ 6900 series ■ 7920, for call performance metrics only. Call Watch is not supported for this phone. ■ 7921, 7962, 7911, 7941, 7961, 7945 ■ 8941, 8945. The switch address, switch name, and switch port number for these phones may not be available on the Phone Details report. ■ 8941, 8945, 8961, 9951, 9971. Video metrics can be available from these phones in a medianet environment. **Note**: Install the latest firmware for these phones.
Cisco Unified IP phones, running in advanced SIP mode	7906, 7911, 7941, 7961, 7970, 7971. **Note**: Install the latest firmware for these phones.
Cisco IP Communicator softphone	■ Version 2 provides few call quality metrics. ■ Versions 7 and later provide packet loss, jitter, and call setup metrics.
Cisco Unified Personal Communicator, version 7.0	■ Call volume data is obtained for calls to and from this client, such as when the calls were made and the locations of the endpoints. ■ Call setup failures can be reported from this client
Medianet-enabled devices	UC Monitor supports Cisco devices that send medianet performance information. For more information, consult the Cisco documentation for “Cisco Networking Capabilities for Medianet.”

System or Device	Notes
Phone localization settings	UC Monitor supports the following settings. Other settings may work, but have not been tested. ■ English (US and UK) ■ German, Danish, Dutch ■ Italian, French, Spanish ■ Japanese

Microsoft Support

UC Monitor supports the following Microsoft unified communications systems and devices:

- Microsoft Lync Server 2013, with the Quality of Experience Monitoring Server installed.
- Microsoft Lync Server 2010, including Enterprise and Standard Editions.
- Microsoft Office Communications Server 2007 R2, including Enterprise and Standard Editions.
- Microsoft Office Communications Server 2007, with the Quality of Experience Monitoring Server installed.
- Microsoft Office Communications Server Mediation Server.
- Microsoft Office Communications Server A/V MCU (Conferencing Server).
- Messenger for Mac 7.
- In general, UC Monitor supports the devices that are identified at the following link: http://technet.microsoft.com/en-us/lync/gg278164.aspx
- UC Monitor does not support servers and endpoints that do not send quality reports, such as the OCS Edge Server and Exchange 2007 Unified Messaging Server.
- CA has tested the following devices. Other devices may work but have not been tested.
  - Polycom CX100, CX200, and CX700
  - LG Nortel IP8540 and IP8501
  - LifeCam NX-3000 and NX-6000
  - LifeCam VX-5500 and VX-7000
  - LifeCam Cinema

Upgrade Support

Upgrades from UC Monitor versions 3.1, 3.2, and 3.3 are supported.

Features added with a newer version of the UC Monitor software are supported when new data is available. For reports newly added to a release, data begins to be collected immediately, but some data rollups, such as hourly call volumes, for example, become available one hour after the upgrade completes.

For more information about upgrading UC Monitor, see the *CA Unified Communications Monitor Upgrade Guide* on the UC Monitor bookshelf on CA Support Online.

Scalability Considerations and Report Performance

Some VoIP equipment vendors discuss scalability in terms of the number of IP phone users or the expected number of calls. Others use the terms busy hour call completions (BHCC) and busy hour call attempts (BHCA). These terms represent the number of calls or call attempts that can be processed during the busiest hours of the day.

The UC Monitor components, particularly the collector, support a BHCA of 25,000. In laboratory testing, the collector handled a higher BHCA. The collector is designed to handle temporary situations where the volume of VoIP traffic is far greater than normal.

Scalability affects report performance. Generally, the time necessary for report queries to complete is directly related to the size of the database and the number of Locations and media devices.

The following guidelines can help you understand what to expect from the management console with a large UC Monitor deployment:

- Reports for three-hour periods of data are generated reasonably fast, even with a large database.
- Reports for a full day of data are usually generated within 60 seconds. However, the Call Leg Details reports can take longer to appear.
- Reports for a full week of data can take a few minutes to appear. The Call Performance Overview takes the longest.
- We recommend careful database maintenance. By pruning older data (especially abandoned calls), you can maintain the database at a manageable size, enabling reports to be generated faster. The administrator can control database maintenance settings to keep the database to the minimum desirable size.

Bandwidth Considerations

Consult the following guidelines to determine how much bandwidth you need for normal communication from a collector to the UC Monitor management console.

- Audio or video call records in a Cisco Unified Communications Manager environment consume approximately 850 bytes.
- Audio call records in an Avaya Unified Communications Manager environment consume approximately 8500 bytes.
- An audio call in a Microsoft Lync environment consumes approximately 18kb.
- An audio call in a Microsoft OCS R2 environment consumes approximately 13kb.

  Note: A Microsoft video call consumes approximately twice as much as an audio call.

Single Sign-On

Single Sign-On is the authentication scheme for CA Performance Center and all supported data sources. Once they are authenticated to CA Performance Center, users can navigate among the console and registered data sources without signing in a second time.

By enabling navigation among separate product interfaces, Single Sign-On helps ensure a seamless drilldown experience for operators who are analyzing performance and status data. For example, if a user logs in to CA Performance Center and then follows a drilldown path to the data source interface, that user does not log in again.

CA Performance Center uses a distributed architecture. An instance of the Single Sign-On website is automatically installed on every server where a supported data source or CA Performance Center is installed. If two data source products are installed on the same server, they use the same instance of the Single Sign-On website. The distributed architecture lets users log in to individual CA data source products by logging in to the servers where these products are running.

Third-Party Software License Agreements

Third-party software was used in the creation of UC Monitor. All third-party software was used in accordance with the terms and conditions for use, reproduction, and distribution as defined by the applicable license agreements.

Information about third-party license agreements is provided in the following document, which is installed automatically with the UC Monitor software:

`<install path>:\CA\ThirdPartyContent\UCM_ThirdPartyContent.txt`

Chapter 2: Known Issues

This section describes known issues and suggests workarounds.

No support for multiple UC Monitor data sources

CA Performance Center versions 2.0 and 2.1 support only one UC Monitor data source. Support for up to four UC Monitor data sources is expected in a future release of CA Performance Center.

Large queries affect dashboard views in CA Performance Center

The views in the Unified Communications Dashboards in CA Performance Center impose no limit to the size of a query. You can query a time frame as large or as small as you want. However, performance of these views is adversely affected by query results that are larger than the amount supported by reports in the UC Monitor management console. UC Monitor reports support a maximum of 10 million calls per month. For more information, see the topic "Managing the UC Monitor Database" in the online help or the *CA Unified Communications Monitor Administrator Guide*.

Call Quality Breakdown view fails in NetQoS Performance Center 6.1

The Call Quality Breakdown view fails with the following error:

```
The given key was not present in the dictionary.
```

The view is available from the Enterprise, Unified Communications, and VoIP dashboards.

Contact CA Support for assistance in resolving this issue.

Pie chart in Call Quality Breakdown view disappears

In CA Performance Center versions 2.0 and 2.1, the pie chart can disappear from the Call Quality Breakdown view in the Unified Communications dashboard in the following situation:

- You view a time frame for which there is data and a pie chart.
- You next view a time frame for which there is no data.
- You next view a time frame for which there is data. However, the pie chart is missing.

Workaround: Reload the view from the Dashboards menu in CA Performance Center. Then select your date and time options again.

Configuration changes affect accuracy of the Midstream Details table

The Midstream Details table identifies the ingress and egress interfaces associated with a medianet-enabled router. Each interface is associated with an ifIndex. If a change to a router's configuration associates the ifIndex with a different interface, the table is updated to reflect the new interface name. The new interface name may not be the name that you originally associated with the call.

Workaround: None. The inaccurate data is replaced as older midstream data is purged.

Jitter values for medianet may be inaccurate

For Cisco's initial support for medianet, the jitter and max jitter values can be high and inaccurate for streams with codecs that use a non-default clock rate. Basically, the router has to assume a certain clock rate. If the clock rate does not match the rate that the codec needs, the resulting jitter calculations are incorrect.

Workaround: Configure IOS to be aware of the clock rate by codec and RTP payload type. Identify the audio and video applications on your network, including the associated codecs, RTP payload types, and clock rates. For more information, see the Cisco document titled *Cisco IOS Media Monitoring Command Reference*. In the document, search for "clock-rate (policy RTP)."

Incorrect latency value for Cisco phone models 8941 and 8945

In our testing, these phones returned incorrect latency values. We have reported this issue to Cisco.

Some video calls are classified as audio calls

Medianet data can indicate whether a call is a video call or an audio call. If this information is not available from medianet data, UC Monitor bases the call type on the observed bandwidth of the call. Calls with lower bandwidth are classified as audio. Therefore, the number of audio calls listed in reports can be higher than actual. When troubleshooting a call, try filtering by audio media rather than video to find a particular call.

Long-running calls may be reported inaccurately

UC Monitor limits call duration to 12 hours. After 12 hours, UC Monitor stops monitoring the call and reports call metrics in the management console. The call duration is inaccurate because the call was not completed. In addition, if the call continues longer than 12 hours, UC Monitor may begin monitoring the call again, with a new origination time.

Purging abandoned call data may be time-consuming

During automatic database maintenance, the first time that abandoned call data is purged can substantially increase the maintenance period. The purging of three to four million abandoned calls can take 30 minutes more than usual. During a large manual purge of abandoned call data, the management console can time out, although the purge operation continues to run.

Midstream devices may have two classifications in CA Performance Center

If you registered UC Monitor as a data source for CA Performance Center, you can include medianet-enabled devices (midstream devices) in groups. In the Add Device List in CA Performance Center, midstream devices are identified with a type of “Other.” However, if another registered data source has also discovered the device, the device can appear in the Add Device List as a “Router” type.

Login fails after change to SSO configuration and upgrade

Logging in to UC Monitor can fail in the following circumstance, although drill-down from CA Performance Center is successful:

- You were running UC Monitor version 3.2 or earlier and modified the SSO (see page 13) configuration.
- You then upgraded to UC Monitor version 3.3 or later.

Upgrading to UC Monitor 3.3 or later includes an upgrade to SSO version 7.0, which will not override any changes to the SSO configuration. At this point, SSO is improperly configured and UC Monitor will not allow direct logins.

Workarounds:

- *If you have not yet upgraded to UC Monitor 3.3 or later*, use the SSO configuration tool to undo any custom SSO configuration.

  Note: You cannot perform this workaround after upgrading.
- *If you have already upgraded to UC Monitor 3.3 or later*, contact CA Technical Support for information about modifying the SSO configuration.

Issues with Cisco phone models 9971, 9951, 8961, with firmware 9.1(2) or earlier

In our testing, we found the following issues:

- These phones occasionally reported a minimum MOS value that was higher than the average MOS value. We reported this issue to Cisco.
- Previous versions of the firmware provide CMR concealment ratio data in an invalid format. This format causes UC Monitor to see high values for jitter buffer loss. For example, 87 percent instead of 0.087 percent. **Workaround**: The issue appears to be resolved in firmware versions 9.2(1) and later.

Short calls may not be correlated correctly with call legs

When short calls are consecutive in environments that reuse ports, such as Avaya environments, UC Monitor may not be able to correlate call legs, including medianet streams, to their respective calls.

Dashboard times out when database and time frame are large

The Unified Communications Dashboard page in CA NetQoS Performance Center times out without fully rendering the views when the UC Monitor database contains at least ten million calls and a one-week or longer interval is selected.

Workaround: Split some of the UC Monitor data views into two custom CA Performance Center reports. For example, create a custom report named “Performance” to include the Worst Locations and Worst Phones views. Then, create another report named “Volume” to contain the rest of the views that are associated with the Capacity Planning reports. With fewer views, the dashboard is rendered successfully.

Voice Interfaces and Call Watch menus do not appear after a call server is discovered

Occasionally, two navigation links do not appear after a Cisco or Avaya call server is discovered:

- Troubleshooting section: Call Watch link (*Avaya or Cisco*)
- Capacity Planning section: Voice Interfaces link (*Cisco only*)

Workaround: Log out from the management console, and then log back in. If the navigation items are not displayed, edit and save (but do not change) the role for the current user account. The menu items appear the next time that the page is refreshed.

Initial addition of collector does not read information such as version or license

When you add a collector in a Cisco or Avaya environment, a few identifying items are not displayed immediately, such as the collector version and available license values.

Workaround: Click the Update Status button and then reload the collector.

Maximum jitter is less than average jitter for gateway calls

During our tests of calls that passed through an Avaya voice gateway, we saw that maximum jitter values reported in the Call Watch Details report were lower than the average jitter values. After some investigation, we reported this issue to Avaya.

High concealment ratios when no packets received

In our testing, we occasionally observed abnormally high values for jitter buffer loss. We determined that the spike in values occurs when there is a mismatch in voice activity detection (VAD) settings between the call server and the gateway. During periods of silence in the conversation, the phone can interpret 0 packets received as 100 percent concealment, which is then factored into the jitter buffer loss total.

No codec identification for inbound call streams

Not all Microsoft endpoints that send end-of-call quality reports identify the payload for the inbound call stream. UC Monitor can identify the codec for an inbound stream only when one of the two conversing parties reports the necessary payload information.

Call correlation problem when successive calls use same RTP port

The Cisco Unified Personal Communicator sometimes uses the same RTP port for calls. Therefore, if successive gateway calls are made to or from the same CUPC within 5 minutes, UC Monitor may not correlate the call quality statistics correctly.

Call Performance views: Do not refresh the screen every 60 seconds

The default setting in report views is to refresh the browser window every 60 seconds so that new collected data is reflected in the charts. The refresh can be troublesome because it also scrolls the page back to the top.

Workaround: Use the OPTIONS menu on the report page to disable auto-refresh. Then press F5 to refresh the page every few minutes.

Call Watch Details: Ten-second call shows only MOS value

When a monitored call is too short to contain enough data for every call quality metric, the call can appear in reports with only a MOS value.

Workaround: Do not try to analyze data from calls with a duration of less than 30 seconds.