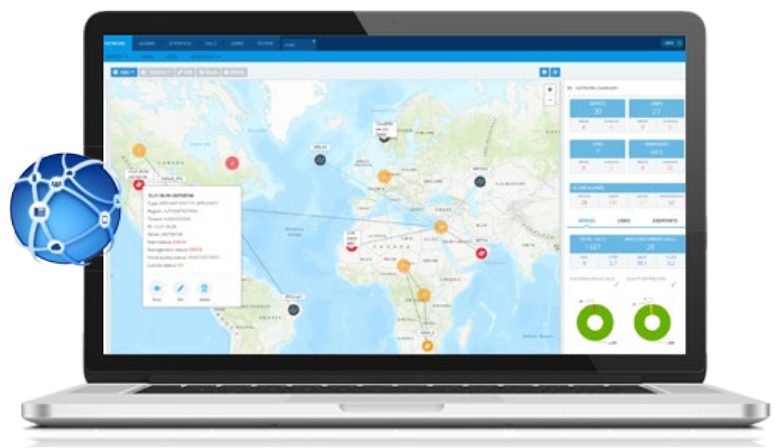


# One Voice Operations Center

Version 7.8





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## Notice

Information contained in this document is believed to be accurate and reliable at the time of printing. However, due to ongoing product improvements and revisions, AudioCodes cannot guarantee accuracy of printed material after the Date Published nor can it accept responsibility for errors or omissions. Updates to this document can be downloaded from <https://www.audiocodes.com/library/technical-documents>.

This document is subject to change without notice.

Date Published: February 04-2021

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## Stay in the Loop with AudioCodes



## Related Documentation

Manual Name
Mediant 500 MSBR User's Manual
Mediant 500L MSBR User's Manual
Mediant 500L Gateway and E-SBC User's Manual
Mediant 800B Gateway and E-SBC User's Manual
Mediant 800B MSBR User's Manual
Mediant 1000B Gateway and E-SBC User's Manual
Mediant 1000B MSBR User's Manual
Mediant 2600 SBC User's Manual
Mediant 3000 User's Manual
Mediant 4000 SBC User's Manual
Mediant 9000 SBC User's Manual
Mediant Software SBC User's Manual
Migration from EMS and SEM Ver. 7.2 to One Voice Operations Center Ver. 7.4
One Voice Operations Center Server Installation, Operation and Maintenance Manual
One Voice Operations Center Product Description
One Voice Operations Center Integration with Northbound Interfaces Guide
One Voice Operations Center Alarms Monitoring Guide
One Voice Operations Center Performance Monitoring Guide
One Voice Operations Center User's Manual
Device Manager Pro Administrator's Manual
Device Manager Express Administrator's Manual
One Voice Operations Center Security Guidelines
One Voice Operations Center Alarms Guide
ARM User's Manual
Device Manager Agent Installation and Configuration Guide
Device Manager for Third-Party Vendor Products Administrator's Manual

## Document Revision Record

LTRT	Description
90553	Initial document release for Version 7.8
90554	Update for version 7.8.1000
90555	Update for version 7.8.2000
90556	Correction to feature description regarding Performance Monitoring MIBs for the Mediant 3000 gateway.
90557	Correction to “Save PM Summary File” feature description

## Documentation Feedback

AudioCodes continually strives to produce high quality documentation. If you have any comments (suggestions or errors) regarding this document, please fill out the Documentation Feedback form on our Web site at <https://online.audiocodes.com/documentation-feedback>.

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# 1 Managed VoIP Equipment

**Table 1-1: Managed VoIP Equipment**

Product	Supported Software Version
<b>Gateway, SBC and MSBR Devices</b>	
Mediant 9000 SBC	Versions <b>7.4</b> , 7.2 (including support for MTC), 7.0, 6.8
Mediant 4000 SBC	Versions <b>7.4</b> , 7.2, 7.0 and 6.8
Mediant 4000B SBC	Version <b>7.4</b> , 7.2, 7.0
Mediant 2600 E-SBC	Versions <b>7.4</b> , 7.2, 7.0 and 6.8
Mediant 2600B E-SBC	Version <b>7.4</b> , 7.2 and 7.0
Mediant Server Edition (SE) SBC	Versions <b>7.4</b> , 7.2.2x, 7.2, 7.0 and 6.8
Mediant Virtual Edition (VE) SBC	Versions <b>7.4</b> , 7.2 (including support for MTC), 7.0 and 6.8
Mediant Cloud Edition	Version <b>7.4</b> , 7.2
Mediant 3000 Media Gateways (TP-8410 and TP-6310)	Versions <b>7.4</b> , 7.0 (SIP), 6.8 (SIP) and 6.6 (SIP)
Mediant 2000 Media Gateways	Version 6.6
Mediant 1000 Gateway <sup>1</sup>	Version 6.6 (SIP)
Mediant 1000B Gateway and E-SBC	Versions <b>7.4</b> , 7.2., 7.0, 6.8 and 6.6
Mediant 800B Gateway and E-SBC	Versions <b>7.4</b> , 7.2, 7.0, 6.8 and 6.6
Mediant 800C	Version <b>7.4</b> , 7.2
Mediant 1000B MSBR	Version 6.6
Mediant 800 MSBR	Versions 7.2, 6.8 and 6.6
Mediant 500 MSBR	Version 7.2 and 6.8
Mediant 500L MSBR	Versions 7.2 and 6.8
Mediant 500Li MSBR	Version 7.2; <b>7.20AN.4xx</b>
Mediant 500 E-SBC	Version <b>7.4</b> , 7.2
Mediant 500L E-SBC	Version <b>7.4</b> , 7.2
Mediant 600 <sup>2</sup>	Version 6.6
MediaPack MP-11x series	Version 6.6 (SIP)
MediaPack MP-124	Version 6.6 (SIP) Rev. D and E
MP-1288	Version <b>7.4</b> , 7.2.2x, 7.2
MP-202	Version 4.4.9 Rev. B, D and R
MP-204	Version 4.4.9 Rev. B, D and R

<sup>1</sup> This product does not support Voice Quality Management.

<sup>2</sup> As above

Product		Supported Software Version
SBA <sup>3</sup>	Product	
Microsoft Lync	Mediant 800B SBA	SBA Version 1.1.12.x and later and gateway Version 6.8
	Mediant 1000B SBA	SBA Version 1.1.12.x and later and gateway Version 6.8
	Mediant 2600B SBA	SBA Version 1.1.12.x and later and gateway Version 6.8
Microsoft Skype for Business	Mediant 800B SBA	SBA Version 1.1.12.x and later and gateway Version 7.2
	Mediant 800C SBA	SBA Version 1.1.12.x and later and gateway Version 7.2
	Mediant 1000B SBA	SBA Version 1.1.12.x and later and gateway Version 7.2
	Mediant 2600B SBA	SBA Version 1.1.12.x and later and gateway Version 7.0
CloudBond <sup>4</sup>		
CloudBond 365 Pro Edition	Version 7.6 (with Mediant Server Version 7.2.100 and later)	
CloudBond 365 Enterprise Edition	Version 7.6 (with Mediant Server Version 7.2.100 and later)	
CloudBond 365 Standard + Edition	Version 7.6 Version 7.6 (with Mediant 800B/Mediant 800C Version 7.2.100 and later)	
CloudBond 365 Standard	Version 7.6 (with Mediant 800B Version 7.2.100 and later)	
User Management Pack 365	Version 7.8.100	
User Management Pack 365 ENT	Version 8.0.0	
CloudBond 365	Version 8.0.0 (Skype for Business 2019 and Microsoft Teams)	
User Management Pack 365 SP	Version 8.0.0	
CCE Appliance <sup>5</sup>		
Mediant 800B	Version 2.1 with Mediant 800 CCE Appliance	
Mediant 800C	Version 2.1 with Mediant 800 CCE Appliance	
Mediant Server	Version 2.1 with Mediant Server CCE Appliance	
Other Applications		
SmartTAP 360° Recording		Version 5.1, Version 5.0, Version 4.3

<sup>3</sup> As above

<sup>4</sup> To support Voice Quality Management for these devices, customers should add the SBC/Media Gateway platform of the CloudBond 365 /CCE Appliances as standalone devices to the OVOC. Once this is done, the SBC/Gateway calls passing through the CloudBond 365 /CCE Appliances can be monitored.

<sup>5</sup> As above.

Product	Supported Software Version
<b>Device Management</b>	
400HD Series Lync server	From Version 2.0.13: 420HD, 430HD 440HD
400HD Series Non-Lync server	From Version 2.2.2: 420HD, 430HD 440HD and 405
400HD Series Skype for Business	From Version 3.0.0: 420HD, 430HD 440HD and 405HD
	From Version 3.0.1: 420HD, 430HD 440HD, 405HD and 450HD
	From Version 3.0.2: HRS 457 (with Jabra firmware support)
	From Version 3.1.0: 445HD, 430HD 440HD, 405HD, 450HD and HRS
	From Version 3.2.0 C450HD
	From Version 3.2.1: C450HD, 445HD, 430HD 440HD, 405HD, 450HD and <b>HRS</b>
	From Version 3.4.2: RX50 Conference Device
<b>Native Teams</b>	From Version 1.5: C448HD and C450HD
<b>Device Management -Third-party Vendor Products</b>	
Spectralink	Spectralink 8440
Polycom	Polycom Trio 8800
	Polycom VVX
Jabra Headset Support*	Jabra BIZ, Jabra Coach, Jabra DIAL, Jabra Eclipse, Jabra Elite, Jabra Engage, Jabra Evolve, Jabra Handset, Jabra LINK, Jabra Motion, Jabra Pro, Jabra Pulse, Jabra SPEAK, Jabra Sport, Jabra STEALTH, Jabra Steel, Jabra SUPREME. For a complete list of supported Jabra phones, see document Device Manager for Third-Party Vendor Products Administrator's Manual.

**Note:**

- All Versions VoIP equipment work with the SIP control protocol.
- **Bold** refers to new product support and Version support.
- \*Supported Jabra models interwork with the Jabra Integration Service.

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## 2 OVOC Requirements

### 2.1 OVOC- Requirements for Standard Configuration

The table below describes the minimum platform requirements for the One Voice Operations Center Server.

**Table 2-1: OVOC- Minimum Platform Requirements**

Resource	OVOC Server					OVOC Web Client
	Dedicated OVOC Server - Linux OS	AWS	Microsoft Azure	Virtual OVOC - High Profile	Virtual OVOC – Low Profile	
Hardware	HP DL360p Gen10	–	–	–	–	Screen resolution: 1280 x 1024
Operating System	Linux CentOS Version 7.764-bit, Rev.19					Windows 7 or later
Virtualization platform	–	AWS EC2 Instance Type: c4.4xlarge	<ul style="list-style-type: none"><li>• High Profile: VM Size: F16s</li><li>• Low Profile: VM Size D4s_v3</li></ul>	<ul style="list-style-type: none"><li>• VMware: ESXi 6.7</li><li>• VMware HA cluster: VMware ESXi 6.5</li><li>• Microsoft Hyper-V Server 2012 R2</li><li>• Microsoft Hyper-V Server HA Cluster: 2012 R2</li><li>• Microsoft Hyper-V Server 2016</li><li>• Microsoft Hyper-V Server 2016 HA Cluster</li></ul>		–

Resource	OVOC Server					OVOC Web Client
	Dedicated OVOC Server - Linux OS	AWS	Microsoft Azure	Virtual OVOC - High Profile	Virtual OVOC – Low Profile	
Memory	64 GB RAM	30GiB (c4.4xlarge)	<ul style="list-style-type: none"> <li>High Profile: 32 GB (F16s)</li> <li>Low Profile: 16 GB (D4s_v3)</li> </ul>	32 GB RAM	16 GB RAM	8 GB RAM
Disk space	Disk: 2x 1.92 TB SSD configured in RAID 0	AWS EBS: General Purpose SSD (GP2) 2TB	<ul style="list-style-type: none"> <li>High Profile: 2 TB SSD</li> <li>Low Profile: 500 GB SSD</li> </ul>	1.2 TB	500 GB	—
Processor	CPU: Intel (R) Xeon(R) Gold 6126 (12 cores 2.60 GHz each)	16 vCPUs (c4.4xlarge)	<ul style="list-style-type: none"> <li>High Profile: 16 vCPUs (F16s)</li> <li>Low Profile: 4 vCPUs (D4s_v3)</li> </ul>	6 cores with at least 2 GHz	<ul style="list-style-type: none"> <li>1 core with at least 2.5 GHz</li> <li>2 cores with at least 2.0 GHz</li> </ul>	—

- The OVOC server works with the Java Development Kit (JDK) Version 1.8 (JDK 1.8 for Linux™).
- The Oracle database used is Version 12.1.0.2.
- Supported browsers for Web client applications are as follows:
  - Microsoft Edge Browser Ver. 80+
  - Mozilla Firefox Version 39 and higher
  - Google Chrome Version 79 and higher



**Note:** The JDK and Oracle database component Versions mentioned above are provided as part of the OVOC installation image.

## 2.2 OVOC Requirements for Service Provider Cluster Mode Configuration

The table below describes the specifications for the Service Provide Cluster Mode including three servers: Management Server, VQM server and PM server. It is based on a topology including 50,000 devices with 3000 CAPs . For other parameters, refer to the tables below.

**Table 2-2: Service Provide Cluster Mode Server Configuration**

Item	Machine Specification
Servers	VMware: ESXi 6.7; VMware HA cluster: VMware ESXi 6.5
Memory	256 GB
CPU	24 cores at 2.60 GHz
Disk	SSD 20TB
Ethernet	1x10GB + 4x1 GB ports

**Table 2-3 Service Provide Cluster Mode Capacities**

Item	Capacity
<b>Topology-Management</b>	
OVOC managed devices	50,000
Tenants	5000
Devices per region	500
Links	10,000
Operators	25
Managed devices per tenant	5,000
<b>Alarms– Management</b>	
Steady state	100 alarms per second
Total alarms	100,000,000

Item		Capacity
Performance Monitoring– Management		
PMs per OVOC instance (per polling interval)	<ul style="list-style-type: none"><li>• 5,000,000 for 7.4 devices (REST interface)</li><li>• 500,000 for 7.2 devices (SNMP interface)</li></ul>	
PMs per device (per polling interval)	500,000	
Storage time	One year	
Voice Quality– applicable for QoE license only		
CAPS per device	1000	
OVOC QoE managed devices	30000	
CAPS per OVOC instance (SBC, Skype for Business and SIP Publish RFC 6035)	3000	
Call Details Storage - detailed information per call	800,000,000 or one year	
Calls Statistics Storage - Statistic information storage (per five minute interval).	1,500,000 or one year	
QoE Call Flow (for SBC calls only)– applicable for QoE license only		
CAPS per OVOC instance	1,000	
CAPS per device	300	
Maximum number of calls	10,000,000	
Lync and AD Servers– applicable for QoE license only		
MS Lync servers	Up to 2	
AD Servers for Users sync	Up to 2	
Users sync	Up to 150,000	
Devices Management (Device Manager Pro)		
number of managed devices	30,000 4,000 Team devices	
Disk space allocated for firmware files	20GB	



### 3 Centralized SBC Licenses

SBC calling capacity licenses can be managed using the One Voice Operations Center (OVOC). The SBC license including the management of the following license features: SBC sessions, SBC devices, SBC registrations, SBC transcoding and signaling sessions. Global values are configured for these features in the OVOC license that is loaded to the OVOC server using the OVOC Server Manager. Licenses can then be allocated to managed SBC devices for the OVOC instance within the bounds of the OVOC license and the system capacity of the SBC. This document discusses the different license models that can be implemented for this purpose. The table below shows the different license modes and features that can be enabled for each mode:



**Note:**

- The Version numbers shown in the table below refer to the product's base version support.
- All SBC Licenses are valid for 90 days from the date of purchase.

**Table 3-1: License Features**

License Feature	Description	Fixed	Cloud	Flex
SBC Sessions	The maximum number of concurrent SBC call sessions.	√	√	√
SBC Registrations (also referred to as Far-End Users)	The maximum number of SIP endpoints that can register with the SBC devices.	√	√	√
SBC Transcoding	The maximum number of SBC transcoding sessions.	√	√	√
SBC Signaling	The maximum number of SBC signaling sessions	√	√	√
SBC Devices	The maximum number of SBC devices that can be managed by the FlexPool. Default-1000	x	x	√
SBC Managed Devices	The total number of devices that can be managed by the Fixed License Pool.	√	x	x



**Note:** The SBC Transcoding session license is applicable to the following products:

- Mediant Virtual Edition (VE)
- Mediant Cloud Edition (CE)
- Mediant Server Edition (SE) running on HP DL360p Gen10 platform
- Mediant 9000 SBC when running on HP DL360p Gen10 platform
- Mediant 4000 SBC

## 3.1 License Types

### 3.1.1 Fixed License

This license centrally distributes existing session licenses to multiple devices according to capacity and site requirements without changing local License Key per device and independently of AudioCodes. New session license can be purchased from AudioCodes according to requirements.



**Note:** The Mediant 2000 and Mediant 3000 do not support the fixed license.

### 3.1.2 Floating License

#### 3.1.2.1 Cloud Mode

This mode manages the license per tenant in the Cloud using the AudioCodes Floating License Service. If customers exceed their licensed configuration limits incremental billing is automatically enforced for excess usage. This mode requires that the managed SBCs are loaded with Version 7.2.202 or later and OVOC Version 7.4.3000 or later is deployed.

#### 3.1.2.2 FlexPool Mode

This mode manages the license at the system level. It supports a Floating License across a network without the need to connect to a public cloud and enables service to continue uninterrupted for a grace period once the license has expired. This mode is supported for SBC devices loaded with firmware Version 7.2.256.3xx or later and OVOC Version 7.8 is deployed.

## 3.2 Product Support

The table below describes the support for different products for each license type. For each type, it's indicated which product is supported and the base version from which this support commences.

**Table 3-2: Centralized SBC Licenses Product Support**

Product	Fixed License		Floating License			
			Cloud Mode		FlexPool	
Mediant 500 Gateway & E-SBC	√	7.0	√	7.2.202	√	7.2.256.3xx
Mediant 500 Gateway & E-SBC	√	7.0	√	7.2.202	√	7.2.256.3xx
Mediant 500L Gateway & E-SBC	√	7.0	√	7.2.202	√	7.2.256.3xx
Mediant 800 Gateway & E-SBC	√	7.0	√	7.2.202	√	7.2.256.3xx
Mediant 1000B Gateway & E-SBC	√	7.0	√	7.2.202	√	7.2.256.3xx
Mediant 2600B E-SBC	√	7.2.150	√	7.2.202	√	7.2.256.3xx
Mediant 4000 SBC	√	7.0	√	7.2.202	√	7.2.256.3xx

Product	Fixed License		Floating License			
			Cloud Mode		FlexPool	
Mediant 9000/9030/9080 SBC	√	7.0	√	7.2.202	√	7.2.256.3xx
Mediant Server Edition (SE) SBC	√	7.0	√	7.2.202	√	7.2.256.3xx
Mediant Virtual Edition (VE) SBC	√	7.0	√	7.2.202	√	7.2.256.3xx
Mediant Cloud Edition (CE) SBC	√	7.2	√	7.2.252	√	7.2.256.3xx
Mediant 500 MSBR	√	7.2.150	×	-	-	-
Mediant 500L MSBR	√	7.2.150	×	-	-	-
Mediant 500Li MSBR	√	7.2A.202	×	-	-	-
Mediant 800 MSBR	√	7.0	×	-	-	-
MP-1288	√	7.2.150	×	-	-	-

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## 4 New Features in Version 7.8.2000

### 4.1 OVOC Infrastructure

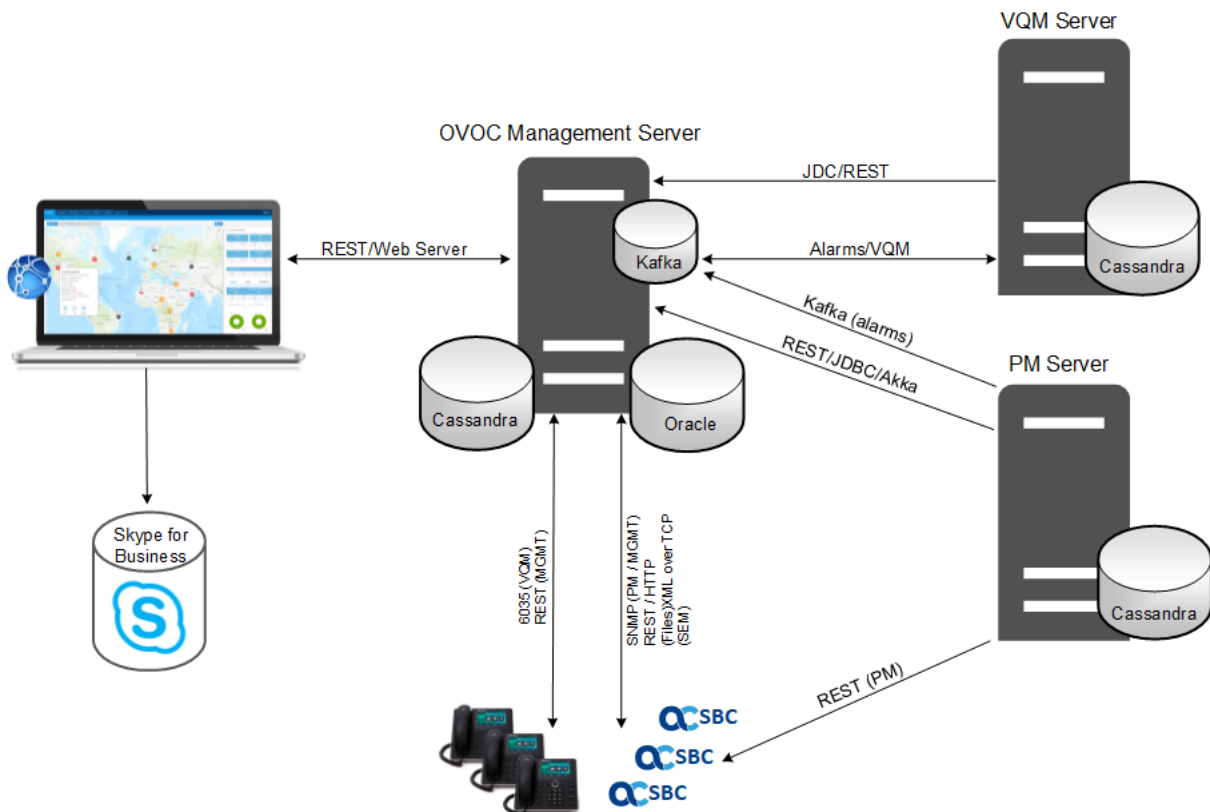
#### 4.1.1 Service Provider Cluster Mode

The Service Provider Cluster Mode enhances the offerings for large scale deployments through load sharing cluster configuration for the Voice Quality Management (VQM) and Performance Monitoring (PM) processes. This mode shares OVOC load between three Virtual Machines where one server is used for management, one for VQM and one for PM processing (this version supports a single PM and single VQM server, however future versions will support additional VQM and PM servers):

- The Cassandra database for managing Call Details, SIP Ladder messages and PM Details runs in a Cluster mode on each of the following nodes: Management; VQM and PM servers.
- The QoE CPEs server process for managing the XML-based Voice Quality Package communication with managed devices runs as a sub-process on the VQM server.
- The Performance Monitoring process for polling managed devices runs as a sub-process on the Performance Monitoring Slave server.
- Alarms are sent from the cluster node servers to the Management server using Kafka.



**Note:** Service Provider Cluster setup is released in this version as a Controlled Introduction feature. When customers are ready to deploy this feature, contact the AudioCodes OVOC Product Manager to coordinate an initial interview session.



## 4.1.2 HTTP Header Enhancements

The OVOC Server embeds the following security tags in X-headers for HTTP responses to OVOC clients:

- **HTTP 401 Unauthorized:** these responses from the OVOC server to managed AudioCodes devices now includes the standard "www-authenticate" header with "Basic" scheme.
- OVOC Server HTTP X-header responses from the OVOC server to all OVOC clients now include the following tags for enhanced security:
  - **x-frame-options:** prevent hijack attacks attempts to clicks (click-jacking) that are designated for the original server and send them to another server. This ensures that content is not embedded into other sites.
  - **X-XSS-Protection:** prevent Cross-Site scripting attacks that stops pages from loading when they detect reflected cross-site scripting (XSS) attacks.
  - **set X-Content-Type (Options nosniff):** protect against MIME sniffing vulnerabilities by ensuring that the MIME types advertised in the Content-Type headers are not changed and are interpreted as deliberately configured.

## 4.2 OVOC Client

### 4.2.1 Support for Microsoft Edge Browser Ver. 80+

This version supports Microsoft Edge Browser.

### 4.2.2 Support for PHP Version 7.4

For this version, the OVOC client supports PHP Version 7.4.

### 4.2.3 Support for Angular 7.0

For this version, the OVOC client supports Angular 7.0

## 4.3 Management

### 4.3.1 Support for Bulk MT Upgrades

Support for upgrade of a media cluster (multiple Media Components or commonly referred to as MTs) for the Media Transcoding Cluster (MTC) feature or Elastic Media Cluster for the Mediant 9000 (with MTs)/ Mediant CE / Mediant VE. Management actions have been added to the right-click menu in the Network page to support this feature. During the upgrade, the Signaling Component (SC) sends status updates of the upgrade process to OVOC.

### 4.3.2 Support for CentOS 8 CMP Files

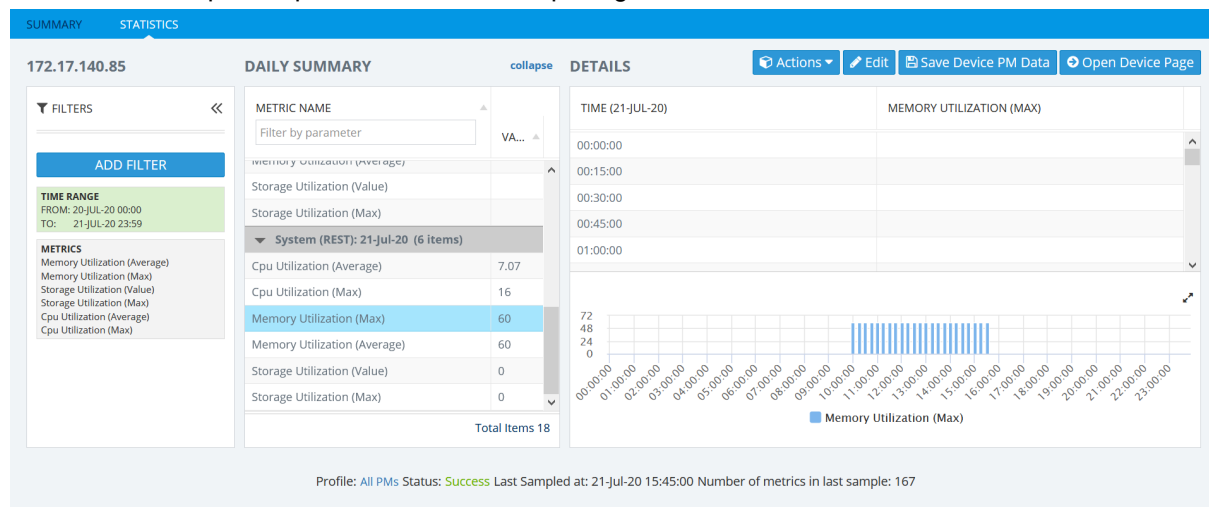
Support for new CMP file types to differentiate between CentOS 6 and CentOS 8. This update is relevant for the Mediant Software SBC; the relevant information is displayed in the Software Manager Files Summary page.

### 4.3.3 Support SBC 7.4 version

This version supports SBC version 7.4 devices according to the list in Section 1.

### 4.3.4 Save PM Summary File

You can now save Performance Monitoring filter queries to an external XML file. Previously you could only save a data file to the NBIF directory for each polling interval for a specific PM Template. Now you can save custom filter settings in the PM Summary screen. For example, output data over several polling intervals.



### 4.3.6 SBC Performance Monitoring Enhancements

This version supports new PM parameters for SBC version 7.4 based on REST-API. In addition, specific parameters will support SNMP for backward compatibility.

### 4.3.7 New Mediant 3000 Performance Monitoring MIBs

This version includes support for the following new SNMP MIBs for PSTN trunk-level Performance Monitoring for the Mediant 3000 Gateway Version 7.0:

- acPMTrunkUtilizationAverage
- acPMTrunkUtilizationMin
- acPMTrunkUtilizationMax

For more information, refer to the One Voice Operations Center Performance Monitoring Guide Ver. 7.8

## 4.4 Native Teams Phones Management via OVOC

The Native Teams phones do not support REST server API capabilities; initiating actions from OVOC towards the phones such as sending configuration files or restarting the phone. The Teams phones only support REST API client functionality for initiating requests towards OVOC. Until now, the Device Manager Agent and the SBC HTTP Proxy servers were used as intermediary servers in the enterprise network for performing REST server functionality. Now a new mechanism enables requests to be sent directly to the Teams phones in a remote enterprise network from the OVOC server. This mechanism works where the phones send Keep-alive messages to the OVOC server every minute, OVOC then embeds the required action to perform on the phone in the HTML response to the Keep-alive message.





## 5 New Features in Version 7.8.1000

### 5.1 Privacy Mode

A new “Privacy” mode has been enabled to hide specific OVOC data for Tenant and System operators. When enabled by the System operator, the following occurs:

- Masking of gateway and SBC phone numbers
- Hiding of existing User/URI reports or schedulers and disabling generation of new data
- Hiding of existing user tables and statistics and disabling generation of new data
- Hiding of User/URI reports and their respective schedulers
- Hiding of new Calls/SIP Ladder
- For Skype for Business call:
  - Partial masking for Phone CDRs
  - Full masking for CDR URIs
  - Full masking for MDRs
  - Full masking for Conference CDRs

### 5.2 Upgrade to CentOS Version 7.7

This version includes an upgrade of the CentOS to Version 7.7 (64-bit Rev.19 Gen10) for the dedicated server platform and for all virtual/cloud platforms.

### 5.3 Analytic API

The Analytic API is a new option for accessing specially designed views with selected data from the OVOC database for integration with Northbound third-party interfaces. Customers can connect to the OVOC database using third-party DB access clients and retrieve topology and statistics. This data can then be used in management interfaces such as Power BI and other Analytic tools to generate customized dashboards, reports and other representative management data. This may be particularly useful during management reporting periods. Until now, the OVOC database was not open to customers.

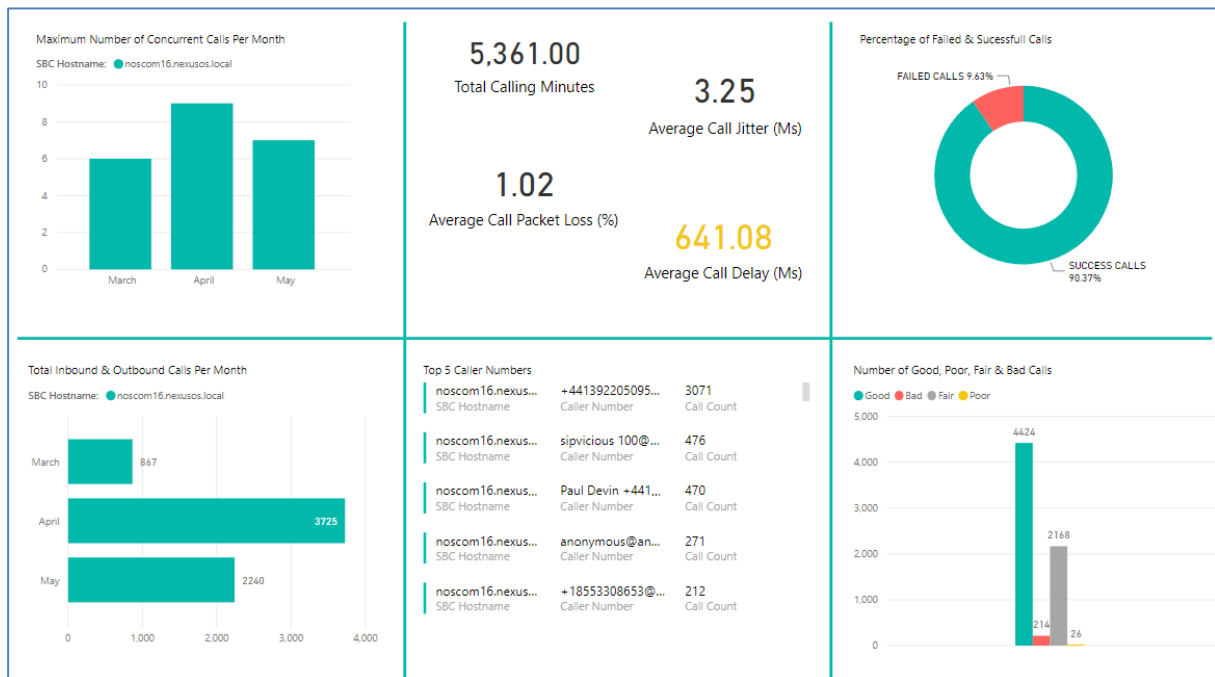
A new Voice Quality license feature has been implemented for this purpose. When this license feature is purchased, the feature can be enabled in the OVOC Server Manager. When enabled, a password-protected connection to the OVOC database enables access to Analytics views including the below data:

- Network Topology including Tenants, Regions, Devices, Non-ACL Devices, Links
- QoE Statistics including Calls, Nodes and Links Summaries
- Active and History Alarms



**Note:** Analytics data can be viewed up to the last 24 hours.

The following figure illustrates an example integration of OVOC data in a third-party Analytics platform.



## 5.4 Group Level Management of IP Phones

This feature enables Tenant administrators with “Operator” permissions to define a new “Group” entity in OVOC for managing groups of phones. For example, customers may wish to define separate groups for “Marketing” and “Logistics”. This enables greater control in the automatic provisioning (“Zero-touch”) process by tailoring the provisioning of firmware and configuration files to specific groups and thereby preventing the misconfiguration of large number of phones systemwide. These groups are created in OVOC by the System Administrator and can then be configured in the Device Manager in a similar manner to Tenants, Sites and Users in the Manage Multiple Devices screen and using Configuration keys.

Select Group
1 [QA\_7]

Group Configuration

Configuration Key:

Configuration Key	Configuration Value	
personal_settings/language	Chinese	

<div> <input checked="" type="checkbox"/> Devices Status <div> Display Columns Export Reload Clear Filter </div> </div>								
<div> <div> First ← Previous 1 Next → Last </div> <div> <input type="text"/> <input type="button" value="Q"/> </div> <div> <input type="button" value="Q"/> Filter </div> </div>								
Showing 1 to 41 of 41 entries								
▼	Model ▼	Firmware ▼	Tenant ▼	Group ▼	Site ▼	Template ▼	Report Time	Location ▼
	430HD	UC_3.1.3.144.15	QA_1		AutoDetection	Audiocodes_430HD_LYNC	23.03.2020 16:23:44	
	440HD	UC_3.1.3.144.15	QA_1	1.2	AutoDetection	Audiocodes_440HD_LYNC	23.03.2020 16:23:10	
	440HD	UC_3.1.3.144.15	QA_1	1.1	AutoDetection	Audiocodes_440HD_LYNC	23.03.2020 16:07:14	
	430HD	UC_3.1.3.144.15	Nir		AutoDetection	Audiocodes_430HD_LYNC	23.03.2020 16:25:55	
	450HD	UC_3.1.3.144.15	ShayTenant		AutoDetection	Audiocodes_450HD_LYNC	23.03.2020 16:15:48	
	445HD	UC_3.4.3.18	ShayTenant		AutoDetection	Audiocodes_445HD_LYNC	12.03.2020 17:05:54	

## 6 New Features in Version 7.8

### 6.1 OVOC Voice Quality Reports

This release integrates Reports generation into the OVOC Web interface (previously reports could be generated using the SEM Reports module which ran as a separate applet).

The new reporting capabilities enables the generation of both template reports and custom reports for devices, links and URIs for managed entities (Tenants, Regions and Elements). Template reports include Device and Link Monthly reports, Device and Link Monthly Aggregation reports and Top URI Monthly Element Reports.

Reports can be customized as different report types (Element Statistics, Aggregated Statistics Trends and Trends Statistics Comparison), filtered for specific topology and tailored with a personal “look and feel” including the table columns and graph types and the tenant’s corporate logo. You can also filter according to “Top” reports.



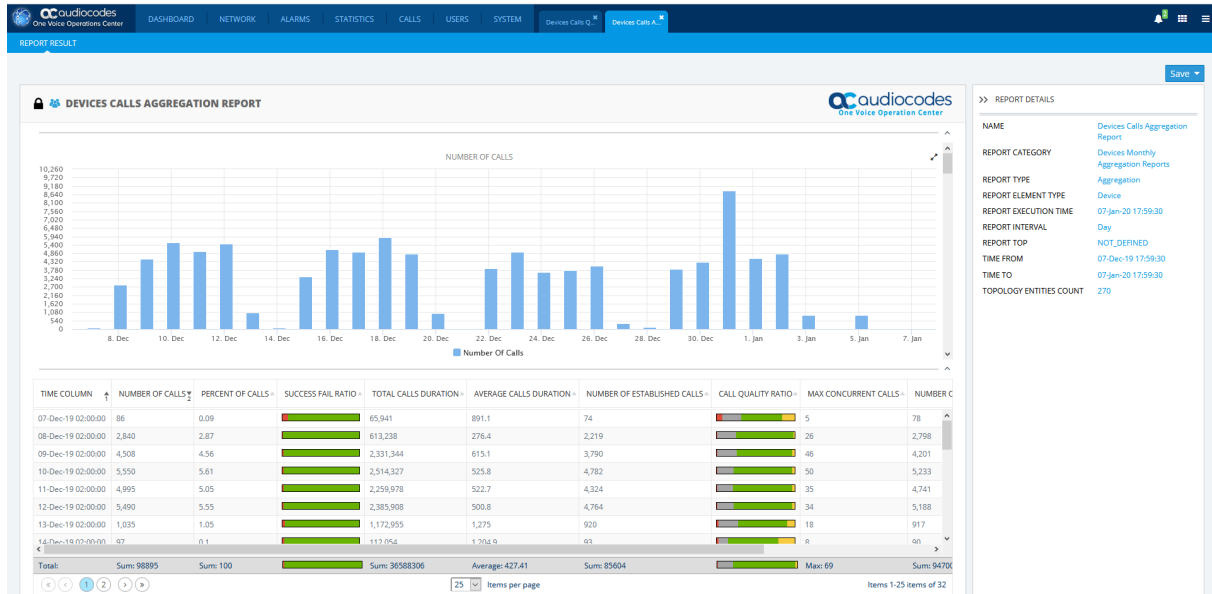
**Note:** Customers can generate template reports without purchasing licenses; however, to generate customized reports, customers must purchase licenses as part of the OVOC license (“Reports” Voice Quality feature). These licenses can be allocated to tenant or system operators in the OVOC Web interface.

Reports can be scheduled to run hourly, daily, weekly or monthly. Reports can be imported and replicated. Report definitions can be saved to a JSON file and report output can be saved to a PDF or CSV file.

The figure below displays the Reports table.

The screenshot displays the 'Reports' management interface in the OVOC web application. The main area is a table with the following columns: PREDEFINED, PRIVATE, SCHEDULED, REPORT NAME, TYPE, ENTITY TYPE, CATEGORY, TENANT, and DESCRIPTION. The table lists numerous reports, including 'Devices Calls Report', 'Links Calls Report', 'Devices Calls Quality Report', 'Links Calls Quality Report', 'Devices Calls Aggregation Report', 'Links Calls Aggregation Report', 'Top URI Monthly Element Reports', and 'Top URI Monthly Aggregation Reports'. On the right side, there are two donut charts: 'REPORT TYPE DISTRIBUTION' showing the distribution of report types (Trend, Aggregation, Element) and 'REPORT CATEGORY DISTRIBUTION' showing the distribution of report categories (testMonitorLink, trend, devices, uri, test, Top URI Monthly Element Reports). A sidebar on the left shows 'REPORTS CATEGORIES' with a search bar and a list of categories.

The figure below displays an example of a generated report.



## 6.2 UMP Quick Connect

This release includes support for the UMP Quick Connect product.

## 6.3 Single Sign-on Support for UMP and UMP Quick Connect

Support for Single Sign-on to UMP and UMP Quick Connect devices (from the Open Device Page link).

## 6.4 Enforce Skype for Business User Licenses

The minimum number of Skype for Business QoE users that must be purchased in the OVOC license is now enforced. This minimum is set to 10. Skype for Business devices cannot be added in the OVOC Web interface if this minimum is more than 10 devices are not purchased. For customers with existing Skype for Business devices defined in OVOC, there are no changes; however, the existing demo functionality for Skype for Business in OVOC has been disabled.

## 6.5 MasterScope

The MasterScope application can now be licensed through the OVOC License. Existing customers are not required to upgrade their license; however, will not be able to change the configuration. The current configuration is not be affected.

## 6.6 FlexPool Licensing

FlexPool is a new alternative Floating License mode provided by AudioCodes. It supports a Floating License in a local network without the need to connect to a public cloud and enables service to continue uninterrupted for a grace period once the license has expired. This differs from the Cloud Floating License mode which automatically enforces incremental billing for excess license usage and is managed in the Cloud by AudioCodes Floating License Service. The FlexPool mode is managed by the existing OVOC server process “Floating License Server”.

You can also assign priorities to devices that are managed by the FlexPool so that when total license capacity is exceeded, during the grace period, service is initially ended for those SBC devices that are set with the lowest priority. This mechanism is managed per parameter feature e.g. SBC Sessions.

In the Floating License Configuration screen, you can configure an alarm threshold level upon which to trigger a warning that the FlexPool License usage capacity is approaching its maximum.

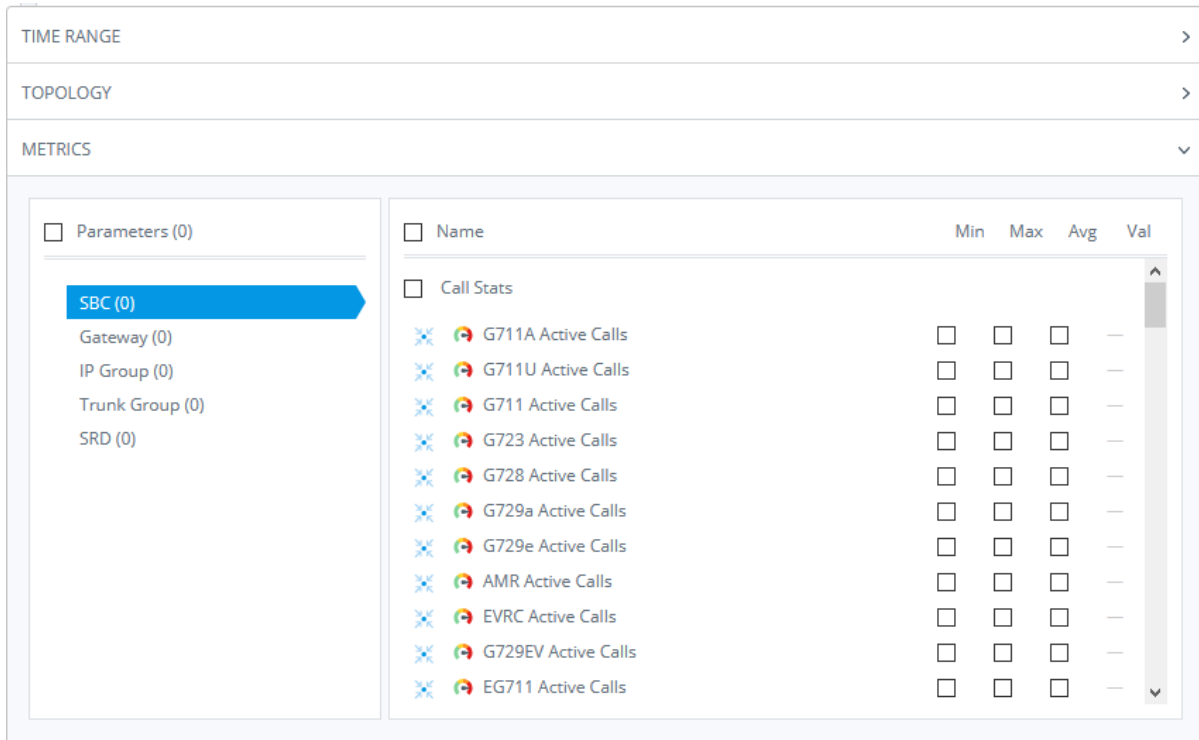
The screenshot displays the AudioCodes One Voice Operations Center (OVOC) interface. The top navigation bar includes links for DASHBOARD, NETWORK, ALARMS, STATISTICS, CALLS, USERS, and SYSTEM. The left sidebar shows the ADMINISTRATION menu with sub-items like LICENSE, CONFIGURATION, TENANTS ALLOCATIONS, SYSTEM ALLOCATIONS, FLOATING LICENSE, SECURITY, and OVOC SERVER. The main content area is titled 'FLOATING LICENSE' and contains two configuration sections: 'FLOATING LICENSE CONFIGURATION' and 'FLEX POOL CONFIGURATION'. The 'FLOATING LICENSE CONFIGURATION' section includes fields for 'Floating License OVOC Operator' (set to 'floating'), 'Floating License Server Address' (set to 'e3kua2m1n7.execute-api.us-east-2.amazonaws.com'), and a 'Change Floating License Key' field. The 'FLEX POOL CONFIGURATION' section includes an 'Alarm Threshold Percentage' field set to '90'. A 'Submit' button is located at the bottom right of the configuration section. Below the configuration section, the 'LICENSE CONFIGURATION' screen is visible, showing various tabs like 'GENERAL', 'FLOATING LICENSE', 'VOICE QUALITY', and 'ENDPOINTS'. The 'GENERAL' tab displays machine and product keys, status, reason, expiration date, and days left. The 'FLOATING LICENSE' tab shows 'Cloud License Manager' status (Disable) and 'Flex License' status (Enable). The 'VOICE QUALITY' and 'ENDPOINTS' tabs show usage statistics for devices, sessions, endpoints, and reports. The 'FIXED LICENSE POOL' section shows 'Managed Devices' with a bar chart indicating 100% usage. The 'SBC License Pool' section shows usage for 'SBC Sessions', 'SBC Transcoding', and 'SBC Signaling'. The 'CloudBond License Pool' section shows usage for 'CB Users' and 'CB PBX Users'.



**Note:** This feature is supported for SBC devices loaded with firmware for Version 7.2.256.3xxx and later.

## 6.7 PM Counters for G711A and G711U Codecs

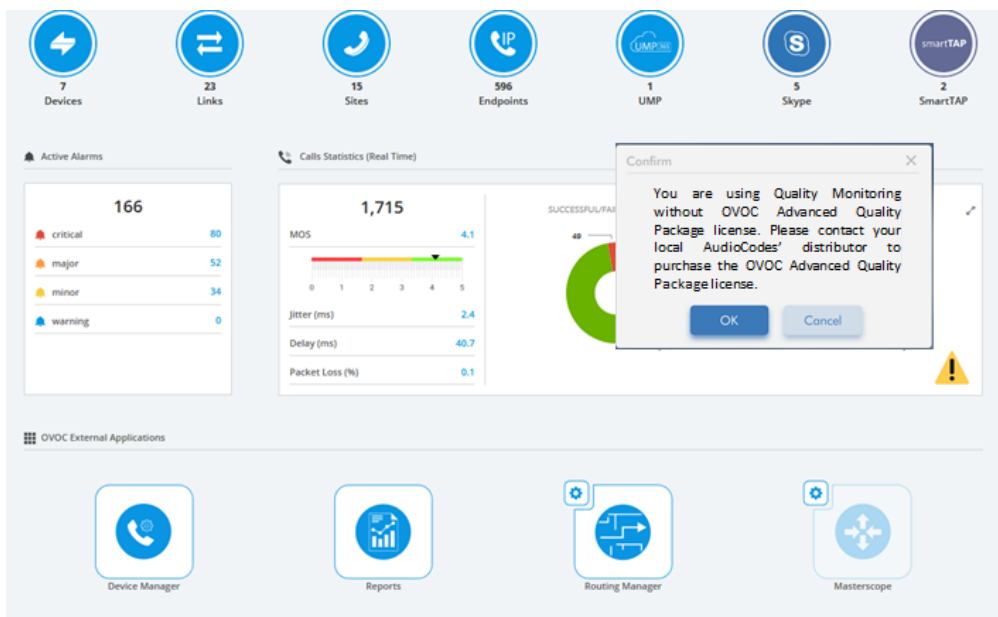
This release includes support for the configuration of the G711A and G711U codecs as separate PM parameters in the Aggregated PMs and Standalone PMs filters. This feature is supported for SBC devices with Version 7.2.256 and later.



Parameters (0)	Name	Min	Max	Avg	Val
SBC (0)	Call Stats				
Gateway (0)	G711A Active Calls				
IP Group (0)	G711U Active Calls				
Trunk Group (0)	G711 Active Calls				
SRD (0)	G723 Active Calls				
	G728 Active Calls				
	G729a Active Calls				
	G729e Active Calls				
	AMR Active Calls				
	EVRc Active Calls				
	G729EV Active Calls				
	EG711 Active Calls				

## 6.8 Teaser for OVOC Advanced Quality Package License

A teaser in the OVOC Dashboard is displayed if the user has configured the SBC to send Voice Quality data to the OVOC server for voice quality monitoring and the customer has not yet purchased the "OVOC Advanced" package. OVOC detect that calls are monitored and that the OVOC Advanced license has not been enabled.



7 Devices, 23 Links, 15 Sites, 596 Endpoints, 1 UMP, 5 Skype, 2 SmartTAP

Active Alarms: 166 (critical: 80, major: 52, minor: 34, warning: 0)

Calls Statistics (Real Time): 1,715 (MOS: 4.1, Jitter (ms): 2.4, Delay (ms): 40.7, Packet Loss (%): 0.1)

OVOC External Applications: Device Manager, Reports, Routing Manager, Masterscope

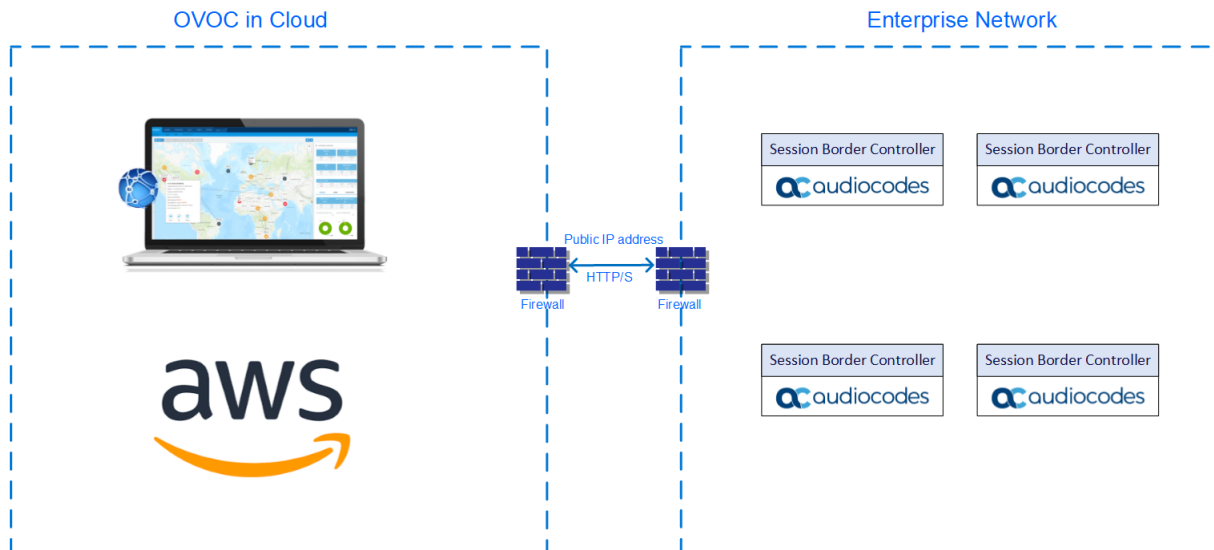
Confirm dialog: You are using Quality Monitoring without OVOC Advanced Quality Package license. Please contact your local AudioCodes' distributor to purchase the OVOC Advanced Quality Package license. [OK] [Cancel]



## 6.9 OVOC Cloud Deployment

An automatic mechanism can be enabled to secure the OVOC server and Device communication through binding to a dedicated HTTP/S tunnel through a generic WebSocket server connection. This mechanism binds several different port connections including SNMP, HTTP, syslog and debug recording into a single HTTP/S stream. This mechanism provides the following benefits:

- Enables Single Sign-on to managed devices that are deployed behind a NAT
- Eliminates the need for administrators to manually manage firewall rules
- Eliminate the need to lease third-party VPN services



## 6.10 Configuration Backup and Restore

A new light backfile method includes a partial backup of the OVOC database including OVOC topology and OVOC Web configuration. This method backs up all system configuration including Network Topology definitions, Profiles and Alarm Forwarding rules. It does not back up data that is retrieved from managed devices. As a result, users can perform a partial restore operation which restores the contents of the data that is backed up using this method. This provides the following benefits:

- Significantly increases the speed of the restore operation time
- Prevents excessive downtime and reduces system utilization

A full backup is provided as an alternative to this new method.

## 6.11 VIP Devices Management

Devices can be set as VIP devices in the Device Status screen with a new column indicator. This feature is designed to prioritize the monitoring of devices of key management personnel. In the Device System Settings, a new tab enables you customize the global Keep-alive timeout to ensure that any disconnection for such devices are rapidly detected. New alarms are generated when the device connection is lost and when the device connection is unregistered.



## 7 Issues Resolved in this Release

The table below lists the issues resolved in this release.

Issue ID	Source	Description
OVOC-5859	Management	It's not possible to search by IP address in the Endpoints page.
OVOC-5458		The device is not shown in the correct location in the Network Map when editing the device IP address field and typing quickly.
OVOC-5738		Azure SSO with MFA does not authenticate read user roles (authenticates user groups only).
OVOC-5811	Security	Disable avahi-daemon (UDP port 5353 DNS detection).
OVOC-5128		PHP version 7.4 support
OVOC-5419		Close zookeeper port 2181
OVOC-5156		The following security updates were implemented: <ul style="list-style-type: none"> <li>Angular version update</li> <li>X-Frame-Options: SAMEORIGIN</li> </ul>
OVOC-5554		Implementation of new headers HTTP
OVOC-5702		Update of security packages
OVOC-5660	Infra	The OVOC Cloud Architecture mode configuration is overridden during upgrade.
OVOC-5466		Prevent OVOC from installing the same version.
OVOC-5260		The Microsoft Azure WAAGENT package has been updated.
OVOC-5567	QoE	Genesys endpoints incorrectly displays media port information.
OVOC-5465		Unable to save calls when mutual authentication is enabled.
OVOC-5944		OVOC failed to display call data because the CDRs sequence number reached its maximum value.
OVOC-5939		Poor resolution for the SIP Call flow display.
OVOC-5238 OVOC-5479		Increase URI reports performance.

Issue ID	Source	Description
OVOC-5532	Endpoints Management	Device Manager Pro – When adding an additional batch of phones to an existing tenant, all phones in the batch are provisioned with firmware however most do not register (offline).
OVOC-5406		Device Manager Pro- The filter for devices with “Disconnected” status filter does not work in the Devices Status page
OVOC-4190		After migration from EMS to OVOC, Skype for Business phones in the deployment did not register.
OVOC-5253		Device Manager Pro- Polycom devices are displayed to belong to the incorrect sites on the Devices Page.

## 8 Known Limitations and Workarounds

The table below lists the Known Limitations and Workarounds for this release.

**Table 8-1: Known Limitations and Workarounds**

Issue	Problem/Limitation	Component	Comments and Workaround
OVOC Server Clean Installation or Upgrade on HP DL G8 machine.	A clean installation or upgrade of OVOC Version 7.8 is not supported on HP DL G8 machines. The installation or upgrade will fail if attempted on this platform.	Infra	Perform installation or upgrade of the OVOC server on HP DL G10 machines or on one of the supported Virtual machine platforms.
Upgrade from EMS to OVOC	An upgrade from EMS Version 7.2 to OVOC Version 7.8 is not supported.	Infra	-Make sure the EMS is version 7.2 - First upgrade to Version 7.4 (refer to document <i>Migration from EMS and SEM Ver. 7.2 to One Voice Operations Center</i> ) and then upgrade to Version 7.8.
Configuration Restore	Customers who have performed configuration restore for the version 7.8 release must contact OVOC support before upgrading to recent releases 7.8.1000/7.8.2000	Infra	-
High Availability on OVOC Bare Metal platform	High Availability is not supported for OVOC servers on Bare Metal platform.	Infra	-
Backup and Restore	When running a backup on the Bare-metal or the Virtual server-based platforms, it's not possible to restore the backed-up data to Cloud-based server platforms.	Infra	-

Issue	Problem/Limitation	Component	Comments and Workaround
Private Labeling	This Version does not support private labeling.	Infra	-
Browser cache	Cache memory browser overload causes performance degradation. In addition, after upgrade to the new OVOC Version its recommended to clear your browser cache.	Infra	See the following link for information on improving browser performance. <a href="https://7labs.io/tips-tricks/clear-site-specific-cookies-cache.html">https://7labs.io/tips-tricks/clear-site-specific-cookies-cache.html</a>
Cloud Architecture	The cloud architecture feature for binding SBC communication to a dedicated tunnel is only supported on the AWS platform with a maximum of 100 connected devices and 30 CAPS. All connected devices must be configured to work in this mode.	Infra	-
Service Provider Enhanced Specifications for VMware Virtual Platform	The enhanced specifications for service providers on the VMware platform as supported until the previous release (version 7.8.1000) has been replaced by the Service Provider Cluster Mode in this release.	Infra	-
External Server Authentication	Multi-tenancy is not supported for the RADIUS server.	Management	-
	<ul style="list-style-type: none"> <li>The option "Use LDAP Credentials for Device Page Opening" is not supported for operators when the LDAP "Level" parameter is set to Admin (1)</li> <li>The option "Use RADIUS Credentials for Device Page Opening" is not supported for operators when the RADIUS "User Level" parameter is set to Administrator (100)</li> </ul>	Management	This functionality will be supported in a future release.

Issue	Problem/Limitation	Component	Comments and Workaround
	<ul style="list-style-type: none"> <li>Tenant operators with Tenant Monitor Links security level are not supported for RADIUS authentication.</li> </ul>	Management	-
Certificates	<p>If you have installed SSL certificates for Microsoft Active Directory, MS-SQL Server or for LDAP User authentication and you then run the Server Certificates Update procedure in the EMS Server Manager, these Microsoft certificates are overwritten.</p>	Management	<p>Before running the Server Certificates Update procedure, ensure that you have backed up the Microsoft Certificates to an external location. After running the Server Certificates Update procedure, reload the Microsoft Certificates in the OVOC Web.</p>
	<p>If you are configuring the connection to the MS-SQL server with SSL using a certificate file, and then one of the following occurs:</p> <ul style="list-style-type: none"> <li>Reload of a different certificate file for this SQL server.</li> <li>Adding of an additional SQL server with a different certificate file.</li> </ul> <p>The connection between the OVOC Server and the MS SQL server may fail.</p>	Management	<p>After reloading the new certificate file, restart the OVOC server using the EMS Server Manager.</p> <p>This issue will be fixed in a future release.</p>
	<p>MS Kerberos-based authentication on OVOC (including OVOC/Lync/Tenant users AD) is not supported.</p>	Management	<p>This issue will be fixed in a future release.</p>

Issue	Problem/Limitation	Component	Comments and Workaround
Single Sign-on	Single Sign-on is not supported for devices with firmware versions prior to Version 7.0 and for CloudBond, SmartTAP and MP2XX (all versions).	Management	-
Alarms Forwarding	The Overflow alarm is not cleared if raised during OVOC shutdown.	Management	This issue will be resolved in a future release.
	OVOC supports a maximum of 10 alarm forwarding rules for SNMP trap rule destination for the entire system.	Management	Contact AudioCodes support to change this number per customer scenario.
Mass Operations	Mass operations on AudioCodes devices such as reset or firmware upgrade can be done for a maximum of 500 devices (or maximum devices in a single table page).	Management	-
Welcome & Advisory Messages	Welcome & Advisory Messages are not supported.	Management	-



Issue	Problem/Limitation	Component	Comments and Workaround
Floating License	The Floating License does not support multi-tenancy.	Management	-
Device Manager Pro-	When OVOC is operating at it's maximum specifications for call storage, limit the Device Manager Pro allocated disk for firmware storage to 1.5GB.	Management	Customers who wishes to use more (up to the limit defined) must configure the call storage settings (# of days) so that it will only use 95% of the max storage capacity.
MSRB Firmware Upgrade	OVOC displays the same MSBR firmware files for all MSBR products including the MSBR 500Li.	Management	When performing firmware upgrade of the MSBR product, the operator must select only firmware files suitable for the required MSBR
Alarms Suppression	When managing more than 5,000 devices (gateway/SBC/MSBR), alarms suppression must be disabled.	Management	This functionality will be supported in a future release.
User Management Pack (UMP)	Opening the UMP device page from OVOC is not be possible for UMP versions prior to Version 8.0.100.		Upgrade to Version 8.0.100.
QoE for AudioCodes HA Devices	When there is active call traffic on AudioCodes HA devices during HA switchover, the OVOC QoE application does not recognize this traffic and therefore does not display and calculate the QoE data for this traffic. Applicable for all AudioCodes HA devices.	QoE	This issue will be resolved in a future release.
Voice Quality Package	Forked calls are NOT supported by OVOC QoE.	QoE	This functionality will be supported in a future release.
	Real time information, for example, in the Network/Statistics screens is only supported for the last three hours.	QoE	This functionality will be supported in a future release.

Issue	Problem/Limitation	Component	Comments and Workaround
	SBC calls more than the pre-configured maximum monitored call duration of three hours (e.g., the session of a participant in a Skype for Business conference call over an SBC) or an SBC call that is incompletely reported to the OVOC server are not displayed in the Calls List.	QoE	This limit can be extended at the request of AudioCodes support.

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