Administering Avaya Meetings Media Server

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Chapter 1: Introduction

Purpose

This document contains information about how to perform Avaya Meetings Media Server administration tasks, including how to use management tools, how to manage data and security, and how to perform periodic maintenance tasks.

This document is intended for people who perform Avaya Meetings Media Server system administration tasks such as backing up and restoring data and managing users.

Administrator responsibilities

As the administrator for Avaya Meetings Server, you are responsible for managing:

- Avaya Meetings Server users.
- Software loads and patches.
- Avaya Meetings Server network elements such as media server clusters.
- System security.
- System alarms and logs.

Chapter 2: Avaya Meetings Media Server overview

Avaya Meetings Media Server is a virtual media server that can be configured for one of the following working modes:

- Full video mode
- High-scale audio mode

Working mode	Supports
Full video mode	• Transcoding and composition of video • Audio and video support for WebRTC-based thin clients • Web collaboration
High-capacity audio	• High-capacity audio conferencing • Web collaboration

Avaya Meetings Media Server processes all media on the server CPU and does not need media accelerator blades.

Avaya Meetings Media Server is part of the Avaya Meetings Server solution. Components of Avaya Meetings Server can be combined to fit the existing network topology and conferencing requirements of the organization. Avaya Meetings Media Server is required in the Over The Top and Team Engagement deployments of Avaya Meetings Server.

You can configure Avaya Meetings Media Server as a master or slave server in distributed enterprise networks to support high-quality video, high-capacity audio, and web collaboration. As a cascaded gateway, Avaya Meetings Media Server acts as a WebRTC gateway.

To support WebRTC calls, you must deploy WebRTC Gateways in front of Avaya Meetings Media Servers. In Over The Top deployments, you configure Avaya Meetings WebRTC Gateway. In Team Engagement deployments, you configure Avaya Aura® Web Gateway to act as a WebRTC Gateway.

The performance and capacity of each Avaya Meetings Media Server deployment depends on the physical cores, RAM, disk space, and the network interfaces allocated to the virtual machine.

New in this release

For detailed information about Release 9.1.13, see the product guides and Release Notes that you can download from https://support.avaya.com/.

Avaya Meetings Server Unified Portal

- Ability to take a snapshot of the whiteboard

  Meeting participants can use this feature to take a snapshot of the whiteboard. Clicking **Take snapshot** saves the current page of whiteboard to the Download folder of your system.

- Ability to add custom Java Scripts for Avaya Meetings Server Unified Portal and Web client.

  You can control this ability from the User Portal setting on Avaya Meetings Management.

- Ability to change the Avaya Meetings Server Unified Portal application language

  With this feature you can change the application language. The users can select a language from the list of preferred languages to set it as application language. The selected language is applied immediately. The selection is stored in browser Local Storage and used as default language on start of the next meeting session. If you do not select a preferred language, Avaya Meetings Server Unified Portal uses English as default language.

Avaya Meetings Management

Conference management includes the following new features:

- Ability to disable the conference chat

  You can enable and disable the conference chats. Enabling the feature allows meeting participants to chat in ongoing meeting.

- Ability to export raw data in CDR format

  From 9.1.13 user can export the raw data in CDR format in addition to CSV format. Due to increased security, CDR records are owned by Avaya Meetings Management users. Without root access, user cannot extract the CDR records from the server. This feature is available in OTT and TE deployments.

- Enhanced meeting moderation capability

  The management web interface features sorting the meeting participants of ongoing and upcoming meetings by their name.

- Triggering an alarm after changing the log level to DEBUG

  The system triggers an alarm and displays a notification when you change the log level to DEBUG.

- Updated waiting room background audio prompt

  The updated audio prompt is played for Workplace and Web Client participants. This audio replaces `WaitingRoomBackgroundNoStar.wav`. The updated text of audio prompt is "The meeting has not yet started. You will automatically be placed in the meeting when the moderator joins. If you are the moderator, please use the graphical user interface to go to the meeting controls menu and select become moderator".

- Viewing disk encryption status

You can check if the disk encryption or remote key server is enabled for your Avaya Meetings Management server.

- Supporting FIPS configuration for FedRAMP compliance

  You can now host video participants on Avaya Meetings Media Server in the FIPS configuration for FedRAMP compliance. You can use Avaya Aura® Media Server in the FIPS configuration for FedRAMP compliance to host audio-only participants. You can also use Avaya Aura® Media Server as a WebRTC gateway if participants join conferences using WebRTC.

- Sending notifications after the LDAP synchronization

  If new users are added during the synchronization with the LDAP server, the recipients defined in the advanced parameters receive a list of added users. You can specify email addresses to which Avaya Meetings Management sends notifications.

- Automatic port reservation

  When a user schedules a meeting with the recording option enabled, one additional port is reserved automatically. The video resolution corresponds to the maximum bandwidth defined for the meeting type.

- Allowing or restricting third-party browsers

  You can allow or restrict third-party browsers for connecting with the Avaya Meetings for Web (WebRTC) client in the OTT and TE deployment.

- User Portal customization

  You can customize the user interface text on the User Portal and a software web client.

Avaya Meetings Media Server

From Release 9.1.13, you can enable or disable data encryption when deploying Avaya Meetings Media Server. After deploying, you can check if the disk encryption and remote key server are enabled.

Data encryption

From Release 9.1.9.1, you can enable or disable data encryption when deploying Avaya Meetings Management. When data encryption is enabled, all operational data and log files are encrypted.

Enhancements and bug fixes

See the product Release Notes.

Avaya Meetings Media Server working modes

Avaya Meetings Media Server supports the following working modes:

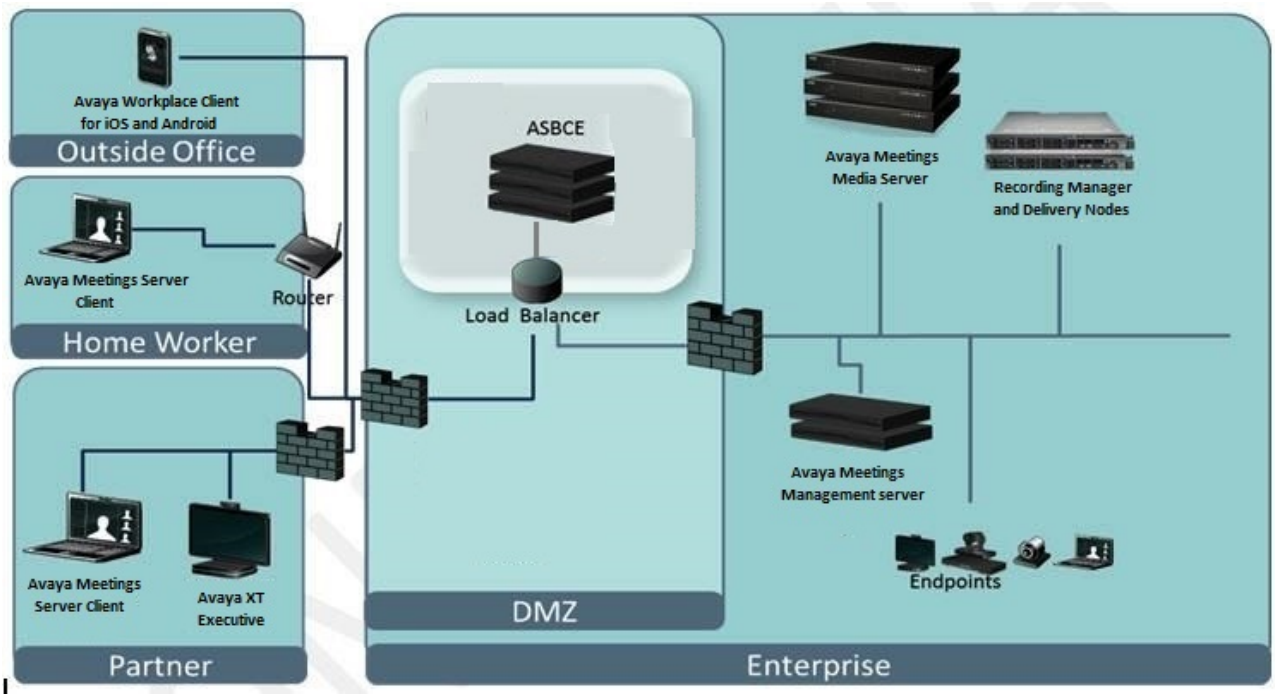
- Full video mode that supports up to 80 video connections at the 720p*30fps resolution.
- High-scale audio mode that supports up to 2000 audio and web collaboration connections.

You cannot configure one Avaya Meetings Media Server instance for both working modes, but you can switch between the two working modes. If you want to deploy Avaya Meetings Media Server

for both working modes, you need two separate Avaya Meetings Media Server virtual machines: one to support audio, video, web collaboration, and WebRTC and another one to support high capacity audio and web collaboration.

Generally, the ratio of video to audio connections in enterprises is approximately 1:50. You can configure the two separate Avaya Meetings Media Server virtual machine working modes with one port for Full video mode for every 50 ports for High-scale audio mode.

Topology



Technical specifications of Avaya Meetings Media Server

Flex profile specifications

From release 9.1.12, the Flexible OVA profile is available for Full Video mode. Consult Avaya support for information about the expected video port capacity for a specific hardware server.

Other profile specifications

- The Huge configuration requires customer-provided servers that support the 2S-3UPI topology. The 2S-3UPI topology supports three UPI links between server CPUs, which is essential for the efficient and optimum performance of the server.

- All configuration types require more than 2.4GHz of server CPU speed to support the 1080p*60fps video resolution.

Deployment-specific virtual machine requirement

Requirement	Huge configuration	Ultra High configuration	Ultra High configuration with 60fps video	High configuration	High configuration with 60fps video	Medium configuration	Medium configuration with 60fps video	Low configuration
Server CPU cores	48	24	24	16	16	12	12	6
Virtual cores	48	48	24	32	16	12	12	6
CPU reservation in MHz	120000	55000	54780	35000	34860	21800	27000	9900
2.5” SAS hard disk capacity in MB	122800	122800	122800	122800	122800	122800	122800	122800
RAM reservation in MB	147000	58000	58000	20000	20000	13000	13000	10000
Disk space reservation in MB	120000	120000	120000	120000	120000	120000	120000	120000
NIC	2	2	2	2	2	2	2	2
Maximum licenses applicable in Over The Top deployment	8	4	4	2	2	1	1	Only for migrations from existing Avaya Aura® Conferencing deployments

Capacity and scalability

Maximum ports supported

- In the Full video mode, the maximum supported ports for 720p*30fps video is exclusive of audio ports.
- In the High-scale audio mode, the maximum supported ports for audio in each deployment type also includes support for web collaboration.
- The Low configuration deployment is only for migrations from existing Avaya Aura® Conferencing deployments when you need to use the existing server. The Low configuration applies only to Avaya Meetings Server Team Engagement deployments and supports a maximum of 200 audio-only ports with web collaboration.

Deployment configuration	Maximum ports supported for a specific video resolution				
	1080p*60fps	1080p*30fps	720p*60fps	720p*30fps	480p*30fps
Huge	20	40	40	80	120
Ultra High	—	20	—	40	80
Ultra High with 60fps video	10	20	20	40	80
High	—	10	—	20	40
High with 60fps video	5	10	10	20	40
Medium	—	5	—	10	20
Medium with 60fps video	3	5	5	10	20

Full video mode ports capacity

The port allocation is based on the resources that each user needs. Different users need different amount of resources based on the video resolution of the connections. Meetings can have multiple users that need a different amount of resources based on the video resolution of the connection. For example, users with connections at 480p*30fps video resolution use 25% of the resources of users with connections at 1080p*30fps video resolutions or 50% of the resources of users with connections at 720p*30fps.

Avaya Meetings Media Server supports 1080p*60fps and 720p*60fps video resolutions as optional features. You must manually enable the video resolutions for video calls.

Deployment configuration	Port-based licenses for Over The Top deployments	Maximum ports supported for video				Audio using G.711 codec	Web collaboration
		1080p*60fps using H.264 codec	1080p*30fps and 720p*60fps using H.264 codec 720p*30fps using VP8 codec	720p*30fps using H.264 codec 480p*30fps using VP8 codec	480p*30fps using H.264 codec		
Huge	8	20	40	80	120	120	120
Ultra High	4	10	20	40	80	80	160
Ultra High	3	7	15	30	60	60	120
High	2	5	10	20	40	40	80
Medium	1	3	5	10	20	20	40

High-scale audio mode ports capacity

The Low configuration deployment is only for migrations from existing Avaya Aura® Conferencing deployments when you need to use the existing server. The Low configuration applies only to Avaya Meetings Server for Team Engagement deployments and supports a maximum of 200 audio-only ports with web collaboration.

Deployment configuration	Port-based licenses for Over The Top deployments	Audio-only Audio and web collaboration	
		Audio using G.711 codec	Web collaboration
Ultra High	4	2000	2000
Ultra High	3	1500	1500
High	2	1000	1000
Medium	1	500	500
Low	Only for migrations from existing Avaya Aura® Conferencing deployments	200	200

Ports configuration

For information about configuring ports for Avaya Meetings Media Server, see *Avaya Port Matrix — Avaya Meetings Media Server Product Offerings* on the Avaya Support website at http://support.avaya.com/.

Related links

Configuring the 1080p*60fps resolution for video calls in Avaya Meetings Media Server on page 30

[Configuring the 720p*60fps resolution for video calls in Avaya Meetings Media Server](#) on page 31

Supported audio and video codecs

Video codecs

Codec	Resolution
H.264 baseline-profile and H.264 high-profile	Decoded resolutions: from CIF to 1080p Encoded resolutions: CIF, 240p, 352p, 480p, 720p, and 1080p
H.263	CIF, 4CIF
VP8	240p, 352p, 480p, 720p

Audio codecs

Codec	Supports video calls	Supports audio-only calls
AAC-LC	Yes	No
Opus	Yes	No
Siren14/G.722.1 Annex C	Yes	No
G.722	Yes	Yes
G.722.1	Yes	Yes
G.729	Yes	Yes
G.711	Yes	Yes

Supported video layouts

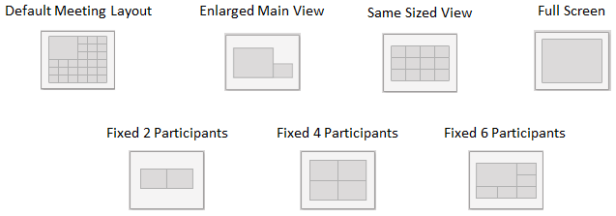
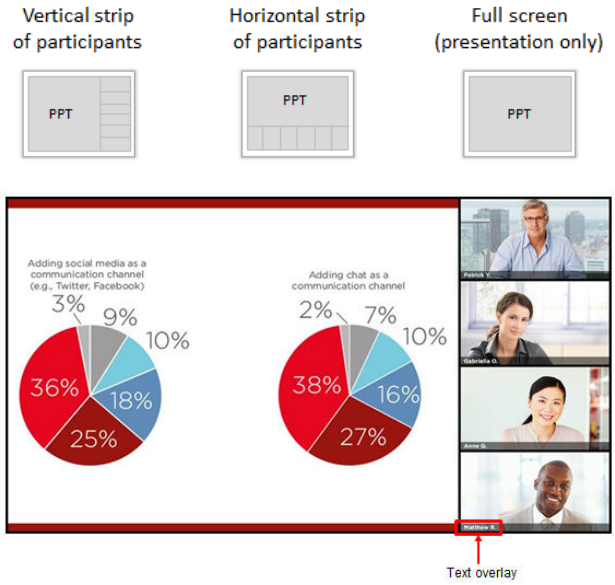
Video layout	Example
All video layouts The default meeting layout is a dynamic layout that automatically adapts depending on the number of participants in the meeting.	

Table continues…

Video layout	Example
Gallery layout with content sharing This is the default gallery layout. The strip automatically adapts to one of the following layouts to include up to six participants in the meeting: • Vertical strip of participants and enlarged shared content. • Horizontal strip of participants and enlarged shared content. • Full screen showing shared content. Some endpoints format images for a 4:3 screen, while others use the 16:9 format. This mismatch between endpoints might create unused vertical or horizontal strips around the image. Choosing a different layout can optimize your video experience.	

Bandwidth requirement

Full video mode

Client encoding video bandwidth

Maximum video bandwidth in Kbps	SVC layers
1280000	180p 360p 720p
448000	180p 360p
128000	180p

Client decoding video bandwidth

Decode up to 1x720p; 4x360p; 9x180p

Maximum = 360p at 320K x 4 streams = 1280Kbps

High-scale audio mode

Avaya Workplace Client and WebRTC clients bandwidth and resolution tables. WebRTC clients support only base profiles.

H.264 AVC Base Profile

Resolution	SDP H.264 profile level ID	Default bandwidth in Kbps	Minimum bandwidth in Kbps
1080p (1920x1080@30fps)	424028	1792000	1280000
720p (1280x720@30fps)	42401F	1024000	768000
720p 4:3 (960x720@30fps)	42401F	896000	640000
480p (848x480@30fps)	42401F	640000	512000
VGA (640x480@30fps)	42401E	512000	384000
360p (640x360@30fps)	42401E	384000	320000
CIF (352x288@30fps)	42400D	256000	192000
240p (416x240@30fps)	42400D	256000	192000
180p (210x180@30fps)	42400D	128000	96000
90p (160x90@30fps)	42400B	80000	64000

H.264 AVC High Profile

Resolution	SDP H.264 profile level ID	Default bandwidth in Kbps	Minimum bandwidth in Kbps
1080p (1920x1080@30fps)	640C28	1536000	1024000
720p (1280x720@30fps)	640C1F	896000	640000
720p 4:3 (960x720@30fps)	640C1F	768000	512000
480p (848x480@30fps)	640C1F	512000	384000
VGA (640x480@30fps)	640C1E	384000	320000
360p (640x360@30fps)	640C1E	320000	256000
CIF (352x288@30fps)	640C0D	192000	128000
240p (416x240@30fps)	640C0D	192000	128000
180p (210x180@30fps)	640C0D	128000	96000
90p (160x90@30fps)	640C0B	80000	64000

Chapter 3: Management tools

Avaya Meetings Management overview

System administrators use Avaya Meetings Management to control video network devices, such as gateways, media servers, and endpoints.

You access Avaya Meetings Management from the administrator portal. Service providers and organization administrators access the administrator portal to perform network-wide management, while customers of service providers access the administrator portal to perform similar tasks that are relevant only for their organization. Meeting operators, organizers, and regular users access the user portal to perform scheduling and management relevant to them.

The system administrator defines different user profiles with varying permissions to determine the management tasks available for a specific user.

Avaya Meetings Management sits at the core of your Avaya Meetings Server deployment and offers the following capabilities:

- Video network device management

  Remotely configure, upgrade and monitor many of your video network devices via the administrator portal. These devices include Avaya Meetings Media Server, Avaya Meetings Streaming and Recording, and many gateways.
- Endpoint management

  Remotely configure, upgrade and monitor both Avaya and third-party endpoints via the administrator portal.
- Resources and bandwidth management

  Configure your network devices and endpoints for effective bandwidth control. For example, you can determine when meetings are cascaded between multiple media servers. You can also monitor in real-time from the administrator portal's dashboard, or generate reports to see network statistics for a given time period.
- User management

  You can manage user access by creating profiles with a set of capabilities. You can also create virtual rooms and assign endpoints. Avaya Meetings Management also integrates with existing directory servers such as Microsoft Active Directory for easy user provisioning.
- Interface to unified communication solutions

  Avaya Meetings Management provides the interface to market leading unified communication solutions such as Avaya Aura® Power Suite.

- SIP server integration

  The smooth integration with third-party SIP servers leverages existing network call control for the video conferencing system. The SIP server manages the call control and network usage, while Avaya Meetings Server supplies the video conferencing capabilities.

- Built-in gatekeeper

  Avaya Meetings Management is shipped with a built-in H.323 Gatekeeper. It supplies the correct destination IP and authorizes the appropriate bandwidth for the call. In this way, Avaya Meetings Management can manage endpoint-initiated calls and point-to-point calls.

- Call authorization

  Avaya Meetings Management integrates with the gatekeeper to authorize calls based on the settings you define for your network, such as user capabilities and allowed bandwidth.

Accessing the administrator portal to manage your video network

About this task

You can access Avaya Meetings Management from the administrator or user portal.

Log in to the Avaya Meetings Management administrator portal to do the following:

- Manage all video network devices, including 3rd party endpoints:
  - Remote monitoring, configuration, and upgrade of devices
  - Managing your endpoints, for example by enabling the address book on all endpoints
- Manage bandwidth with:
  - Dynamically routed video conferences for lowest cost
  - Distributed media server deployments
  - Using distributed media servers to join a single video conference, thereby conserving bandwidth
- Manage users in the organization by:
  - Creating user profiles with varying user permissions and capabilities
  - Using Avaya Meetings Management built-in LDAP directory to manage users, or synchronizing users in your external LDAP directory, such as Microsoft Active Directory.
  - Assigning endpoints and virtual rooms to users

Note:

The Avaya WebRTC Gateway utilization data, that Avaya Meetings Management displays under **Device Usage**, is the load factor of the server. The utilization may not be 0% even

though there are no calls since the load factor is what WebRTC gateway uses to determine if it is capable of accepting new calls.

Procedure

1. Navigate to the URL of the Avaya Meetings Management administrator portal, as defined during the installation.

   You must use the following format: `https://hostname/iview`. The hostname is the name of the application server on the Avaya Meetings Management server.

2. Log in to the Avaya Meetings Management administrator portal using the credentials specified in the installation process.

   The Dashboard page appears.

   If your organization is part of a service provider deployment, use the credentials provided by the service provider.

Accessing the User Portal to Manage your Videoconferences

About this task

You can access Avaya Meetings Management either from the user portal, as described below, or the administrator portal (see Accessing the administrator portal to manage your video network on page 19).

All users (such as regular users, organizers, and meeting operators) access the Avaya Meetings Management user portal to do the following:

- Schedule, manage and moderate their videoconferences from a single access point.
- View their own videoconferences.
- Manage their own profiles and virtual rooms.

Procedure

1. Navigate to the URL of the Avaya Meetings Management administrator portal, as defined during installation. This should be in the following format:http://host-URL:port-number/userportal, where the host-URL is the name of the application server on the Avaya Meetings Management server.
2. Log in to the Avaya Meetings Management user portal using the credentials provided by your administrator.

   The welcome screen appears (Figure 1: User portal's welcome screen on page 21).

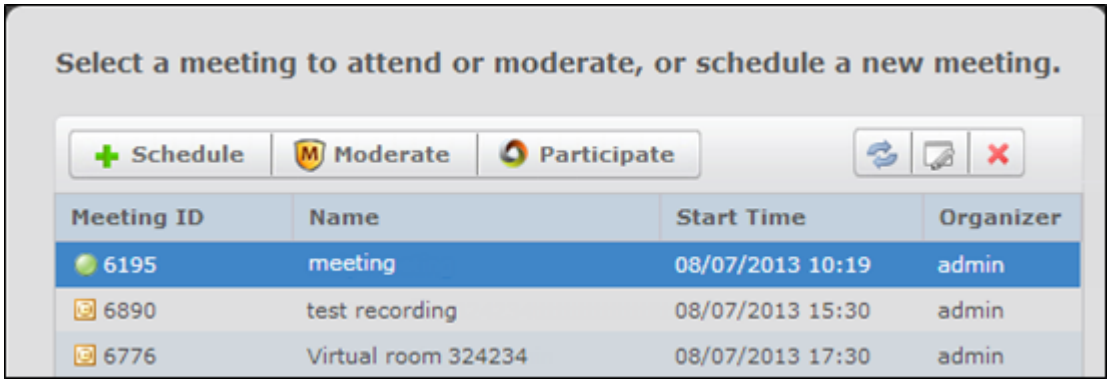


Figure 1: User portal's welcome screen

Chapter 4: Avaya Meetings Media Server management

Adding Avaya Meetings Media Server to Avaya Meetings Management

About this task

Manage Avaya Meetings Media Server using Avaya Meetings Management.

Before you begin

Get the following details:

- IP address of Avaya Meetings Media Server
- IP address of the gatekeeper
- Location of Avaya Meetings Media Server if the deployment has multiple locations

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**.
3. Click **Media Servers** in the left pane.

   Avaya Meetings Management displays the Media Servers window.
4. Click **Add**.

   Avaya Meetings Management displays the Add Media Server window.
5. Configure the following fields:
   - **Name**
   - **IP Address**
   - **Registered To**
   - **Location**

Result

Avaya Meetings Management adds the Avaya Meetings Media Server instance as a device.

Media server field descriptions

Name	Description
Name	The name of the media server. The name is used to identify specific media server instances in the list of media servers.
IP Address	The management IP address configured during the installation.
Registered To	The drop-down list containing the registered gatekeepers. If you select **None**, you can add the media server to Avaya Meetings Management, but the media server will not be connected to the network.
Location	The location of the media server. The location of the media server is only relevant in deployments with multiple locations.

Adding Avaya Meetings Media Server in Avaya Meetings Management as a gateway

About this task

Avaya Meetings Media Server as a WebRTC gateway is deployed as a cascaded server and manages all the WebRTC traffic of conference participants who join conferences using web browsers.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**.
3. Click **Gateways** in the left pane.

   Avaya Meetings Management displays the Gateways window.
4. Click **Add**.
5. Configure the following fields:
   - **Name**
   - **IP Address**
   - **Model**
   - **Registered To**

- **Location**

Result

Avaya Meetings Management adds Avaya Meetings Media Server as a WebRTC gateway.

Next steps

Configure Avaya Meetings Media Server deployed as a WebRTC gateway to process all WebRTC-based calls.

Avaya Meetings Media Server gateway field descriptions

Name	Description
Name	The name of the WebRTC gateway. The name is used to identify specific media server instances in the list of media servers.
IP Address	The management IP address configured during the installation.
Model	The role of the gateway. **Avaya WebRTC Gateway** is specifically used to configure Avaya Meetings Media Server as a gateway for web browser-based conferences.
Registered To	The drop-down list containing the registered gatekeepers. If you select **None**, you can add the media server to Avaya Meetings Management, but the media server will not be connected to the network.
Location	The location of the media server. The location of the media server is only relevant in deployments with multiple locations.

Configuring the Avaya Meetings Media Server network settings

Before you begin

- Decide a descriptive name for Avaya Meetings Media Server.
- If the deployment has multiple locations, get the location of the Avaya Meetings Media Server instance.
- If you deploy Avaya Meetings Media Server as a web collaboration gateway, get FQDN.

- Get the network IP addresses of:
  - NTP server
  - DNS servers
  - Default gateway
  - SIP proxy server

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**, and select the Avaya Meetings Media Server instance.

   Avaya Meetings Management opens the media server window.
3. Click the **Configuration** tab.
4. Configure the network settings.
5. Click **Apply**.

Avaya Meetings Media Server network field descriptions

Name	Description
Basic Settings	
Name	The name of the Avaya Meetings Media Server instance. Enter a name that indicates the location and working mode of Avaya Meetings Media Server.
Location	The location of Avaya Meetings Media Server in the enterprise network. This field is relevant only if there are multiples locations in the deployment.
Service FQDN	The FQDN of Avaya Meetings Media Server. This field is relevant only if you deploy Avaya Meetings Media Server as a web collaboration server.

Table continues…

Name	Description
Public URL branch	The public URL branch of Avaya Meetings Media Server. The public URL branch supports deploying multiple Avaya Meetings Media Server instances using one public FQDN. For example, `<FQDN>/Avaya Meetings Media Server1`. The public URL branch configuration must be identical in all Avaya Meetings Media Server instances.
In Maintenance	The option to change Avaya Meetings Media Server to inactive mode for maintenance. In the maintenance mode, you can configure settings and perform upgrades, but you cannot use the Avaya Meetings Media Server instance. Avaya Meetings Media Server needs a designated master server in cascaded deployments of distributed networks to support web collaboration in audio-based calls. If you do not designate another master server when you change the original master server to inactive mode for maintenance, web collaboration in audio calls might not work.
Secure Connection	The option to enable a permanent secure connection between Avaya Meetings Media Server and Avaya Meetings Management using TLS. You can use this option only if you installed security certificates for TLS. You must clear this option before: • Removing Avaya Meetings Media Server from Avaya Meetings Management. • Uploading security certificates to Avaya Meetings Media Server.
Master Media Server for Cascading	The option to set the specified server as the master server when cascading is enabled. When the option is not selected, the media server appears on the **Devices** page with an icon indicating that it can be designated only as a slave media server during cascading. Avaya Meetings Media Server needs a designated master server in cascaded deployments of distributed networks to support web collaboration in audio-based calls. If you do not designate a master server, web collaboration in audio calls might not work.

Table continues…

Name	Description
NTP Settings	
NTP Server	The IP address of the NTP server that sets the time for Avaya Meetings Media Server. If there is no NTP server, the value of the field must be `0.0.0.0`.
NTP Time Zone	The time zone where the NTP server is configured.
Network Settings	
DNS Server 1	The IP address of the DNS server.
DNS Server 2	The IP address of the secondary DNS server.
DNS Search List	The short name of the DNS server that Avaya Meetings Media Server uses to search other websites. Avaya Meetings Media Server searches the DNS search list for the suffix.
IP Address	The IP address of Avaya Meetings Media Server
Subnet Mask	The subnet mask of Avaya Meetings Media Server.
Default Gateway	The default gateway of Avaya Meetings Media Server.
Local FQDN	FQDN of Avaya Meetings Media Server. The local FQDN must be identical to the service FQDN.
H.323 Settings	
Required Gatekeeper	The drop-down list of the available gatekeepers.
Current Gatekeeper	The IP address of the current gatekeeper.
SIP Settings	
SIP Proxy Server	The IP address of the SIP server.
Transport Type	The transport protocol of the SIP server. The options are: • **TCP** • **UDP** • **TLS**
Turn/Stun Servers	The IP address of the session border controller. This field is applicable only if you deploy Avaya Meetings Media Server as a WebRTC gateway.

Changing the Avaya Meetings Media Server working mode

Before you begin

- Add the Media Server license to the Avaya Meetings Media Server instance.
- To change the working mode to High Capacity Audio and Web Collaboration, do the following:
  - Deploy and configure Avaya Meetings Media Server for the audio-only conferencing mode.
  - Install the security certificate for TLS.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**, and select the Avaya Meetings Media Server instance.

   Avaya Meetings Management opens the media server window.
3. Click **Change** next to **Working Mode**.

   You can change the working mode to one of the following two modes:

   - Full Video + Web Collaboration: This is the default mode.
   - High Capacity Audio and Web Collaboration

   Avaya Meetings Management displays a confirmation message.
4. Click **Yes**.

Configuring Avaya Meetings Media Server for WebRTC-based calls in Over The Top deployments

About this task

If you have two instances of Avaya Meetings Media Server where one instance is deployed as a media server and the other instance is deployed as a WebRTC gateway, you can configure the WebRTC gateway to process all WebRTC-based calls.

Before you begin

Check if Avaya Meetings Media Server in your OTT deployment has one of the following:

- Two instances, one of which is deployed as a media server and the other deployed as a WebRTC gateway.
- One instance is deployed as a media server.

Procedure

1. Log in to the Avaya Meetings Management portal as an administrator.
2. Click  , and click **Advanced Parameters**.

Avaya Meetings Management displays the Advanced Parameters window.

3. In **Property Name**, type the following advanced command:
   `com.avaya.aawg.aemsWebrtcCapability`
4. In **Property Value**, do one of the following:
   - If you have two instances of Avaya Meetings Media Server where one instance is deployed as a media server and the other instance is deployed as WebRTC gateway, type `false`.

     If you have only one instance of Avaya Meetings Media Server deployed as a media server, type `true`.
5. Click **Apply**.

Result

If you set **`com.avaya.aawg.aemsWebrtcCapability`** to:

- *false*, Avaya Meetings Media Server deployed as a WebRTC gateway processes all WebRTC-based calls.
- *true*, Avaya Meetings Media Server deployed as a media server processes all WebRTC-based calls.

Configuring Avaya Meetings Media Server for WebRTC-based calls in Team Engagement deployments

About this task

Depending on your TE deployment, you can configure Avaya Meetings Media Server or Avaya Aura® Media Server to process all WebRTC-based calls.

Before you begin

Using Avaya Aura® System Manager, check whether your Team Engagement deployment contains Avaya Aura® Media Server.

Procedure

1. Log in to the Avaya Meetings Management portal as an administrator.
2. Click  and click **Advanced Parameters**.

   Avaya Meetings Management displays the Advanced Parameters window.
3. In **Property Name**, type the following advanced command:
   `com.avaya.aawg.aemsWebrtcCapability`
4. In **Property Value**, type one of the following:
   - `false`: If you deployed both Avaya Meetings Media Server and Avaya Aura® Media Server. Avaya Aura® Media Server processes all WebRTC-based calls.

- `true`: If you deployed only Avaya Meetings Media Server. Avaya Meetings Media Server processes all WebRTC-based calls.

5. Click **Apply**.

Next steps

Disable **Force Media Server usage for Webrtc call** for Avaya Aura® Media Server on the Avaya Aura® Web Gateway administration portal.

For more information about this option, see *Administering the Avaya Aura® Web Gateway* at http://support.avaya.com/.

Configuring the 1080p*60fps resolution for video calls in Avaya Meetings Media Server

About this task

The 1080p*60fps resolution for video calls is an optional feature. You must manually configure the video resolution.

Avaya Meetings Media Server supports the 1080p*60fps resolution as an optional feature only if you select one of the following configuration options when you deploy the Avaya Meetings Media Server virtual machine:

- Ultra High capacity opt for 1080p60
- High capacity opt for 1080p60
- Medium capacity opt for 1080p60

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**, and select the Avaya Meetings Media Server instance.

   Avaya Meetings Management displays the Avaya Meetings Media Server instance page.
3. On the **Info** tab, click the IP address of the media server.

   Avaya Meetings Management displays the management UI in a new window.
4. Click **Maintenance options** > **Advanced parameters**.

   The management UI opens the Advanced parameters window.
5. In the **CLI** section, configure the following settings:
   - **Command**: Type `enablesupport1080p60`.
   - **Value**: Type `1`.
6. Click **Execute**.
7. Click **Close**.

Result

Avaya Meetings Management enables support for 1080p*60fps resolution for video calls in Avaya Meetings Media Server.

Configuring the 720p*60fps resolution for video calls in Avaya Meetings Media Server

About this task

The 720p*60fps resolution for video calls is an optional feature. You must manually configure the video resolution.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**, and select the Avaya Meetings Media Server instance.

   Avaya Meetings Management displays the Avaya Meetings Media Server instance page.
3. On the **Info** tab, click the IP address of the media server.

   Avaya Meetings Management displays the management UI in a new window.
4. Click **Configuration** > **Conferences**.
5. In the **Services List** section, click **Review**  in the **71** Prefix row.

   The management UI displays the Service: 71 — Default Service window.
6. Click **More**.
7. In **Video quality preference**, select **Motion.**.
8. Click **OK**.
9. Click **Apply**.
10. Click **Close**.

Result

Avaya Meetings Management enables support for 720p*60fps resolution for video calls in Avaya Meetings Media Server.

Creating meeting types

About this task

Meeting types are meeting templates that determine the core characteristics of meetings. If you have multiple media servers, you can define meeting types for one media server and synchronize the meeting types with other media servers.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**.
3. In the left pane, click **Media Servers**.
4. Click the name of the media server instance.

   Avaya Meetings Management displays the page of the media server instance.
5. In the **Info** tab, click the IP address of the media server.

   Avaya Meetings Management displays the management UI in a new window.
6. Click **Configuration** > **Conferences**.
7. Click **Add new service.**
8. Configure the following fields:
   - **Prefix**: The dialing prefix is a unique code that invokes the specific meeting type. This prefix is added to the meeting ID. For example, if the meeting ID is 9495 and the new service dial prefix is 88, the complete meeting ID is 889495.
   - **Description**
   - **Max call rate (Kbps)**
9. Click **More**, and configure the following detailed properties:
   - **Default layout**
   - **Enable personal layout**
   - **Display participant names**
   - **Video quality preference**
   - **Enable presentation view**
   - **Encryption**
   - **Auto mute joining participants**
   - **Auto mute first joining participant**
   - **Automatically reconnect dropped participants**
   - **Force conference PIN protection**
   - **Ask for conference PIN on invite**

10. Click **OK**.
11. Click **Apply**.

Result

Avaya Meetings Management creates the new meeting type.

Related links

Configuring AES-256 bit encryption for media streams on page 62

Detailed properties of meeting types

Name	Description
Default layout	Determines the default video layout of meeting types. The options are: • **Dynamically adjusted**: Changes the video layout automatically based on the number of participants in video conferences. **Max displayed streams**: Limits the maximum number of participants simultaneously visible in the same layout. The default value is the maximum streams that the media server supports. This limit is an optional configuration. • **Static**: Contains options to fix the default video layout of meeting types.
Enable personal layout	Enables moderators to personalize the video layout of specific participants in the video conferences.
Display participant names	Determines whether the video layout displays the name under each participant by default. The options are: • **Constantly**: Always displays the participant name. • **On location changes for**: Displays the name only for the first few seconds and refreshes whenever the location of the image in the video layout changes. Video conference moderators can change this setting in Avaya Meetings Management.
Video quality preference	Determines whether the media server processor power is dedicated to image sharpness or speedy rendering of moving images.

Table continues…

Name	Description
Enable presentation view	Determines whether meeting types can include web collaboration with the video conferencing streams. The options are: • **Auto**: Automatically selects the data sharing protocol supported by all endpoints in video conferences. • **H.264**: Forces web collaboration to use H.264 for better compression and higher resolutions, which is supported by newer endpoints. • **H.263**: Forces web collaboration to use H.263 for legacy endpoints that do not support H.264. All endpoints in video conferences must support the selected protocol.
Encryption	Specifies whether the meeting is encrypted and the type of encryption used. The options are: • **Best effort**: Indicates that the system attempts to encrypt the meeting transmissions if the endpoint supports the encryption. If an endpoint does not support encrypted media, transmissions to that endpoint are not encrypted. • **Strong encryption (AES-128) required**: Indicates that the system requires the AES-128 strong encryption. Endpoints that do not support this encryption standard cannot connect to meetings of this type. The system also supports the AES-256 bit encryption. You can activate the AES-256 bit encryption using the advanced command option in Avaya Meetings Management. **Important:** Using encryption is subject to local regulation. In some countries, it is restricted or limited for usage. For more information, consult your local reseller.
Auto mute joining participants	Automatically mutes the sound of joining participants. This is helpful in eliminating background noise, such as clicking keyboards and other distractions from participants.
Auto mute first joining participant	Mutes all conference participants joining the conference, except for the first participant.

Table continues…

Name	Description
Automatically reconnect dropped participants	Automatically tries to establish connections of participants who are disconnected..
Force conference PIN protection	Determines whether meetings of this type always require participants to enter a PIN before gaining access to meetings.
Ask for conference PIN on invite	Asks moderators for a conference PIN to send invitations for meetings.

Modifying an Avaya Meetings Media Server meeting type in Avaya Meetings Management

About this task

You can modify an existing media server meeting type in Avaya Meetings Management and define properties specific to Avaya Meetings Management functionality. For example, you can modify the default bandwidth that undefined endpoints use when connecting to a video conference. Higher video resolutions require higher bandwidth to ensure that the video is constantly updated and maintains smooth motion.

From release 9.1.11, a user can specify a maximum video resolution setting from the user interface of the Avaya Meetings for Web. The default value is 720p. Other options are: 1080p, 480p, 360p, 240p, 180p. This setting is only applicable when the video is enabled in the web client. The user can change this setting while logged in. The new changes to the setting only affect the new video call or video escalation, not the existing video calls. The final resolution for web calls can be restricted depending on the meeting type maximum video profile and VP8 codec support.

Other properties that are defined on the Media Server, such as the prefix of the meeting type, can only be modified on the Media Server.

Before you begin

Ensure that the virtual meeting ID prefix is not the same as the prefix for the Avaya Meetings Media Server meeting type, Avaya Meetings Management built-in gatekeeper zone, or other prefixes. If the prefix is the same, you cannot successfully use a different language in your meeting invitation than the one selected in the virtual room.

Procedure

1. Log in to the Avaya Meetings Management portal as an administrator.
2. Click **Settings** > **Meetings** > **Meeting Types**.
3. In the Name column, click the link for the required meeting type.
4. On the Meeting Type Details page, configure the required parameters.
5. Click **Apply** to save your changes.

Meeting type field descriptions

The following table lists the parameters you can configure for your meeting types:

Name	Description
Name	Displays a name of the meeting type as defined in Avaya Meetings Management. Avaya Meetings Media Servers do not give names to meeting types. You can type a new name if necessary.
Prefix	Displays a dial prefix for the meeting type. A dial prefix is a number added at the beginning of a dial string to route it to the correct destination, or to determine the type of call. You can download a meeting type prefix from the Media Server. You cannot change the prefix in Avaya Meetings Management.
Description	Displays a meeting type description. You can download a description from the Media Server.
Media	Displays a type of media available for this meeting type downloaded from the Media Server: • **Audio only**: The system displays no video from participants and a presentation to conserve the bandwidth and Media Server resources. • **Video**: High Definition (HD) video, the default value for meeting types. • **Video (Switched HD)**: The system displays only one participant at a time to conserve bandwidth. • **Video (Desktop)**: Video at a lower resolution (CIF), doubling the Media Server capacity.
Maximum Bandwidth (Kbps)	Displays the maximum meeting bandwidth, or bitrate, between an endpoint and the Media Server when using this meeting type downloaded from the Media Server.
Default Connection Rate (Kbps)	Specifies the default bandwidth, or bitrate, for this meeting type, used for any endpoints that are not defined in Avaya Meetings Management and are invited without specifying the bandwidth. The default bandwidth must be equal to or less than the maximum bandwidth value. Kilobits per second (kbps) is the standard unit to measure bitrate, measuring the throughput of data communication between two devices. You can also specify the bandwidth for an endpoint when scheduling a meeting, or during a meeting. Endpoints that are defined in Avaya Meetings Management use the specified bandwidth by default.

Table continues…

Name	Description
Maximum Video Profile	Reserves more connection on the Media Server for calls, so that you can add more participants in meetings. If participants leave meetings early, Avaya Meetings Management immediately releases the video ports used by the participants. You can reserve a specific number of connections for the following video resolution options: • **Auto**: The Media Server automatically reserves the required connections. • **Full High Definition**: Reserves connections to support video resolutions up to 1080p HD. For Avaya Meetings for Web client: - If this setting is selected and `vp8support` is disabled on the Media Server, the resolution can reach 1080p. - If this setting is selected and `vp8support` is enabled, the resolution is restricted to 720p. • **High Definition**: Reserves connections to support video resolutions up to 720p. For Avaya Meetings for Web: - If this setting is selected and `vp8support` is disabled on the Media Server, the resolution can reach 720p. - If this setting is selected and `vp8support` is enabled, the resolution is restricted to 480p. • **Standard Definition**: Reserves connections to support video resolutions up to 352p.
Maximum Participants	Specifies the maximum number of participants allowed in specific meeting types. • Avaya Meetings Management supports a range of 2 to 500 participants. • The default maximum participants for audio-only meetings is 250. • The default maximum participants for video-enabled meetings is 100. When you upgrade your system, Avaya Meetings Management keeps the configured value. If you do not configure the value, Avaya Meetings Management configures the default value. Avaya Meetings Management uses the smaller of the following two values while applying the maximum participants limit in meetings: • The value configured in this field. • The value configured in the virtual meeting room.

Table continues…

Name	Description
Enable Gallery Layouts (requires additional 480p resource per meeting)	Enables gallery layouts when sharing content, which use additional Media Server resources: an extra 480p connection per meeting. The setting is available for media servers and for video meeting types. The option is disabled by default.
Enable Web Collaboration	Enables web collaboration for this meeting type. This feature provides advanced content sharing functionality. The option is enabled by default.
Enable Web Collaboration Transcoding	If **Enable Web Collaboration** is not selected, the setting is hidden. If **Enable Web Collaboration** and **Enable Gallery Layout** options are selected, the setting is enabled and you cannot disable it. If you use third-party endpoints and **Enable Gallery Layout** is not selected, this settings ensures that the third-party endpoints used web collaboration content sharing interops with H.239/BFCP. This option ensures transcoding between web collaboration content sharing protocol to H.264 content stream used by H.239/BFCP sharing protocols. This option is enabled by default.
Enable Slider	Reviews previously shared content without interrupting the presenter.
Avaya Meetings Media Servers	Lists media servers in your deployment that support this meeting type. You can select the link to access the Media Server administrator interface.

Ports configuration on Avaya Meetings Media Server

Avaya Meetings Media Server in the Full Video + Web Collaboration mode needs configuration of specific port ranges for:

- UDP port range for RTP/RTCP-based audio and video streams.
- UDP port range for RAS-based traffic.
- TCP port range for Q.931–based traffic to establish H.323–based calls.
- TCP port range for SIP BFCP-based traffic for the management of video conference features.

The configuration of these port ranges apply only to the Full Video + Web Collaboration mode of Avaya Meetings Media Server.

Configuring port ranges for audio and video on Avaya Meetings Media Server

About this task

Avaya Meetings Media Server uses UDP ports to process RTP/RTCP-based audio and video traffic of conferences. Avaya Meetings Media Server uses 360 ports for audio and 1080 ports for video. It has the following designated UDP port ranges for RTP/RTCP:

- Video: 12000 to 13200
- Audio: 16384 to 16984

The number of UDP ports required for RTP/RTCP is fixed. You can determine the exact port numbers that Avaya Meetings Media Server uses by defining the lower-end of the port range called the Base port.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**, and select the Avaya Meetings Media Server instance.

   Avaya Meetings Management displays the Avaya Meetings Media Server instance page.
3. On the **Info** tab, click the IP address of the media server.

   Avaya Meetings Management displays the management UI in a new window.
4. Click **Maintenance options**  > **Advanced parameters**.

   The management UI opens the Advanced parameters window.
5. Click one of the following port entries:
   - **Video Base Port**
   - **Audio Base Port**
6. Type the new lower-end port number in the **Value** field.
7. Click **Apply**.
8. Click **Close**.

Result

Avaya Meetings Management designates the port as the Base port of the audio and video port ranges.

Configuring the port for RAS on Avaya Meetings Media Server

About this task

Avaya Meetings Media Server uses UDP ports for RAS-based traffic. It has port 1719 designated for RAS. You can configure a different port for RAS.

Port 1719 is also used to communicate with the gatekeeper. If you configure this port for RAS, you must configure a different port for the gatekeeper.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**, and select the Avaya Meetings Media Server instance.

   Avaya Meetings Management displays the Avaya Meetings Media Server instance page.
3. On the **Info** tab, click the IP address of the media server.

   Avaya Meetings Management displays the management UI in a new window.
4. Click **Maintenance options** > **Advanced parameters**.

   The management UI opens the Advanced parameters window.
5. Click the **H323 RAS port number** entry.
6. Type the port number in the **Value** field.
7. Click **Apply**.
8. Click **Close**.

Result

Avaya Meetings Management designates the port for RAS-based traffic.

Configuring the port to establish H.323–based calls on Avaya Meetings Media Server

About this task

Avaya Meetings Media Server uses TCP ports for Q.931 to establish and terminate H.323–based calls. It has port 1720 designated for Q.931. You can configure a different port for Q.931.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**, and select the Avaya Meetings Media Server instance.

   Avaya Meetings Management displays the Avaya Meetings Media Server instance page.
3. On the **Info** tab, click the IP address of the media server.

   Avaya Meetings Management displays the management UI in a new window.
4. Click **Maintenance options** > **Advanced parameters**.

   The management UI opens the Advanced parameters window.
5. Click **H323 SIG port number** entry.
6. Type the port number in the **Value** field.

7. Click **Apply**.
8. Click **Close**.

Result

Avaya Meetings Management designates the port for Q.931 to establish and terminate H.323–based calls.

Configuring the port range for management of video conference features on Avaya Meetings Media Server

About this task

Avaya Meetings Media Server uses TCP ports for SIP BFCP-based traffic. SIP BFCP sends an update to all endpoints in a video conference when a conference participant uses a video conference feature.

Avaya Meetings Media Server has a TCP port range of 3400 to 68755 designated for SIP BFCP. The number of ports required for SIP BFCP is fixed. You can determine the exact port numbers that Avaya Meetings Media Server uses by defining the lower-end of the port range called the Base port.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**, and select the Avaya Meetings Media Server instance.

   Avaya Meetings Management displays the Avaya Meetings Media Server instance page.
3. On the **Info** tab, click the IP address of the media server.

   Avaya Meetings Management displays the management UI in a new window.
4. Click **Maintenance options**  > **Advanced parameters**.

   The management UI opens the Advanced parameters window.
5. Click the **SIP BFCP base port** entry.
6. Type the new lower-end port number in the **Value** field.
7. Click **Apply**.
8. Click **Close**.

Result

Avaya Meetings Management designates the port for SIP BFCP-based traffic.

Configuring QoS for Avaya Meetings Media Server

About this task

The QoS configuration for Avaya Meetings Media Server must match the QoS configuration for the enterprise network.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**.
3. In the left pane, click **Media Servers**.
4. Click the name of the media server instance.

   Avaya Meetings Management displays the page of the media server instance.
5. On the Info tab, click the IP address of the media server.

   Avaya Meetings Management displays the Avaya Meetings Media Server management interface in a new window.
6. Click the **Configuration** tab.
7. On the **Setup** tab, click **More** in the **QoS** section.

   The Avaya Meetings Media Server management interface displays the QoS settings.
8. Configure the following QoS settings:
   - **None**
   - **Default**
   - **Custom**

QoS field descriptions

Name	Description
None	The option to disable QoS. Use **None** when the enterprise network has sufficient bandwidth for the media control, video, and audio streams and does not require any prioritization of the different streams.

Table continues…

Name	Description
Default	The option to use the following default priority settings for the media control, video, and audio streams: • **Control priority**: 26. This priority setting ensures that calls are established without reducing the audio and video quality of calls in progress. • **Video priority**: 34. The lowest default priority is configured for video quality. • **Audio priority**: 46. This priority ensures that audio is always given precedence over video.
Customized	The options to configure the relative priority of the audio, video, and control channels. Use the following advanced parameters to set the priority of the audio, video, and control channels. The valid value range is from 0 to 255: • **Control priority**: All TCP-based connections use the QoS setting in this field. • **Video priority**: This priority setting applies to endpoint camera images and data streams such as far-end camera control. • **Audio priority**: This priority setting applies to multiple video channels, such as the audio stream for endpoint microphones and presentations.

Configuring Avaya Meetings Media Server to automatically disconnect dead calls

About this task

Avaya Meetings Media Server loses signaling connectivity to all endpoints during a network component failure and all calls are disconnected. Unless meeting participants rejoin disconnected meetings from the same endpoints, the original calls become dead. Calls become dead when:

- Meeting participants use different endpoints to rejoin disconnected meetings.
- Meeting participants don’t rejoin disconnected meetings.
- Endpoints of meeting participants crash.
- Networks at endpoint locations fail.

Dead calls hold on to resources and keep meetings active even after all participants disconnect. Participants in active meetings see frozen videos of participants with dead calls.

Avaya Meetings Media Server can automatically disconnect dead calls when it detects inactivity in the audio stream.

Procedure

1. Log in to the Avaya Meetings Media Server administrator portal.
2. Click **Devices** > **Media Servers** >
3. Select the Avaya Meetings Media Server instance.

   Avaya Meetings Media Server displays the Avaya Meetings Media Server instance page.
4. Click the **Configuration** tab.
5. Click **Advanced Parameters**.

   Avaya Meetings Management displays the Advanced Parameters window.
6. To enable Avaya Meetings Media Server to automatically disconnect dead calls, configure the following fields:
   - **ID**: `advcmdmapsetval`
   - **Parameter**: `mf.DeadCallRemovalEnabled`
   - **Value**: `1` to enable, `0` to disable. This setting is enabled by default.
7. Click **Apply**.
8. To apply the changes, configure the following fields:
   - **ID**: mapconfigcompleted
   - **Value**: 1
9. Click **Apply**.
10. Click **Close**.

Chapter 5: Load and patch management

Checklist for configuring Avaya Meetings Media Server licenses

No.	Task	Link/Notes	✔
1	Download the Avaya Meetings Media Server software from AvayaPLDS and deploy the OVA.	See Retrieving Avaya Meetings Media Server UUID on page 45	
2	Add the Avaya Meetings Media Server to the Avaya Meetings Management devices to get the UUID.	See Activating license entitlements in Avaya PLDS on page 46	
3	Activate the license entitlement in Avaya PLDS.	See Downloading software from PLDS on page 47	
4	Apply the Avaya Meetings Media Server license in Avaya Meetings Management.	See Applying the Avaya Meetings Media Server licenses on page 48	

Retrieving Avaya Meetings Media Server UUID

About this task

You need the application UUID to activate the Avaya Meetings Media Server.

If you deploy the hardware server, see the customer letter for the system ID.

Before you begin

Install Avaya Meetings Management

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices** > **Media & Signaling**.
3. Select the relevant device category from the list:
   - **Media Servers**

- **Gateways**
- **H.323 Gatekeeper**
- **H.323 Edge Servers**

The system displays the list of devices in the selected category.

4. Select the relevant device, and on the Info tab note at the end of **UUID**.

Next steps

Add the license to activate the component.

Activating license entitlements in Avaya PLDS

About this task

Use License Activation Code (LAC) to activate license entitlements from the available licenses. After you activate the license entitlements, AvayaPLDS creates an Activation Record and sends an Activation Notification email to the recipient registered with the entitlements, along with anyone added as an email recipient during the activation.

The Activation Record and Activation Notification email contain details of the number of activated licenses and the license host. The email also contains an attachment with the license file or key. You can view the license file or key on the License/Keys tab of the Activation Record in AvayaPLDS.

Before you begin

Get the following information:

- LAC from the Avaya customer email.
- If you activate license entitlements on:
  - A new license host, get the host ID.
  - An existing license host, get the license host name.

Procedure

1. Go to the AvayaPLDS website at http://plds.avaya.com.
2. Log in to AvayaPLDS using your login credentials.
3. To view your license entitlements, click **Assets** > **View Entitlements**.

   AvayaPLDS displays the Search Entitlements window.
4. In **License Activation Code (LAC)**, type LAC.

   You can get LAC from the Avaya customer email.
5. Click **Search Entitlements**.

   AvayaPLDS displays your license entitlements.

6. To activate a license entitlement, click **Options** > **Activate**.

   AvayaPLDS displays the list of available licenses in the Search Entitlements to Activate window. AvayaPLDS automatically selects all licenses in the window with the maximum quantity for activation.

7. Clear the selection of licenses that you do not want to activate.
8. Click **Activate**.

   AvayaPLDS displays the list of available license hosts in the Search License Hosts window.

9. Click **Add a License Host**.

   AvayaPLDS displays the Add License Host window.

10. In **License Host**, enter the name of the license host, and click **Save**.

    For example, enter `Avaya Meetings Media Server H.323 Edge`.

    AvayaPLDS displays the Registration window.

11. Verify the license entitlement details, and click **Next**.

    AvayaPLDS displays the Activate Entitlements window.

12. In **Avaya Meetings Media Server UUID/System ID**, specify the Avaya Meetings Media Server UUID.
13. Specify the quantity of licenses to activate for each license entitlement, and click **Next**.
14. Review and accept the Avaya end user license agreement.
15. **(Optional)** To send the license activation record in an email, in the **Confirmation Information** section, enter the following information for the email recipient:
    - **Result output**
    - **Email to**
    - **Language**
    - **Comments**
16. **(Optional)** In the **Notes for this transaction** section, type the notes for the license activation transaction.
17. Click **Finish**.

Downloading software from PLDS

Procedure

1. On your web browser, type http://plds.avaya.com to access the Avaya PLDS website.
2. Enter your login ID and password.

3. On the PLDS Home page, select **Assets**.
4. Click **View Downloads**.
5. Click the search icon  for Company Name.
6. In the Search Companies dialog box, do the following:
   a. In the **%Name** field, type `Avaya` or the Partner company name.
   b. Click **Search Companies**.
   c. Locate the correct entry and click the **Select** link.
7. Search for the available downloads by using one of the following:
   - In **Download Pub ID**, type the download pub ID.
   - In the **Application** field, click the application name.
8. Click **Search Downloads**.
9. In the **Download Manager** box, click the appropriate **Download** link.

   Note:

   The first link, **Click to download your file now**, uses the Download Manager to download the file. The Download Manager provides features to manage the download (stop, resume, auto checksum). The **click here** link uses your standard browser download and does not provide the download integrity features.
10. If you use the Download Manager, click **Details** to view the download progress.
11. Select a location where you want to save the file, and click **Save**.
12. **(Optional)** If you receive an error message, click the message, install Active X, and continue with the download.
13. **(Optional)** When the system displays the security warning, click **Install**.

    When the installation is complete, PLDS displays the downloads again with a check mark next to the downloads that have completed successfully.

Applying the Avaya Meetings Media Server licenses

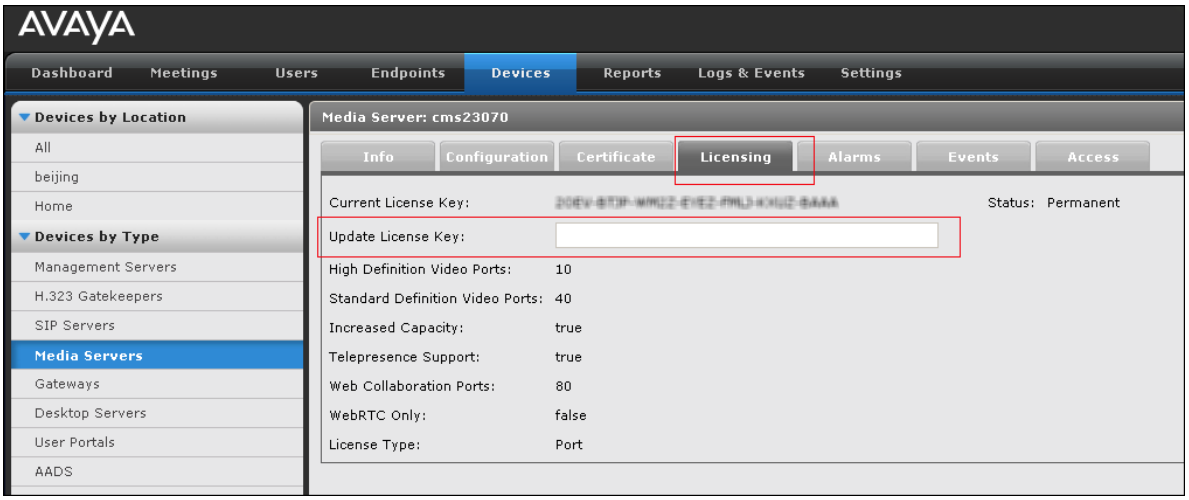
Before you begin

- Get the License Authentication Code (LAC) file from the Avaya customer email.
- Activate the license entitlements for Avaya Meetings Media Server.
- Ensure that new Avaya Meetings Media Server license supports your deployment type (Encrypted / Non-encrypted).

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**, and select the Avaya Meetings Media Server instance from the list of media servers.

   Avaya Meetings Management displays the Avaya Meetings Media Server instance page.
3. Click the **Licensing** tab.



4. In **Update License Key**, copy and paste or type the license key.
5. Click **Apply**.

Result

Avaya Meetings Management restarts Avaya Meetings Media Server to apply the new license.

Upgrading Avaya Meetings Media Server by using new upgrade archives

About this task

When an upgrade of the Avaya Meetings Media Server application or operating system is available, upgrade your system to the latest software version for best performance and to use the enhanced features. If you upgrade both the Avaya Meetings Media Server application and operating system, you must first upgrade the operating system.

This procedure describes how to upgrade the Avaya Meetings Media Server and includes both the upgrade of system components and of the Avaya Meetings Media Server application. Use the same procedure to roll back to a previous version.

Before you begin

- Download the `EquinoxMediaServer_x.x.zip` archive from Avaya PLDS. The archive contains the `MediaServer_x.x.zip` file. The archive might contain optional security-related and platform-related files such as `SecurityUpdate_x.x.zip` and `PMGR_x.x.zip`.

  Extract the `EquinoxMediaServer_x.x.zip` archive files to your computer. Do not extract the compressed files inside the archive.
- Ensure that Avaya Meetings Management is upgraded and the version is compatible with the Avaya Meetings Media Server upgrade version.
- Get the license key, if required.
- Change the status of Avaya Meetings Media Server to the maintenance mode.
- Ensure that there are no active calls on Avaya Meetings Media Server; the upgrade process disconnects all calls.
- Back up the configuration file of Avaya Meetings Media Server and the operating system.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**.
3. In the left pane, click **Media Servers**.
4. Select one or more Avaya Meetings Media Server instances.
5. Click **Manage** > **Upgrade Software**.

   Avaya Meetings Management displays the Upgrade window for a confirmation to shut down Avaya Meetings Media Server.
6. Click **OK**.

   Avaya Meetings Management displays the Upgrade Software Wizard window.
7. Select **I want to upload a new upgrade file**, and click **Next**.

   Avaya Meetings Management displays the next page of the Upgrade Software Wizard window.
8. Click **Browse**, and select an upgrade file.

   Repeat this step for all the upgrade files that you extracted from the `EquinoxMediaServer_x.x.zip` archive.

   Avaya Meetings Management processes the selected upgrade file and adds the file to the repository.
9. Click **Apply**.

   If you upgrade to a major software version, Avaya Meetings Management might display the window to enter the license key.
10. Type the license of the major software version, and click **Apply Result**.

Upgrading Avaya Meetings Media Server by using saved upgrade files

About this task

When an upgrade of the Avaya Meetings Media Server application or operating system is available, upgrade your system to the latest software version for best performance and to use the enhanced features. If you upgrade both the Avaya Meetings Media Server application and operating system, you must first upgrade the operating system.

This procedure describes how to upgrade the Avaya Meetings Media Server and includes both the upgrade of system components and of the Avaya Meetings Media Server application. Use the same procedure to roll back to a previous version.

Before you begin

- Ensure that Avaya Meetings Management is upgraded and the version is compatible with the Avaya Meetings Media Server upgrade version.
- Get the license key, if required.
- Change the status of Avaya Meetings Media Server to the maintenance mode.
- Ensure that there are no active calls on Avaya Meetings Media Server; the upgrade process disconnects all calls.
- Back up the configuration file of Avaya Meetings Media Server and the operating system.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**.
3. In the left pane, click **Media Servers**.
4. Select one or more Avaya Meetings Media Server instances.
5. Click **Manage** > **Upgrade Software**.

   Avaya Meetings Management displays the Upgrade window for a confirmation to shut down Avaya Meetings Media Server.
6. Click **OK**.

   Avaya Meetings Management displays the Upgrade Software Wizard window.
7. Select **Select one of the current upgrade files to upgrade**, and click **Next**:

   Avaya Meetings Management displays the next page of the Upgrade Software Wizard window.
8. Select a saved file in the following sequence, and click **Apply** after selecting each file:
   a. `SecurityUpdate_x.x.zip`
   b. `PMGR_x.x.zip`
   c. `MediaServer_x.x.zip`

Avaya Meetings Management:

- Processes each upgrade file individually and uploads the file to the Avaya Meetings Media Server instances.
- Restarts the Avaya Meetings Media Server instances.
- Displays the window to enter the license key if you upgrade to a major software version.

9. Type the license of the major software version, and click **Apply Result**.

Chapter 6: Data management

Configuring the log retention period for Avaya Meetings Media Server

About this task

The log retention time setting ensures that logs are deleted after a specific period. The setting applies globally to all instances Avaya Meetings Media Server in your deployment.

You can disable the retention time.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Settings**.
3. In the left pane, click **Maintenance** > **Log**.
4. Under **Log Retention**, select **Log retention time for distributed devices (days)**, and enter the number of days.

   The valid range of values for the number of days is 1 to 365. The default value is 1.
5. Click **Apply**.

Backing up the Avaya Meetings Media Server configuration

About this task

Back up the Avaya Meetings Media Server configuration to a single file. You can store the backup file in an archive using FTP. You can use the saved configuration file to restore the settings to the current Avaya Meetings Media Server or to configure a similar Avaya Meetings Media Server.

The backup process is different from generating Customer Support Package. You can restore the system configuration only from the backup file.

Procedure

1. Log in to Avaya Meetings Management.

2. Click **Devices**.
3. In the left pane, select **Media Servers**.

   Avaya Meetings Management displays the list of Avaya Meetings Media Server instances.
4. Select an Avaya Meetings Media Server instance.
5. Click **Manage** > **Retrieve Configuration File**.

   Avaya Meetings Management displays the Retrieve Configuration window.
6. Click **OK**.

Result

Avaya Meetings Management saves the configuration.

Creating an automatic backup schedule for Avaya Meetings Media Server

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Settings**.
3. On the left pane, click **Maintenance** > **Backup**.

   Avaya Meetings Management displays the Backup window.
4. Select **Enable Auto Backup**.
5. Click **Equinox Media Servers' Configuration Files**.
6. Set the following automatic backup options:
   - **Frequency**
   - **Start**
   - **Destination**
   - **Maximum storage size allocated to the backup data disk (MB)**: When the backup files use up the allocated size, Avaya Meetings Management overwrites the oldest backup files with the new files.

Restoring the Avaya Meetings Media Server configuration

About this task

You can import the settings of a saved Avaya Meetings Media Server configuration file from a storage device on your network. You can use the saved configuration file to restore the settings to the current Avaya Meetings Media Server or to configure another Avaya Meetings Media Server.

The imported configuration file is a compressed file that contains a `.val` file and a `.xml` file.

Important:

If you import a configuration file from another Avaya Meetings Media Server that requires different login credentials, you must enter the login credentials to gain access to the particular Avaya Meetings Media Server.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**.
3. In the left pane, select **Media Servers**.

   Avaya Meetings Management displays the list of Avaya Meetings Media Server instances.
4. Select an Avaya Meetings Media Server instance.
5. Click **Manage** > **Update Configuration File**.

   Avaya Meetings Management displays the Update Configuration window.
6. Select the configuration file.
7. Click **Apply**.

   The restore procedure permanently deletes the current configuration and disconnects all active conferences.

Result

Avaya Meetings Management restores the configuration and restarts Avaya Meetings Media Server.

Downloading Customer Support Package

About this task

Customer support might ask you to send logs of Avaya Meetings Media Server to diagnose issues. Customer Support Package contains logs and server configuration, which include the following:

- Application and operating system configuration
- Application and operating system logs

- Operating system run time information, such as CPU usage, memory usage, and networking status
- Application run time information, such as memory status and other details.

Note:

You cannot restore the server configuration from Customer Support Package. You can restore the configuration only from a backup file.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**.
3. In the left pane, click **Media Servers**.
4. Select the check box next to the Avaya Meetings Media Server instance.
5. Click **Manage** > **Retrieve Support Logs and Network Trace**.
6. Select one of the following options, and configure the values:
   - **Capture last**: Enter the total minutes.
   - **Capture from**: Enter the date range.
7. Click **Generate**.

Chapter 7: Security

Creating security certificates for Avaya Meetings Media Server

About this task

TLS certificates, issued by a trusted certification authority, contain the public encryption keys of Avaya Meetings Media Server that are used over the network to ensure authentication and encryption of the network connection.

Important:

Using encryption is subject to local regulation. In some countries, it is restricted or limited for usage. For more information, consult your local reseller.

Note:

Avaya Meetings Media Server does not support wildcard certificates.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**, and click the name of the Avaya Meetings Media Server instance.

   Avaya Meetings Management displays the Avaya Meetings Media Server instance window.
3. Click the **Certificate** tab.
4. Click **Create**.

   Avaya Meetings Management displays the Generate CSR window.
5. Configure the following fields:
   - **Common name**
   - **Subject Alternative Name**
   - **Organizational Unit**
   - **Organization**
   - **City**
   - **State**
   - **Country Code**

- **Encryption Strategy**
- **Signature Algorithm**

6. Click **Generate CSR**.
7. Click **Save** to view the certificate.

   Avaya Meetings Management displays the certificate in the Download window.
8. Save the certificate signing request.

   Avaya Meetings Management saves the certificate as a CSR file that is compatible with the Base-64 ASCII code.
9. Send the CSR file containing the certificate to the certification authority for signing.

   Select **Web Server** as the certificate template when you submit the certificate request.

Result

The certification authority will send back a signed certificate.

Next steps

Upload the certificates.

Avaya Meetings Media Server CSR field descriptions

Name	Description
Common Name	The Avaya Meetings Media Server FQDN. For a redundant deployment, the common name must be the public virtual FQDN.
Subject Alternative Name	The alternate host name of Avaya Meetings Media Server to include in the certificate.
Country Code	The standard country code that consists of two characters. For example, uk for United Kingdom or jp for Japan. This field is not case-sensitive.
Encryption Strategy	The code for the encryption strategy. The options are: • **1024**: Choosing this option might cause weak encryption. • **2048** • **4096**

Table continues…

Name	Description
Signature Algorithm	The algorithm to use when generating the signature on the certificate. This algorithm is a combination of the private keys of both the CA and the device. The options are: • **SHA1withRSA**: Choosing this option might cause weak encryption. • **SHA256withRSA**

Uploading security certificates to Avaya Meetings Media Server

About this task

TLS certificates from Certificate Authority must be uploaded to Avaya Meetings Media Server for authentication and encryption of the network connection.

Important:

Using encryption is subject to local regulation. In some countries, it is restricted or limited for usage. For more information, consult your local reseller.

Before you begin

Generate the security certificates.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**, and click the name of the Avaya Meetings Media Server instance.

   Avaya Meetings Management displays the Avaya Meetings Media Server instance window.
3. Click the **Configuration** tab.
4. Clear the **Secure Connection** check box, and click **Apply**.

   Avaya Meetings Management prompts you to restart the Avaya Meetings Media Server instance.
5. Click **Yes**.

   Avaya Meetings Management restarts the Avaya Meetings Media Server instance.
6. Click the **Certificate** tab.
7. Click **Upload**.

   Avaya Meetings Management displays the Upload certificates window.
8. Click **Add**, and browse to the certificates.

Upload the full chain of certificates along with the signed certificate in the PEM format. For example, if there are multiple Certificate Authorities in the certificate chain, repeat this step to upload all the certificates.

Avaya Meetings Management displays a confirmation message after each certificate is uploaded.

9. Click **Apply All**.

Result

Avaya Meetings Media Server automatically restarts.

Next steps

Secure the connection between Avaya Meetings Media Server and Avaya Meetings Management.

Securing the connection between Avaya Meetings Media Server and Avaya Meetings Management

About this task

Avaya Meetings Management might restart Avaya Meetings Media Server to secure the connection when you change the transport type to TLS.

Before you begin

Install the security certificates for TLS.

Procedure

1. Log in to Avaya Meetings Media Server.
2. Click **Devices**.
3. In the left pane, click **Media Servers**.

   Avaya Meetings Management displays the Media Servers page.
4. Click the name of the Avaya Meetings Media Server instance.

   Avaya Meetings Management displays the Avaya Meetings Media Server instance page.
5. Click the **Configuration** tab.
6. Select the **Secure connection** check box.
7. Click **Test Connection** to check the secure connection.

   Avaya Meetings Management displays a confirmation that the test is successful.
8. Click **OK**.
9. Click **Apply**.

Avaya Meetings Management displays a prompt to warn that Avaya Meetings Media Server will be restarted and all meetings in progress will be disconnected.

10. Click **Yes**.

Result

- Avaya Meetings Management restarts Avaya Meetings Media Server.
- The connection between Avaya Meetings Media Server and Avaya Meetings Management is secured using TLS.

Changing the security protocols that Avaya Meetings Media Server supports

About this task

Change the supported security protocols to have Avaya Meetings Media Server use a specific protocol.

Tip:

Use this procedure to have Avaya Meetings Media Server use only TLS 1.2.

Procedure

1. Using PuTTY, start an SSH session with Avaya Meetings Media Server.
2. Using vi Editor, open the `config.xml` file located at `/opt/avaya/WCS/data/config.xml`.

   The `config.xml` file contains the following code:

```
<https>
<port>443</port>
<certificateName>service</certificateName>
<cipherSuites>TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384,TLS_ECDHE_ECDSA_WITH_AES_128
_GCM_SHA256,TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA384,TLS_ECDHE_ECDSA_WITH_AES_256_C
BC_SHA,TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA256,TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA3
84,TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256,
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384,TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256,TLS_EC
DH_ECDSA_WITH_AES_128_CBC_SHA256,TLS_ECDH_ECDSA_WITH_AES_128_GCM_SHA256,TLS_ECDH_R
SA_WITH_AES_128_CBC_SHA256,TLS_ECDH_RSA_WITH_AES_128_GCM_SHA256,TLS_DHE_RSA_WITH_A
ES_256_CBC_SHA,
TLS_RSA_WITH_AES_256_CBC_SHA,TLS_DHE_RSA_WITH_AES_128_CBC_SHA,TLS_RSA_WITH_AES_128
_CBC_SHA</cipherSuites>
<protocols>TLSv1,TLSv1.1,TLSv1.2</protocols>
<mutualAuth>false</mutualAuth>
<hostnameVerification>false</hostnameVerification>
<extendedKeyUsageVerification>ON</extendedKeyUsageVerification>
<criticalExtensionsVerification>true</criticalExtensionsVerification>
</https>
```

3. In the `<protocols>` code line, modify the protocols list.

You can:

- Add or remove the protocols that Avaya Meetings Media Server supports.
- Specify one protocol for Avaya Meetings Media Server to use. For example, remove all protocols and keep only TLS 1.2 to have Avaya Meetings Media Server use only TLS 1.2.

4. Save the changes in the `config.xml` file.

Next steps

Restart Avaya Meetings Media Server.

Configuring the Enhanced Access Security Gateway (EASG)

About this task

You can configure the Enhanced Access Security Gateway (EASG). EASG provides enhanced security to Avaya Meetings Management. When enabling this feature, users must retrieve a password from an ASG web application before they can change their password in Avaya Meetings Management.

Procedure

1. Log in to the Avaya Meetings Management portal as an administrator.
2. Click **Settings** > **Security** > **Advanced Settings**.
3. On the Advanced Settings page, select **Enable Enhanced Access Security Gateway (EASG)**.
4. Click **Apply**.

Configuring AES-256 bit encryption for media streams

About this task

Avaya Meetings Media Server supports the AES-256 bit encryption only for SIP-based media streams.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Devices**, and click the name of the Avaya Meetings Media Server instance.

   Avaya Meetings Management displays the Avaya Meetings Media Server instance page.

3. Click the **Configuration** tab.
4. Click **Advanced parameters**.

   Avaya Meetings Management displays the Advanced Parameters window.
5. In **ID**, type the following advanced command: **`enableAes256`**
6. Click **Get**.

   Avaya Meetings Management populates the name of the advanced command in **Name**.
7. Type one of the following values in **Value**:
   - 1: Enable AES-256 bit encryption.
   - 0: Disable AES-256 bit encryption. This is the default value.
8. Click **Apply**.

Configuring NIST mode in Avaya Meetings Media Server

About this task

The NIST mode of Avaya Meetings Media Server supports the security features defined by National Institute of Standards and Technology (NIST). The supported security features include TLS 1.2 and the SHA–256 cryptographic hash function.

Procedure

1. Log in to Avaya Meetings Management
2. Click **Devices**, and select the Avaya Meetings Media Server instance.

   Avaya Meetings Management displays the Avaya Meetings Media Server instance page.
3. Click the **Configuration** tab.
4. Click **Advance Parameters**.

   Avaya Meetings Management displays the Advance Parameters window.
5. In **ID**, type `nistmode`.
6. Click **Get**.
7. In **Value**, type one of the following values:
   - 0: Disable NIST mode
   - 1: Enable NIST mode.
8. Click **Apply**.
9. Click **Close**.

FIPS support for FedRAMP compliance

From release 9.1.13, Avaya Meetings Media Server supports FIPS encryption for the Federal Risk and Authorization Management Program (FedRAMP) compliance.

FedRAMP is a government program that provides a standardized approach to security authorizations for cloud services. When the system administrator enables the FedRAMP compliance in Avaya Meetings Management, Avaya Meetings Management automatically enables FIPS encryption on the following solution components:

- Avaya Meetings Management in the TE deployment
- Avaya Aura® Web Gateway in the TE deployment
- Avaya Aura® Media Server for audio-only conferencing and web collaboration services
- Avaya Aura® Media Server as WebRTC gateway services
- Avaya Meetings Media Servers for Full video mode, which includes combined audio, continuous presence video, and web conferencing services

For more information about enabling FIPS and FedRAMP in Avaya Meetings Management, see *Administering Avaya Meetings Management*.

Chapter 8: Customization

Downloading the audio messages pack

About this task

Download the existing audio messages pack to save as backup.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Settings**.
3. On the left pane, click **Advanced** > **Customization**.

   Avaya Meetings Management displays the Customization window
4. Click the **DefaultPrompts.zip** link.

   Avaya Meetings Management displays a prompt for your confirmation.
5. Click **Save**.

Result

Avaya Meetings Management downloads the audio messages pack to your chosen location.

Customizing audio messages

About this task

You can customize the default audio messages. You can upload a single customized audio message or a compressed file containing all the customized messages.

Before you upload your customized audio messages, download the existing audio messages pack. You can also use this messages pack to inspect the message file naming convention.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Settings**.
3. On the left pane, click **Advanced** > **Customization**.

   Avaya Meetings Management displays the Customization window.

4. In **Current Package**, select a language, and click the Update icon.

   Avaya Meetings Management displays the Update Voice Prompt Package dialog box.

5. Click **Update Language Package**, and select the compressed file pack containing the audio messages.

   The audio messages in the compressed file pack must be in the `.wav` format and encoded with G.711 (CCITT), 8-bit, 8kHz mono. The file pack must be maximum 3Mb.

6. Click **OK**.
7. Click **Apply**.

Adding and modifying languages in Avaya Meetings Management

About this task

You can customize the available voice prompt languages when working with the Media Server. You can download a voice prompt package from a list of languages embedded in the system and add a new language together with a file containing voice prompts. You can update voice prompts for all languages.

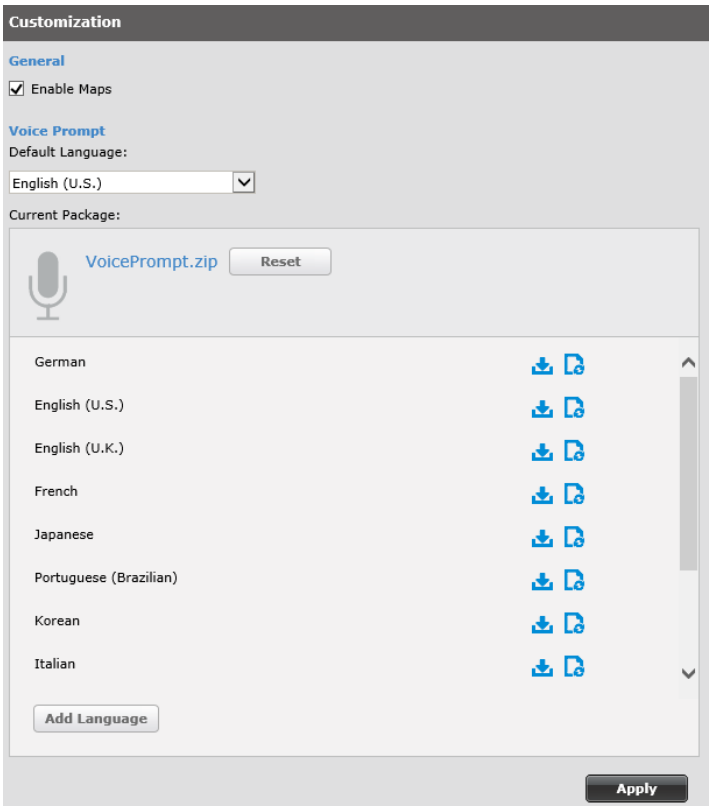
You can also download or update a customized language, as you can do for an existing language.

You can delete a customized language by clicking the Delete ✕ icon. But you cannot delete embedded languages.

Procedure

1. Log in to the Avaya Meetings Management portal as an administrator.
2. Go to **Settings** > **Advanced** > **Customization**.

   The system displays the Customization page.

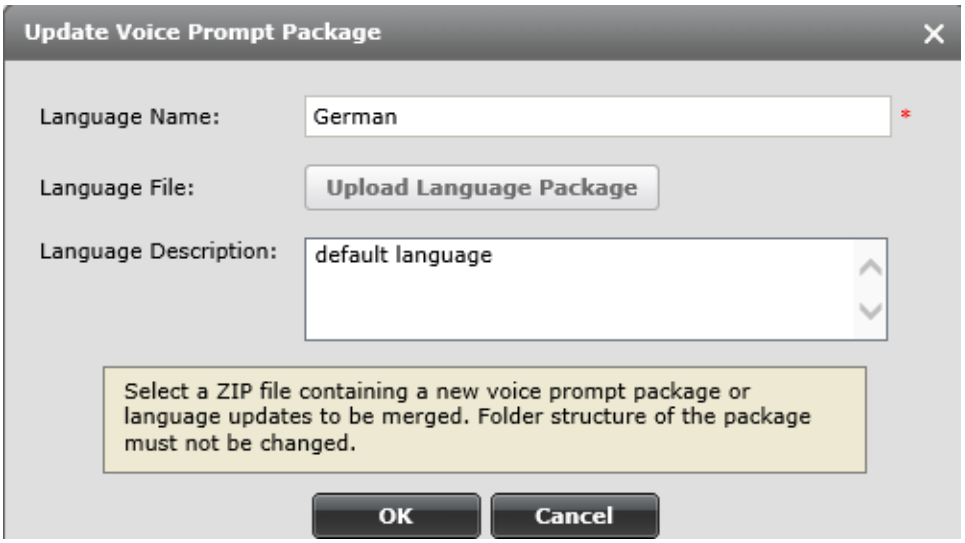


Note:

To view this interface when working in a multi-tenant environment, go to **Settings** > **Multiple-tenant** > **Organizations**, select an organization and click the **Customization** tab.

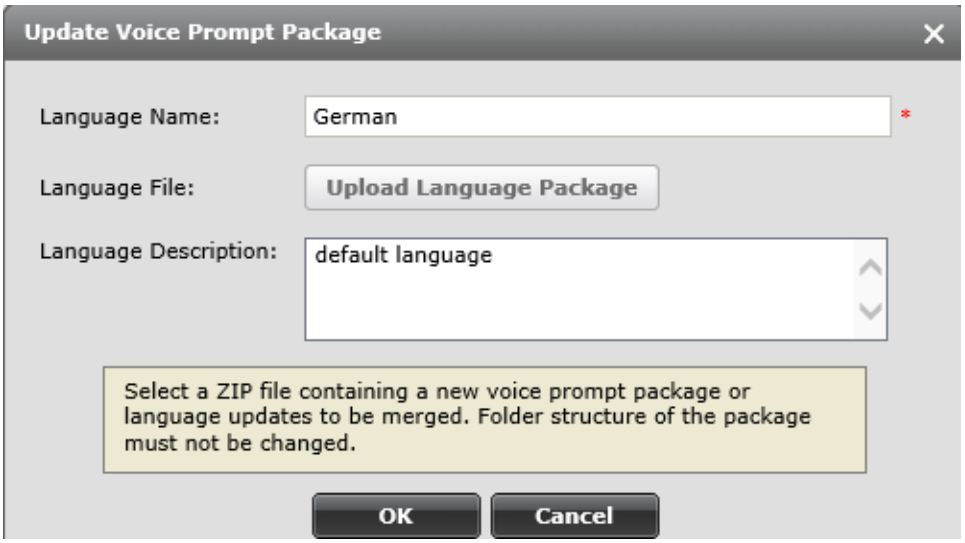
3. To download or update an existing package:
   a. Click the Download icon next to the language you want to download.
   b. Click the Update icon next to the language you want to update.

      The system displays the Update Voice Prompt Package dialog box, where you can click **Select a Voice Prompt Package** and select a new voice prompt package to upload to the system.



4. To add a new language:
   a. Click **Add Language**.

      The system displays the **Update Voice Prompt Package** dialog.



   b. In **Language Name**, type a name for the language.
   c. In **Language File**, select **Upload Language Package** and select a language package you want to upload to the system.
   d. **(Optional)** In **Language Description**, type a short description for the language.
   e. Click **OK**.

Customizing the logo displayed in conferences

About this task

You can customize the logo displayed in the Avaya Meetings Management administrator portal, user portal, and the Auto-Attendant menu.

Procedure

1. Log in to Avaya Meetings Management.
2. Click **Settings**.
3. On the left pane, click **Advanced** > **Branding**.

   Avaya Meetings Management displays the Branding Customized window
4. Click **Upload**, and select the logo image file.

   The image file must be in the `.png` format, and the resolution of the image must be maximum 700x50 pixels.
5. Click **Apply**.

Chapter 9: Resources

Documentation

See the following related documents at https://support.avaya.com/.

The following table provides a long list of documents that are related to different Avaya video communication products and not specific to Avaya XT Telepresence.

Title	Use this document to:	Audience
Implementing		
Deploying Avaya Meetings Server	Plan for and deploy Avaya Meetings Server	Partners, Services, and Support personnel
Deploying Avaya Meetings H.323 Edge	Plan for and deploy Avaya Meetings H.323 Edge	Partners, Services, and Support personnel
Deployment Guide for Avaya XT Series	Plan for and deploy Avaya XT Series	Partners, Services, and Support personnel
Installing and administering Avaya Collaboration Unit CU360	Plan for and deploy Avaya Collaboration Unit CU360	Partners, Services, and Support personnel
Deployment Guide for Avaya XT Telepresence	Plan for and deploy Avaya XT Telepresence	Partners, Services, and Support personnel
Avaya Meetings Server Solution Description for Small to Medium Enterprises	Plan for and deploy Avaya Meetings Server for small and medium enterprises	Partners, Services, and Support personnel
Avaya Meetings Server Solution Description for Medium to Large Enterprises	Plan for and deploy Avaya Meetings Server for medium and large enterprises	Partners, Services, and Support personnel
Avaya Meetings Server Solution Description for Large Enterprises and Service Providers	Plan for and deploy Avaya Meetings Server for large enterprises and service providers	Partners, Services, and Support personnel
Installation Notes — Discovering the IP address of the XT Server	Install XT Server	Partners, Services, and Support personnel

Table continues…

Title	Use this document to:	Audience
Avaya Aura® Core Solution Description	Overview of the Avaya Aura® components and information on the deployment of these components	Partners, Services, and Support personnel
Avaya Aura® Communication Manager Overview and Specification	Overview of Avaya Aura® Communication Manager components and information on the deployment of these components	Partners, Services, and Support personnel
Avaya Aura® Presence Services Overview and Specification	Overview of Avaya Aura® Presence Services components and information on the deployment of these components	Partners, Services, and Support personnel
Avaya Aura® Session Manager Overview and Specification	Overview of Avaya Aura® Session Manager components and information on the deployment of these components	Partners, Services, and Support personnel
Avaya Aura® System Manager Overview and Specification	Overview of Avaya Aura® System Manager components and information on the deployment of these components	Partners, Services, and Support personnel
Avaya Session Border Controller for Enterprise Overview and Specification	Overview of Avaya Session Border Controller for Enterprise components and information on the deployment of these components	Partners, Services, and Support personnel
Deploying Avaya Aura® Device Services	Plan for and deploy Avaya Aura® Device Services	Partners, Services, and Support personnel
Deploying the Avaya Aura® Web Gateway	Plan for and deploy Avaya Aura® Web Gateway	Partners, Services, and Support personnel
Deploying and Updating Avaya Aura® Media Server Appliance	Plan for and deploy Avaya Aura® Media Server on either of the following appliances: • Virtual appliances: Avaya Aura® MS appliances on the Appliance Virtualization Platform or VMware® virtualized environment. • Physical appliances: Avaya Aura® MS appliances on Avaya Solutions Platform (ASP) Servers.	Partners, Services, and Support personnel
Installing and Updating Avaya Aura® Media Server Application on Customer Supplied Hardware and OS	Plan for and deploy Avaya Aura® Media Server application. Avaya provides a non-appliance, software-only, application version of Avaya Aura® MS which is installed on servers that you provide.	Partners, Services, and Support personnel
Deploying Avaya Multimedia Messaging	Install, configure, and administer Avaya Multimedia Messaging.	Partners, Services, and Support personnel

Table continues…

Title	Use this document to:	Audience
Administering		
Administering Avaya Meetings Media Server	Perform administration tasks for Avaya Meetings Media Server	System administrators
Administering Avaya Meetings Management	Perform administration tasks for Avaya Meetings Management	System administrators
Administering Avaya Meetings Streaming and Recording	Perform administration tasks for Avaya Meetings Streaming and Recording	System administrators
Quick Setup Guide for Avaya XT5000 Series Codec Only	Perform administration tasks for the Avaya XT5000 Series codec	System administrators
Avaya XTE240	Perform administration tasks for Avaya XTE240	System administrators
Avaya XT Series Premium 3–way Microphone Pod	Perform administration tasks for Avaya XT Series Premium 3–way Microphone Pod	System administrators
Avaya XT4300	Perform administration tasks for Avaya XT4300	System administrators
Avaya XT4300 Codec Only	Perform administration tasks for the Avaya XT4300 codec	System administrators
Avaya Room System XT7100 Codec Only	Perform administration tasks for the Avaya Room System XT7100 codec	System administrators
Avaya XT Series Deluxe Camera	Perform administration tasks for Avaya XT Series Deluxe Camera	System administrators
Avaya XT Series Flex Camera	Perform administration tasks for Avaya XT Series Flex Camera	System administrators
Quick Tips for Avaya XT Series	Perform administration tasks for Avaya XT Series	System administrators
Supporting		
Reference Guide for Avaya Meetings Management XML API	Understand how to perform administration tasks on Avaya Meetings Management	System administrators, Customers, Partners, Services, and Support personnel
SAMPLE Reference Guide for Avaya Meetings Management XML API	Understand how to perform administration tasks on Avaya Meetings Management	System administrators, Customers, Partners, Services, and Support personnel
Reference Guide for Avaya Meetings Management SNMP Traps	Understand how to configure Avaya Meetings Management to send information to a remote SNMP management client of its operational status	System administrators, Customers, Partners, Services, and Support personnel

Table continues…

Title	Use this document to:	Audience
Reference Guide for Avaya Meetings Management CDR Files	Understand how to perform administration tasks on Avaya Meetings Management	System administrators, Customers, Partners, Services, and Support personnel
Reference Guide for Port Security for Avaya Meetings Server	Understand how to perform the administration tasks on Avaya Meetings Server	System administrators, Customers, Partners, Services, and Support personnel
Avaya WebRTC Connect Reference	Understand how to perform the administration tasks on Avaya WebRTC Connect	System administrators, Customers, Partners, Services, and Support personnel
Using		
Using Avaya Meetings Server Unified Portal	Understand the features of and use Avaya Meetings Server Unified Portal	Customers
User Guide for Avaya Meetings H.323 Edge	Understand the features of and use Avaya Meetings H.323 Edge	Customers
User Guide for Avaya XT Series	Understand the features of and use Avaya XT Series	Customers
Avaya Collaboration Unit CU360 Quick Tips Guide	Understand the features of and use Avaya Collaboration Unit CU360	Customers
Avaya Collaboration Unit CU360 Quick Setup Guide	Understand the features of and use Avaya Collaboration Unit CU360	Customers
Using Avaya Collaboration Control for Android	Understand the features of and use Avaya Collaboration Control	Customers
Using Avaya Collaboration Control for iOS	Understand the features of and use Avaya Collaboration Control	Customers

Finding documents on the Avaya Support website

Procedure

1. Go to https://support.avaya.com.
2. At the top of the screen, type your username and password and click **Login**.
3. Click **Support by Product** > **Documents**.
4. In **Enter your Product Here**, type the product name and then select the product from the list.
5. In **Choose Release**, select the appropriate release number.

The **Choose Release** field is not available if there is only one release for the product.

6. In the **Content Type** filter, click a document type, or click **Select All** to see a list of all available documents.

   For example, for user guides, click **User Guides** in the **Content Type** filter. The list only displays the documents for the selected category.

7. Click **Enter**.

Accessing the port matrix document

Procedure

1. Go to https://support.avaya.com.
2. Log on to the Avaya website with a valid Avaya user ID and password.
3. On the Avaya Support page, click **Support by Product** > **Documents**.
4. In **Enter Your Product Here**, type the product name, and then select the product from the list of suggested product names.
5. In **Choose Release**, select the required release number.
6. In the **Content Type** filter, select one or both the following categories:
   - **Application & Technical Notes**
   - **Design, Development & System Mgt**

   The list displays the product-specific Port Matrix document.
7. Click **Enter**.

Avaya Documentation Center navigation

For some programs, the latest customer documentation is now available on the Avaya Documentation Center website at https://documentation.avaya.com.

Important:

For documents that are not available on Avaya Documentation Center, click **More Sites** > **Support** on the top menu to open https://support.avaya.com.

Using the Avaya Documentation Center, you can:

- Search for keywords.

  To filter by product, click **Filters** and select a product.

- Search for documents.

  From **Products & Solutions**, select a solution category and product, and then select the appropriate document from the list.

- Sort documents on the search results page.
- Click **Languages** ( ) to change the display language and view localized documents.
- Publish a PDF of the current section in a document, the section and its subsections, or the entire document.
- Add content to your collection using **My Docs** ( ).

  Navigate to the **Manage Content** > **My Docs** menu, and do any of the following:

  - Create, rename, and delete a collection.
  - Add topics from various documents to a collection.
  - Save a PDF of the selected content in a collection and download it to your computer.
  - Share content in a collection with others through email.
  - Receive collection that others have shared with you.
- Add yourself as a watcher using the **Watch** icon ( ).

  Navigate to the **Manage Content** > **Watchlist** menu, and do the following:

  - Enable **Include in email notification** to receive email alerts.
  - Unwatch selected content, all content in a document, or all content on the Watch list page.

  As a watcher, you are notified when content is updated or deleted from a document, or the document is removed from the website.
- Share a section on social media platforms, such as Facebook, LinkedIn, and Twitter.
- Send feedback on a section and rate the content.

Note:

Some functionality is only available when you log in to the website. The available functionality depends on your role.

Training

The following courses are available on the Avaya Learning website at http://www.avaya-learning.com. After logging in to the website, enter the course code or the course title in the **Search** field and press **Enter** or click **>** to search for the course.

Course code	Course title
Avaya Meetings Server administration training course	
2038W	Avaya Meetings Server Administration
Avaya Meetings Server Team Engagement solution courses	

Table continues…

Course code	Course title
3140W	Avaya Meetings Server Solutions Overview
3170W	Avaya Meetings Server Solutions Customer Field Study
3171T	APDS Avaya Enterprise Team Engagement Solutions Online Test
Avaya Meetings Server Over The Top solution courses	
3281W	Avaya Video Conferencing Solutions Overview
3283W	Avaya Video Conferencing Solutions Customer Field Study
3271T	APDS Avaya Video Conferencing Solutions Online Test
Avaya Meetings Server Sales course	
3140WD02	Designing Avaya Meetings Server Clients & Breeze Client SDK Sales Readiness Quiz
3140WD03	Avaya Meetings Server Sales Readiness — Design Delta Training

Support

Go to the Avaya Support website at https://support.avaya.com for the most up-to-date documentation, product notices, and knowledge articles. You can also search for release notes, downloads, and resolutions to issues. Use the online service request system to create a service request. Chat with live agents to get answers to questions, or request an agent to connect you to a support team if an issue requires additional expertise.

Using the Avaya InSite Knowledge Base

The Avaya InSite Knowledge Base is a web-based search engine that provides:

- Up-to-date troubleshooting procedures and technical tips
- Information about service packs
- Access to customer and technical documentation
- Information about training and certification programs
- Links to other pertinent information

If you are an authorized Avaya Partner or a current Avaya customer with a support contract, you can access the Knowledge Base without extra cost. You must have a login account and a valid Sold-To number.

Use the Avaya InSite Knowledge Base for any potential solutions to problems.

1. Go to http://www.avaya.com/support.
2. Log on to the Avaya website with a valid Avaya user ID and password.

   The system displays the Avaya Support page.

3. Click **Support by Product** > **Product-specific Support**.
4. In **Enter Product Name**, enter the product, and press `Enter`.
5. Select the product from the list, and select a release.
6. Click the **Technical Solutions** tab to see articles.
7. Select relevant articles.

Glossary

1080p	See Full HD on page 81.
720p	See HD on page 83.
Adhoc Meeting	A point to point call which was escalated to a virtual meeting room call. For example, an audio call between two SIP Avaya Workplace Clients where another party is added or sharing is initiated and the call is automatically escalated to a virtual meeting room
AGC (Automatic Gain Control)	Automatic Gain Control (AGC) smooths audio signals through normalization, by lowering sounds which are too strong and strengthening sounds which are too weak. This is relevant with microphones situated at some distance from the speaker, like room systems. The result is a more consistent audio signal within the required range of volume.
Alias	An alias in H.323 represents the unique name of an endpoint. Instead of dialing an IP address to reach an endpoint, you can dial an alias, and the gatekeeper resolves it to an IP address.
Auto-Attendant	Auto-Attendant is a video-based IVR which provides quick access to meetings through a set of visual menus. Participants can select the DTMF tone-based menu options using the standard numeric keypads of endpoints. Auto-Attendant works with H.323 and SIP endpoints.
Avaya Content Slider	See Content Slider on page 79.
Avaya Meetings Streaming and Recording Manager	The Avaya Meetings Streaming and Recording Manager provides a web-based interface to configure and manage Avaya Meetings Streaming and Recording software, devices, services, and users. The Avaya Meetings Streaming and Recording Manager application resides on a single hardware platform and provides access to all content in the Avaya Meetings Streaming and Recording environment.
Avaya Meetings Streaming and Recording Manager Portals	The Avaya Meetings Streaming and Recording Manager provides a portal for administering content. When you log in to the web interface, you can access the Administrator portal.

Balanced Microphone	A balanced microphone uses a cable that is built to reduce noise and interference even when the cable is long. This reduces audio disruptions resulting from surrounding electromagnetic interference.
Bitrate	Bitrate is the speed of data flow. Higher video resolutions require higher bitrates to ensure the video is constantly updated, thereby maintaining smooth motion. If you lower the bitrate, you lower the quality of the video. In some cases, you can select a lower bitrate without noticing a significant drop in video quality; for example during a presentation or when a lecturer is speaking and there is very little motion. Bitrate is often measured in kilobits per second (kbps).
Call Control	See Signaling on page 89.
Cascaded Video Conference	A cascaded video conference is a meeting distributed over more than one Avaya Meetings Media Server where a master Avaya Meetings Media Server connects to one or more slave Avaya Meetings Media Server instances to create a single video conference. It increases the meeting capacity by combining the resources of Avaya Meetings Media Server.
CDN	Avaya Meetings Streaming and Recording enables you to publish content to the cloud, using a virtual delivery node (VDN) and a content delivery network (CDN). The VDN and the network of the CDN act as one delivery mechanism. When a user creates a recording (program), they can choose to distribute it to the CDN, as well as to the regular delivery node (DN).
CIF	CIF, or Common Intermediate Format, describes a video resolution of 352 × 288 pixels (PAL) or 352 x 240 (NTSC). This is sometimes referred to as Standard Definition (SD).
Conference Point	The Avaya Meetings Streaming and Recording Conference Point is a video conferencing gateway appliance that captures standard or high definition video conferences. It transcodes, creates, and records the video conferences in a streaming media format. You can use it to capture H.323 video for instant video webcasting or on-demand publishing.
Content Slider	The Avaya Content Slider stores the data already presented in the video conference and makes it available for participants to view during the meeting.
Continuous Presence	Continuous presence enables viewing multiple participants of a video conference at the same time, including the active speaker. This graphics-intensive work requires scaling and mixing the images together into one of the predefined video layouts. The range of video layouts depends on the type of media processing supported, typically located in the Media Server.
Control	Control, or media control, sets up and manages the media of a call (its audio, video and data). Control messages include checking compatibility

	between endpoints, negotiating video and audio codecs, and other parameters like resolution, bitrate and frame rate. Control is communicated via H.245 in H.323 endpoints, or by SDP in SIP endpoints. Control occurs within the framework of an established call, after signaling.
CP	See Continuous Presence on page 79.
Dedicated Endpoint	A dedicated endpoint is a hardware endpoint for video conferencing assigned to a single user. It is often referred to as a personal or executive endpoint, and serves as the main means of video communications for this user. For example, Avaya XTE240. It is listed in the organization's LDAP directory as associated exclusively with this user.
Delivery Node	The Avaya Meetings Streaming and Recording Delivery Node provides on-demand and broadcast video delivery. You can use it alone or in a hierarchy of devices. It supports thousands of concurrent streams. The Delivery Node uses intelligent routing, content caching, and inherent redundancy to ensure transparent delivery of high-quality video.
Dial Plan	A dial plan defines a way to route a call and to determine its characteristics. In traditional telephone networks, prefixes often denote geographic locations. In video conferencing deployments, prefixes are also used to define the type and quality of a call. For example, dial 8 before a number for a lower bandwidth call, or 6 for an audio-only call, or 5 to route the call to a different branch.
Dial Prefix	A dial prefix is a number added at the beginning of a dial string to route it to the correct destination, or to determine the type of call. Dial prefixes are defined in the organization's dial plan. For example, dial 9 for an outside line, or dial 6 for an audio only call.
Distributed Deployment	A distributed deployment describes a deployment where the solution components are geographically distributed in more than one network location.
DNS Server	A DNS server is responsible for resolving domain names in your network by translating them into IP addresses.
DTMF	DTMF, or touch-tone, is the method of dialing on touch-tone phones, where each number is translated and transmitted as an audio tone.
Dual Video	Dual video is the transmitting of two video streams during a video conference, one with the live video while the other is a shared data stream, like a presentation.
Dynamic Video Layout	The dynamic video layout is a meeting layout that switches dynamically to include the maximum number of participants it can display on the screen (up to 9 on the Avaya XT Series with embedded Media Server, or up to

	28 on Avaya Meetings Media Server). The largest image always shows the active speaker.
Endpoint	An endpoint is a tool through which people can participate in a video conference. Its display enables you to see and hear others in the meeting, while its microphone and camera enable you to be seen and heard by others. Endpoints include dedicated endpoints, like Avaya XTE240, software endpoints, mobile device endpoints, room systems like Avaya XT Series, and telepresence systems like Avaya XT Telepresence.
Endpoint Alias	See Alias on page 78.
FEC	Forward Error Correction (FEC) is a proactive method of sending redundant information in the video stream to preempt quality degradation. FEC identifies the key frames in the video stream that should be protected by FEC. There are several variants of the FEC algorithm. The Reed-Solomon algorithm (FEC-RS) sends redundant packets per block of information, enabling the sender (like Avaya Meetings Media Server) to manage up to ten percent packet loss in the video stream with minimal impact on the smoothness and quality of the video.
FECC	Far End Camera Control (FECC) is a feature of endpoint cameras, where the camera can be controlled remotely by another endpoint in the call.
Forward Error Correction	See FEC on page 81.
FPS	See Frames Per Second on page 81.
Frame Rate	See Frames Per Second on page 81.
Frames Per Second	Frames Per Second (fps), also known as the frame rate, is a key measure in video quality, describing the number of image updates per second. The average human eye can register up to 50 frames per second. The higher the frame rate, the smoother the video.
FTP	The File Transfer Protocol (FTP) is a standard network protocol used to transfer computer files from one host to another host over a TCP-based network, such as the Internet. FTP is built on a client-server architecture and uses separate control and data connections between the client and the server. FTP users may authenticate themselves using a clear-text sign-in protocol, normally in the form of a username and password, but can connect anonymously if the server is configured to allow it.
Full HD	Full HD, or Full High Definition, also known as 1080p, describes a video resolution of 1920 x 1080 pixels.

Full screen Video Layout	The full screen view shows one video image. Typically, it displays the remote presentation, or, if there is no presentation, it displays the other meeting participant(s).
Gatekeeper	A gatekeeper routes audio and video H.323 calls by resolving dial strings (H.323 alias or URI) into the IP address of an endpoint, and handles the initial connection of calls. Gatekeepers also implement the dial plan of an organization by routing H.323 calls depending on their dial prefixes. Avaya Meetings Management includes a built-in H.323 Gatekeeper. Depending on the deployment, H.323 Gatekeeper is a standalone gatekeeper.
Gateway	A gateway is a component in a video solution which routes information between two subnets or acts as a translator between different protocols. For example, a gateway can route data between the headquarters and a partner site, or between two protocols like the 100 Gateway and another.
Geographic Redundancy	Geographic redundancy is a deployment of a redundant server in a geographically different location in case a local disaster happens. This server is an addition to the local high availability servers.
GLAN	GLAN, or gigabit LAN, is the name of the network port on the Avaya XT Series. It is used on the Avaya XT Series to identify a 10/100/1000MBit ethernet port.
H.225	H.225 is part of the set of H.323 protocols. It defines the messages and procedures used by gatekeepers to set up calls.
H.235	H.235 is the protocol used to authenticate trusted H.323 endpoints and encrypt the media stream during meetings.
H.239	H.239 is a widespread protocol used with H.323 endpoints, to define the additional media channel for data sharing (like presentations) alongside the video conference, and ensures only one presenter at a time.
H.243	H.243 is the protocol used with H.323 endpoints enabling them to remotely manage a video conference.
H.245	H.245 is the protocol used to negotiate call parameters between endpoints, and can control a remote endpoint from your local endpoint. It is part of the H.323 set of protocols.
H.261	H.261 is an older protocol used to compress CIF and QCIF video resolutions. This protocol is not supported by the Avaya XT Series.
H.263	H.263 is an older a protocol used to compress video. It is an enhancement to the H.261 protocol.
H.264	H.264 is a widespread protocol used with SIP and H.323 endpoints, which defines video compression. Compression algorithms include 4x4

transforms and a basic motion comparison algorithm called P-slices. There are several profiles within H.264. The default profile is the H.264 Baseline Profile, but H.264 High Profile uses more sophisticated compression techniques.

H.264 Baseline Profile

See H.264 on page 82.

H.264 High Profile

H.264 High Profile is a standard for compressing video by up to 25% over the H.264 Baseline Profile, enabling high definition calls to be held over lower call speeds. It requires both sides of the transmission (sending and receiving endpoints) to support this protocol. H.264 High Profile uses compression algorithms like:

- CABAC compression (Context-Based Adaptive Binary Arithmetic Coding)
- 8x8 transforms which more effectively compress images containing areas of high correlation

These compression algorithms demand higher computation requirements, which are offered with the dedicated hardware available in Avaya Meetings Server components. Using H.264 High Profile in video conferencing requires that both the sender and receiver's endpoints support it. This is different from Scalable Video Coding (SVC) which is an adaptive technology working to improve quality even when only one side supports the standard.

H.323

H.323 is a widespread set of protocols governing the communication between endpoints in video conferences and point-to-point calls. It defines the call signaling, control, media flow, and bandwidth regulation.

H.323 Alias

See Alias on page 78.

H.350

H.350 is the protocol used to enhance LDAP user databases to add video endpoint information for users and groups.

H.460

H.460 enhances the standard H.323 protocol to manage firewall and NAT traversal using ITU-T standards. H.460–compliant endpoints can directly communicate with Avaya Meetings H.323 Edge. The endpoints act as H.460 clients and Avaya Meetings H.323 Edge acts as an H.460 server.

HD

A HD ready device describes its high definition resolution capabilities of 720p, a video resolution of 1280 x 720 pixels.

High Availability

High availability is a state where you ensure better service and less downtime by deploying additional servers. There are several strategies for achieving high availability, including deployment of redundant servers managed by load balancing systems.

High Definition	See HD on page 83.
High Profile	See H.264 High Profile on page 83.
HTTP	The Hypertext Transfer Protocol (HTTP) is an application protocol for distributed, collaborative, hypermedia information systems. HTTP is the foundation of data communication for the World Wide Web. Hypertext is structured text that uses logical links (hyperlinks) between nodes containing text. HTTP is the protocol to exchange or transfer hypertext.
HTTPS	HTTPS is the secured version of the standard web browser protocol HTTP. It secures communication between a web browser and a web server through authentication of the web site and encrypting communication between them. For example, you can use HTTPS to secure web browser access to the web interface of many Avaya Meetings Server products.
Image Resolution	See Resolution on page 88.
Instant Meeting	A virtual meeting room that is unscheduled within Avaya Meetings Management and therefore resources have not been reserved in advanced. This includes meetings that were created using the Avaya Meeting Scheduler Outlook Add-in.
IVR	Pre-recorded greetings to participants and announcements as each new participant joins a meeting. You can record messages to provide custom greetings and announcements, but typically Avaya Meetings Management supplies these messages across all media servers in the organization.
kbps	Kilobits per second (kbps) is the standard unit to measure bitrate, measuring the throughput of data communication between two devices. Since this counts the number of individual bits (ones or zeros), you must divide by eight to calculate the number of kilobytes per second (KBps).
KVM	Kernel-based Virtual Machine
LDAP	LDAP is a widespread standard database format which stores network users. The format is hierarchical, where nodes are often represented as branch location > department > sub-department, or executives > managers > staff members. The database standard is employed by most user directories including Microsoft Active Directory. H.350 is an extension to the LDAP standard for the video conferencing industry.
Lecture Mode	Lecture mode allows the participant defined as the lecturer to see all the participants, while they see only the lecturer. All participants are muted except the lecturer, unless a participant asks permission to speak and is unmuted by the lecturer. This mode is tailored for distance learning, but

	you can also use it for other purposes like when an executive addresses employees during company-wide gatherings.
Legacy endpoints	Legacy endpoints are H.323–based endpoints that do not support H.460.
Load balancer	A load balancer groups together a set (or cluster) of servers to give them a single IP address, known as a virtual IP address. It distributes client service requests amongst a group of servers. It distributes loads according to different criteria such as bandwidth, CPU usage, or cyclic (round robin). Load balancers are also known as application delivery controllers (ADC).
Location	A location is a physical space (building) or a network (subnet) where video devices can share a single set of addresses. A distributed deployment places these components in different locations, often connected via a VPN.
Management	Management refers to the administration messages sent between components of Avaya Meetings Server as they manage and synchronize data between them. Management also includes front-end browser interfaces configuring server settings on the server. Management messages are usually transmitted via protocols like HTTP, SNMP, FTP or XML. For example, Avaya Meetings Management uses management messages to monitor the activities of an Media Server, or when it authorizes the Media Server to allow a call to proceed.
MBps	Megabytes per second (MBps) is a unit of measure for the bitrate. The bitrate is normally quoted as kilobits per second (kbps) and then converted by dividing it by eight to reach the number of kilobytes per second (KBps) and then by a further 1000 to calculate the MBps.
Media	Media refers to the live audio, video and shared data streams sent during a call. Presentation and Far end camera control (FECC) are examples of information carried on the data stream. Media is transmitted via the RTP and RTCP protocols in both SIP and H.323 calls. The parallel data stream of both live video and presentation, is known as dual video.
Media Control	See Control on page 79.
Media Server	A Media Server connects several endpoints to a single video conference and can manage multiple separate conferences simultaneously. It manages the audio mixing and creates the video layouts, adjusting the output to suit each endpoint capabilities (transcoding). The term Media Server refers to Avaya Meetings Media Server.
Meeting type	Meeting types (also known as Avaya Meetings Media Server services) are meeting templates which determine the core characteristics of a meeting. For example, they determine if the meeting is audio only or audio and video, they determine the default video layout, the type of

	encryption, PIN protection and many other features. You can invoke a meeting type by dialing its prefix in front of the meeting ID. Meeting types are created and stored in the Avaya Meetings Media Server, with additional properties in Avaya Meetings Management.
Moderator	A moderator has special rights in a video conference, including blocking the sound and video of other participants, inviting new participants, disconnecting others, determining video layouts, and closing meetings. An owner of a virtual room is the moderator when the room is protected by a PIN. Without this protection, any participant can assume moderator rights.
MTU	The MTU, or Maximum Transmission Unit, is the maximum size of data packets sent around your network. This value must remain consistent for all network components, including servers like the Media Server and/or Avaya Meetings Media Server and endpoints like Avaya XT Series and other network devices like network routers.
Multi-Point	A multi-point conference has more than two participants.
Multi-tenant	Service provider, or multi-tenant, deployments enable one installation to manage multiple organizations. All the organizations can reside as tenants within a single service provider deployment. For example, Avaya Meetings Management can manage a separate set of users for each organization, separate local administrators, separate bandwidth policies etc. all within a single multi-tenant installation.
NAT	A NAT, or Network Address Translation device, translates external IP addresses to internal addresses housed in a private network. This enables a collection of devices like endpoints in a private network, each with their own internal IP address, can be represented publicly by a single, unique IP address. The NAT translates between public and private addresses, enabling users toplace calls between public network users and private network users.
NetSense	NetSense is a proprietary Avaya Meetings Server technology which optimizes the video quality according to the available bandwidth to minimize packet loss. As the available bandwidth of a connection varies depending on data traffic, NetSense's sophisticated algorithm dynamically scans the video stream, and then reduces or improves the video resolution to maximize quality with the available bandwidth.
Nonce	A parameter that varies with time. A nonce can be a time stamp, a visit counter on a web page, or a special marker intended to limit or prevent the unauthorized replay or reproduction of a file. Because a nonce changes with time, it is easy to tell whether or not an attempt at replay or reproduction of a file is legitimate; the current time can be compared with the nonce. If it does not exceed it or if no nonce

	exists, then the attempt is authorized. Otherwise, the attempt is not authorized. In SSL / TLS, a nonce is a 32-bit timestamp and a 28-byte random field that is used during key exchange to prevent replay attacks.
OVA	Open Virtualization Appliance. An OVA contains the virtual machine description, disk images, and a manifest zipped into a single file. The OVA follows the Distributed Management Task Force (DMTF) specification.
Over The Top deployments	Over The Top deployments of Avaya Meetings Server are independent of Avaya Aura®. The deployments use port-based licensing. Over The Top deployments are also called standalone deployments.
Packet Loss	Packet loss occurs when some of the data transmitted from one endpoint is not received by the other endpoint. This can be caused by narrow bandwidth connections or unreliable signal reception on wireless networks.
PaP Video Layout	The PaP (Picture and Picture) view shows up to three images of the same size.
Phantom Power	Microphones which use phantom power draw their electrical power from the same cable as the audio signal. For example, if your microphone is powered by a single cable, it serves both to power the microphone and transmit the audio data. Microphones which have two cables, one for sound and a separate power cable, do not use phantom power.
PiP Video Layout	The PiP (Picture In Picture) view shows a video image in the main screen, with an additional smaller image overlapping in the corner. Typically, a remote presentation is displayed in the main part of the screen, and the remote video is in the small image. If the remote endpoint does not show any content, the display shows the remote video in the main part of the screen, and the local presentation in the small image.
PLDS	Avaya’s Product Licensing Delivery System
Point-to-Point	Point-to-point is a feature where only two endpoints communicate with each other without using Media Server resources.
PoP Video Layout	The PoP (Picture out Picture) view shows up to three images of different size, presented side by side, where the image on the left is larger than the two smaller images on the right.
Prefix	See Dial Prefix on page 80.
PTZ Camera	A PTZ camera can pan to swivel horizontally, tilt to move vertically, and optically zoom to devote all the camera's pixels to one area of the image.

	For example, the XT Standard Camera is a PTZ camera with its own power supply and remote control, and uses powerful lenses to achieve superb visual quality. In contrast, fixed cameras like webcams only offer digital PTZ, where the zoom crops the camera image, displaying only a portion of the original, resulting in fewer pixels of the zoomed image, which effectively lowers the resolution. Fixed cameras also offer digital pan and tilt only after zooming, where you can pan up to the width or length of the original camera image.
QCIF	QCIF, or Quarter CIF, defines a video resolution of 176 × 144 pixels (PAL) or 176 x 120 (NTSC). It is often used in older mobile handsets (3G-324M) limited by screen resolution and processing power.
Redundancy	Redundancy is a way to deploy a network component, in which you deploy extra units as 'spares', to be used as backups in case one of the components fails.
Registrar	A SIP Registrar manages the SIP domain by requiring that all SIP devices register their IP addresses with it. For example, once a SIP endpoint registers its IP address with the Registrar, it can place or receive calls with other registered endpoints.
Resolution	Resolution, or image/video resolution, is the number of pixels which make up an image frame in the video, measured as the number of horizontal pixels x the number of vertical pixels. Increasing resolution improves video quality but typically requires higher bandwidth and more computing power. Techniques like SVC, H.264 High Profile and FEC reduce bandwidth usage by compressing the data to a smaller footprint and compensating for packet loss.
Room System	A room system is a hardware video conferencing endpoint installed in a physical conference room. Essential features include its camera's ability to PTZ (pan, tilt, zoom) to allow maximum flexibility of camera angles enabling participants to see all those in the meeting room or just one part of the room.
RTCP	Real-time Control Transport Protocol, used alongside RTP for sending statistical information about the media sent over RTP.
RTP	RTP or Real-time Transport Protocol is a network protocol which supports video and voice transmission over IP. It underpins most video conferencing protocols today, including H.323, SIP and the streaming control protocol known as RTSP. The secured version of RTP is SRTP.
RTSP	RTSP or Real-Time Streaming Protocol controls the delivery of streamed live or playback video over IP, with functions like pause, fast forward and reverse. While the media itself is sent via RTP, these control functions are managed by RTSP

Sampling Rate	The sampling rate is a measure of the accuracy of the audio when it is digitized. To convert analog audio to digital, it must collect or sample the audio at specific intervals. As the rate of sampling increases, it raises audio quality.
SBC	A Session Border Controller (SBC) is a relay device between two different networks. It can be used in firewall/NAT traversal, protocol translations and load balancing.
SD	Standard Definition (SD), is a term used to refer to video resolutions which are lower than HD. There is no consensus defining one video resolution for SD.
Service	Also known as Media Server service. See Meeting type on page 85.
SIF	SIF defines a video resolution of 352 x 240 pixels (NTSC) or 352 x 288 (PAL). This is often used in security cameras.
Signaling	Signaling, also known as call control, sets up, manages and ends a connection or call. These messages include the authorization to make the call, checking bandwidth, resolving endpoint addresses, and routing the call through different servers. Signaling is transmitted via the H.225.0/ Q.931 and H.225.0/RAS protocols in H.323 calls, or by the SIP headers in SIP calls. Signaling occurs before the control aspect of call setup.
Single Sign On	Single Sign On (SSO) automatically uses your network login and password to access different enterprise systems. Using SSO, you do not need to separately login to each system or service in your organization.
SIP	Session Initiation Protocol (SIP) is a signaling protocol for starting, managing and ending voice and video sessions over TCP, TLS or UDP. Video conferencing endpoints typically are compatible with SIP or H.323, and in some cases (like Avaya XT Series), an endpoint can be compatible with both protocols. As a protocol, it uses fewer resources than H.323.
SIP Registrar	See Registrar on page 88.
SIP Server	A SIP server is a network device communicating via the SIP protocol.
SIP URI	See URI on page 91.
Slider	See Content Slider on page 79.
SNMP	Simple Network Management Protocol (SNMP) is a protocol used to monitor network devices by sending messages and alerts to their registered SNMP server.
Software endpoint	A software endpoint turns a computer or portable device into a video conferencing endpoint via a software application only. It uses the system

	camera and microphone to send image and sound to the other participants, and displays their images on the screen.
SQCIF	SQCIF defines a video resolution of 128 x 96 pixels.
SRTP	Secure Real-time Transport Protocol (SRTP) adds security to the standard RTP protocol, which is used to send media (video and audio) between devices in SIP calls. It offers security with encryption, authentication and message integrity. The encryption uses a symmetric key generated at the start of the call, and being symmetric, the same key locks and unlocks the data. So to secure transmission of the symmetric key, it is sent safely during call setup using TLS.
SSO	See Single Sign On on page 89.
Standard Definition	See SD on page 89.
Streaming	Streaming is a method to send live or recorded video conferences in one direction to viewers. Recipients can only view the content; they cannot participate with a microphone or camera to communicate back to the meeting.
STUN	A STUN server enables you to directly dial an endpoint behind a NAT or firewall by giving that computer's public internet address.
SVC	SVC extends the H.264 codec standard to dramatically increase error resiliency and video quality without the need for higher bandwidth. It is especially effective over networks with high packet loss (like wireless networks) which deliver low quality video. It splits the video stream into layers, comprising a small base layer and then additional layers on top which enhance resolution, frame rate and quality. Each additional layer is only transmitted when bandwidth permits. This allows for a steady video transmission when available bandwidth varies, providing better quality when the bandwidth is high, and adequate quality when available bandwidth is poor.
SVGA	SVGA defines a video resolution of 800 x 600 pixels.
SXGA	SXGA defines a video resolution of 1280 x 1024 pixels.
Team Engagement deployments	Team Engagement deployments of Avaya Meetings Server are integrated with Avaya Aura®. The deployments use user-based licensing for the main components.
Telepresence	A telepresence system combines two or more endpoints together to create a wider image, simulating the experience of participants being present in the same room. Telepresence systems always designate one of the endpoints as the primary monitor/camera/codec unit, while the remainder are defined as auxiliary or secondary endpoints. This ensures

	that you can issue commands via a remote control to a single codec base which leads and controls the others to work together as a single telepresence endpoint.
Telepresence - Dual row telepresence room	Dual row telepresence rooms are large telepresence rooms with two rows of tables that can host up to 18 participants.
TLS	TLS enables network devices to communicate securely using certificates, to provide authentication of the devices and encryption of the communication between them.
Transcoding	Transcoding is the process of converting video into different sizes, resolutions or formats. This enables multiple video streams to be combined into one view, enabling continuous presence, as in a typical video conferencing window.
Unbalanced Microphone	An unbalanced microphone uses a cable that is not especially built to reduce interference when the cable is long. As a result, these unbalanced line devices must have shorter cables to avoid audio disruptions.
Unicast Streaming	Unicast streaming sends a separate stream of a video conference to each viewer. This is the default method of streaming.
Unified Portal	Unified Portal is a graphic user interface (GUI) for Avaya Meetings Server users. Using this GUI, users can schedule and attend meetings. They can also access their recordings and broadcasts. It is the typical way that users interact with and access Avaya Meetings Streaming and Recording. There is a user guide for Avaya Meetings Server Unified Portal available on https://support.avaya.com/. Avaya recommends distributing this guide to all users.
URI	URI is an address format where the address consists of the endpoint's name or number, followed by the domain name of the server to which the endpoint is registered, such as <endpoint name>@<server_domain_name>. For example, 5000@198.51.100.51.
URI Dialing	Accessing a device via its URI on page 91.
User profile	A user profile is a set of capabilities or parameter values which can be assigned to a user. This includes available meeting types (services), access to functionality, and allowed bandwidth for calls.
UUID	Universally unique identifier
VAPP	Virtual Application Instance
VGA	VGA defines a video resolution of 640 x 480 pixels.

Video Conference

A video conference is a meeting of more than two participants with audio and video using endpoints. Professional video conferencing systems can handle many participants in single meetings, and multiple simultaneous meetings, with a wide interoperability score to enable a wide variety of endpoints to join the same video conference. Typically you can also share PC content, like presentations, to other participants.

Video Layout

A video layout is the arrangement of participant images as they appear on the monitor in a video conference. If the meeting includes a presentation, a layout can also refer to the arrangement of the presentation image together with the meeting participants.

Video Resolution

See Resolution on page 88.

Viewer Portal

The Avaya Meetings Streaming and Recording Viewer Portal is embedded in the Unified Portal. To access the Viewer Portal, you can select **Recordings and Events** on the main page of the Unified Portal. From the Viewer Portal, you can watch recordings and navigate through the categories.

Virtual Delivery Node

The Avaya Meetings Streaming and Recording Virtual Delivery Node (VDN) is a device to push content to an external Content Delivery Network (CDN). The method for publishing content to a CDN is tightly coupled to the Avaya Meetings Streaming and Recording platform which allows a company's video assets to be managed from a central location.

If you want to use a VDN and a CDN, you must buy cloud storage and services from Highwinds, with the appropriate bandwidth and capacity for your needs. You apply the credentials you receive from Highwinds in the Avaya Meetings Streaming and Recording Manager to securely access the CDN.

Virtual Room

A virtual room offers a virtual meeting place for instant or scheduled video conferences. An administrator can assign a virtual room to each member of the organization. Users can send invitations to each other via a web link which brings you directly into their virtual room. Virtual meeting rooms are also dialed like phone extension numbers, where a user’s virtual room number is often based on that person’s phone extension number. You can personalize your virtual room with PIN numbers, custom welcome slides and so on. External participants can use a zero-download web application to access a registered user's virtual room and participate in a video conference.

VISCA Cable

A crossed VISCA cable connects two PTZ cameras to enable you to use the same remote control on both.

Waiting Room

A waiting room is a holding place for participants waiting for the host or moderator to join the meeting. While waiting, participants see a static

	image with the name of the owner's virtual room, with an optional audio message periodically saying the meeting will start when the host arrives.
Webcast	A webcast is a streamed live broadcast of a video conference over the internet. Enable webcasts by enabling the streaming feature. To invite users to the webcast, send an email or instant message containing the webcast link or a link to the Unified Portal and the meeting ID.
WUXGA	WUXGA defines a video resolution of 1920 x 1200 pixels.
XGA	XGA defines a Video resolution of 1024 x 768 pixels.
Zone	Gatekeepers like H.323 Gatekeeper split endpoints into zones, where a group of endpoints in a zone are registered to a gatekeeper. Often a zone is assigned a dial prefix, and usually corresponds to a physical location like an organization's department or branch.

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