



Module 6

Managing Teams Rooms

Objectives



Learn about the available management options

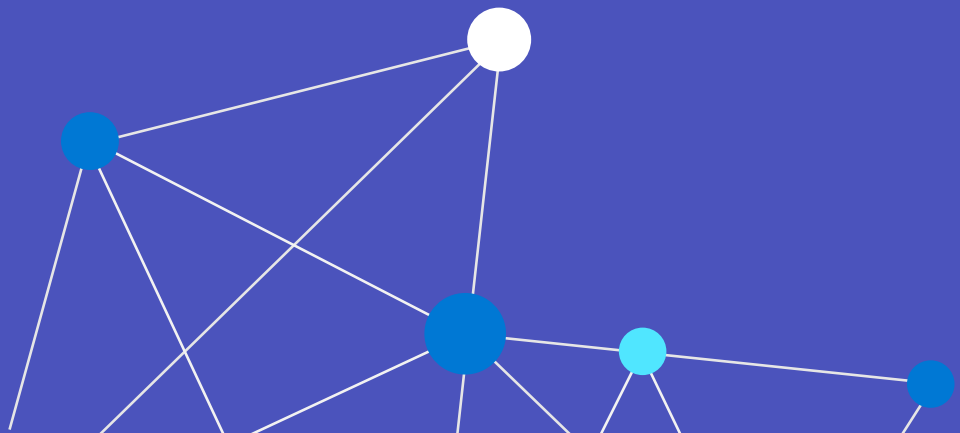
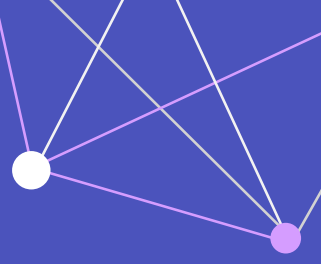


Have a better understanding of which tools to use to best manage Teams Rooms



Know how to monitor your Teams Rooms environment

Managing Teams Rooms





Unmanaged

Windows updates directly
from Microsoft

App updates directly from
Microsoft

Local Administrator account



On-premises management

Active Directory

Exchange

Skype for Business

Configuration manager

XML configuration file

PowerShell



Hybrid management

Microsoft Teams admin center

Skype for Business/Skype for
Business Online

Azure Active Directory sync

Intune

Exchange/Exchange Online

PowerShell

XML configuration file

Configuration manager



Microsoft 365 management

Azure Active Directory

Exchange Online

Skype for Business Online

Endpoint Manager

Teams Admin Center

PowerShell

XML configuration file



Microsoft Teams Rooms Premium

Great meetings for every room, expertly managed and secured



Expert management

24x7x365 monitoring,
alerting incident
management
and resolution



Proactive security

Optimized security,
protection, and policies



Enhanced insights

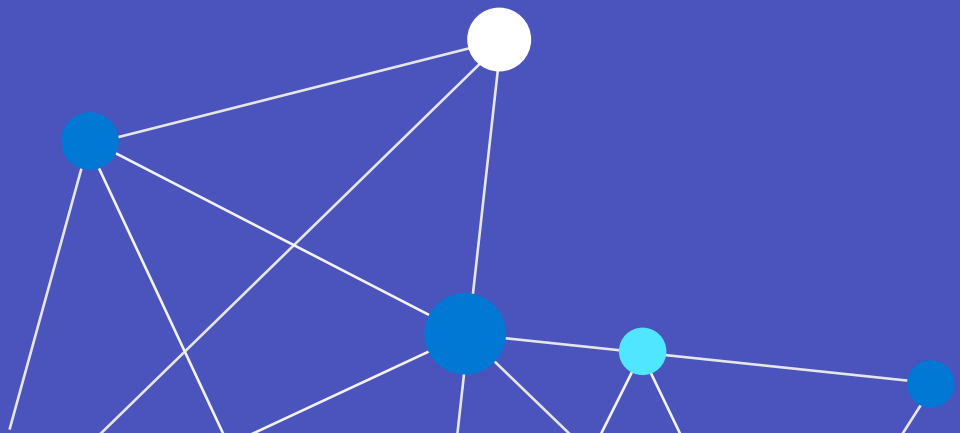
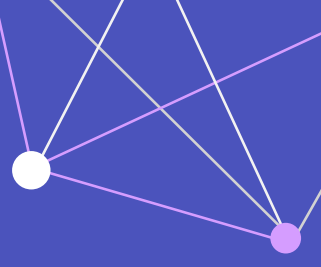
Inventory, health, and
compliance insights,
analytics and
recommendations



Trusted partners

Measurable results
from our best room
installation and on-site
management partners

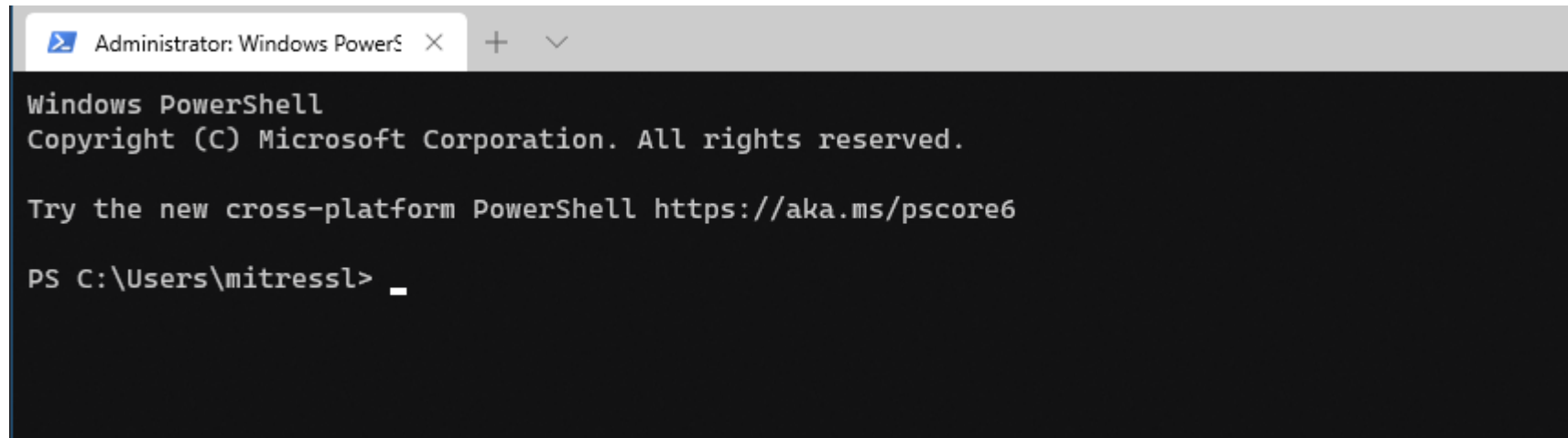
PowerShell



What is PowerShell

Windows PowerShell is a Windows command-line shell designed especially for system administrators.

Windows PowerShell includes an interactive prompt and a scripting environment that can be used independently or in combination.

A screenshot of a Windows PowerShell terminal window running as an administrator. The window has a title bar with a blue icon, the text 'Administrator: Windows PowerShell', and standard window controls. The terminal content is as follows:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\mitressl> _
```

Remote management using PowerShell

You can perform the following management operations remotely by using PowerShell

Get attached devices

Get app status

Get system info

Reboot system

Retrieve logs

Transfer files (requires a domain-joined Microsoft Teams Rooms)



Enable remote PowerShell

Sign in as Admin on a Microsoft Teams Rooms device

Open an elevated PowerShell command prompt

Enter the following command

`Enable-PSRemoting -force`

Once Enabled

Sign into a PC with account that has permission to run PowerShell commands on a Teams Rooms device

Open a regular PowerShell command prompt on the PC



Get attached devices

VIDEO DEVICES:

Logitech BRIO	OK	True
---------------	----	------

AUDIO DEVICES:

Name	Status	Present
Logi Rally Audio	OK	True
Logitech Tap Audio	OK	True
Intel(R) Display Audio	OK	True
Logitech BRIO	OK	True
Realtek(R) Audio	OK	True
Logitech Tap HDMI Capture	OK	True

DISPLAY DEVICES:

Name	Status	Present
Generic PnP Monitor	OK	True
Generic PnP Monitor	OK	True

More PowerShell output examples

App status

```
SkypeRoomSystem Version : 4.3.33.0
```

```
StartTime : 1/15/2020 2:33:57 AM
```

```
Responding : True
```

System info

```
PartOfDomain : False
```

```
Domain : WORKGROUP
```

```
Workgroup : WORKGROUP
```

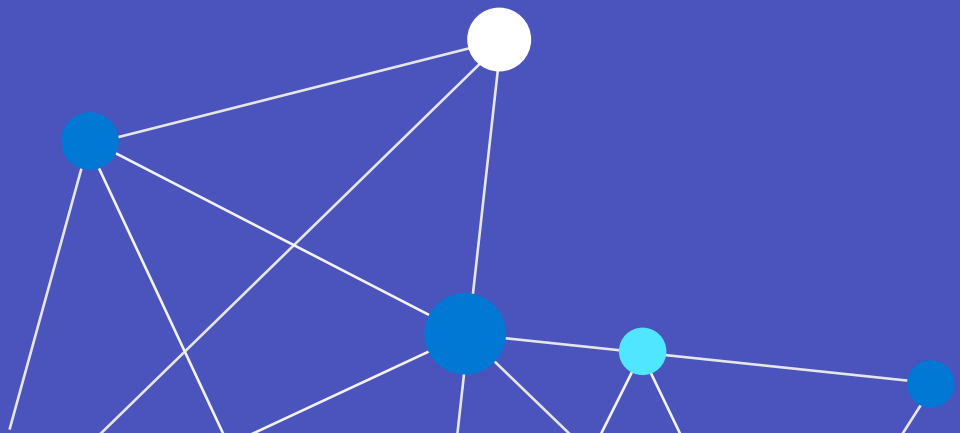
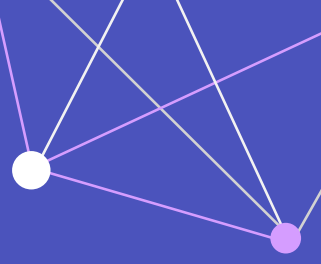
```
Manufacturer : Intel(R) Client Systems
```

```
Model : NUC8i5BEH
```

```
SerialNumber : G6BE921008Z9
```

```
SMBIOSBIOSVersion : BECFL357.86A.0064.2019.0213.1122
```


SkypeSettings XML file





SkypeSettings XML file

SkypeSettings.XML can be used to control settings

Apply a custom theme

Enable automatic screen sharing

Hide meeting name

Set sign-in address\password for Teams\Skype account

Set Teams\Skype modes

Enable dual screen mode

...and much more

All supported options are documented on docs.Microsoft.com
<https://docs.microsoft.com/en-us/MicrosoftTeams/room-systems/xml-config-file>



SkypeSettings XML file

The file can be created and edited using Notepad or any other text/XML editor

```
<SkypeSettings>
  <AutoScreenShare>true</AutoScreenShare>
  <HideMeetingName>true</HideMeetingName>
  <UserAccount>
    <SkypeSignInAddress>RanierConf@contoso.com</SkypeSignInAddress>
    <ExchangeAddress>RanierConf@contoso.com</ExchangeAddress>
    <DomainUsername>Seattle\RanierConf</DomainUsername>
    <Password>password</Password>
    <ConfigureDomain>domain1, domain2</ConfigureDomain>
  </UserAccount>
  <IsTeamsDefaultClient>false</IsTeamsDefaultClient>
  <BluetoothAdvertisementEnabled>true</BluetoothAdvertisementEnabled>
  <SkypeMeetingsEnabled>false</SkypeMeetingsEnabled>
  <TeamsMeetingsEnabled>true</TeamsMeetingsEnabled>
  <DualScreenMode>true</DualScreenMode>
  <SendLogs>
    <EmailAddressForLogsAndFeedback>RanierConf@contoso.com</EmailAddressForLogsAndFeedback>
    <SendLogsAndFeedback>true</SendLogsAndFeedback>
  </SendLogs>
  <Devices>
    <MicrophoneForCommunication>Microsoft LifeChat LX-6000</MicrophoneForCommunication>
    <SpeakerForCommunication>Realtek High Definition Audio</SpeakerForCommunication>
    <DefaultSpeaker>Polycom CX5100</DefaultSpeaker>
    <ContentCameraId>USB\VID_046D&PID_0843&MI_00\7&17446CF2&0&
    <ContentCameraInverted>false</ContentCameraInverted>
    <ContentCameraEnhancement>true</ContentCameraEnhancement>
  </Devices>
  <Theming>
    <ThemeName>Custom</ThemeName>
    <CustomThemeImageUrl>file name</CustomThemeImageUrl>
    <CustomThemeColor>
      <RedComponent>100</RedComponent>
      <GreenComponent>100</GreenComponent>
      <BlueComponent>100</BlueComponent>
    </CustomThemeColor>
  </Theming>
</SkypeSettings>
```



SkypeSettings XML file

SkypeSettings.XML must be placed in this directory:

C:\Users\Skype\AppData\Local\Packages\Microsoft.SkypeRoomSystem_8wekyb3d8bbwe\LocalState

You can manually copy the file on each device or distribute it via Group Policy or a PowerShell script.

Once the file has been copied to each machine, the device must be restarted. Once the device has been restarted, the specified settings will be applied, and the file is deleted.



Custom theme

Customize the background of the Teams Rooms displays

Image must be exactly 3840x1080 pixels

Must be .jpg, .jpeg, .png, or .bmp file type

A custom photoshop template is available on docs.microsoft.com to assist in creating a custom image

Custom Background



You can customize the background image

Add company-specific look and feel

Add support options directly on the displays

A Photoshop template can be downloaded from [here](https://aka.ms/TeamsRoomHelp).





Deploying custom theme

Using Notepad, create a file called skypesettings.xml

Enter the following.

```
<SkypeSettings>
<Theming>
    <ThemeName>Custom</ThemeName>
    <CustomThemeImageUrl>wallpaper.jpg</CustomThemeImageUrl>
    <CustomThemeColor>
        <RedComponent>1</RedComponent>
        <GreenComponent>1</GreenComponent>
        <BlueComponent>1</BlueComponent>
    </CustomThemeColor>
</Theming>
</SkypeSettings>
```



Deploying custom theme

Log in to the device as a Windows Administrator

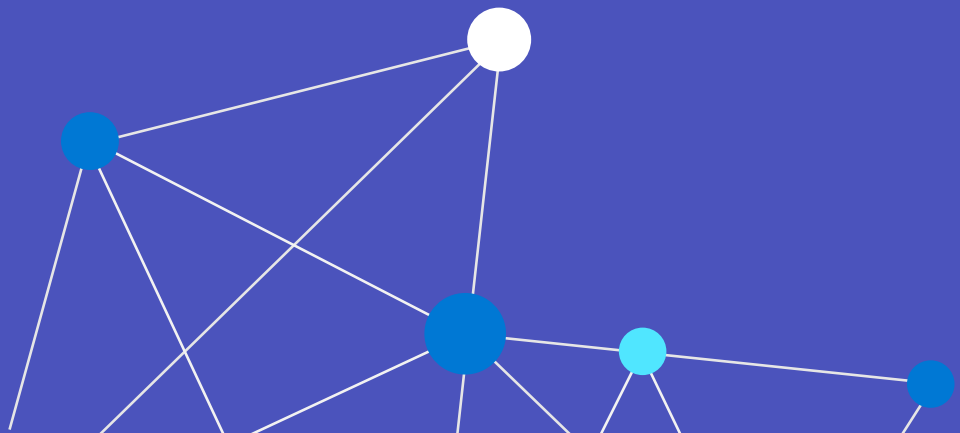
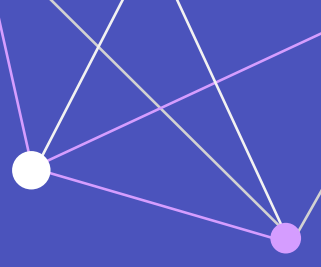
Navigate to

"C:\Users\Skype\AppData\Local\Packages\Microsoft.SkypeRoomSystem_8wekyb3d8bbwe\LocalState"

Copy the wallpaper file and the SkypeSettings.xml file to the directory.

Restart the device

Microsoft Teams admin center

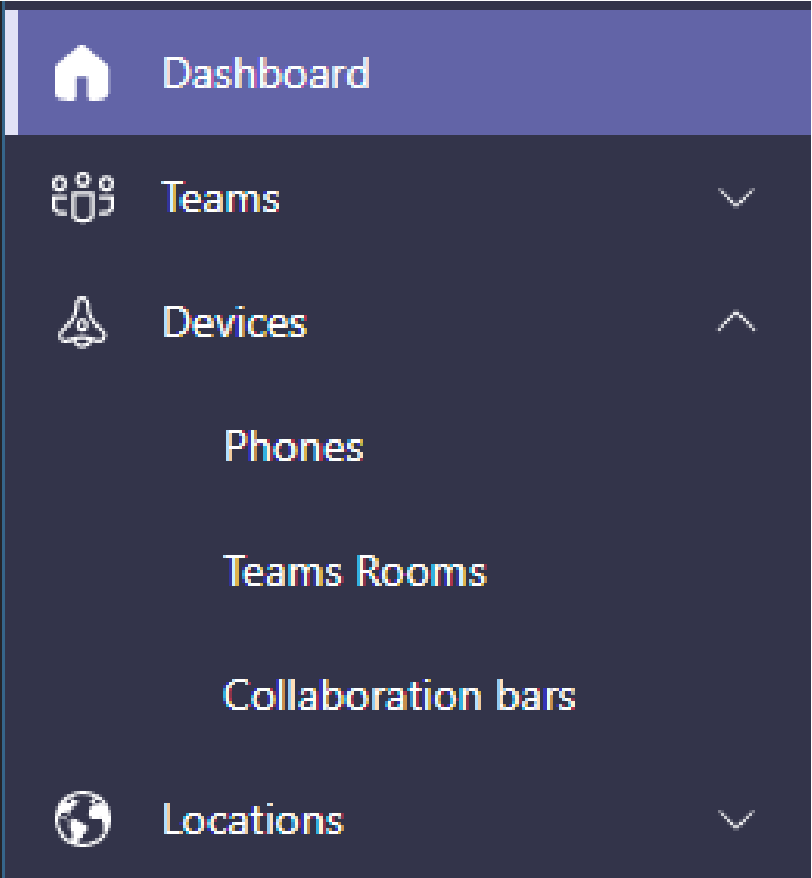


Microsoft Teams admin center

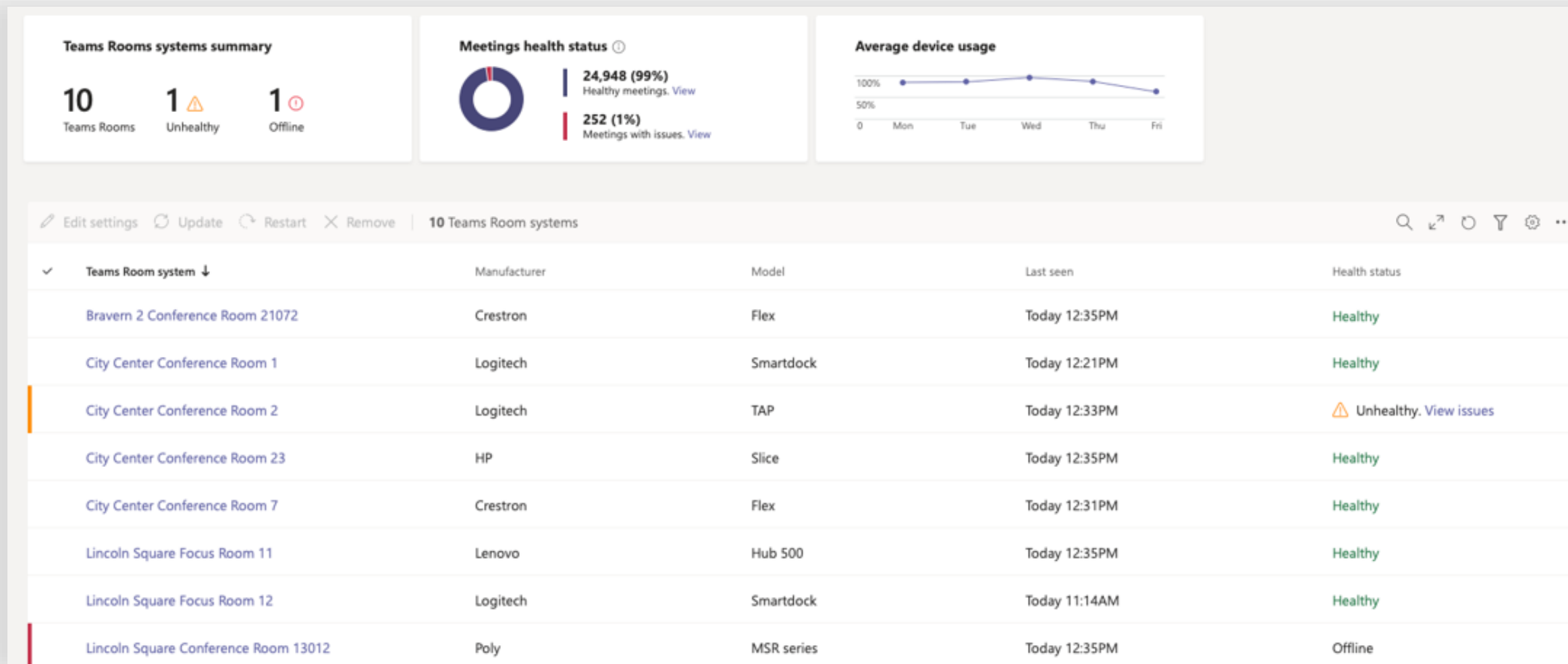
You can manage and monitor Teams Rooms devices via the Microsoft Teams admin center

Features include

- Inventory and status
- Performance statistics (network, audio, etc.)
- Update settings
- Remote restart
- Meeting history
- Log collection
- Auto enrollment to Teams admin center

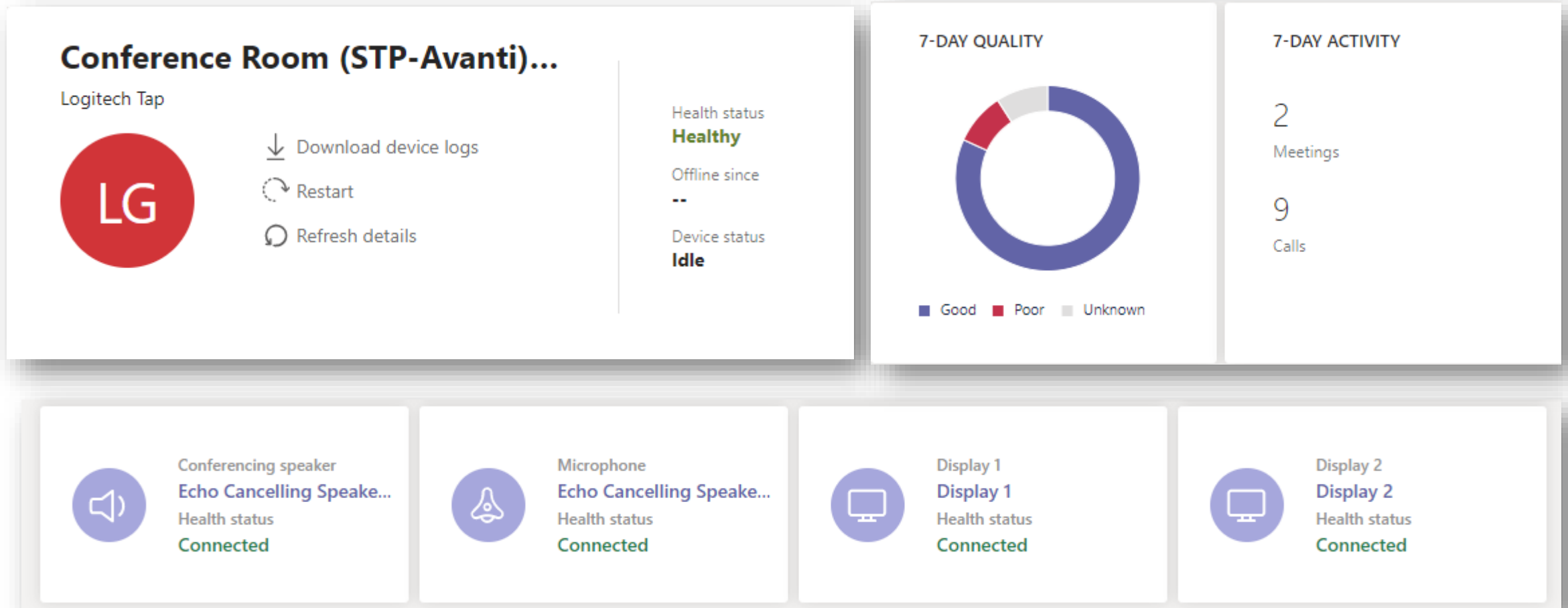


Microsoft Teams admin center



Microsoft Teams admin center

You can get details for any registered device



Device information

Peripherals	Health	Details	Activity	History
History				
✓	Action	Status	Scheduled at	
	Device Restart	Initiated	-	
	Device Diagnostics	Completed		


Connectivity health		Jul 21, 2020, 9:57 AM EDT	2 Participants	00:00:55
		Jul 18, 2020, 10:37 PM EDT		00:00:47
✓	Connectivity indicator	Health problem reason	Offline since	Health status
	Network		--	Connected
	Sign in (Exchange)		--	Connected
	Sign in (Skype for Business)		--	Connected
	Sign in (Microsoft Teams)		--	Connected


Peripherals	Health	Details	Activity	History
Activity				
✓	Start time (UTC)	Meeting participants	Duration	Audio quality
	Jul 22, 2020, 3:52 PM EDT	2 Participants	00:01:26	Good
	Jul 21, 2020, 10:15 AM EDT	2 Participants	00:01:26	Poor
	Jul 21, 2020, 10:14 AM EDT	2 Participants	00:00:07	Good
	Jul 21, 2020, 9:57 AM EDT	2 Participants	00:00:35	Good
	Jul 18, 2020, 10:37 PM EDT	2 Participants	00:00:47	Good


Edit device settings


You can remotely edit settings for individual settings for a single device or a group of selected devices.

After making changes, you can also remotely restart the device(s) for changes to take effect.

**Conference Room (STP-Avanti)(12)**
Logitech Tap

 Download device logs

 **Restart**

 Refresh details

Health status
Healthy

Offline since
--

Device status
Idle

Edit settings

Conference Room (STP-Avanti)(12) (logitech-tap
G6BE921008Z9)

Account

Email

mtr-stp-avanti-1@teamsroomslab.com

Supported meeting mode

Skype for Business and Microsoft Tea... ▾

Modern authentication



On

Exchange address

amsroomslab.com

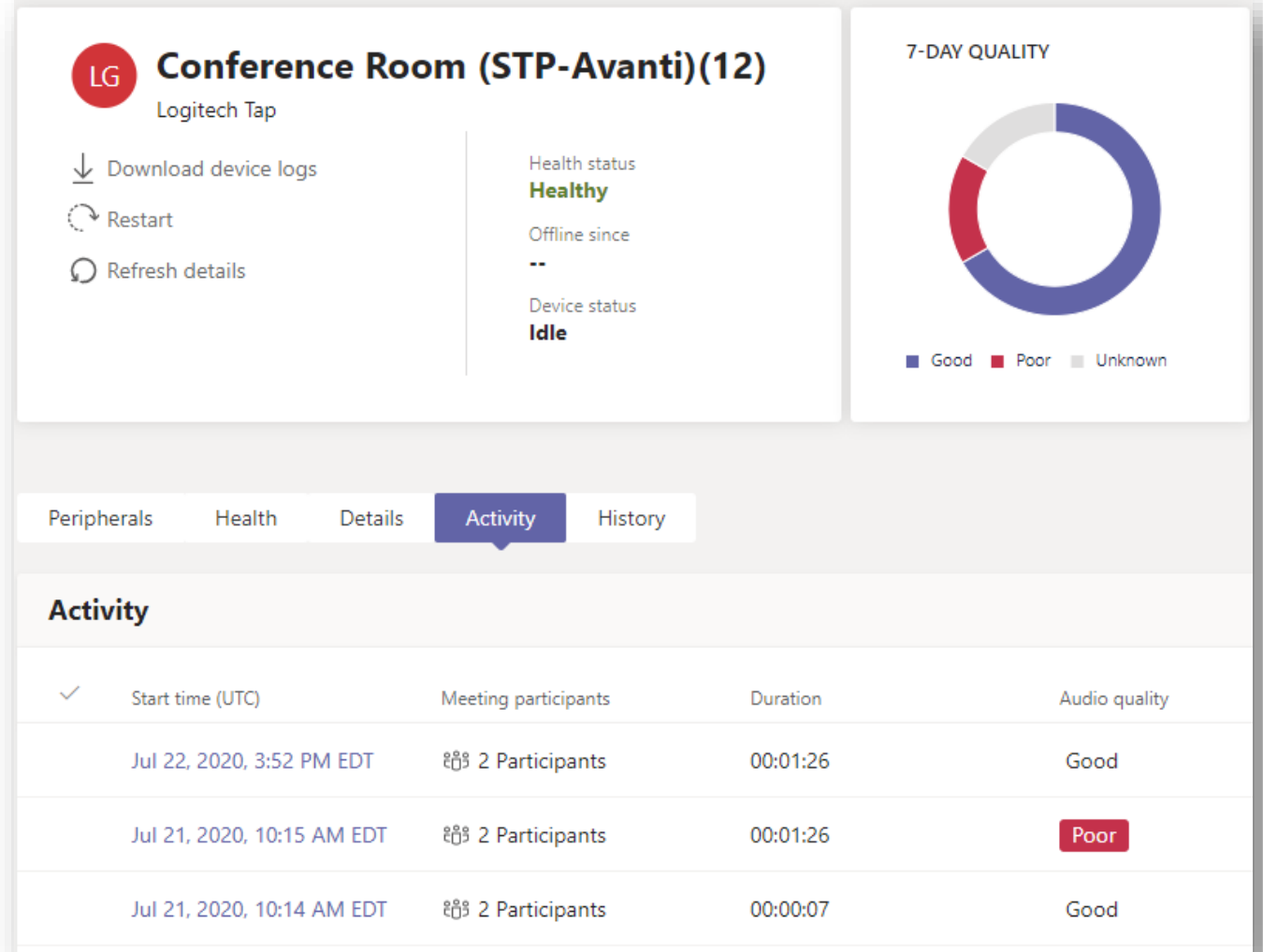
Demonstration:

Troubleshooting a poor audio call

A user reports poor audio in a meeting

Navigate to the Teams Rooms device and click on Activity

Notice a meeting is listed as “poor” in the Audio Quality column

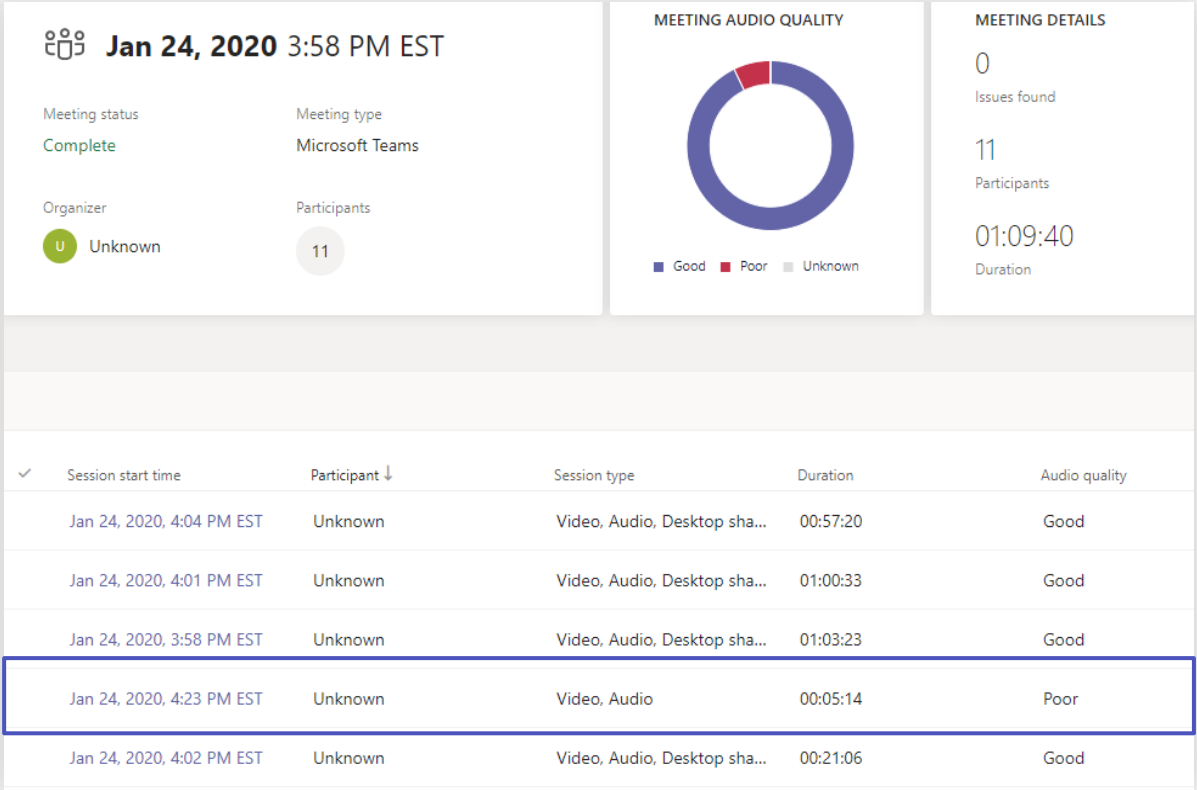


Troubleshooting a poor audio call

Click on the poor meeting to get details

Notice that one of the sessions had poor Audio Quality

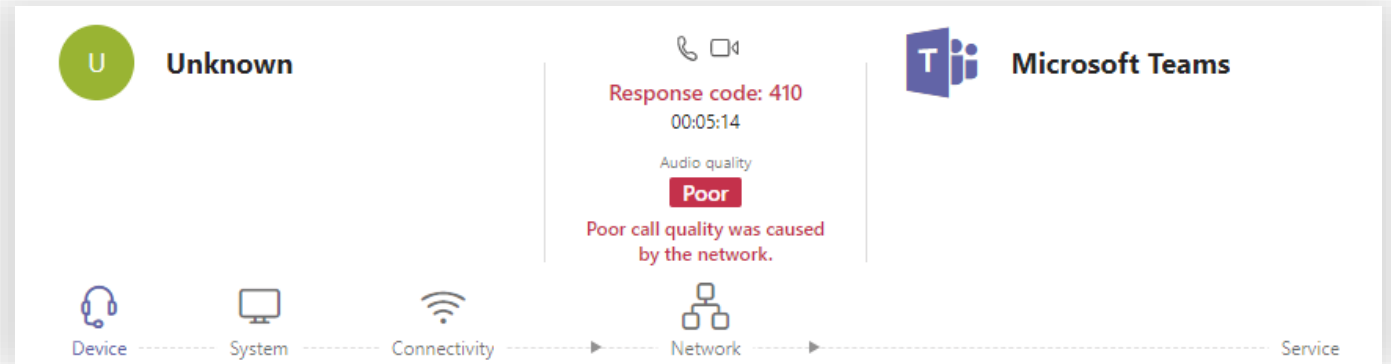
Click on that session



Troubleshooting a poor audio call

The header of the session highlights the call quality as poor due to network

Click on the Network icon



Troubleshooting a poor audio call

This session had excessive round-trip times and extremely high packet loss

Round trip time should be less than 100ms and packet loss should be less than 1%

docs.microsoft.com has an article listing the requirements for latency, packet loss, and jitter

Network stream from Service to	
Average round-trip time	784 ms
Maximum round-trip time	1943 ms
Average jitter	6 ms
Maximum jitter	46 ms
Average packet loss rate	6.65%
Maximum packet loss rate	54.98%

Troubleshooting a poor audio call

By clicking on System, we can learn details about the client device

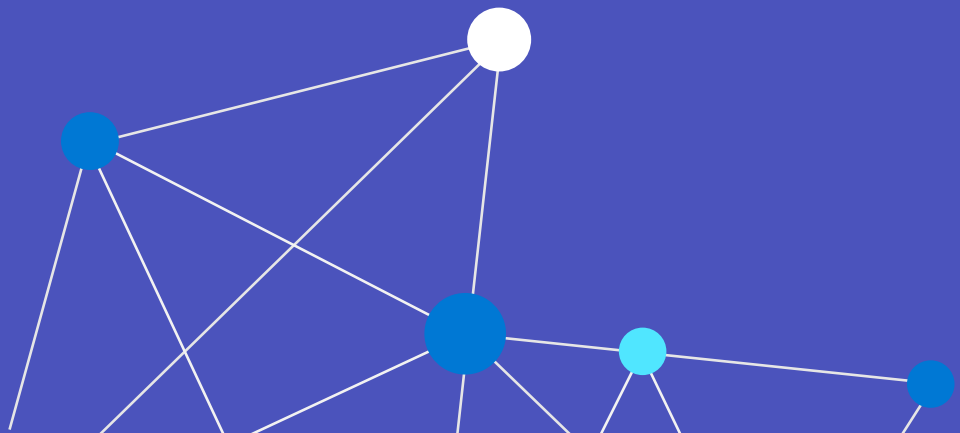
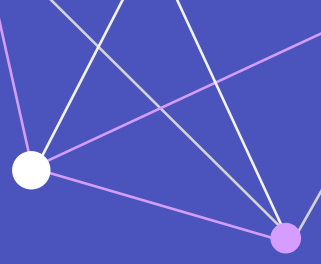
In this case, it was an Android device

Most likely, this user had poor wireless service during the call which led to the poor audio

The screenshot shows the Microsoft Teams troubleshooting interface. At the top, it identifies the user as 'Unknown' and the service as 'Microsoft Teams'. A status bar indicates a 'Response code: 410' at '00:05:14' with 'Audio quality' rated as 'Poor'. A message states: 'Poor call quality was caused by the network.' Below this, a navigation bar shows five steps: Device, System (selected), Connectivity, Network, and Service. The 'System' section is expanded, showing a table with device details.

System	
Name	localhost
Operating system	Android 9.0; Manufacturer: samsung; Product: crownqltesq; Model: SM-N960U; Hardware: qcom

Azure Monitor





Azure Monitor

What is Azure Monitor?

A collection of management services that were designed in the cloud

Get notifications of systems that are offline or are experiencing app, connectivity, or hardware failures as well as knowing if a system needs to be restarted

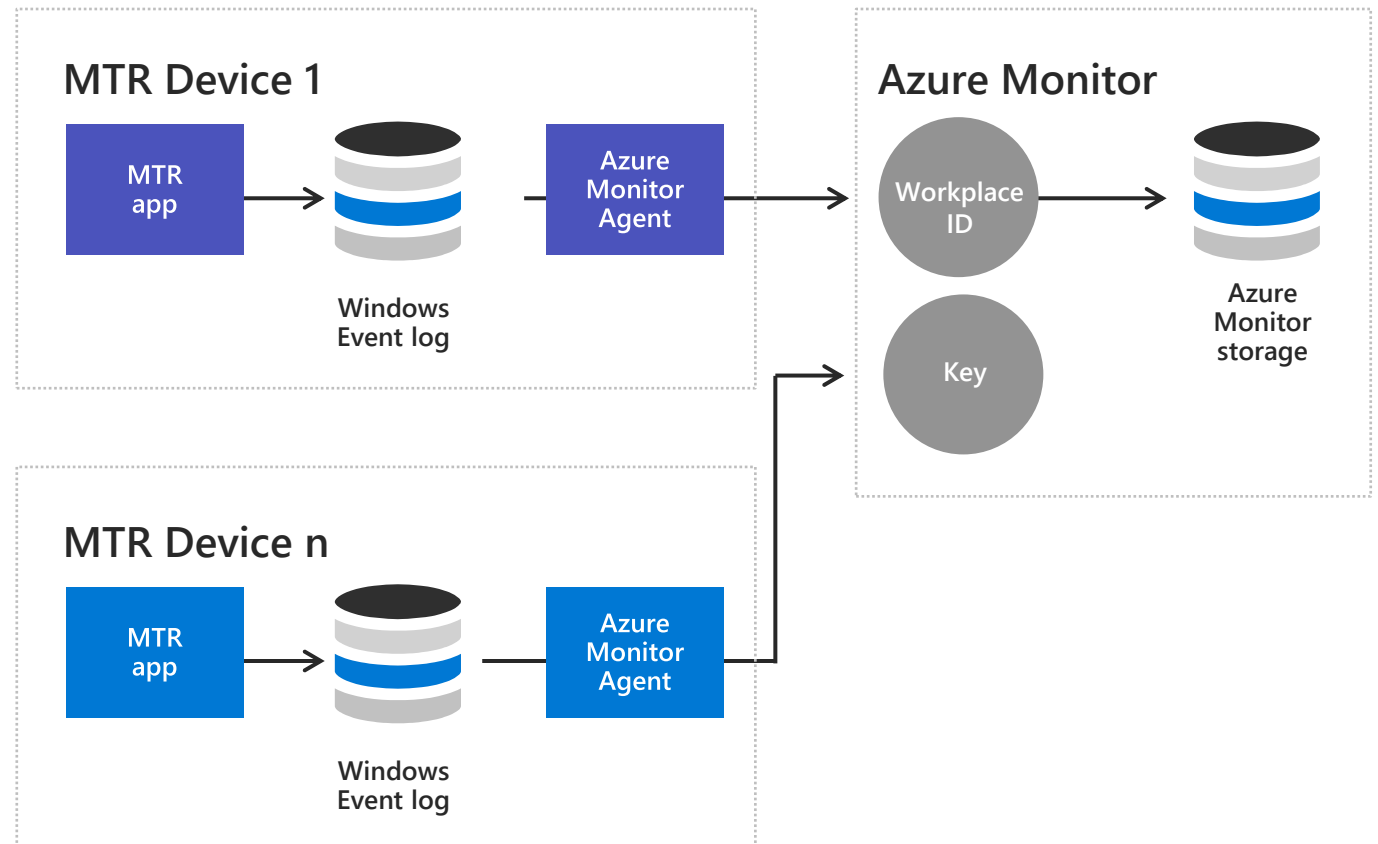
Can scale to managing thousands of Microsoft Teams Rooms

Functional overview

Microsoft Teams Rooms app on the console device writes events to its Windows Event Log

Microsoft Monitoring agent, once installed, passes the information to Azure Monitor service

Log Analytics parses the JSON payload embedded in the event descriptions to describe how each Microsoft Teams Rooms system is functioning and what faults are detected





Requirements

A valid Azure subscription for Azure Monitor to use Log Analytics

Custom fields needed to parse the information that will be sent from Microsoft Teams Rooms consoles

Develop a Microsoft Teams Rooms management view in Log Analytics

Adding the Microsoft Monitor agent on your Microsoft Teams Rooms device

Example of an Alert received in Outlook

The screenshot shows the Outlook web interface. The left sidebar contains the 'Folders' list with 'Inbox' highlighted, showing 134 items. The main pane displays a list of emails. The selected email is from 'Microsoft Azure' with the subject 'Alert Notification "Microsoft Teams Rooms application issues" raised for "Teams-Meeting-Room-Management-Portal"'. The email body contains the following information:

Microsoft Azure

📘 Your Azure Monitor alert was triggered

We are notifying you because there are 1 counts of "Microsoft Teams Rooms application issues".

Essentials

Name	Microsoft Teams Rooms application issues
Severity	2
Resource	Teams-Meeting-Room-Management-Portal
Search interval start time	September 13, 2019 7:30:52 UTC
Search interval duration	60 min
Search query	<pre>Event where EventLog == "Skype Room System" and Event LevelName == "Error" and EventID == "2001" and Ti meGenerated > ago(1h) summarize arg_max(TimeGenerated, *) by Computer project TimeGenerated, Computer, SRSALias_CF, S RSAppVersion_CF, SRSOSVersion_CF, SRSIPv4Address_ CF, SRSOSVersion_N_CF, SRSOSVersion_P_CF, SRSOSVersion_S_CF</pre>

Understand the log entries

Event ID level	Event behavior
2000 Information	<p>This is a healthy heartbeat event. Every 5 minutes, Microsoft Teams Rooms checks that it is signed in to Microsoft Teams or Skype for Business and has network and Exchange connectivity. If all 3 factors are true, it writes Event ID 2000 into the event log every 5 minutes until the device is offline or one or more of the conditions is no longer met.</p>
2001 Error	<p>This is an app error event. Every 5 minutes, Microsoft Teams Rooms checks that it is signed in to Microsoft Teams or Skype for Business with network and Exchange connectivity. If one or more factors are not true, it writes EventID 2001 into the event log every 5 minutes until the device is offline or all conditions are met once again.</p>
3000 Information	<p>This event verifies that a hardware check was run and found to be healthy. Every 5 minutes Microsoft Teams Rooms checks that configured hardware components such as front of room display, microphone, speaker, and camera are connected and functioning. If all components are healthy, it writes EventID 3000 into the event log. This event is written every 5 minutes unless there is an issue with a connected device.</p>

Understand the log entries

Event ID level	Event behavior
3001 Error Event	This is a hardware error event. The Microsoft Teams Rooms app has a process that checks the health of connected hardware components (front of room, microphone, speaker, camera) every 5 minutes. If one or more of the components are unhealthy, it writes EventID 3001 into the event log. This event is written every 5 minutes until the issue with the device is fixed.
4000 Information	This is an App Restart event. Every time the app is restarted, it will log this event into the Windows event log.

Summary



We reviewed the available management options for Microsoft Teams Rooms



You learned when to use each management tool



Know how to monitor your Teams Rooms environment

Questions?

