



Microsoft Teams

The hub for teamwork in Office 365

Call Quality Dashboard

FastTrack - Kevin Jung (정기남)

Agenda

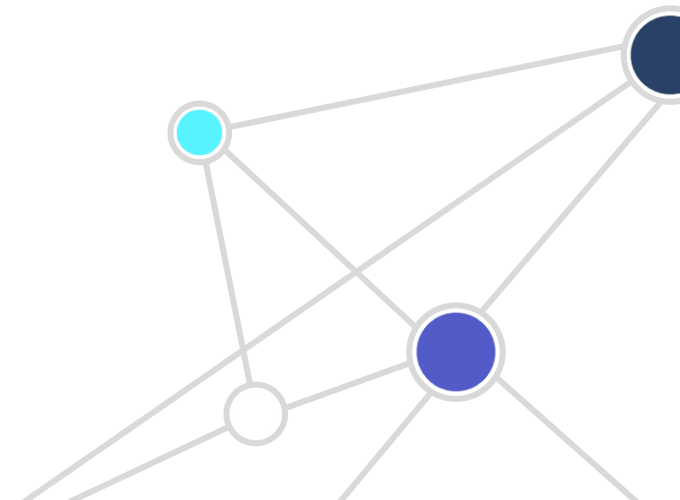
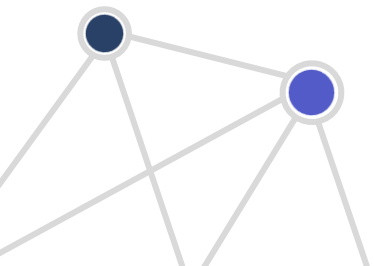
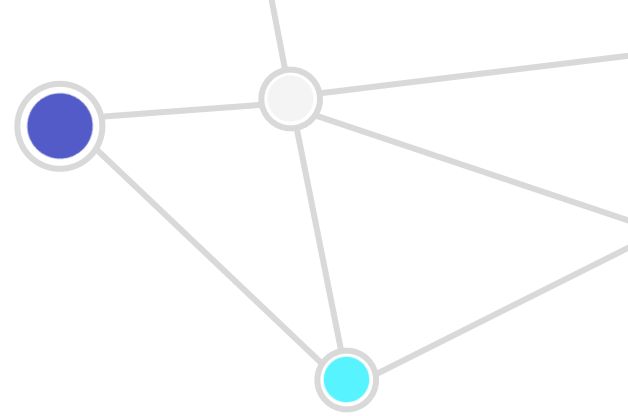
품질의 정의 및 주요용어

Call Analytics

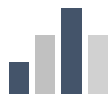
CQD (Call Quality Dashboard)

QER (Quality of Experience Review)

Power BI Demo



Microsoft는 품질(Quality)을 어떻게 정의합니까?



Quality

=

Service metrics

+

User experience

Telemetry

- Jitter, packet loss, and round-trip time
- Classifiers for audio, video, and sharing

Reliability (신뢰성)

- 통화가 예기치 않게 끊겼습니까?
- 통화에 참여하려면 한 번 이상 시도해야 합니까?

Endpoint

- 누가 헤드셋을 사용하지 않습니까?
- Was the right transport used?

Client

- 클라이언트가 정기적으로 업데이트됩니까?
- VPN 분할 터널링이 작동합니까?

통화나 회의에 참여할 수 있었습니까?

통화를 유지할 수 있었습니까?

오디오는 어떻게 들렸나요?

영상이 선명했나요?

화면 공유를 볼 수 있었습니까?

통화나 회의에 문제가 있었나요?

Media and Device Classifiers

Audio Classifier

- Audio Degradation Avg > 1.0
- Round Trip > 500 ms
- Packet Loss Rate > 10% or 0.1
- Jitter > 30 ms
- Ratio Concealed Samples Avg > 7% or 0.07

Device Classifier

- DeviceRenderNotFunctioningEventRatio > = 0.005
- DeviceCaptureNotFunctioningEventRatio > = 0.005

Video Classifier

- Video Local Frame Loss Percentage Avg > 50%
- Video Frame Rate Avg < 7
- Video Post FEC Packet Loss Rate > 0.15
- [Teams] Freeze Score Client : Server > 0.246
- [Teams] Freeze Score Client : Client > 0.524

VBSS (audio/video/screen sharing)

- Video Local Frame Loss Percentage Avg > 50%
- Video Frame Rate Avg < 2
- Video Post FEC Packet Loss Rate > 0.15

Microsoft target metrics

Target metrics define the core service metrics that are used to assess the user experience, along with their defined thresholds.

Metric name		Quality targets	Reliability targets	
		Audio Poor Stream Rate	Setup Failure Rate	Drop Failure Rate
All	Internal	2.0%	0.5%	2.0%
	Overall	3.0%	1.0%	3.0%
Meetings	Internal	2.0%	0.5%	2.0%
	Wired internal	1.0%	0.5%	1.0%
	Wi-Fi 5 GHz internal	1.0%	0.5%	1.0%
	Wi-Fi 2.4 GHz internal	3.0%	0.5%	2.0%
	Overall	3.0%	0.5%	3.0%
Call	Internal	2.0%	0.5%	2.0%
	Wired/Wi-Fi 5 GHz internal	1.0%	0.5%	1.0%
	Wired/Wi-Fi 5 GHz overall	2.0%	1.0%	1.0%
	Overall	3.0%	1.0%	3.0%

Quality of Experience (QoE)

참가자, 장치 이름, 드라이버, IP 주소, End Point 유형, 통화 및 세션과 관련된 기타 세부 정보에 대한 미디어 품질 및 정보를 나타내는 데이터

통화 종료 후 **약 15~30분 후** 정보가 업데이트 됨.

CQD(통화 품질 대시보드)에서 사용할 수 있는 크기 및 측정값

<https://docs.microsoft.com/MicrosoftTeams/dimensions-and-measures-available-in-call-quality-dashboard>

최종 사용자 식별 정보(EUII) 데이터

- 규정 준수 이유로 **최종 사용자 식별 정보(EUII) 데이터**(개인 식별 정보 또는 PII라고도 하는)는 **28일 동안만** 유지됩니다.
 - 전체 IP 주소
 - MAC(미디어 액세스 제어) 주소
 - 기본 서비스 집합 식별자(BSSID)
 - SIP(세션 시작 프로토콜) URI(비즈니스용 Skype만 해당)
 - 사용자 주체 이름(UPN)
 - 컴퓨터 엔드포인트 이름
 - 사용자 Verbatim 피드백
 - 개체 ID(엔드포인트 사용자의 Active Directory 개체 ID)

Common CQD Definitions

Meeting

Known by the *Meeting ID* dimension, this is created by Teams when a meeting is scheduled or started through Meet-Now and can be found as part of the meeting join URL. A 1:1 call (also known as peer to peer or P2P call) does not have a meeting ID.

Conference

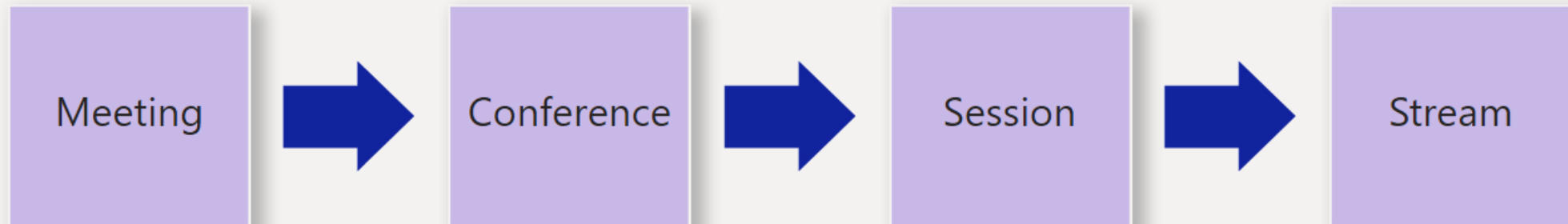
Known by the *Conference ID* dimension, this is a unique ID given to every meeting or call. More than one conference ID may be associated with a given meeting ID. For example, a reoccurring meeting will have a common meeting ID while each individual meeting instance will have a unique conference ID.

Call or Session

A call or session is a call-leg and is a single meeting endpoint against a single conference ID. It is expected to see multiple call-legs as part of a single conference ID as each unique endpoint "calls" or joins into the meeting. Example: Total Call Count

Stream or Segment

A stream or segment is an individual media connection between two endpoints in any given call. Streams are associated with a direction and media type. It is expected to see multiple streams per call. Example: Total Stream Count



Key Terms (Good, Poor, Unclassified)

Good or Poor

- 양호하거나 불량한 호출은 전체 QoE 보고서가 생성되어 서비스에 의해 수신되는 전체 서비스 메트릭 집합을 포함하는 호출로 구성됩니다.
- 스트림이 양호하거나 불량인지 여부를 결정하는 것은 [이 문서의 앞부분](#)에 설명되어 있습니다.

Unclassified

- 분석되지 않은 스트림에는 전체 서비스 메트릭 집합이 포함되지 않습니다.
- 일반적으로 **60초 미만**의 짧은 호출일 수 있습니다. 여기서는 평균을 계산할 수 없는 경우 QoE 보고서가 생성되지 않습니다.
- 호출이 세분화되지 않은 가장 일반적인 이유는 패킷 사용률이 거의 없는 경우입니다. 예를 들어 **음소거**로 모임에 참가하고 말하지 않는 참가자가 있습니다. 참가자는 미디어를 수신하지만 전송하지 않습니다. 미디어가 전송되지 않으면 CQD에서 엔드포인트의 아웃바운드 미디어 스트림을 분류하는 데 사용할 수 있는 메트릭이 없으므로 Unclassified로 표시 됩니다.

Service Metrics

Reliability (신뢰도)

- **Setup Failure Rate** : 통화 시작시 엔드 포인트간에 미디어 스트림 연결에 실패한 스트림 수
- **Drop Failure Rate** : 미디어 스트림 연결은 성공 했으나 정상적으로 종료 되지 못한 수

Quality (품질)

- **Poor Stream Rate** : 미디어 분류기 메트릭(media classifier metrics)에 따라 품질이 좋지 않은 스트림 수

Key Concepts (Dimensions & Measures)

Dimensions – Descriptive category about the data e.g. date, location, etc.

Measures – Fact or number e.g. count of poor calls

Filters – Data to include or exclude

“지난 한달 동안 **빌딩별로** Poor Call 수를 보여주세요”

Filter

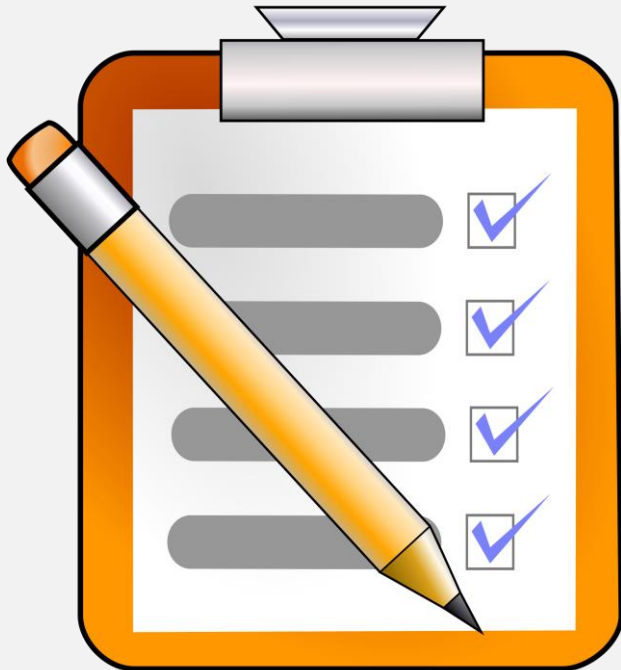
Dimension

Measure

많은 Measures 와 Dimensions 값을 필터로도 사용 가능 합니다.

품질을 최적화 하는 방법

적절한 계획 및 운영 관리의 조합은 사용자가 일관되고 안정적인 경험을 갖도록 하는 데 도움이 됩니다.



1

Deploy Quality of Service (QoS)

미디어 워크로드를 관리되는 네트워크의 패킷을 보호하기 위해 적절한 대기열로 우선 순위를 지정해야 합니다.

2

Bypass proxy for Office 365 traffic

일반적인 인터넷 브라우징에 일반적으로 사용되는 사내 프록시 디바이스 및 클라우드 기반 프록시 서비스를 바이패스합니다.

3

Implement split tunnelling for VPN solutions

분할 터널링을 구현하여 VPN 사용자가 이러한 클라우드엔드포인트에 직접 접속할 수 있도록 합니다.

4

Ensure the right ports and protocols are open

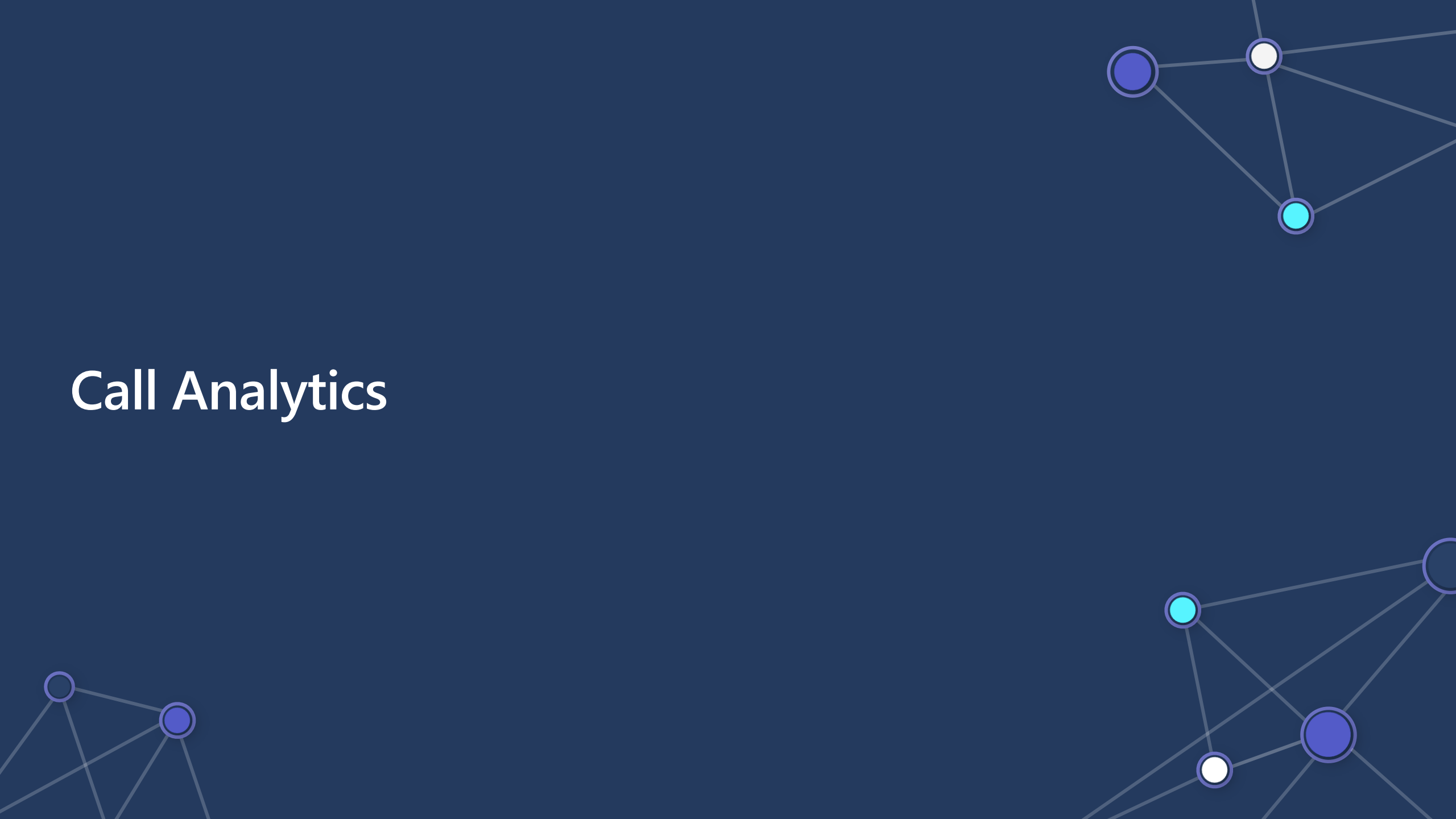
UDP ports 3478-3481, Subnets: 13.107.64.0/18, 52.112.0.0/14, 52.120.0.0/14, <https://aka.ms/teamsips>

5

Use certified phones and devices

인증된 장치는 추가 구성 없이 즉시 사용할 수 있으며(plug & play) Microsoft Teams 및 Skype for Business로 통화 제어를 제공합니다.





Call Analytics



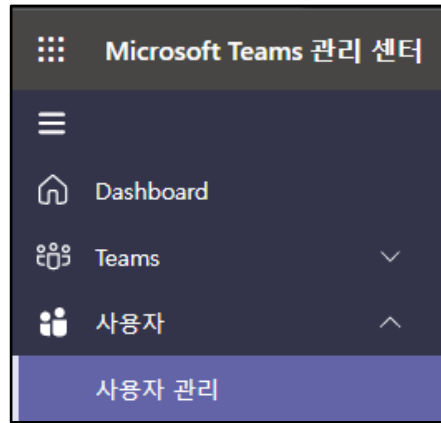
Call Analytics

- 특정 사용자의 통화 / 회의 및 신호 및 품질에 영향을 미치는 미디어 이벤트를 검색하는 기능
 - 주요 사용 사례는 문제 해결을 위한 IT Helpdesk 지원입니다.
 - **30 일**간의 통화 / 회의가 저장되고 데이터는 일반적으로 **15 분** 이내에 액세스 가능
 - 오디오 스트림은 CQD에서 사용 된 것과 동일한 메트릭에 따라 불량으로 분류됩니다.
- Now available integrated as part of the call history tab in user profile in Teams Admin center

Data is organised by call component

Device	System	Connection	Network
 Audio capture/render (e.g. Headset, device microphone)	 PC and client	 Type of connection	 Data on quality of connection and network

Where do I find Call Analytics Reporting?



홍길동

Start a chat
전자 메일 보내기
한국

전자 메일
TU1@knjung.onmicrosoft.com
디렉터리 상태
온라인

주간 품질
주간 활동
1 모임
0

계정 Teams 음성 음성 메일 **모임 및 통화** Teams 장치 정책 사용량

최근 모임 0 최근 모임 ⓘ 미리 보기

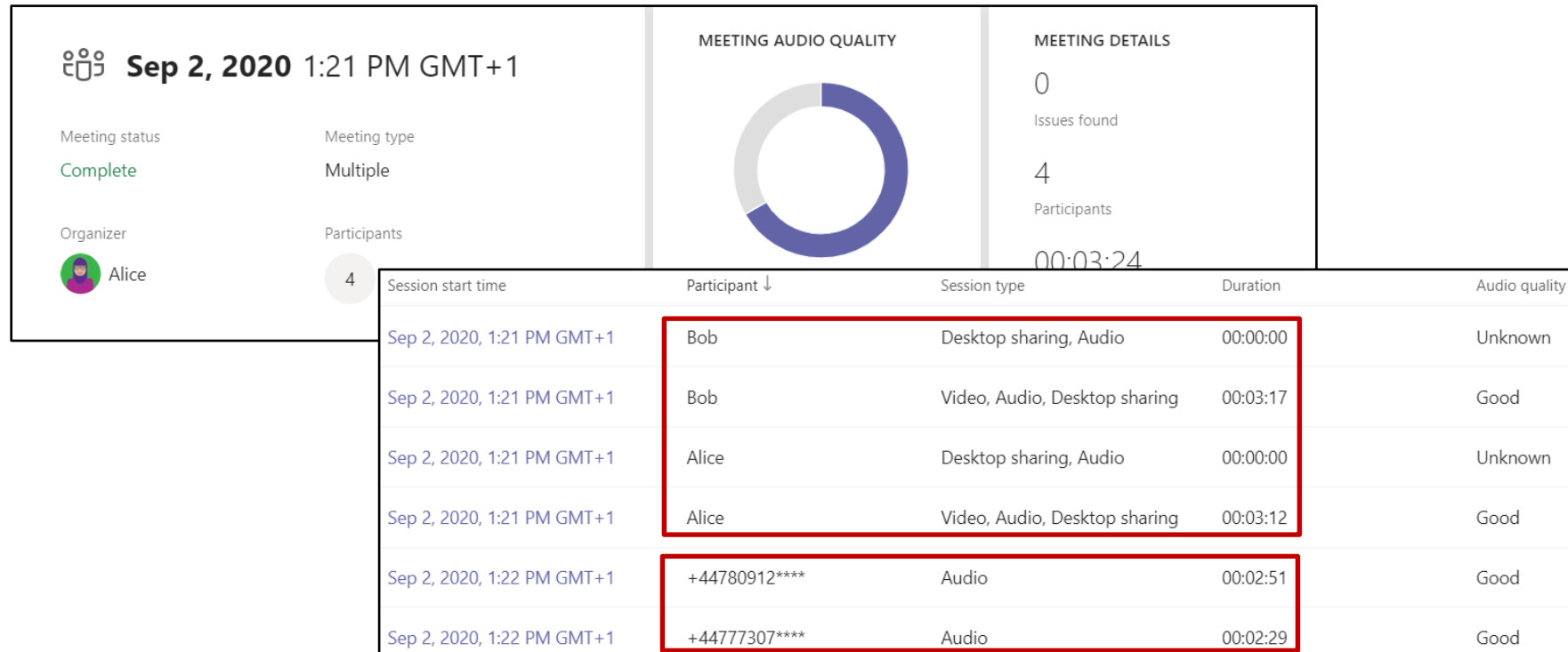
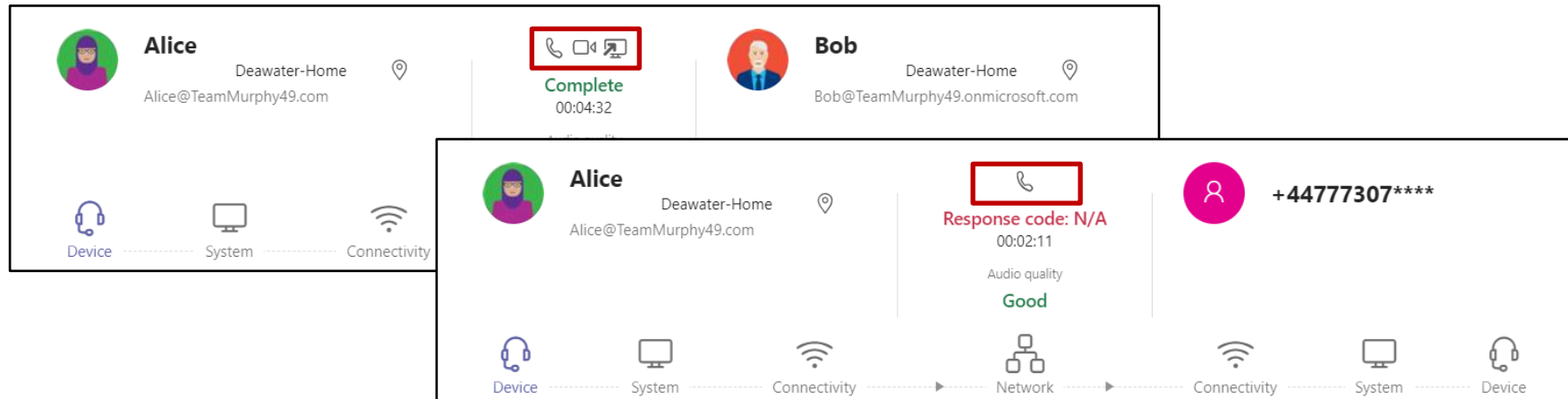
마지막으로 새로 고침 날짜: 오늘 오전 10:03:40 ⚙

모임 ID	시작 시간 ↓	참가 시간	나간 시간	참가자	활동 유형	모임 상태
ⓘ 사용할 수 있는 데이터가 없습니다.						

지난 모임 3 모임 및 통화 ⓘ

모임 또는 통화 ID	시작 시간 ↓	시간	참가자	기간	활동 유형	클라이언트	오디오 품질
256e3c9e-c860-48f3-ba8...	2023년 1월 29일 오후 9:4...	12시간 전	참가자	00:10:08	회의	Microsoft Teams	양호
28c5a07b-229b-409d-86...	2023년 1월 4일 오후 7:55...	26일 전	참가자	00:08:03	회의	Microsoft Teams	양호
3aa01b57-4ea0-491c-a7...	2023년 1월 4일 오후 5:11...	26일 전	참가자	00:07:36	회의	Microsoft Teams	양호

Call Analytics Reporting Types



Call Analytics "Advanced" Reporting

2021년 12월 20일 오후 5:02 GMT+9

개요

고급

디

아웃바운드 오디오

전송 음소거

시스템

운영 체제

IP 주소

인바운드 네트워크

숨겨진 샘플 비율

페이로드 설명

아웃바운드 네트워크

평균 왕복 시간

페이로드 설명

Audio capture device

Device name

Device driver

Audio render device

Device name

Device driver

Video capture device

Device name

Video render device

Device name

Device driver

Average jitter

Maximum jitter

Average round-trip time

Maximum round-trip time

Average packet loss rate

Maximum packet loss rate

Compressed sample ratio

Concealed sample ratio

Stretched sample ratio

Payload type

Payload description

Sample rate

Audio FEC used

Stereo encoding

2 ms

7 ms

7 ms

18 ms

0.00%

0.00%

0.00%

0.00%

0.00%

104

SILKWide

16,000 Hz

No

0%

1 ms

3 ms

7 ms

19 ms

0.00%

0.00%

0.00%

0.00%

0.00%

104

SILKWide

16,000 Hz

No

0%

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내보내기 보고서

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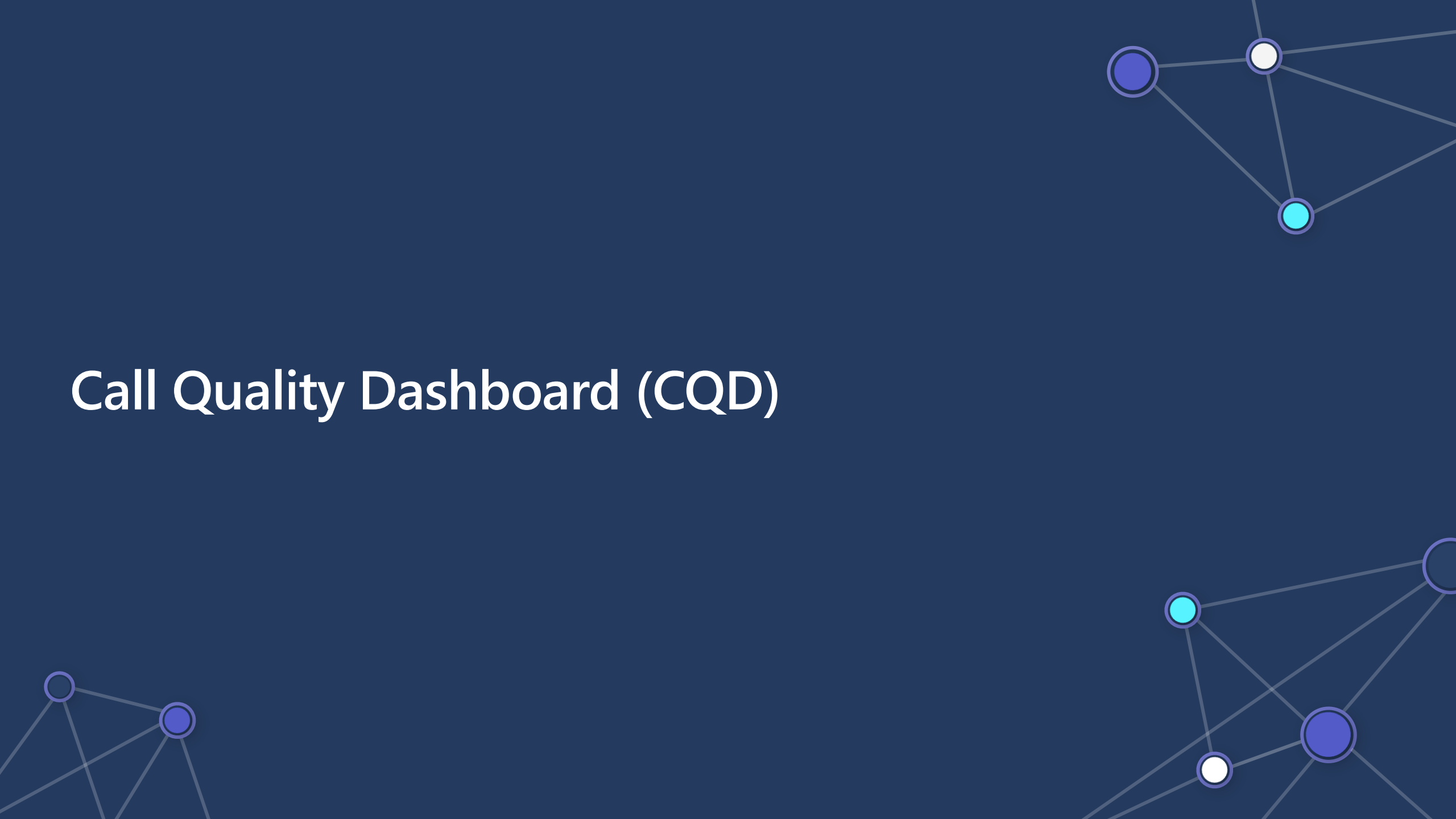
8

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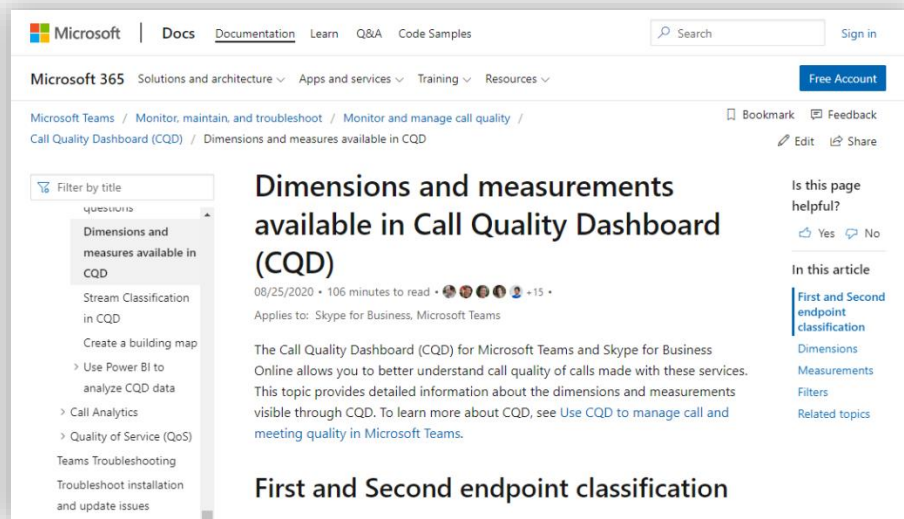
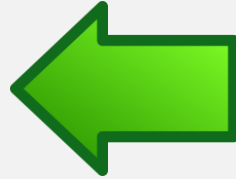
Call Quality Dashboard (CQD)



Call Quality Dashboard (CQD)

Start here

<https://aka.ms/whatiscqdd>



회의 및 통화 경험을 개선하기 위해 조직 전체의 추세 또는 문제를 분석합니다.

EUII data 는 28일 동안만 사용 가능 합니다.

call and meeting 데이터가 12개월 동안 유지 됩니다.

Web UI

<https://cqdd.teams.microsoft.com>

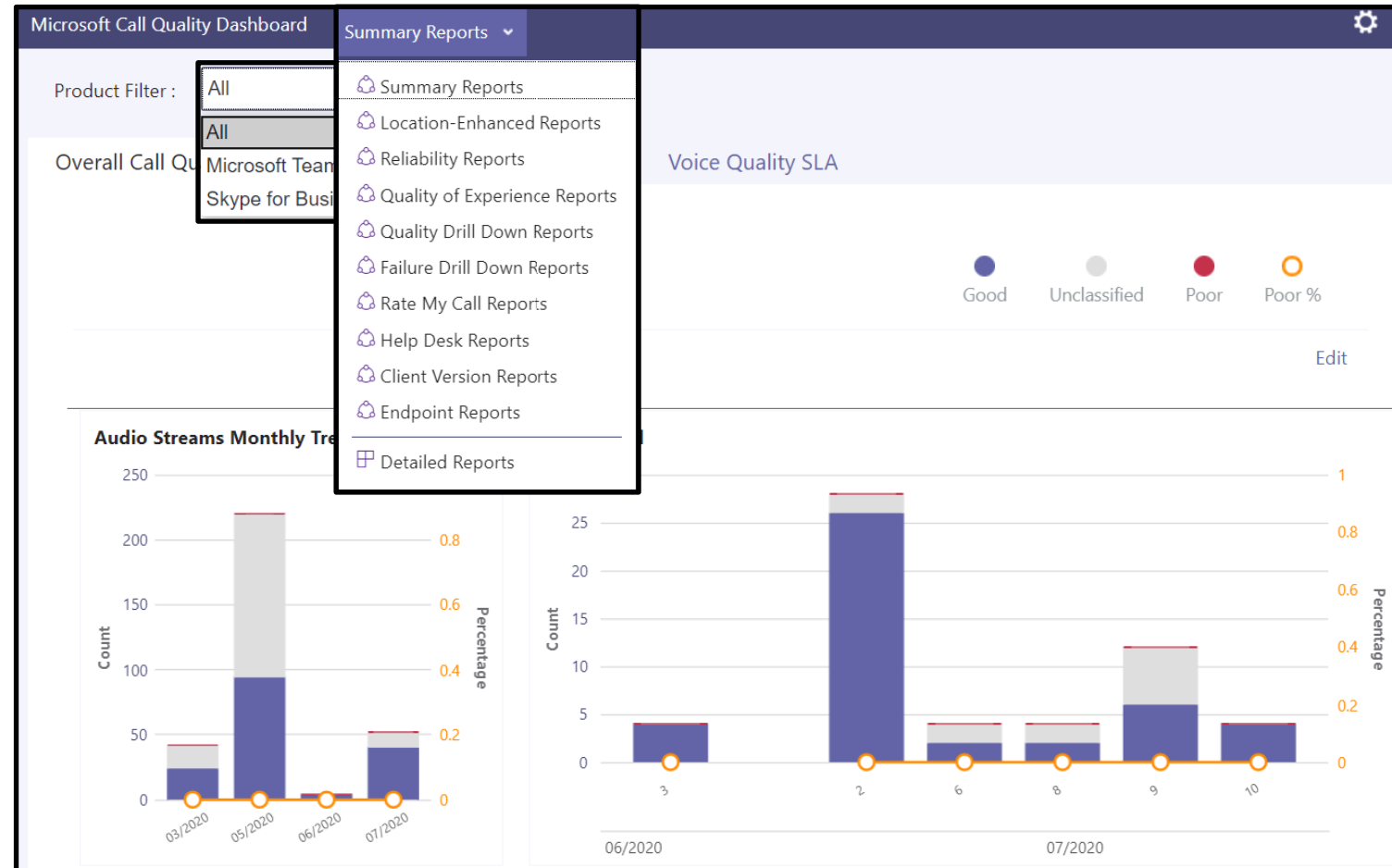
CQD PowerShell

<https://aka.ms/cqddpowershell>

Call Quality Dashboard (CQD)

Single Page Dashboard (SPD)

- 테넌트 서브넷을 건물 데이터에 통합하여 위치 기반 통찰력을 제공합니다.
- 오디오, 비디오 및 응용 프로그램 공유를 위한 통화 품질 및 안정성에 대한 자세한 사용자 정의 보고서
- 최종 사용자의 통화 등급 포함
- 테넌트가 있는 위치 (NOAM, EMEA, APAC)에 따라 Azure 지역에서 호스팅됩니다.
- SFB / 팀 테넌트 관리자 및 보고서 리더 역할로 액세스 가능



건물(Building) 정보를 업로드 하여 보다 정확한 Report 를 확인 하십시오.

Microsoft Call Quality Dashboard Summary Reports

For the best experience, try uploading your building data. Upload now

Tenant Data Upload

Provide Feedback

Privacy

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Network	Network Name	Network Range	Building Name	Ownership Type	Building Type	Building Office Type	City	Zip Code	Country	State	Region	Inside Corp	Express Route
2	192.168.0.0	TM49Home	24 DW	DM	Home	House	Warrington	WA3	UK	Cheshire	EMEA	1	0	

Microsoft Call Quality Dashboard

Upload your information - Information you add will be used to improve your experience.

Please select data file type

Building This file lists the mapping of a network address to a building.

Please upload your data files. These files must follow either the following naming convention:

Browse MyBuildings.csv

Please enter the dates for this data file

Start date

January 12 2020

Specify an end date

Upload

Upload Successfully uploaded file.

My uploads

File Type	Last Update	Time Period	Process Status	Remove	Download
Building	12/07/2020	12/01/2020 - Present	In Progress...		

My uploads

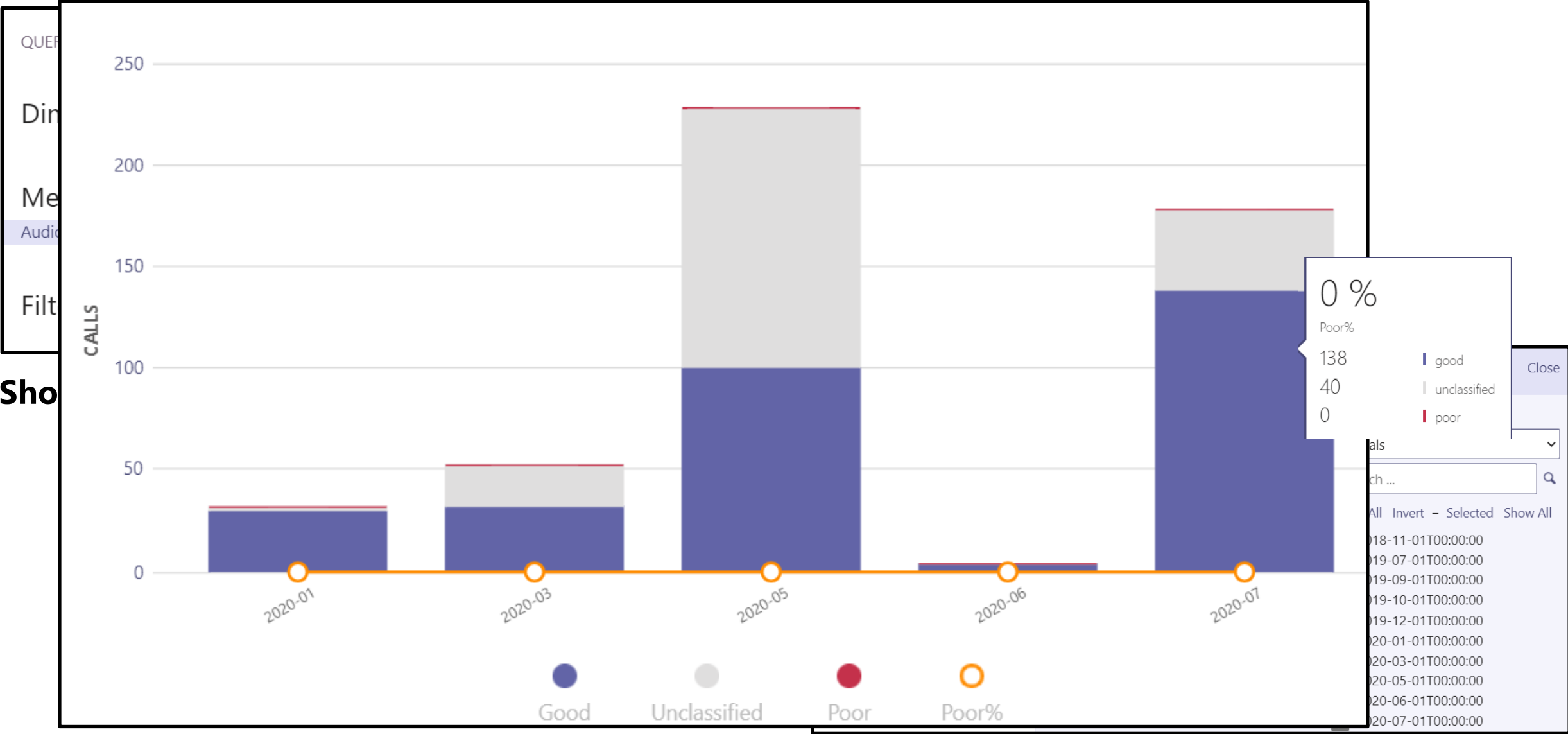
File Type	Last Update	Time Period	Process Status	Remove	Download
Building	12/07/2020	12/01/2020 - Present	Processed		

Upload

Error: Dates cannot overlap with another file. Please adjust the date range and try again.

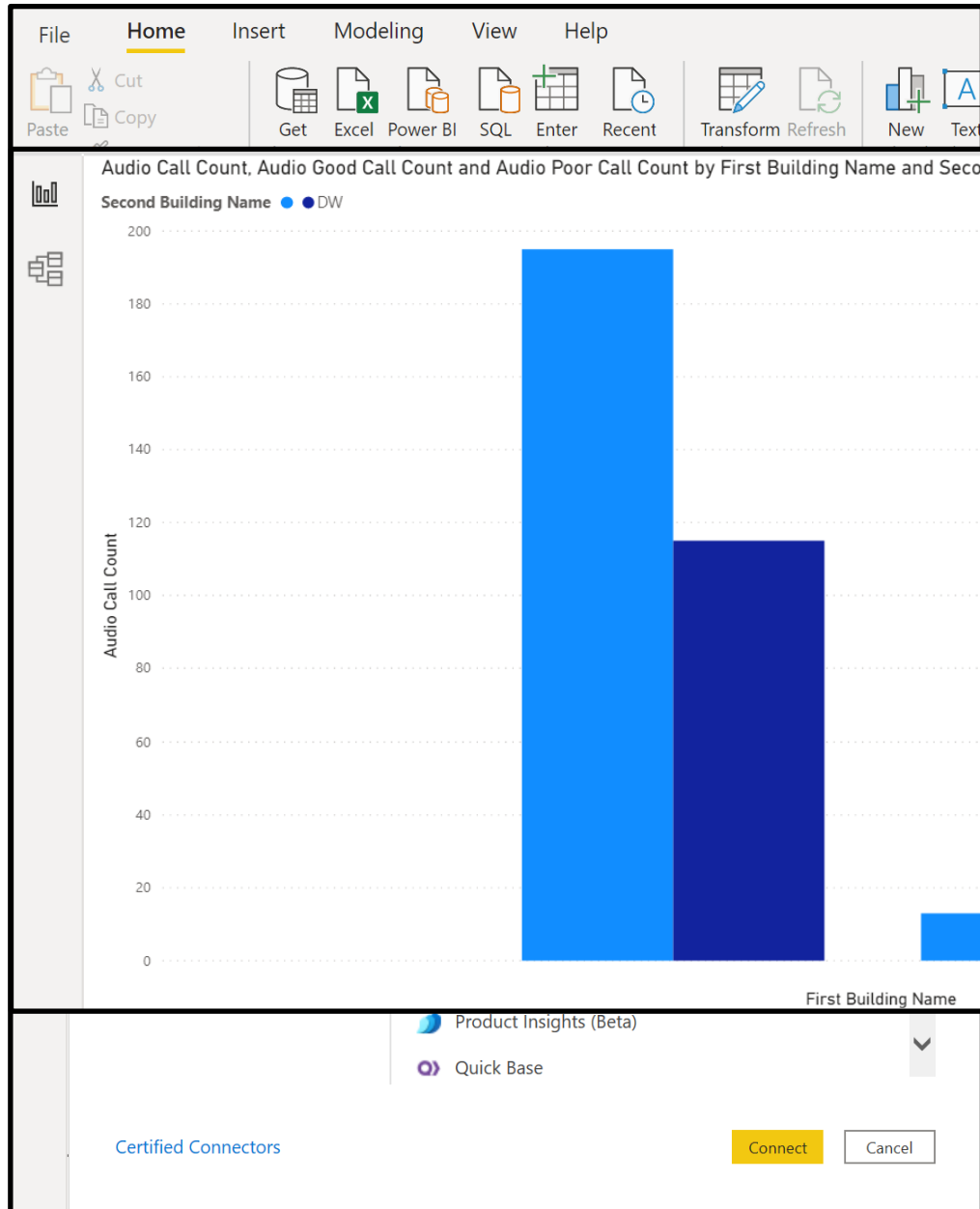
<https://docs.microsoft.com/ko-kr/microsoftteams/cqd-upload-tenant-building-data>

Key Concepts Example



Only show me this data

Manipulate Data In Power BI



Connecting to a third-party service

The Microsoft Call Quality connector relies on a third-party s

it will work th

[Microsoft Call Qu](#)

ings

ect to this dat

Power BI. Dire

Fields	
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<div><div><div></div><div></div><div></div></div></div>	Applied Bandwidth Source
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	AppSharing Good Stream Count
<div><div><div></div><div></div><div></div></div></div>	AppSharing Poor Due To RDPTileProcessingLatencyAvera...
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	AppSharing Poor Due To RDPTileProcessingLatencyAvera...
<div><div><div></div><div></div><div></div></div></div>	AppSharing Poor Due To RelativeOneWayAverage
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	AppSharing Poor Due To RelativeOneWayAverage Count
<div><div><div></div><div></div><div></div></div></div>	AppSharing Poor Due To SpoiledTilePercentTotal
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	AppSharing Poor Due To SpoiledTilePercentTotal Count
<div><div><div></div><div></div><div></div></div></div>	AppSharing Poor Percentage
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	AppSharing Poor Stream Count
<div><div><div></div><div></div><div></div></div></div>	AppSharing RDP Tile Processing Latency Average
<div><div><div></div><div></div><div></div></div></div>	AppSharing Relative OneWay Average
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	AppSharing Stream Count
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	AppSharing Unclassified Stream Count
<div><div><div></div><div></div><div></div></div></div>	Audio and Video Call
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio Call Count
<div><div><div></div><div></div><div></div></div></div>	Audio Degradation Avg
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio Device Failure Count
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio Device Failure Percentage
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio Device General Failure Percentage
<div><div><div></div><div></div><div></div></div></div>	Audio FEC Used
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio Good Call Count
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio Good Call Stream Count
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio Good Stream Count
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio OnePercent PacketLoss Count
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio OnePercent PacketLoss Percentage
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio Poor Call Count
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio Poor Call Level Percentage
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio Poor Call Percentage
<div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div>	Audio Poor Call Stream Count

Quality of Experience Review (QER)

QER Power BI Template v4.5

Power BI

Templates to get you started

Seven templates included with connector download

CQD templates: <https://aka.ms/PowerBICQDTemplates>

QER template: <https://aka.ms/qerpbitemplates> (DEMO)

Fully customizable

[Row-Level Security \(RLS\)](#) has been implemented

Limitations

PBI 커넥터는 [Direct Query](#) 스토리지 모델을 사용합니다.

상위 N 및 고급 필터링 지원이 제한됨

계산된 열 또는 사용자 지정 측정값에 대한 지원 없음

Gov 클라우드의 PBI Online에 게시할 수 없음(곧 제공 예정)

DOD/GCCH에서는 사용할 수 없음

CQD는 쿼리당 10,000개의 결과로 제한됩니다.

Power BI Template : <https://aka.ms/qerpbitemplates>

QERPBI-4

New

← →

Quick

Desktop

Download

Documents

Pictures

File

Home

Insert

Modeling

View

Help

Clipboard

Get data

Excel workbook

Power BI datasets

SQL Server

Enter data

Dataverse

Recent sources

Transform data

Refresh data

New visual

Text box

More visuals

New measure

Quick measure

Sensitivity

Publish

Search

Kevin Jung

—

□

×

QER Power BI Template - version 4.5

Check for Update

Submit Feedback

Purpose: This template is designed as an operational tool to help Microsoft Teams administrators and network engineers isolate and identify issues that are impacting the Teams meeting and calling experience. By leveraging the reports in this template, the administrator can quickly identify and react to a reported issue. The same reports can also be used to identify emerging issues before they become user impacting events.

Search

- This report allows for quick searching by Meeting URL, Conference ID, Subnet, or UPN.

User Health Details

- Review health details for a single user. (Use Search first)

Meeting Health Details

- Review health details for a single meeting. (Use Search first)

Media Health

- High level summary of tenant health.

Media Setup

- Analyze media setup issues.

Media Reliability

- Analyze media reliability issues.

Audio Health

- Review high level key health indicators for audio health.

Audio Health Details

- Review detailed information on audio health.

Video Health

- Review high level key health indicators for video health.

Video Health Details

- Review detailed information on video health.

Sharing Health

- Review high level key health indicators for sharing health.

Sharing Health Details

- Review detailed information on sharing health.

Estimated VPN

- Leverage the Estimated VPN dimension to analyze the impact of VPN.

Managed VPN

- Leverage the building file to analyze the impact of VPN.

Top 10 Network

- Identify hot spots by UPN, Subnet, and Public Subnet.

Top 10 Managed

- Identify hot spots by Building, City, and Region from the building file.

Top 10 ASN

- Identify hot spots by ISP registry data by ASN, City, and Country.

Dailies

- Daily report of high level key health indicators

Usage

- General meeting and calling usage.

User Feedback

- Review Rate My Call survey data.

Transport

- Identify networks that are blocking UDP.

Devices

- Review the impact of devices on the user experience.

Clients

- Review client metrics on performance and version information.

Building Data

- Review the applied building file in CQD.

PSTN Health

- High level summary of PSTN health.

PSTN User Details

- Review PSTN health details for a single user. (Use PSTN Health first)

Daily Network Metrics

- Review core network metrics per day.

Weekly Network Metrics

- Review core network metrics per week.

Fields

Visualizations

Filters

?

Help

ASN to ISP translation by DB-IP

ASN and location information provided by Neustar

*This template is provided as-is and is not supported by Microsoft.

Home

Help

Definitions

Search

Top 10 Network

Top 10 Managed

Top 10 ASN

Usage

User Feedback

Dailies

Media Health

Media Setup

Media Reliability

A +

Page 1 of 31

Storage Mode: Mixed

What do you need?

1. Power BI Desktop
2. Power BI CQD Connector
 - <https://docs.microsoft.com/en-us/microsoftteams/cqd-power-bi-query-templates>
 - Copy MicrosoftCallQuality.pqx file to %userprofile%\documents\Power BI Desktop\Custom Connectors
3. Need CQD access to connect PBI CQD Connector
 - CQD에 접근하기 위한 **관리자 역할** 할당: <https://docs.microsoft.com/ko-kr/MicrosoftTeams/turning-on-and-using-call-quality-dashboard#assign-admin-roles-for-access-to-cqd>
 - Use a “service account” to publish PBI report
 - Do not need CQD access to view published report

Media Health

Is Teams? (1 = Yes)

0 1

Call Type

Client : Client Client : Server

Inside/Outside Corp

Inside Outside

Target

Inside Overall

Building Name

All

City

All

Country

All

Client

All

Key Health Indicators

Quality

Poor Audio Rate < 3%
Poor Video Rate < 6%
Poor Sharing Rate < 3%

Reliability

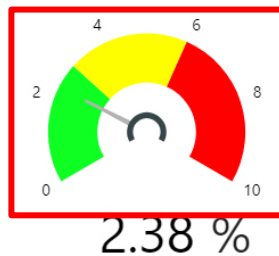
Setup Failure Rate < 1%
Drop Failure Rate < 3%

Feedback

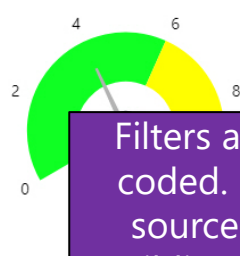
Poor Feedback Rate < 5%

*Video quality is applicable to Microsoft Teams only.

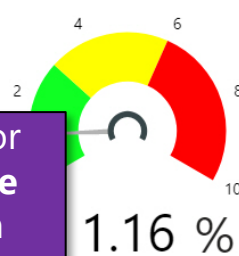
Poor Audio Rate (30 days)



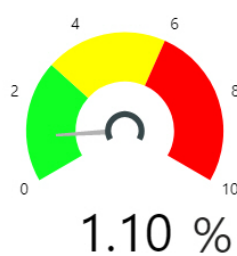
Poor Video Rate* (30 days)



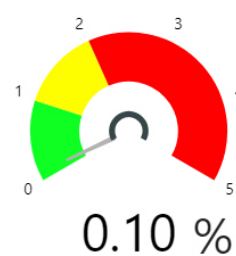
Poor Sharing Rate (30 days)



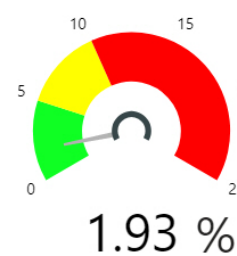
Drop Failure Rate (30 days)



Setup Failure Rate (30 days)

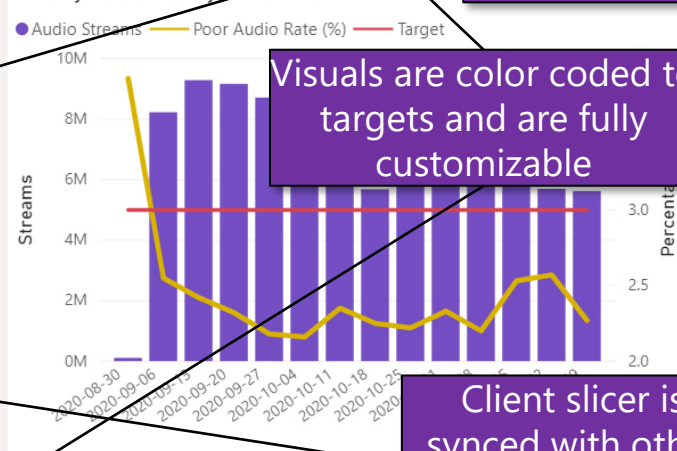


Poor Feedback Rate (30 days)



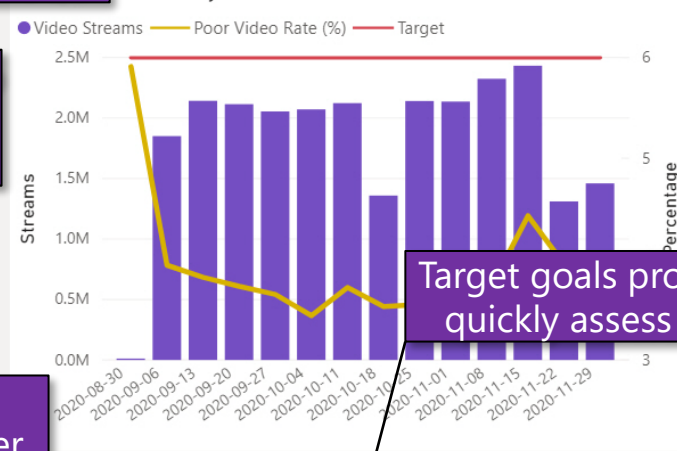
Filters are color coded. **Purple** sourced from Building File, **Tan** sourced from CQD.

Weekly Audio Quality (3 months)



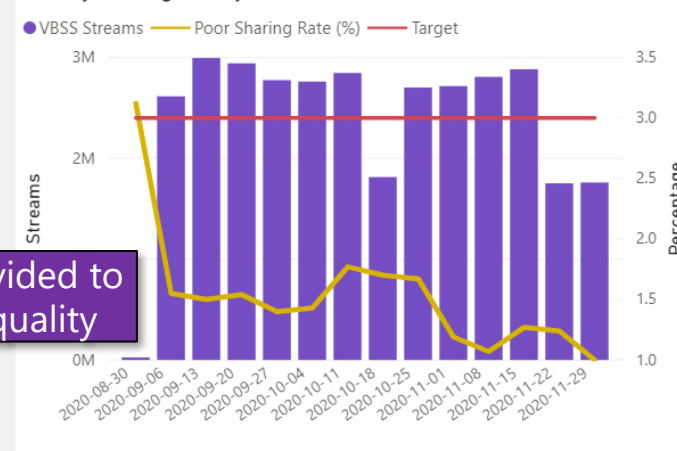
Visuals are color coded to targets and are fully customizable

Weekly Video Quality* (3 months)

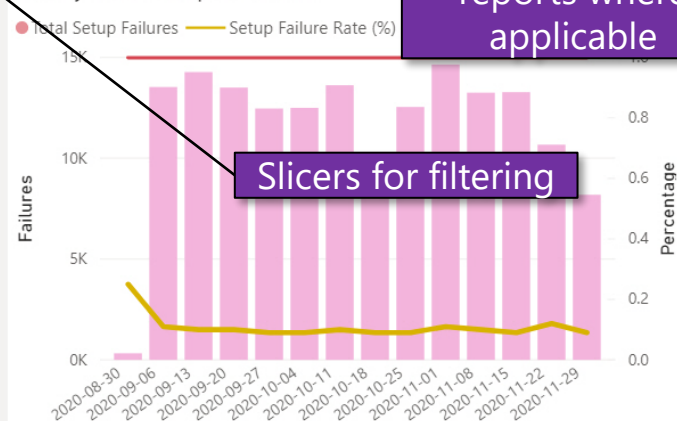


Target goals provided to quickly assess quality

Weekly Sharing Quality (3 months)



Weekly Media Setup (3 months)

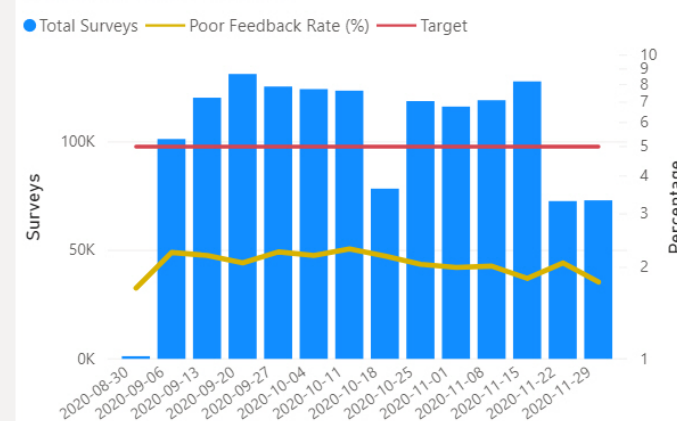


Slicers for filtering

Weekly Media Failure (3 months)



Weekly Feedback (3 months)



Audio Health

Video and Sharing Health reports are same as Audio.

Is Teams? (1 = Yes)

0

1

Building Name

All

City

All

Client

All

Call Type

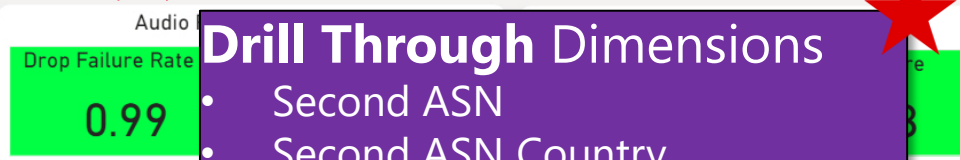
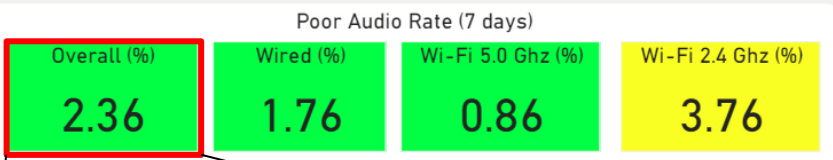
Client : Client

Client : Server

Inside/Outside Corp

Inside

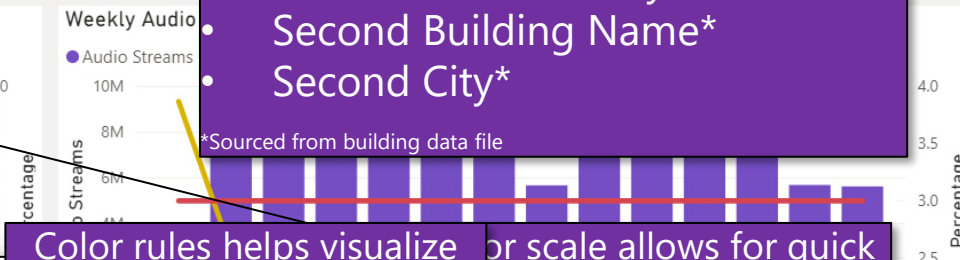
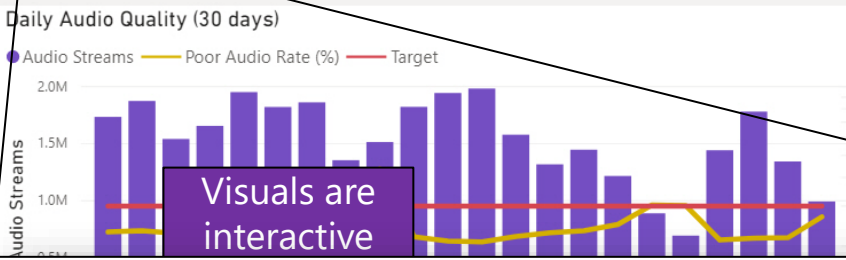
Outside



Drill Through Dimensions

- Second ASN
- Second ASN Country
- Second Building Name*
- Second City*

*Sourced from building data file



Right click to drill through to Audio Health Details

Audio Quality by City/Subnet (7 days)

City	Good Streams	Poor Streams	Poor Audio Rate (%)
	756464	15,224	2.06
	215470	2,329	1.11
	50960	1,646	3.20
	30908	1,393	4.40
	18486	1,084	5.68
	73550	832	1.15
	5784	822	12.26
	66840	611	0.94
	9442	553	5.61
	18734	493	2.60
	3000	444	12.73
	888	423	33.28
	2354	393	14.23

Color

Format by

Rules

Based on field

Sum of Audio Poor Percentage

Summarization

Sum

Rules

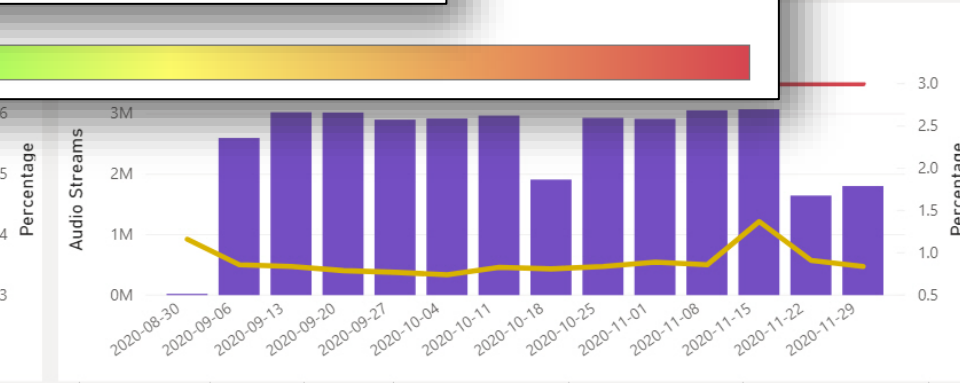
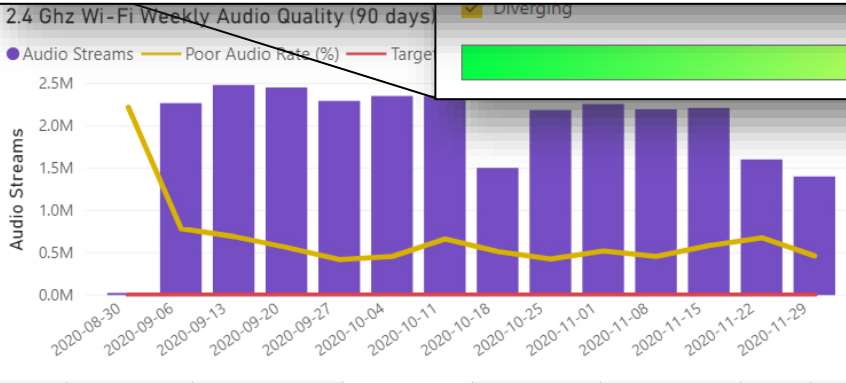
If value is greater than or equal to Minimum Number and is less than 3 Number then

If value is greater than or equal to 3 Number and is less than 6 Number then

If value is greater than or equal to 6 Number and is less than or equal to Maximum Number then

Audio Quality by ASN/Public Network (7 days)

ASN	Good Streams	Poor Streams	Poor Audio Rate (%)
	969172	24,094	2.56
	168928	13,854	7.64
	1016864	11,624	1.17
	83728	8,521	9.19
	142154	3,813	2.67
	226600	2,967	1.39
	33932	2,850	7.99
	34890	2,240	6.05
	86100	2,074	2.40
	57910	1,641	2.80
	65034	1,470	2.26
	125224	1,366	1.11
	40814	1,278	3.09



User Feedback

Is Teams? (1 = Yes)

0

Call Type

Client : Client

Client : Server

Inside/Outside Corp

Inside

Outside

Connection

Wifi

Wired

Feedback, also known as Rate My Call, is the survey that is displayed at the end of any call or meeting that involves media. This survey is enabled by default and configured to prompt a participant 10% of the time (or 1 in every 10 calls).

Feedback score is based on a 1-5 star rating.

Feedback that is rated as 1 or 2 stars is considered poor.

Feedback rate is the percentage of respondents that submitted a poor rating.

User Experience (7 days)

Poor Feedback Rate (%)

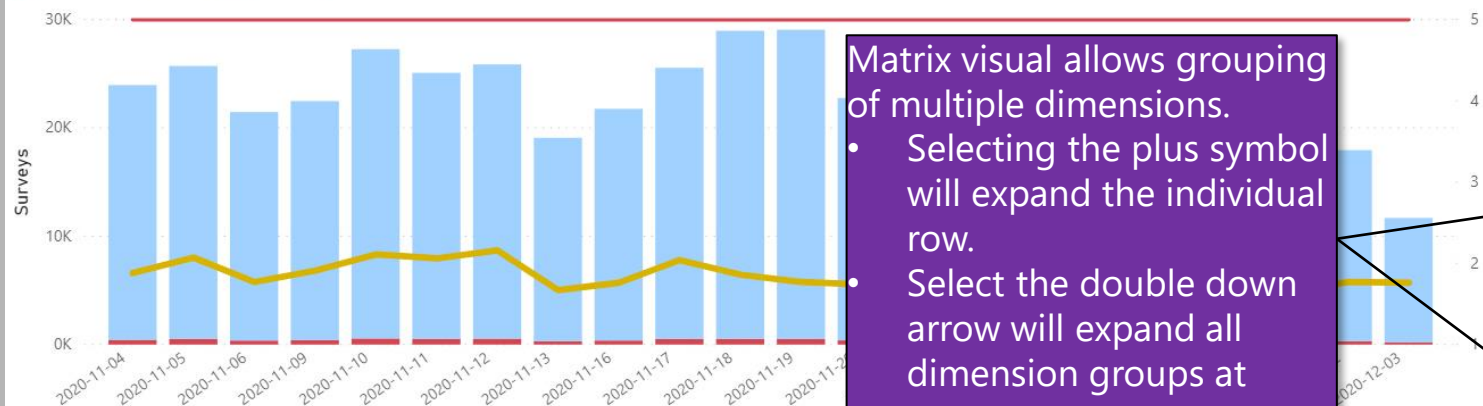
1.86

Avg Score

4.89

Daily Feedback Overview (30 days)

● Poor Surveys ● Surveys — Poor (%) — Target

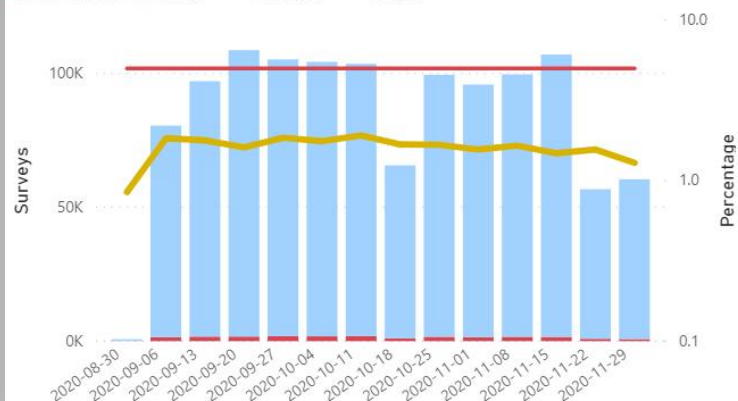


Matrix visual allows grouping of multiple dimensions.

- Selecting the plus symbol will expand the individual row.
- Select the double down arrow will expand all dimension groups at once.

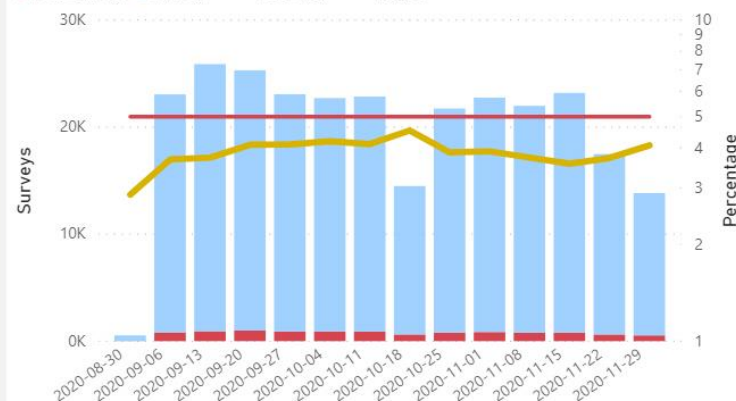
Meeting Weekly Feedback Overview (90 days)

● Poor Surveys ● Surveys — Poor (%) — Target



Call Weekly Feedback Overview (90 days)

● Poor Surveys ● Surveys — Poor (%) — Target



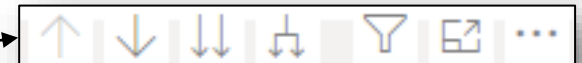
Poor Feedback by Client (14 days)

Client	Total Surveys	Poor Surveys	Poor (%)	Avg Score	Poor Audio Rate (%)	Drop Failure Rate (%)
	139706	2570	1.84	4.89	2.11	0.89
	6777	190	2.80	4.83	2.23	0.71
	10903	131	1.20	4.94	4.42	2.38
	4383	98	2.24	4.87	5.28	7.92
	1945	97	4.99	4.76	4.31	3.28
	3551	65	1.83	4.90	5.95	3.51
	912	44	4.82	4.72	0.32	0.63
	240	22	9.17	4.36	0.99	0.19
	326	15	4.60	4.79	1.11	1.77
	14	2	14.29	3.50	5.88	1.01

Poor Feedback by User (28 days)

Right click to Drill Through to **User Details**

UPN	Total Surveys	Poor Surveys	Poor (%)	Avg Score	Poor Audio Rate (%)	Drop Failure Rate (%)
*	408418	7748	1.90	4.89	2.38	1.08
	6443	236	3.66	4.80	3.22	2.55



Poor Feedback by Country/City (14 days)

Right click to Drill Through for additional **Health Details**

Country	Total Surveys	Poor Surveys	Poor Feedback Rate (%)	Poor Audio Rate (%)	Drop Failure Rate (%)
	60072	1079	1.80	1.37	0.27
	28178	614	2.18	2.72	3.92
	23314	439	1.88	4.72	1.15
	7414	160	2.16	1.66	0.33
	3552	114	3.21	1.44	0.38
	3791	86	2.27	1.76	0.68
	4709	83	1.76	1.12	0.34
	2157	73	3.38	1.64	0.33
Total	168887	3234	NaN	770.39	161.75

Poor Feedback Map (14 days)



Inside/Outside Corp

Inside

Outside

Call Type

Client : Client

Client : Server

Client

All

Teams IP Address List:

<https://aka.ms/teamsips>
<https://aka.ms/teamsclientips>

Teams Service Media Subnets:

13.107.64.0/18, 52.112.0.0/14,
52.120.0.0/14

Teams Service Media Ports:

3478-3481 UDP (preferred)

Teams Client Media Ports:

50000-50019 TCP/UDP - A
50020-50039 TCP/UDP - V
50040-50059 TCP/UDP - SPoor Audio Rate
(14 days)

UDP (%)

1.99

TCP (%)

2.93

HTTPS (%)

Poor Feedback Rate
(14 days)

UDP (%)

1.55

TCP (%)

2.90

HTTPS (%)

TCP vs. UDP (14 days)

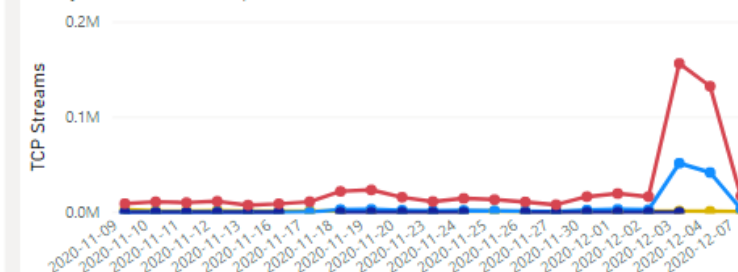
TurnTCP 2.06%

UDP 97.32%

Right click to Drill Down to more Details

TCP Streams (30 days)

Transport Protocol ● CompoundTCP ● MultiTCP ● TCPHostActive ● TurnTCP

CompoundTCP = Media is flowing over HTTPS/Proxy
TurnTCP/TCPHostActive = Media is flowing over TCP

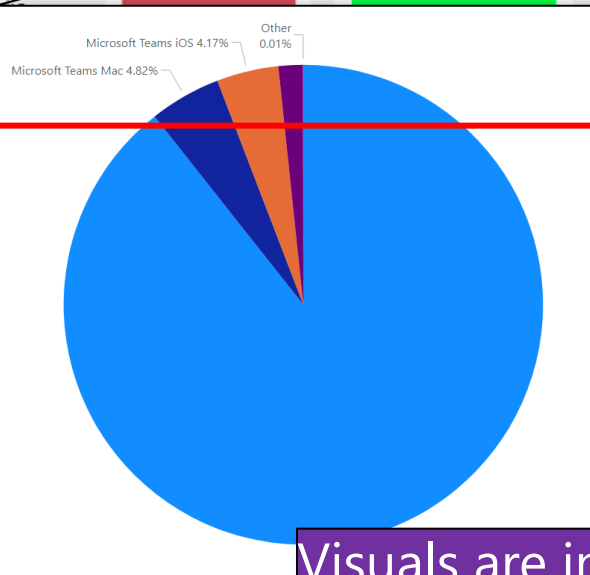
TCP Usage by Country/ASN/Public/Subnet (7 days) Right click to Drill T

Country



Total

TCP Usage Map (7 days)



Visuals are interactive

TCP Usage by UPN (28 days) Right click to Drill Through to User Health Details

UPN	Total Streams	Poor Feedback Rate (%)	Audio Streams	Poor Audio Rate (%)	Video Streams	Poor Video Rate (%)	Sharing Streams	Poor Sharing Rate (%)
*	666,704	3.23	353,928	3.13	194,199	3.35	118,577	0.86
	29,655	18.97	14,612	5.11	9,207	4.26	5,836	1.15

TCP Usage by UPN (28 days)

Endpoint Name	Total Streams	Poor Feedback Rate (%)	Audio Streams	Poor Audio Rate (%)	Video Streams	Poor Video Rate (%)	Sharing Streams	Poor Sharing Rate (%)
*	696,037	3.40	368,360	3.20	203,328	3.39	124,349	0.88
	293	NaN	166	5.59	71	0.00	56	0.00

Estimated VPN

Call Type

Client : Client

Client : Server

Client

All

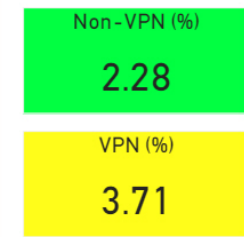
What is Estimated VPN?
CQD will check to see if the endpoint's IP address matches the IP subnet. If they match, the stream is marked as VPN by setting the Estimated VPN dimension to True (1). NOTE: This only works if your VPN solution assigns a 32-bit subnet mask to a VPN endpoint.

To reliably tag all VPN streams, you must create a building file and upload your VPN subnets. For more guidance please consult the links below.

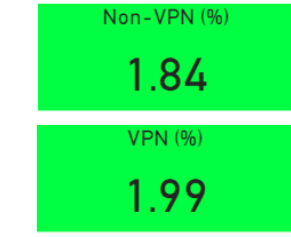
- Building File Guidance:** <https://aka.ms/cqdbldgdata>
VPN Split-Tunnel Guidance: <https://aka.ms/teamsvpn>
Teams Subnets/Ports: <https://aka.ms/teamsips>
Understanding Teams Media Flows: <https://aka.ms/teams-media-flows>

Same report exists for Mapped VPN data using the Building File

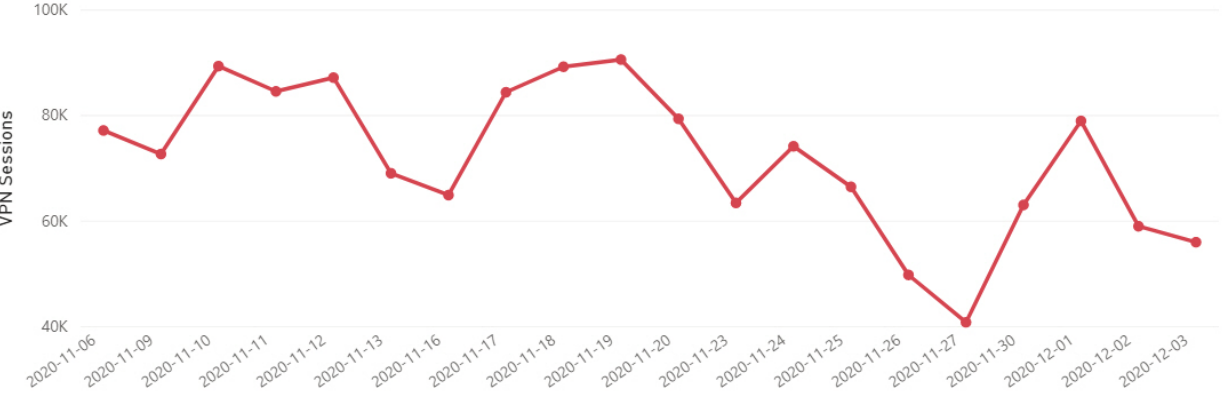
Poor Audio Rate (14 days)



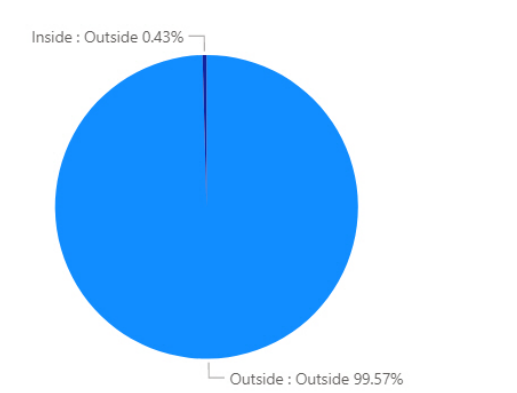
Poor Feedback Rate (14 days)



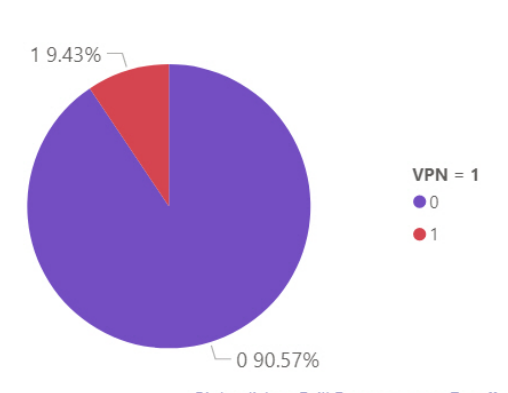
Daily VPN Usage (28 days)



VPN Inside to Outside Ratio (28 days)



VPN Usage Ratio (7 days)



VPN Usage by Country/Subnet (7 days)

Country	Total Streams	Poor Feedback Rate (%)	Audio Streams	Poor Audio Rate (%)	Video Streams
+	229,120	1.65	148,924	2.90	40,19
+	147,612	1.56	108,048	5.46	3,987
+	65,028	3.20	46,196	4.49	8,184
+	62,746	2.54	47,350	3.72	3,790
+	29,956	4.55	20,108	8.17	4,238
+	23,480	2.41	15,498	1.90	1,703
+	18,392	2.38	12,958	6.53	1,771
+	15,375	0.00	14,620	2.58	478
+	11,072	0.00	7,544	2.26	2,792
+	0,000	0.00	0,000	0.00	1,021
Total	728,903	NaN	500,686	NaN	98,21

VPN Usage Map (7 days)



VPN Usage by UPN (28 days)

UPN	Total Streams	Poor Feedback Rate (%)	Audio Streams	Poor Audio Rate (%)	Video Streams
*	3,858,098	1.53	2,553,192	3.59	479,74
	116,273	4.23	53,396	3.03	39,15

Media Setup

Is Teams? (1 = Yes)

0

1

Inside/Outside Corp

Inside

Outside

Call Type

Client : Client

Client : Server

Media Type

Audio

VBSS

Video

Building Name

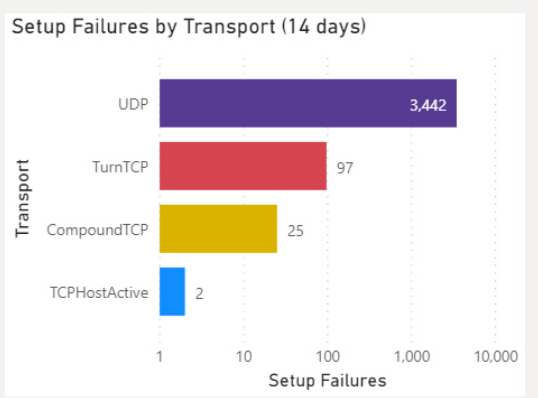
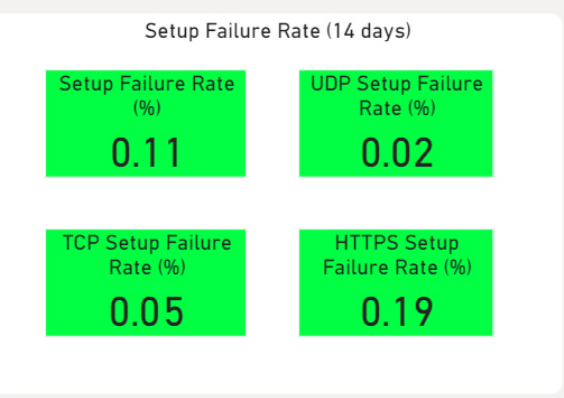
All

City

All

Client

All

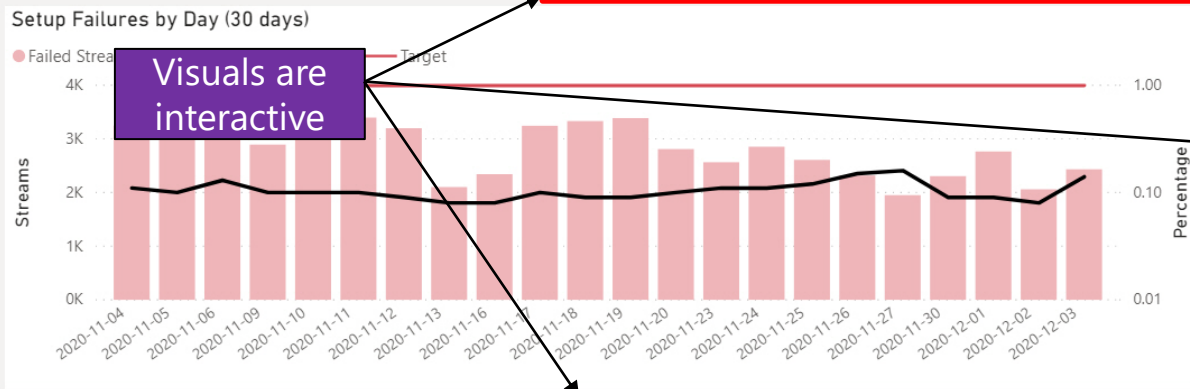
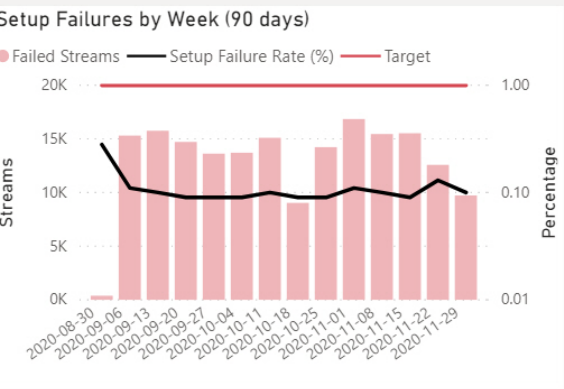


Setup Failures by City/Subnet (7 days)

City	Total Streams	Setup Failures	Setup Failure Rate (%)
	1,516,662	4,040	0.27
	421,339	36	0.01
	45,781	32	0.07
	13,113	18	0.14
	82,010	18	0.02
	29,137	17	0.06
	129,509	14	0.01
	3,186	14	0.44
	488	13	2.59
	18,752	13	0.07
	13,892	13	0.09

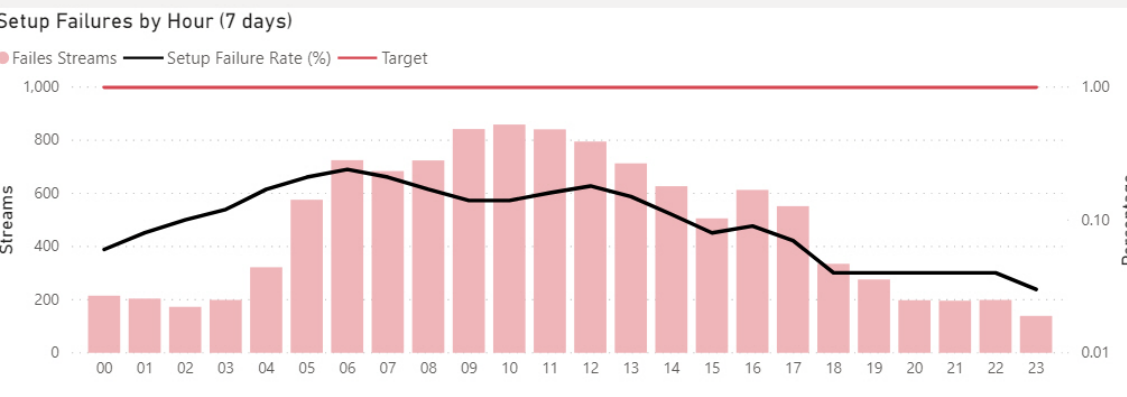
Setup Failures by ASN/Public Network (7 days)

ASN	Total Streams	Setup Failures	Setup Failure Rate (%)
	1,802,683	822	0.05
	2,037,342	176	0.01
	19,742	162	0.81
	274,240	124	0.05
	395,539	88	0.02
	137,225	77	0.06
	227,650	48	0.02
	17,461	41	0.23
	43,442	41	0.09
	134,581	37	0.03
	5,861	29	0.49



Setup Failures by Client (7 days)

Client	Total Streams	Setup Failures	Setup Failure Rate (%)
	9,742,959	6,052	0.06
	55,249	2,234	3.89
	630,485	1,575	0.25
	150,351	871	0.58
	283,047	827	0.29
	514,871	206	0.04
	30,841	13	0.04
	23,249	11	0.05
	290	5	1.69
	347	2	0.57



Setup Failures by Endpoint (7 days)

Endpoint Name	Total Streams	Setup Failures	Setup Failure Rate (%)
*	11,006,496	9,752	0.09
	440,311	2,044	0.46

Setup Failures by User (7 days)

UPN	Total Streams	Setup Failures	Setup Failure Rate (%)
*	11,207,431	11,433	0.10
	239,376	363	0.15



Is Teams? (1 = Yes)

0

Inside/Outside Corp

Inside

Call Type

Client : Client

Media Type

Audio

VBSS

Video

Building Name

All

Drill Through Dimensions

- Second ASN
- Second ASN Country
- Second Building Name*
- Second City*
- Second Reflexive Local IP Network (Public Subnet)
- Second Subnet

*Sourced from building data file

Drop Failure Rate (14 days)

Drop Failure Rate (%)

1.11

UDP Drop Failure Rate (%)

0.49

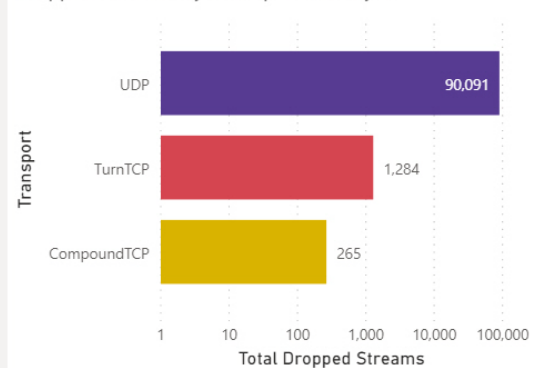
TCP Drop Failure Rate (%)

0.72

HTTPS Drop Failure Rate (%)

2.31

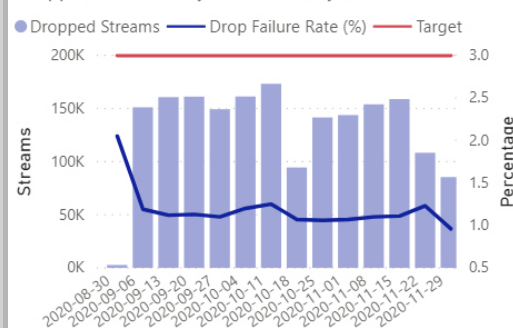
Dropped Failures by Transport (14 days)



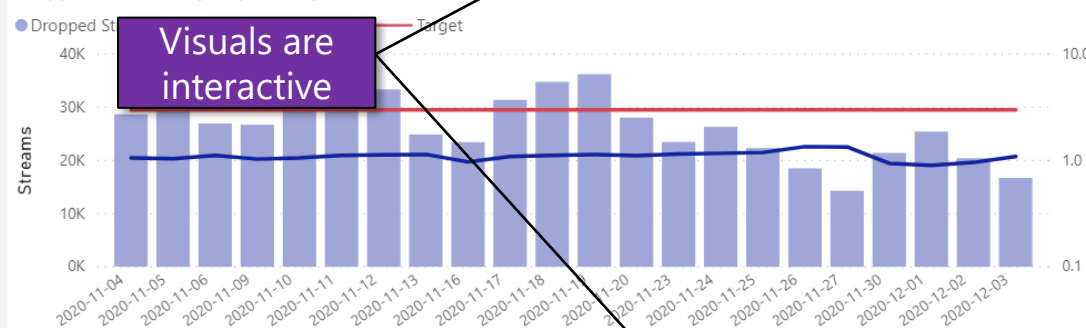
Drop Failures by City/Subnet (7 days)

City	Total Streams	Dropped Streams	Drop Failure Rate (%)
	1,336,309	10,789	0.81
	363,577	868	0.24
	77,815	451	0.58
	125,142	376	0.30
	44,708	319	0.71
	111,886	262	0.23
	27,748	222	0.80
	20,570	222	1.08
	12,465	160	1.28
	13,509	147	1.09
	9,558	144	1.51
	24,786	133	0.54
	17,952	114	0.64

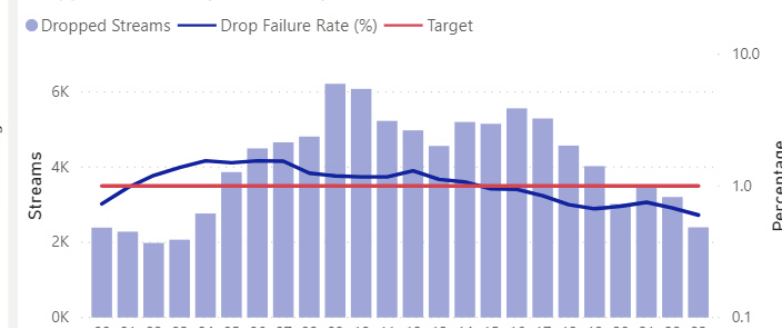
Dropped Streams by Week (90 days)



Dropped Streams by Day (30 days)



Dropped Streams by Hour (7 days)



Drop Failures by ASN/Public Network (7 days)

ASN	Total Streams	Dropped Streams	Drop Failure Rate (%)
	1,593,401	48,130	3.02
	1,734,177	4,362	0.25
	266,142	3,058	1.15
	360,483	2,293	0.64
	133,691	2,178	1.63
	216,080	1,509	0.70
	129,803	1,065	0.82
	84,947	832	0.98
	54,670	824	1.51
	97,441	717	0.74
	224,922	691	0.31
	60,127	585	0.97

Drop Failure Rate by Client (7 days)

Client	Total Streams	Dropped Streams	Drop Failure Rate (%)
	8,415,450	69,390	0.82
	533,145	10,895	2.04
	257,906	8,391	3.25
	146,710	4,873	3.32
	54,871	4,166	7.59
	407,910	2,785	0.68
	20,252	354	1.75
	30,772	82	0.27
	11,892	75	0.63
	1,733	22	1.27
	347	8	2.31

Drop Failure Rate by Endpoint (28 days)

Endpoint Name	Total Streams	Dropped Streams	Drop Failure Rate (%)
	1,839,752	282,374	15.35
*	46,650,078	253,350	0.54

Drop Failure Rate by User (28 days)

UPN	Total Streams	Dropped Streams	Drop Failure Rate (%)
*	47,280,330	509,257	1.08
	1,209,500	26,467	2.19

Devices



Search for a audio device or select a device from the list below.

Most common microphones in use (7 days)

Microphone	Total Sessions	Poor Feedback (%)	Failure Rate (%)
	539,771	1.13	0.16
	131,749	1.54	0.32
	108,332	1.32	0.33
	60,249	0.69	1.36
	50,001	2.45	0.19
	47,278	1.20	1.92
	43,452	0.77	0.95
	40,745	0.25	0.55
	32,346	1.19	0.25
	29,014	1.02	0.27
	28,716	0.00	0.43
	28,653	2.19	0.74
	26,740	0.00	0.31

Device users (7 days)

UPN	Total Sessions	Poor Feedback (%)
*	2,259,553	1.32
	24,997	1.37

Visuals are interactive

The client detected issues and operated the acoustic echo canceler (AEC) in half-duplex mode. This impacts the ability to have real-time two-way communication. This is the Walkie-Talkie effect which can be caused when audio devices don't support full duplex operation or AEC is triggered due to feedback from an open microphone too close to a speaker or when the microphone volume is too high.

The client detected issues with the rendering device. Look to the media type field to understand if it's the audio device, video adapter or camera. Look to either replace the device, update firmware/driver or move USB ports (if applicable).

The client detected issues with the capture device. Look to the media type field to understand if it's the audio device, video adapter or camera. Look to either replace the device, update firmware/driver or move USB ports (if applicable).

Right click UPN to drill through to **User Health Details**

Microphones operating in half-duplex (28 days)

UPN	Total Sessions
*	147,141
	28,947

Render device not functioning (28 days)

UPN	Media Type	Total Sessions
*	Audio	53,104
	Audio	688

Capture device not functioning (28 days)

UPN	Media Type	Total Sessions
*	Audio	94,690
	Audio	1,590

Clients (Last 7 days)

Client Version

Search

Client

All

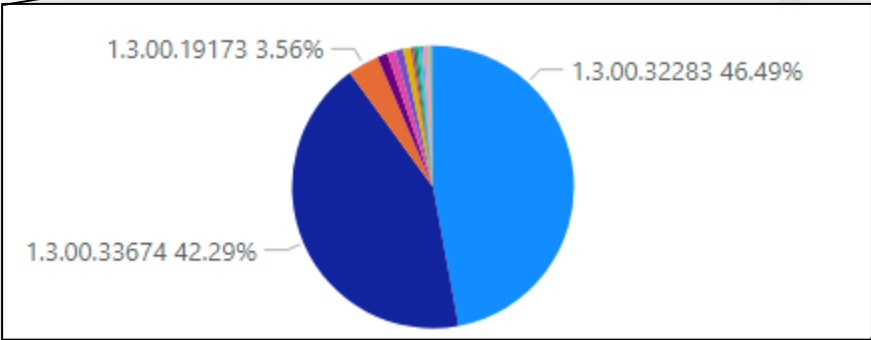
Select a client from the list above or search for a specific version using the text box to display the results below.

Client usage by version

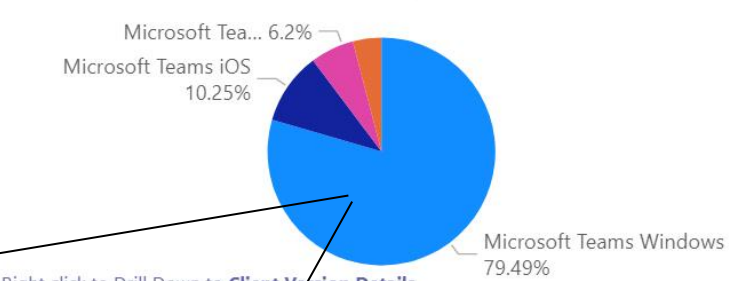
Client Category	Client Version	Total Call Count	Poor Feedback Rate (%)
		1,967,623	2.17
		150,487	0.99
		119,136	1.41
		92,483	0.70
		91,634	1.69
		89,753	1.29
		88,421	1.35
		78,051	1.74
		29,170	0.51
		27,821	3.64
		24,347	4.71
		24,213	2.59
		23,094	1.23
		22,623	3.58
		22,500	2.50
Total		3,157,812	NaN

Users by client Right click to Drill Through to User Health Details

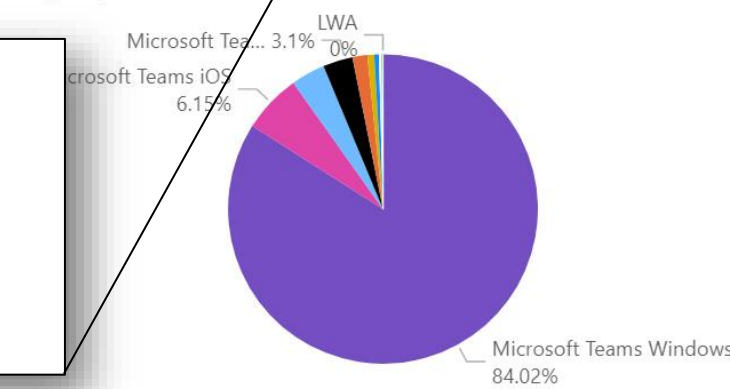
UPN	Total Sessions	Poor Feedback Rate (%)
*	3,140,530	1.75
	64,813	3.88



Client Version Saturation (24 hours)



Usage by Client



Additional metrics to help identify issues detected by the client (Last 28 days)

Endpoint detected insufficient CPU impacting audio

UPN	Total Sessions	Poor Audio Rate (%)
*	2,321,254	3.83
	57,688	4.10

Endpoint detected a network delay

UPN	Total Sessions	Poor Audio Rate (%)
*	2,321,874	4.80
	57,184	4.24

Endpoint detected poor network quality

UPN	Total Sessions	Poor Audio Rate (%)
*	2,344,362	9.85
	57,395	4.93

Search (Last 28 days)

Search for a User

Search



Use the search box to search for a given user by entering all or part of their User Principal Name (UPN).

Search for a Subnet

Search



Use the search box to filter the results for a given subnet.

Search for a Conference ID

Search



Use the search box to filter the results for a given conference ID.

Search for a Meeting ID

Search



Use the search box to filter the results by a single meeting ID and display the associated conference IDs.

User Results

Right click to Drill Through to User Health Details

UPN

*

Meeting Results

Right click to Drill Through to Meeting Health Details

Conference Id

Date

Participants

Poor Feedback

202

202

202

202

202

202

202

202

202

202

202

202

202

202

202

Show as a table

Include

Exclude

Drill through

Group

Copy

Drill through

Enter search parameter in any field to filter results

Poor Audio Rate (%)	Poor Video Rate (%)	Poor Sharing Rate (%)	Drop Failure Rate (%)	Setup Failure Rate (%)
1.44	5.07	5.08	1.66	0.14
User Health Details				
			1.15	0.10

Right click any value to Drill Through for more details

Show as a table

Include

Exclude

Drill through

Group

Copy

Poor Audio Rate (%)	Poor Video Rate (%)	Poor Sharing Rate (%)	Drop Failure Rate (%)	Setup Failure Rate (%)
1.45	3.64	0.69	0.33	0.02
0.88	0.00	1.23	0.70	0.20
0.91	NaN	0.00	0.72	0.19
Audio Health Details				
			0.39	0.03
			0.33	0.03
Media Reliability				
			0.88	0.22
Video Health Details				
			0.82	0.25
Sharing Health Details				
			0.29	0.02

Show as a table

Include

Exclude

Drill through

Group

Copy

Poor Audio Rate (%)	Poor Video Rate (%)	Poor Sharing Rate (%)	Drop Failure Rate (%)	Setup Failure Rate (%)
0.31	100.00	NaN	0.00	0.00
1.18	0.98	1.02	3.53	0.00
1.90	2.11	NaN	0.00	0.00
0.74	NaN	5.38	1.74	0.00
Meeting Health Details				
			0.00	0.00
			0.00	0.00
2.48	1.45	0.00	4.64	0.00
5.43	4.76	1.41	4.51	0.00

The **Conference ID** can be located by using Call Analytics. From the Teams Admin Center, search for and select a user to display the user's general information. Select the Call History tab to display a list of the user's call history. Identify the call you would like to analyze by selecting it from the call history list. Once identified and selected the conference ID is shown in the URL and can be found as a GUID after the "/meeting/" text.

Example: <https://admin.teams.microsoft.com/users/xxxxxxx-xxxx-xxxx-xxxxxxxxxx/meeting/b0abb44-8be9-4968-b80e-0a44db357c8c>

The **Meeting ID** can be found as part of the Teams meeting join URL.

Example: [https://teams.microsoft.com/l/meetup-join/19:meeting_Mzl2YTRkZmltMTNmZS00NTUxLTk4NjEtMzcyYWl5ZDY0MTFh@thread.v2/0?context=\(*\)](https://teams.microsoft.com/l/meetup-join/19:meeting_Mzl2YTRkZmltMTNmZS00NTUxLTk4NjEtMzcyYWl5ZDY0MTFh@thread.v2/0?context=(*))

Meeting Details

Time Started (UTC):
11/10/2020 8:54:50 PM

Time Ended (UTC):
11/11/2020 4:01:21 AM

Participants

132

Poor Audio Rate (%)

0.00

Media Type

Video 20.52%

VBSS 26.12%

Audio 53.36%

Organizer

(Blank)

Drill Through Dimension

Second Conference ID

Audio

VBSS

Video

Meeting Quality															
Transport	Microphone	Device Failure	OS	CPU Insufficient Event Ratio	Client	Client Version	Stream Direction	Classified Poor	Jitter	Jitter Max	Packet Loss Rate	Packet Loss Rate Max	Round Trip	Round Trip Max	Mid Call Failure
UDP		False	Windows 10.0.19042 Arch: x64		Microsoft Teams Windows	1.3.00.30866	First-to-Second		0.00	0.00	0%	0%	199	1169	0
UDP		False	Windows 10.0.19042 Arch: x64		Microsoft Teams Windows	1.3.00.30866	First-to-Second	False	0.00	13.00	0%	5%	68	2566	0
UDP		False	Windows 10.0.19042 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30866	First-to-Second	False	4.00	8.00	0%	9%	114	2806	0
UDP		False	Windows 10.0.19042 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30866	Second-to-First	False	NaN	NaN	NaN	NaN	114	2806	0
UDP		False	Windows 10.0.19042 Arch: x64		Microsoft Teams Windows	1.3.00.30866	First-to-Second		0.00	1.00	0%	0%	52	78	0
UDP		False	Windows 10.0.19042 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30866	First-to-Second	False	4.00	9.00	0%	0%	51	75	0
UDP		False	Windows 10.0.19042 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30866	Second-to-First	False	1.00	2.00	0%	0%	139	140	0
UDP		False	Windows 10.0.19042 Arch: x64		Microsoft Teams Windows	1.3.00.30866	First-to-Second	False	0.00	10.00	0%	0%	49	99	0
UDP		False	Windows 10.0.19042 Arch: x64		Microsoft Teams Windows	1.3.00.30866	First-to-Second		1.00	3.00	0%	1%	51	104	0
UDP		False	Windows 10.0.19042 Arch: x64		Microsoft Teams Windows	1.3.00.30866	First-to-Second	False	0.00	12.00	0%	8%	58	236	0
UDP		False	Windows 10.0.19042 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30866	First-to-Second	False	4.00	13.00	0%	1%	76	141	0
UDP		False	Windows 10.0.19042 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30866	Second-to-First	False	2.00	3.00	0%	0%	153	189	0
UDP		False	Windows 10.0.19042 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30866	Second-to-First		NaN	NaN	NaN	NaN	NaN	NaN	0
UDP		False	Windows 10.0.19042 Arch: x64		Microsoft Teams Windows	1.3.00.30866	First-to-Second		1.00	4.00	0%	0%	69	78	0
UDP		False	Windows 10.0.19042 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30866	First-to-Second	False	4.00	11.00	0%	0%	55	86	0
UDP		False	Windows 10.0.19042 Arch: x64		Microsoft Teams Windows	1.3.00.30866	First-to-Second	False	0.00	11.00	0%	0%	59	108	0
UDP		False	Windows 10.0.19042 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30866	Second-to-First		NaN	NaN	NaN	NaN	NaN	NaN	0
UDP		False	Windows 10.0.19042 Arch: x64		Microsoft Teams Windows	1.3.00.30866	First-to-Second		4.00	66.00	2%	6%	120	230	0
UDP		False	Windows 10.0.19042 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30866	First-to-Second	False	14.00	65.00	3%	64%	67	1732	0
UDP		False	Windows 10.0.19042 Arch: x64		Microsoft Teams Windows	1.3.00.30866	First-to-Second	False	16.00	164.00	13%	91%	72	1575	0
UDP		False	Windows 10.0.19042 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30879	Second-to-First		NaN	NaN	NaN	NaN	NaN	NaN	0
UDP		False	Windows 10.0.19042 Arch: x64		Microsoft Teams Windows	1.3.00.30879	First-to-Second		0.00	2.00	0%	0%	84	195	0
UDP		False	Windows 10.0.19042 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30879	First-to-Second	False	6.00	23.00	0%	10%	87	414	0
UDP		False	Windows 10.0.19042 Arch: x64		Microsoft Teams Windows	1.3.00.30879	First-to-Second	False	0.00	8.00	0%	7%	83	917	0
UDP		False	Windows 10.0.18363 Arch: x64	012: [-0.01 - 0]	Microsoft Teams Windows	1.3.00.30866	Second-to-First		NaN	NaN	NaN	NaN	NaN	NaN	0

User Feedback

Rating

Feedback

Text

NaN

Participant Location Map

Audio Quality by ASN

ASN	Good Streams	Poor Streams	Poor Audio Rate (%)
	27	0	0.00
	36	0	0.00
	16	0	0.00
	1	0	0.00
	5	0	0.00
	1	0	0.00
	3	0	0.00
	3	0	0.00
	9	0	0.00
	10	0	0.00

Client Type

Microsoft Teams iOS 8.77%

Microsoft Teams Windows 88.99%



Total Good Audio Streams

22,368,615

Total Poor Audio Streams

460,806

Poor Audio Rate

Wired (%)

1.28

Wi-Fi 5.0 Ghz (%)

0.89

Wi-Fi 2.4 Ghz (%)

3.16

Audio R...

Drop Failure Rate (%)

0.93

Drill Through Dimensions

- Second ASN City
- Second Reflexive Local IP
- Network (Public Subnet)
- Second Subnet

User Audio Quality Right click to Drill Through to User Health Details

UPN	Good Streams	Poor Streams	Poor Audio Rate (%)	Drop Failure Rate (%)
*	21,858,532	446,073	2.00	0.91
	510,083	14,737	2.81	1.70

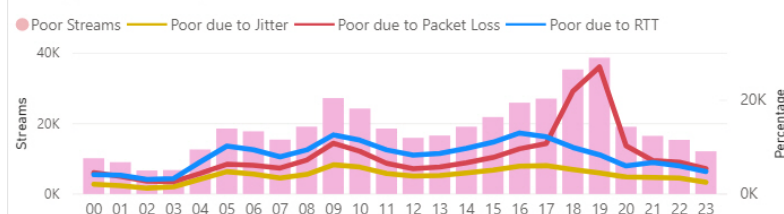
Audio Stream Heat Map

Subnet	Transport	Connection	Poor Streams	Avg Jitter	Median Jitter	Avg Jitter Max	Avg P Loss
	UDP		51	9.40	6	48.95	21
	UDP		40	8.68	5	51.22	1%
			26	8.90	5	34.52	0%
	UDP		20	6.42	4	74.13	0%
			17	3.68	2	14.61	2%
	UDP		16	12.39	8	95.00	0%
			15	0.55	0	5.36	0%
	UDP		15	8.84	6	74.50	0%

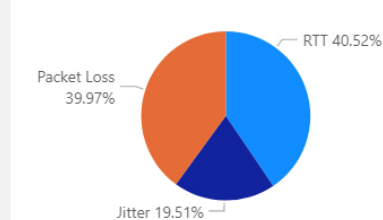
Meeting Audio Quality Right click to Drill Through to Meeting Health Details

Conference Id	Product	Participants	Good Streams	Poor Streams	Poor Audio Rate (%)
	Teams	25	32	18	36.00
	Teams	54	208	17	7.56
	Teams	18	25	10	28.57
	Teams	140	231	9	3.75
	Teams	48	91	9	9.00
	Teams	11	14	8	36.36

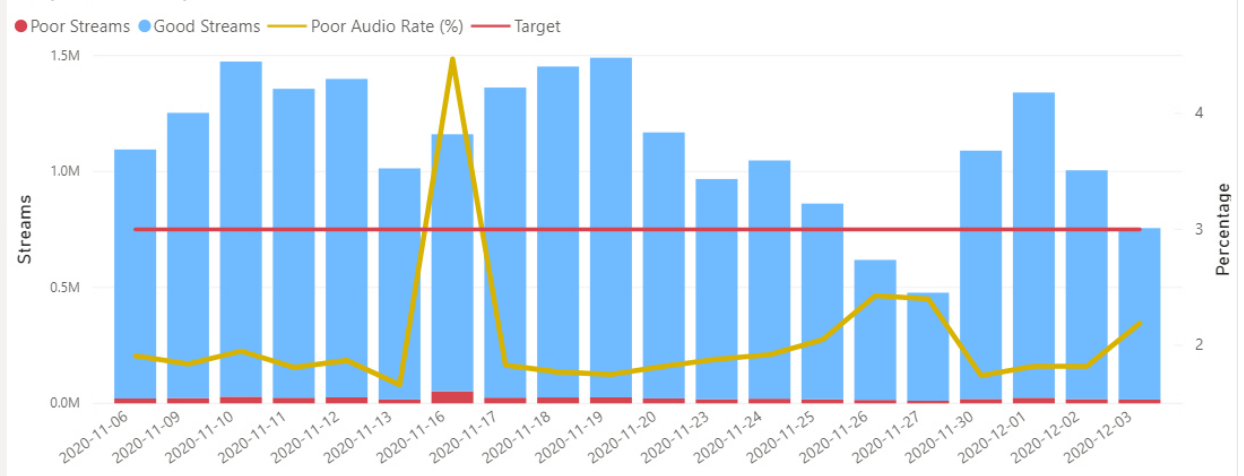
Hourly Audio Quality - UTC Time Zone



Poor due too...



Daily Audio Quality



Client Audio Quality

Client	Good Streams	Poor Streams	Poor Audio Rate (%)
	19,054,158	336,683	1.74
	1,212,810	54,573	4.31
	544,013	30,691	5.34
	824,846	19,057	2.26
	274,340	10,923	3.83
	107,612	5,512	4.87
	129,739	1,212	0.93
	63,124	613	0.96

ASN Audio Quality

ASN	Good Streams	Poor Streams	Poor Audio Rate (%)
	4,846,827	81,627	1.66
	3,517,651	80,693	2.24
	474,675	33,145	6.53
	237,881	20,297	7.86
	813,769	10,476	1.27
	419,005	7,753	1.82
	98,345	5,790	5.56
	486,128	5,766	1.17

Endpoint Audio Quality

Endpoint Name	Good Streams	Poor Streams	Poor Audio Rate (%)
*	21,634,860	432,911	1.96
	733,755	27,899	3.66

Wi-Fi BSSID Audio Quality

BSSID	Band	Good Streams	Poor Streams	Poor Audio Rate (%)
		6,852	324	4.52
	2.4 Ghz	1	200	99.50
	5.0 Ghz	242	83	25.54
	5.0 Ghz	0	74	100.00
	2.4 Ghz	0	64	100.00
	5.0 Ghz	0	62	100.00
	2.4 Ghz	80	57	41.61
	2.4 Ghz	159	40	20.10

Call Type Quality Overview

Call Type	Good Streams	Poor Streams	Poor Audio Rate (%)	Poor Feedback (%)	Poor Video Rate (%)	Poor Sharing Rate (%)
Client : Server	26,308,864	549,899	2.05	1.55	3.89	1.19
Client : Client	5,631,744	229,081	3.91	3.71	4.44	1.16

Wired (%)

1.68

Poor Audio Rate

Wi-Fi 5.0 Ghz (%)

1.01

Wi-Fi 2.4 Ghz (%)

3.71

Drop Failure Rate

1.17

Drill Through Dimension

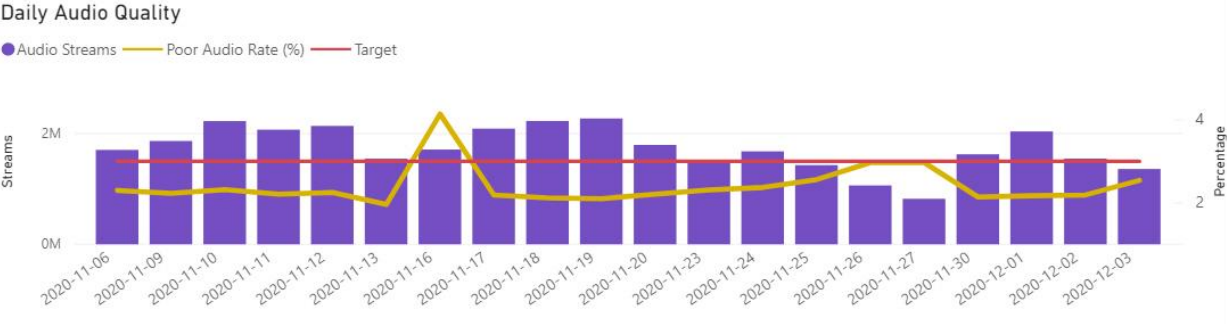
Second UPN

Audio Stream Heat Map

Subnet	ASN	Transport	Connection	Direction	Poor Streams	Avg Jitter	Media Jitter	Avg Jitter Max	Avg Packet Loss Rate	Median Packet Loss Rate
		TurnTCP		First-to-Second	37	9.62	8	70.13	0%	0%
		UDP		First-to-Second	36	5.28	4	41.30	1%	0%
	45669	UDP		First-to-Second	34	28.94	19	178.27	2%	0%
	9159	TurnTCP		First-to-Second	24	31.08	29	71.54	0%	0%
	18004	UDP		First-to-Second	22	28.68	28	267.42	8%	4%
	37130	TurnTCP		First-to-Second	21	8.68	9	55.68	0%	0%
	45609	UDP		First-to-Second	21	6.63	5	56.27	0%	0%

Client Audio Quality

Client	Good Streams	Poor Streams	Poor Audio Rate (%)
	26,601,323	567,020	2.09
	1,854,579	83,947	4.33
	888,271	57,743	6.10
	1,277,243	30,912	2.36
	444,520	19,783	4.26
	173,296	9,797	5.35
	141,001	1,459	1.02
	84,544	1,129	1.32
	6,822	222	3.15
	29,895	170	0.57
	1,315	98	6.94



Capture Device

Microphone	Failure Rate	Total Sessions
	6.39	9,058,449
	0.15	3,308,693
	NaN	2,617,928
	2.45	1,621,826

User Feedback

Rating	Feedback
4.91	
2.79	
3.32	
2.70	
4.00	

Meeting Audio Quality

Right click to Drill Through to Meeting Health Details

Conference Id	Date	Good Streams	Poor Streams	Poor Audio Rate (%)
	2020-11-06	83	13	13.54
	2020-11-06	37	11	22.92
	2020-11-06	94	10	9.62
	2020-11-06	12	8	40.00
	2020-11-06	4	8	66.67
	2020-11-06	17	7	29.17
	2020-11-06	30	7	18.92
	2020-11-06	67	7	9.46
	2020-11-06	32	6	15.79
	2020-11-06	71	6	7.79
	2020-11-06	8	6	42.86
	2020-11-06	84	6	6.67
	2020-11-06	87	5	5.43
	2020-11-06	7	5	41.67

Endpoint Audio Quality

Endpoint Name	Good Streams	Poor Streams	Poor Audio Rate (%)
*	30,864,261	733,116	2.32
	1,075,116	45,851	4.09

Wi-Fi BSSID Audio Quality

BSSID	Band	Good Streams	Poor Streams	Poor Audio Rate (%)
	2.4 Ghz	650,406	22,245	3.31
	2.4 Ghz	320,301	15,766	4.69
		68,172	8,524	11.11
	5.0 Ghz	806,940	7,777	0.95
		109,662	5,504	4.78
	5.0 Ghz	316,955	3,646	1.14
		52,208	1,817	3.36

Top 10 Poor Networks (Last 28 days)

*Video reports utilize a new video classifier and is applicable to Microsoft Teams only

Is Teams? (1 = Yes)

0

1

Call Type

Client : Client

Client : Server

Inside/Outside Corp

Inside

Outside

Connection

Wifi

Wired

Estimated VPN (1 = Yes)

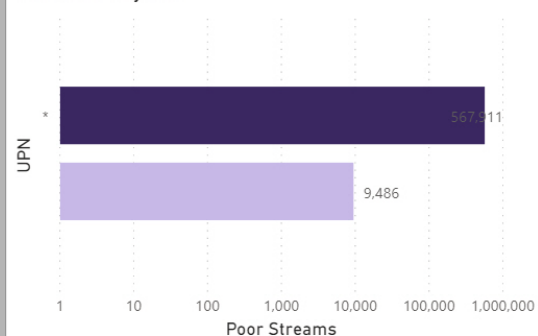
0

1

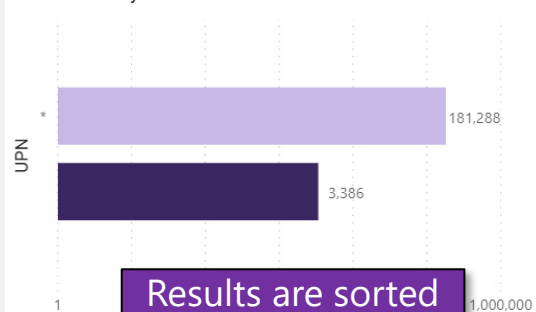
Client

All

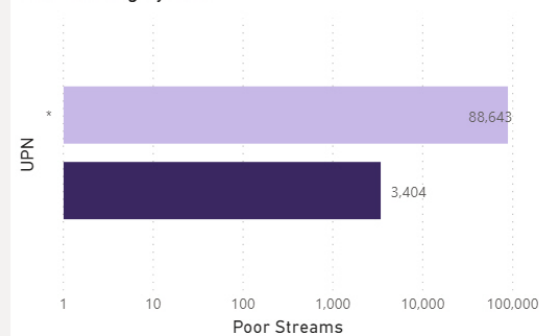
Poor Audio by User



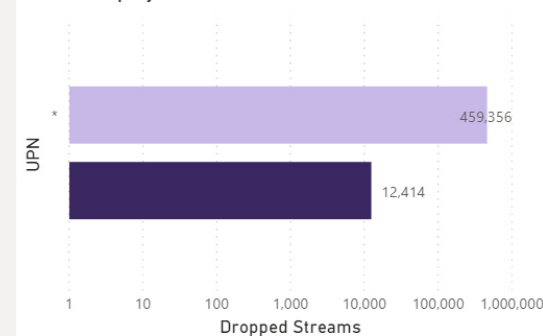
Poor Video by User*



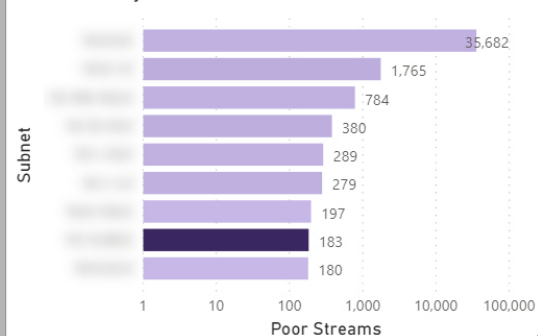
Poor Sharing by User



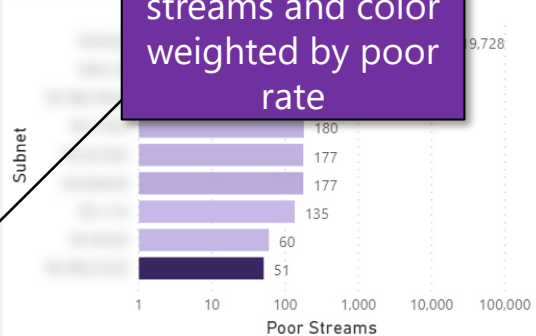
Media Drop by User



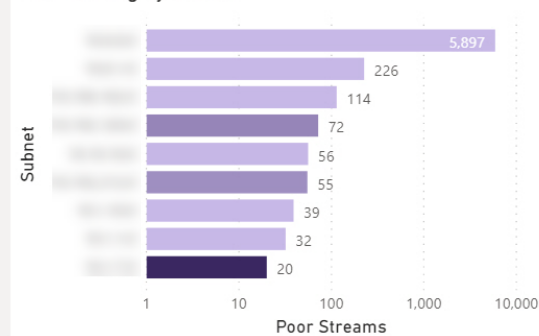
Poor Audio by Subnet



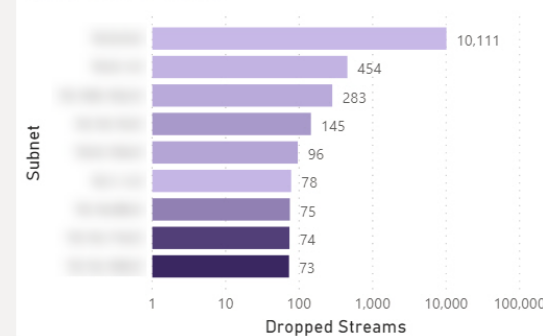
Poor Video by Subnet



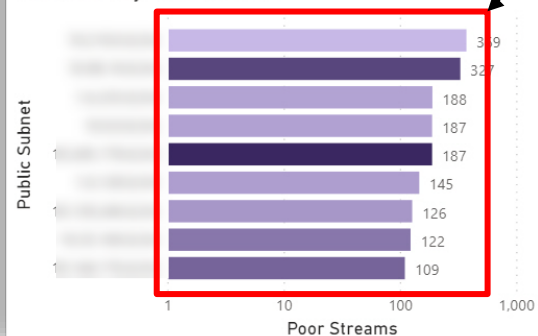
Poor Sharing by Subnet



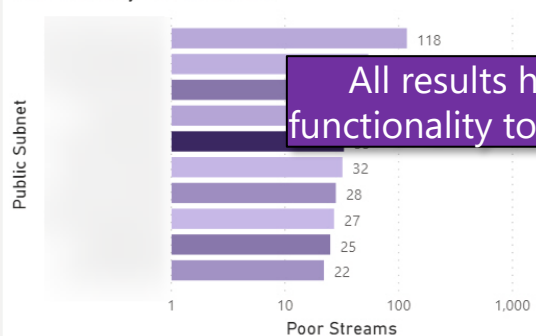
Media Drop by Subnet



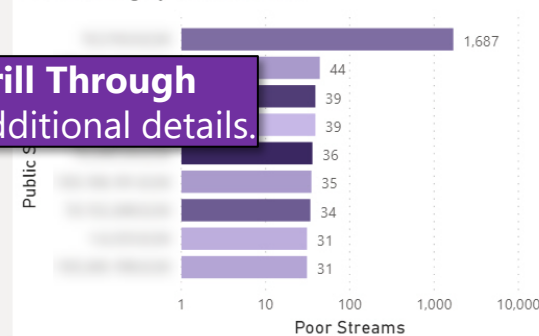
Poor Audio by Public Subnet



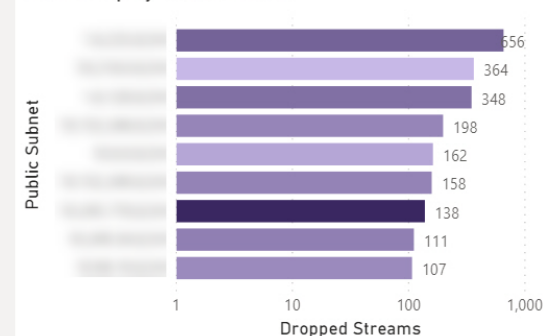
Poor Video by Public Subnet*



Poor Sharing by Public Subnet



Media Drop by Public Subnet



Results are sorted by volume of poor streams and color weighted by poor rate

All results have **Drill Through** functionality to get additional details.

Top 10 Managed (Last 28 days)

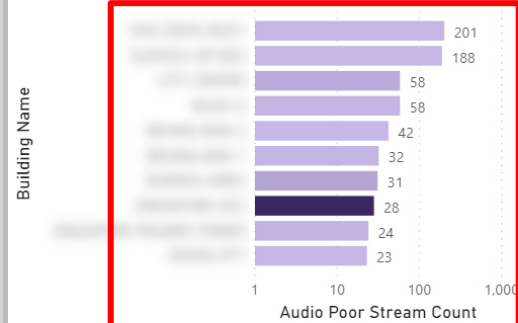
*Video reports utilize a new video classifier and is applicable to Microsoft Teams only

☐ Is Teams? (1 = Yes)
 ☐ Call Type
 ☐ Client : Client
 ☐ Client : Server
 ☐ Connection
 ☐ Wifi
 ☐ Wired
 ☐ Mapped VPN (1= Yes)
 ☐ (Blank)
 ☐ 0
 ☐ Estimated VPN (1 = Yes)
 ☐ 0
 ☐ 1

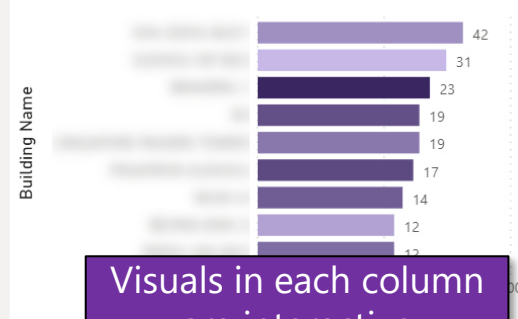
Client

 All

Poor Audio Rate by Building



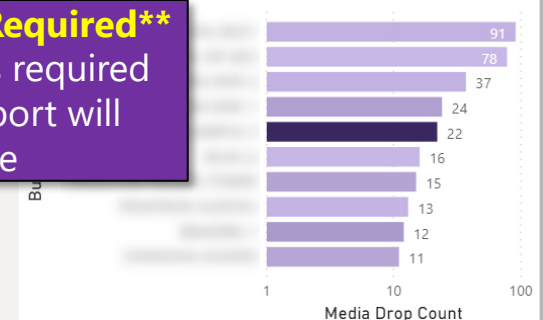
Poor Video Rate by Building*



Poor Sharing Rate by Building



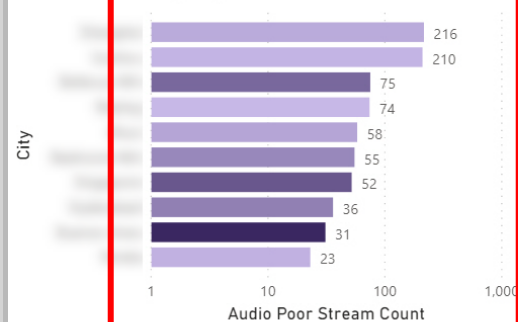
Media Drop Rate by Building



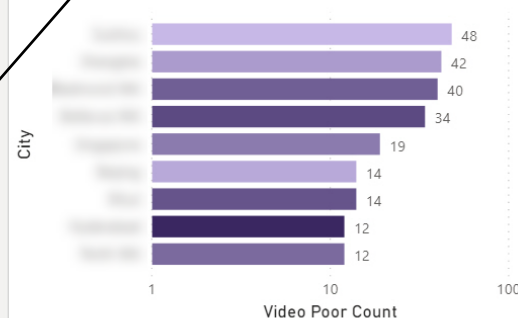
****Building File Required****
A building file is required before this report will populate

Visuals in each column are interactive

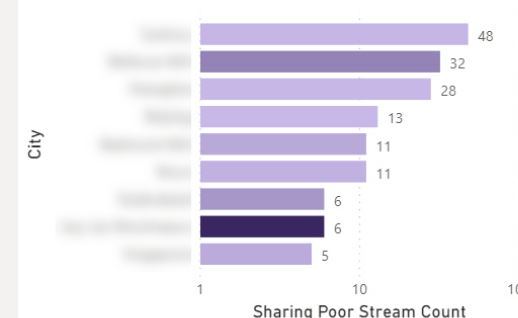
Poor Audio Rate by City



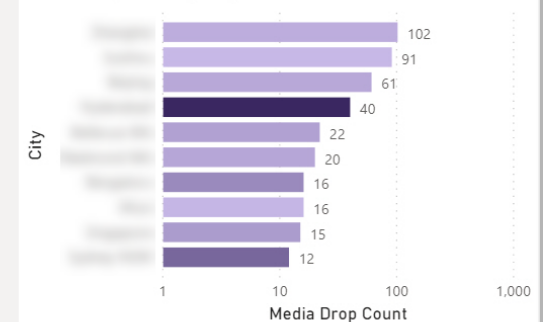
Poor Video Rate by City



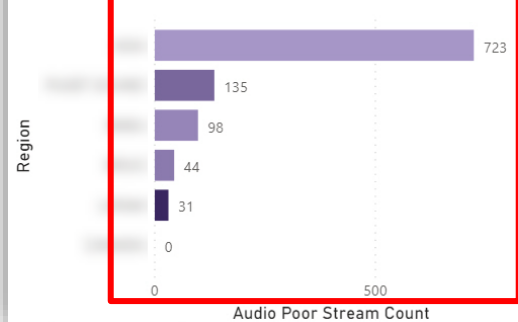
Poor Sharing Rate by City



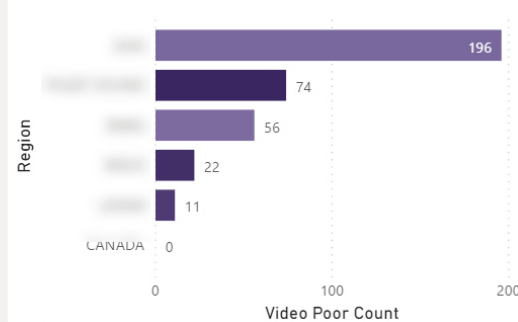
Media Drop Rate by City



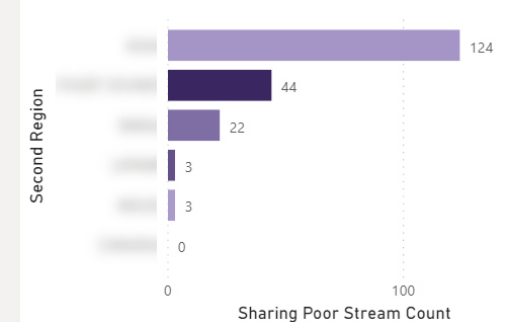
Poor Audio Rate by Region



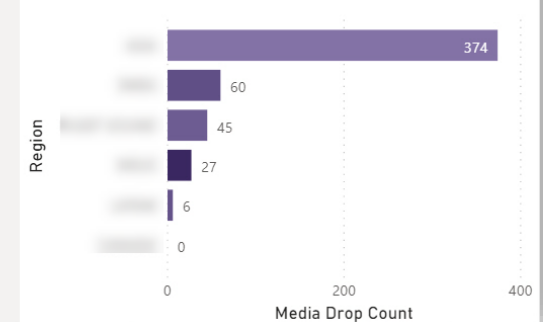
Poor Video Rate by Region*



Poor Sharing Rate by Region



Media Drop Rate by Region



Top 10 ASN (Last 28 days)

*Video reports utilize a new video classifier and is applicable to Microsoft Teams only

Is Teams? (1 = Yes)

0

1

Inside/Outside Corp

Inside

Outside

Call Type

Client : Client

Client : Server

Connection

Wifi

Wired

Mapped VPN (1= Yes)

(Blank)

0

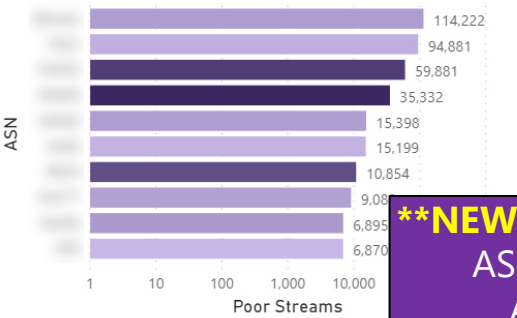
Region

All

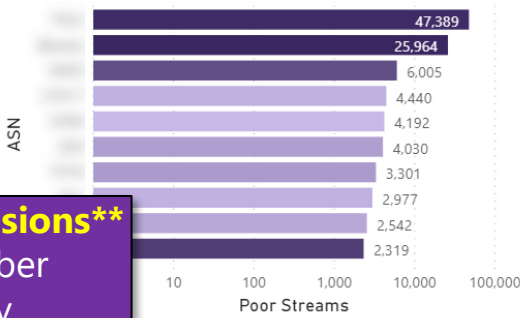
Client

All

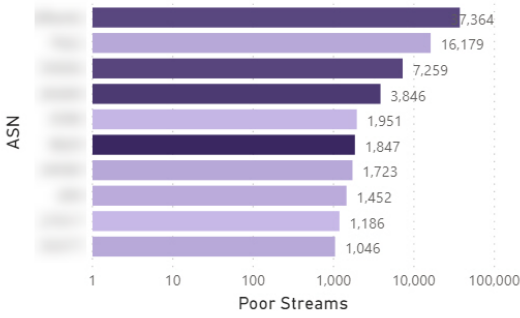
Poor Audio by ASN



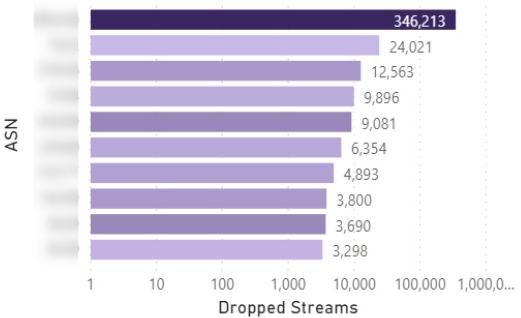
Poor Video by ASN*



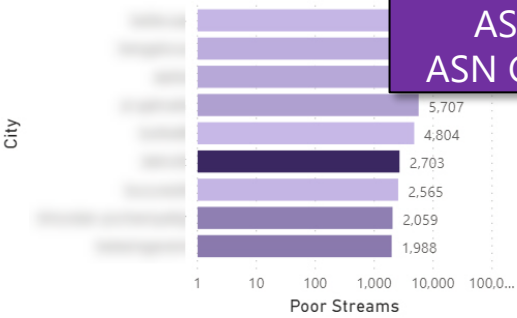
Poor Sharing by ASN



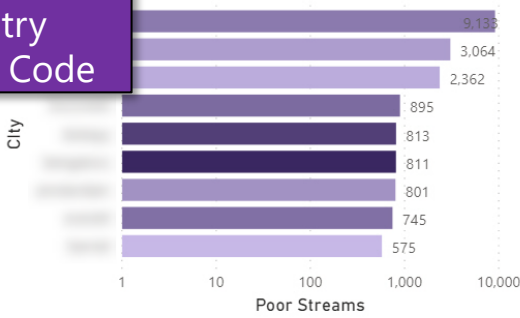
Media Drop by ASN



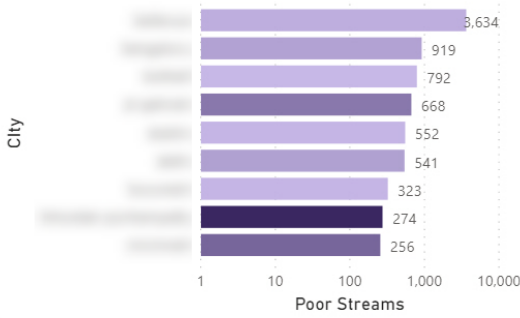
Poor Audio by City



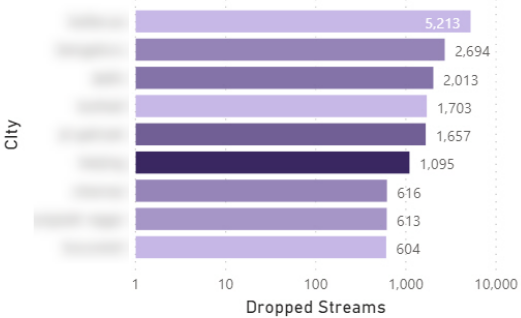
Poor Video by City*



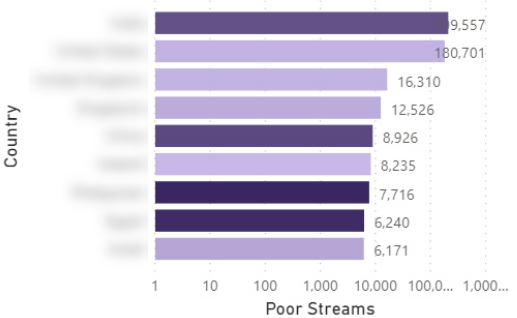
Poor Sharing by City



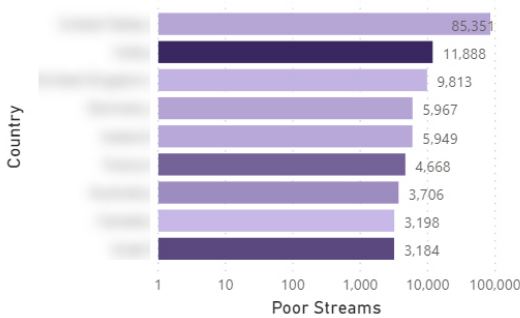
Media Drop by City



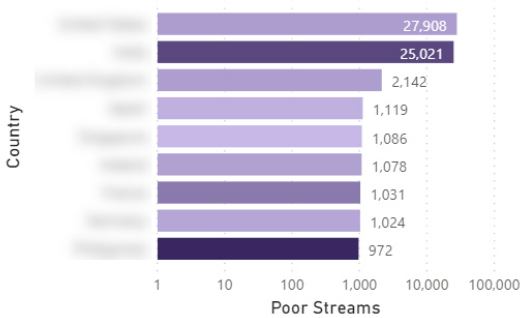
Poor Audio by Country



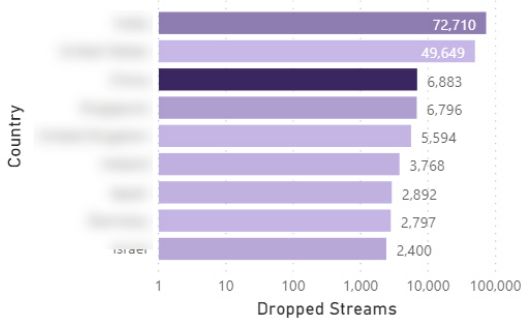
Poor Video by Country*



Poor Sharing by Country



Media Drop by Country



****NEW Dimensions****
ASN Number
ASN City
ASN State
ASN Country
ASN Country Code

Is Teams? (1 = Yes)

0

1

Inside/Outside Corp

Inside

Outside

Call Type

Client : Client

Client : Server

Target

Inside

Overall

Building Name

All

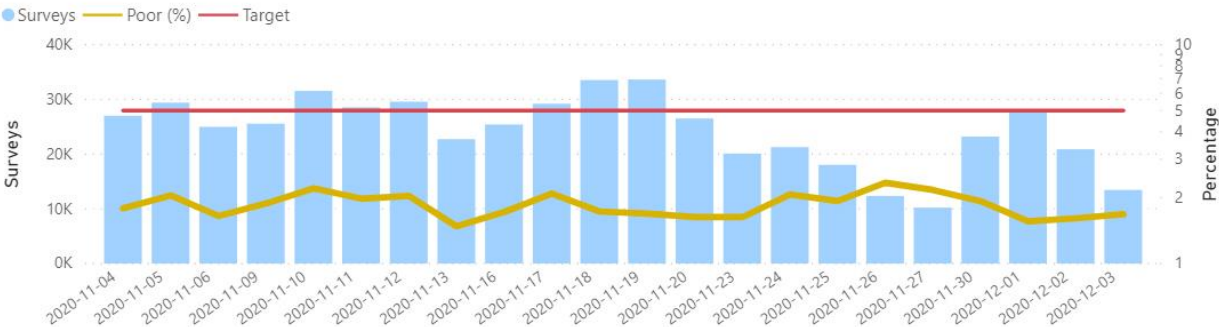
City

All

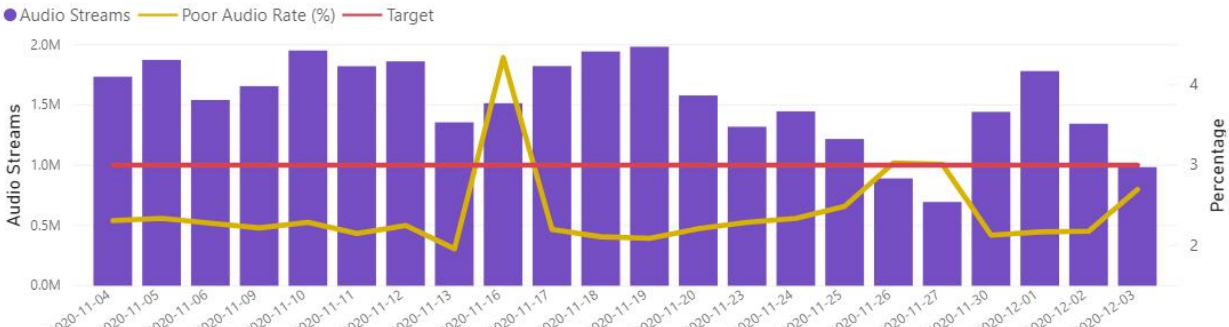
Client

All

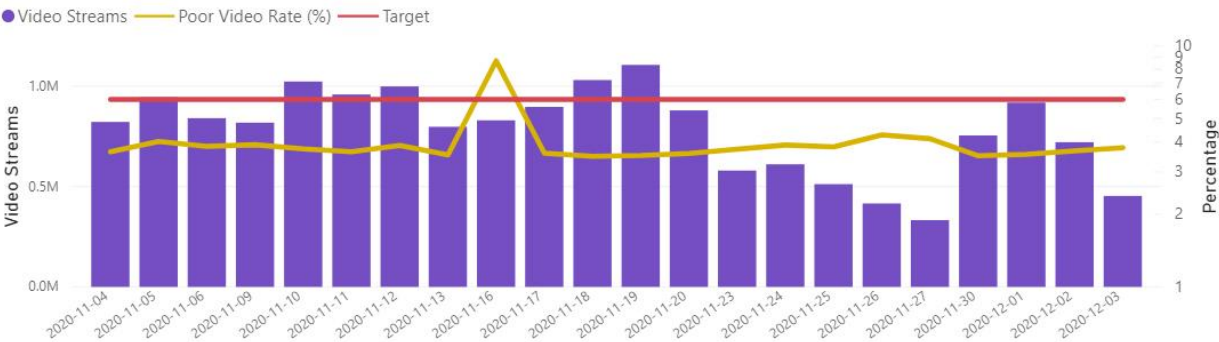
Daily Feedback Overview (30 days)



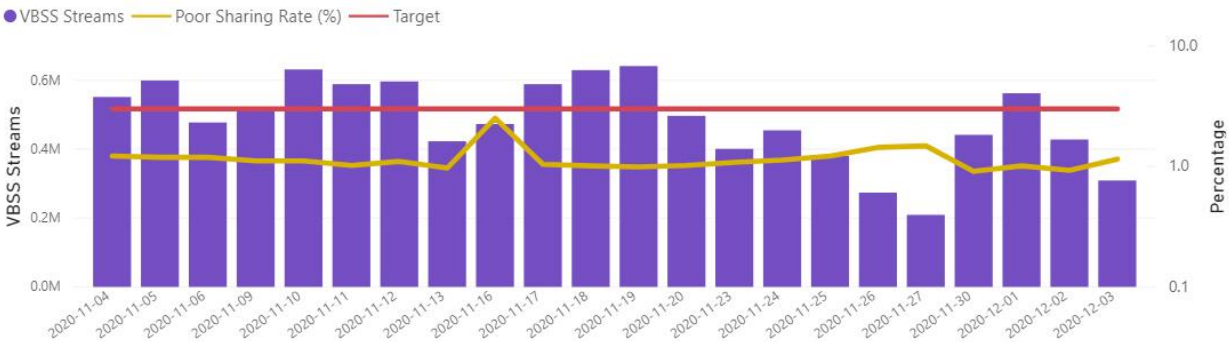
Daily Audio Quality (30 days)



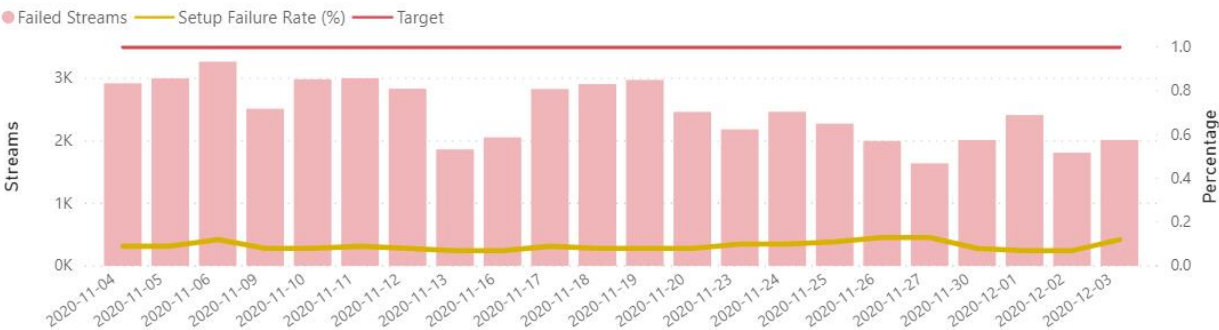
Daily Video Quality (30 days)



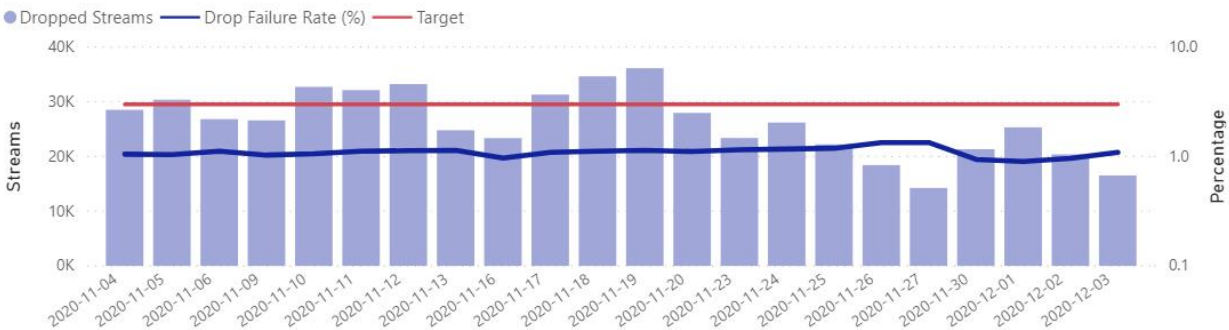
Daily Sharing Quality (30 days)



Setup Failures by Day (30 days)



Dropped Streams by Day (30 days)



Overall Media Usage

Is Teams? (1 = Yes)

0

1

Inside/Outside Corp

Inside

Outside

Sessions (28 days)

18,041,525

Sessions with Audio (28 days)

17,839,912

Sessions with Video (28 days)

6,242,607

Sessions with Sharing (28 days)

10,434,281

Total Audio Minutes (28 days)

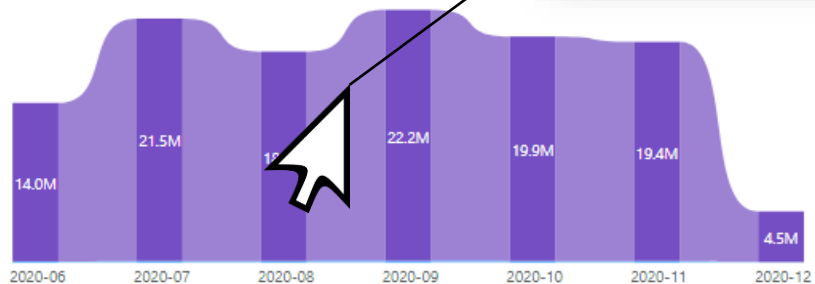
584,321,309

Total Conference

542

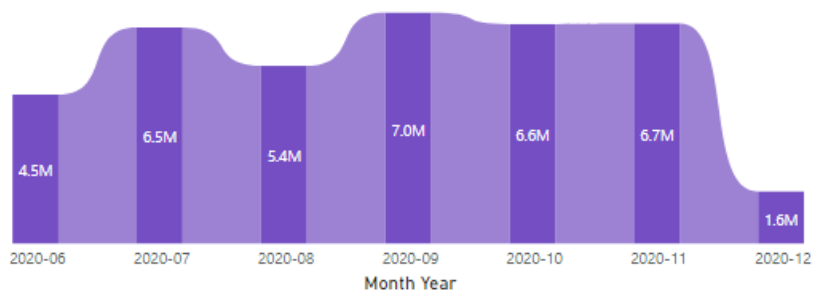
Total Sessions (180 days)

Teams = 1 | SFB = 0 ● 0 ● 1



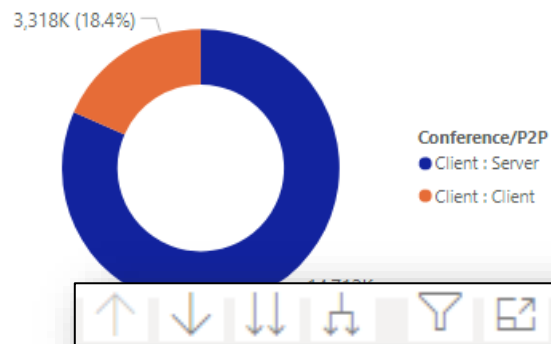
Total Sessions with Video (180 days)

Teams = 1 | SFB = 0 ● 0 ● 1

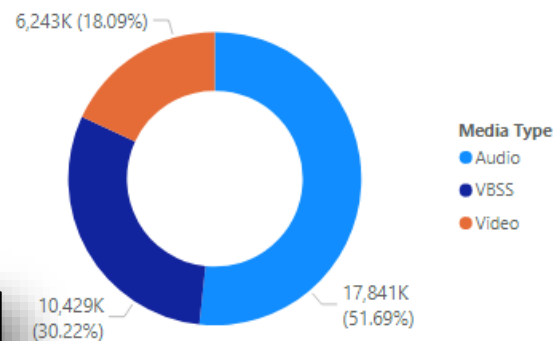


2020-08 1 Total Call Count 18,554,425
2020-09 1 Total Call Count 22,244,552
Total Call Count Change 3,690,127 (19.89%)
2020-08 1 Rank 1
2020-09 1 Rank 1

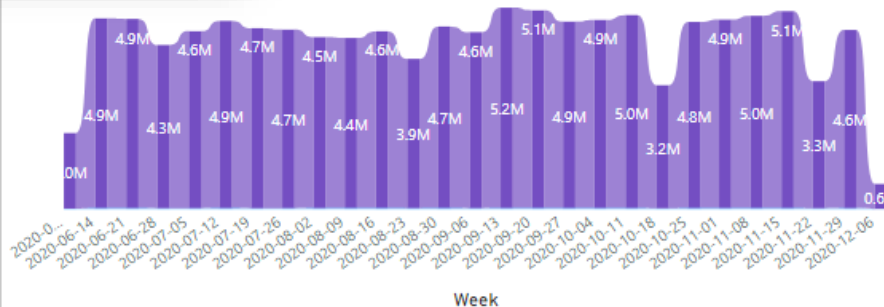
Sessions by Type (28 days)



Sessions by Media (28 days)



Total Sessions with Audio (180 days)

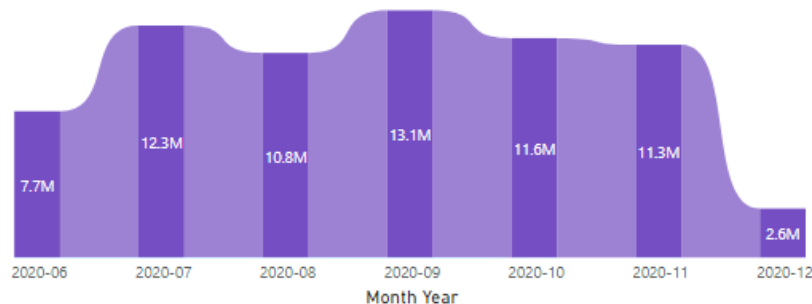


Sessions Map (28 days)

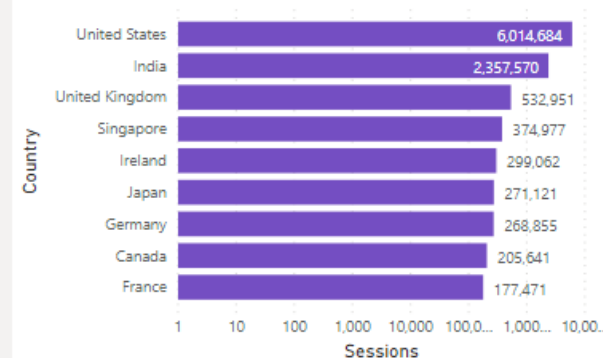


Total Sessions with Sharing (180 days)

Teams = 1 | SFB = 0 ● 0 ● 1



Top 10 Country (28 days)



Building Data

Review the list below for any managed subnets that may be are marked outside and add the appropriate information to the building file to have CQD tag the subnet as internal. It is not necessary to add every subnet in your infrastructure to the building file, only client and user subnets need to be uploaded into CQD.

More information on the building file can be found here: <https://aka.ms/cqdbldgdata>

Inside/Outside Corp

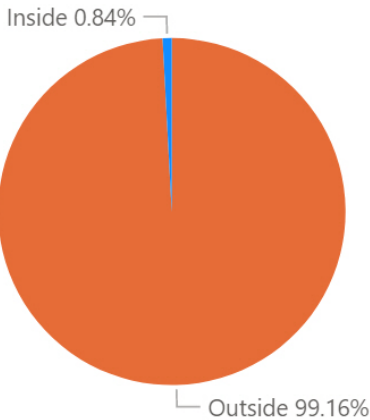
Inside

Outside

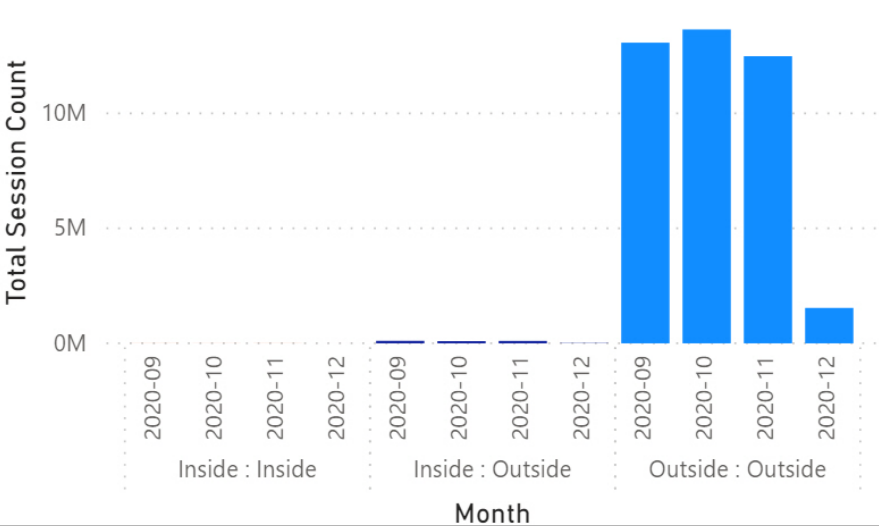
CQD Building Map (7 days)

Subnet	Inside/Outside	Total Session Count	Network Name	Building Name	Ownership Type	Building Type	Building Office Type	City
	Inside	1,003						
	Inside	846						
	Inside	808						
	Inside	750						
	Inside	638						
	Inside	628						
	Inside	557						
	Inside	538						
	Inside	528						

Inside/Outside Ratio (7 days)



Inside/Outside Pair Ratio (3 months)



Public Network Building Map (7 days)

Public Network	Inside/Outside	Total Session Count	Network Name
	Inside	551	
	Inside	532	
	Inside	524	
	Inside	504	
	Inside	486	
	Inside	473	
	Inside	451	
	Inside	430	
	Inside	423	
	Inside	403	
	Inside	395	
	Inside	379	



Thank you.

