WEBINAR Series

panagenda WEBINAR

Getting the Best of TrueDEM

May 7th 2025

News & updates

Product Management & Consulting Team
panagenda

Your Team today

Christoph Adler
Head of Solution Consulting

christoph.adler@panagenda.com

Stefan Fried
Senior Program Manager &
Senior Consultant
stefan.fried@panagenda.com

Femke Goedhart
Product Marketing Manager

femke.goedhart@panagenda.com

Before We Start

All attendee lines are muted

This is to prevent interruptions during the presentation.

Please submit questions via the Chat or Q&A panel

Your questions will be addressed directly during the webinar or in the Q&A section after the presentation.

The webinar is being recorded

After the webinar, we will send you a mail to give access to the recording and presentation slides.

Share your feedback with us

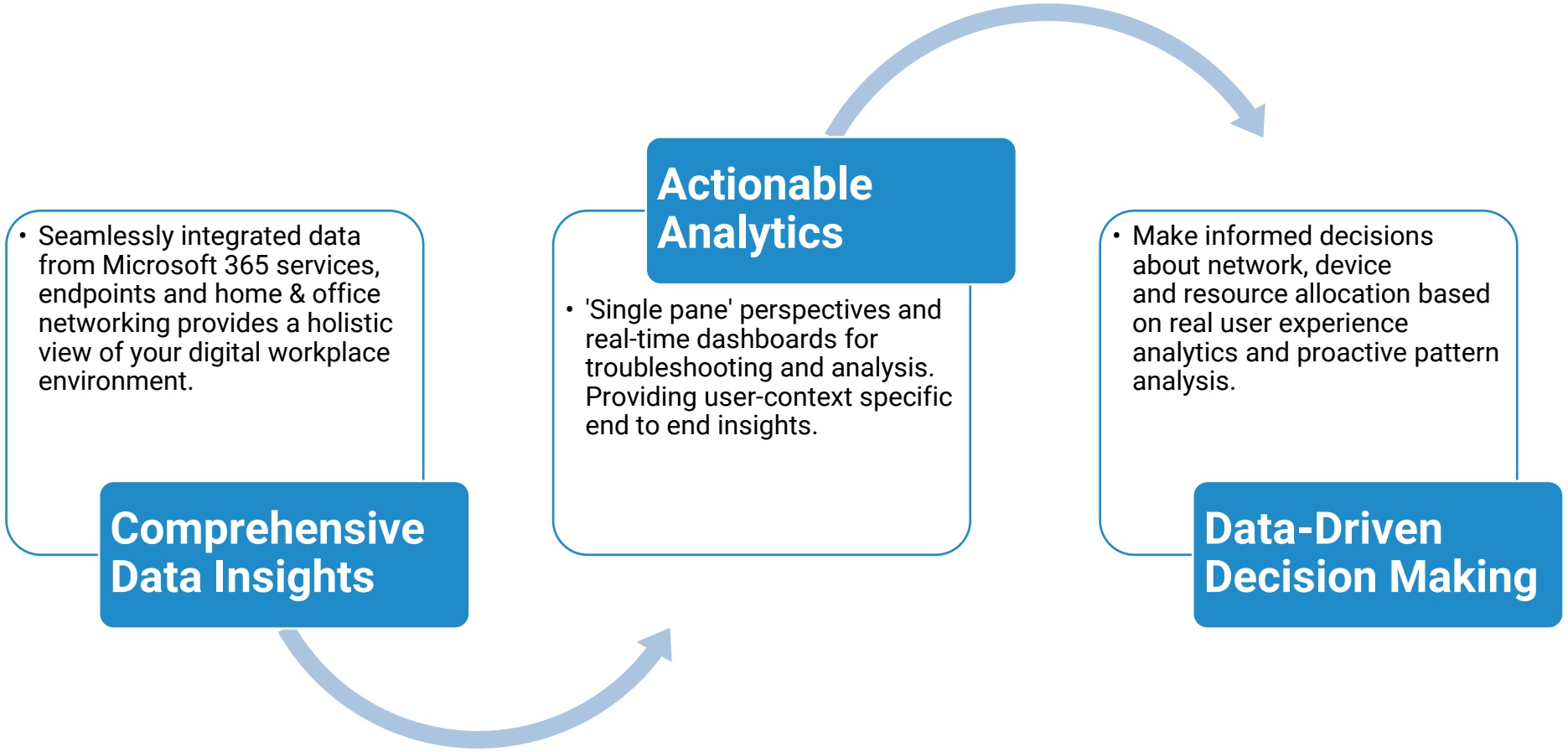
Please let us know what we can do better.

Agenda

1. In short: What is OfficeExpert TrueDEM?
2. Recently released - April
3. **Deep Dive:** Microsoft Teams Call **“Insights”**
4. **Customer Case: GPU or no GPU** – that is the question
5. Q & A

OfficeExpert TrueDEM

Advanced Microsoft Teams Call Quality Analytics
&
End to End User Experience Monitoring for Microsoft 365



Recently Released

Recently Released - April

General

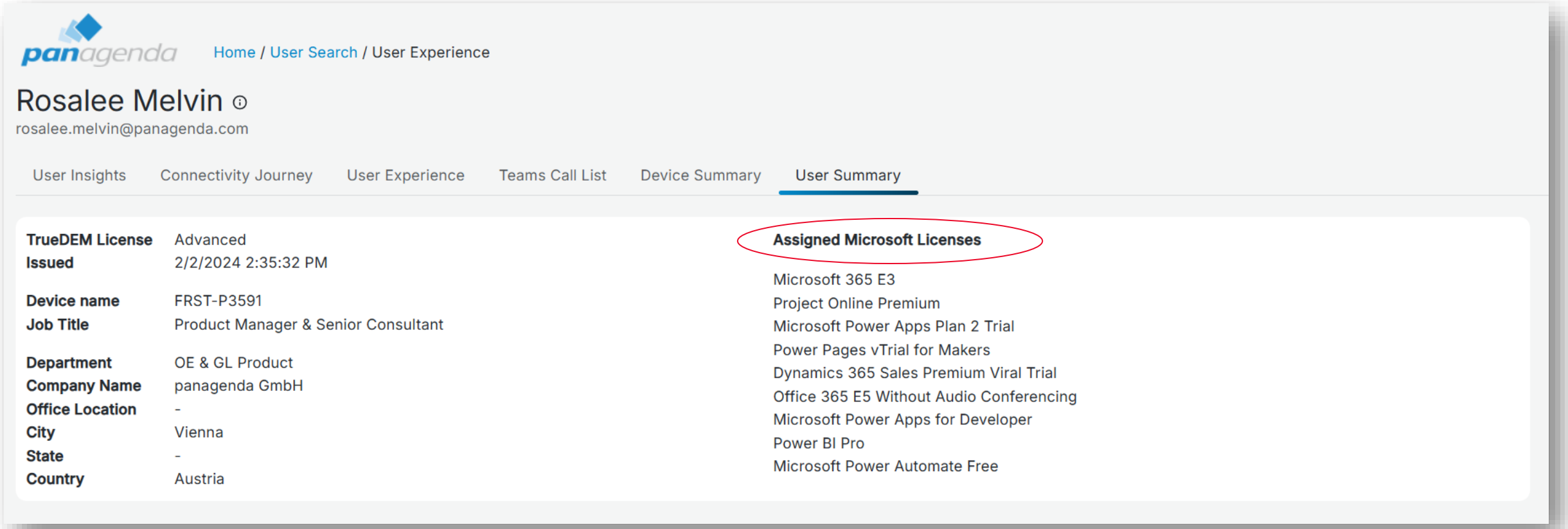
- M365 Licensing information on User Experience page
- License Distribution

Teams Calls

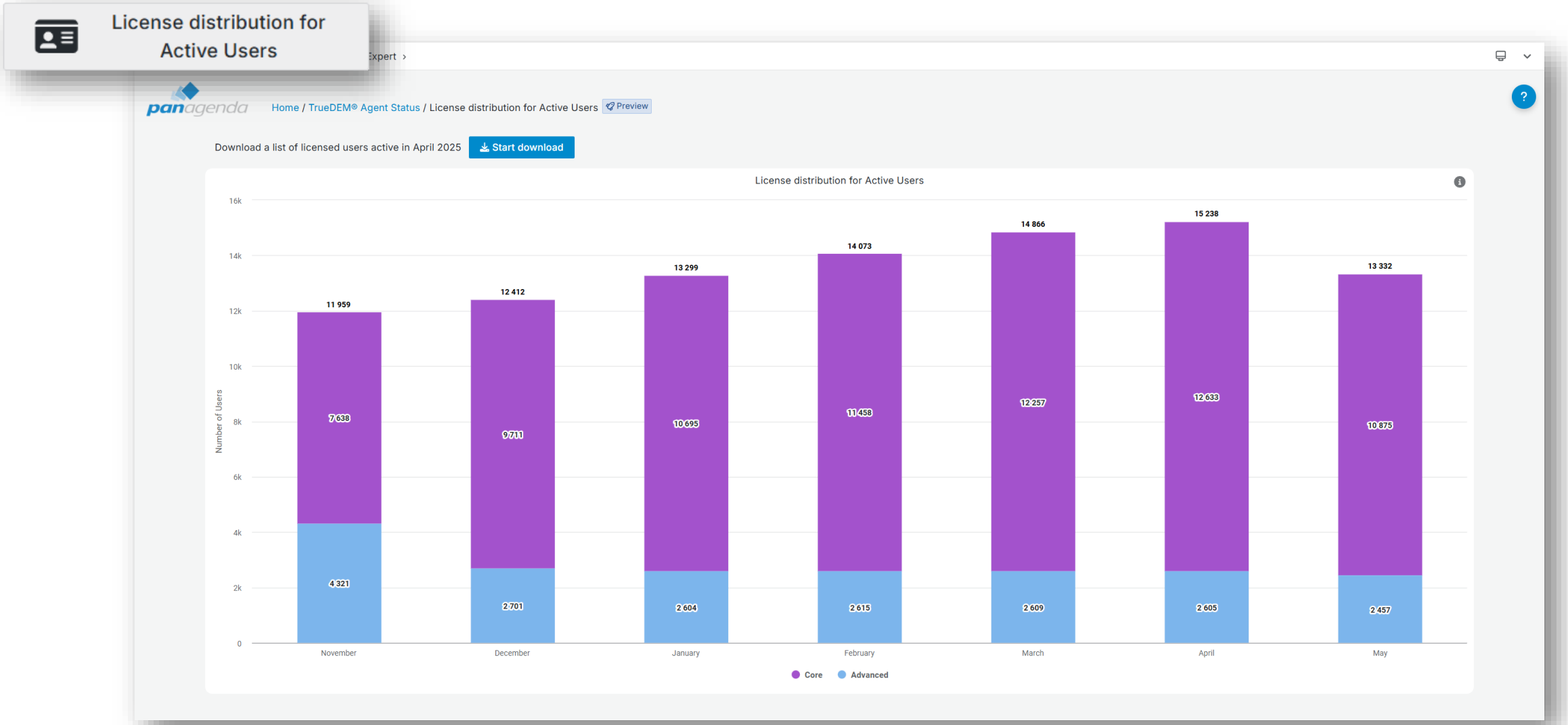
- Call Debug Dashboard improvements
  - Attendee Timeline (now with Session Timestamps)
  - Platform Used /Platform Switch Information
- Single Call Insights

https://www.panagenda.com/kbase/pages/viewpage.action?pageId=64620653

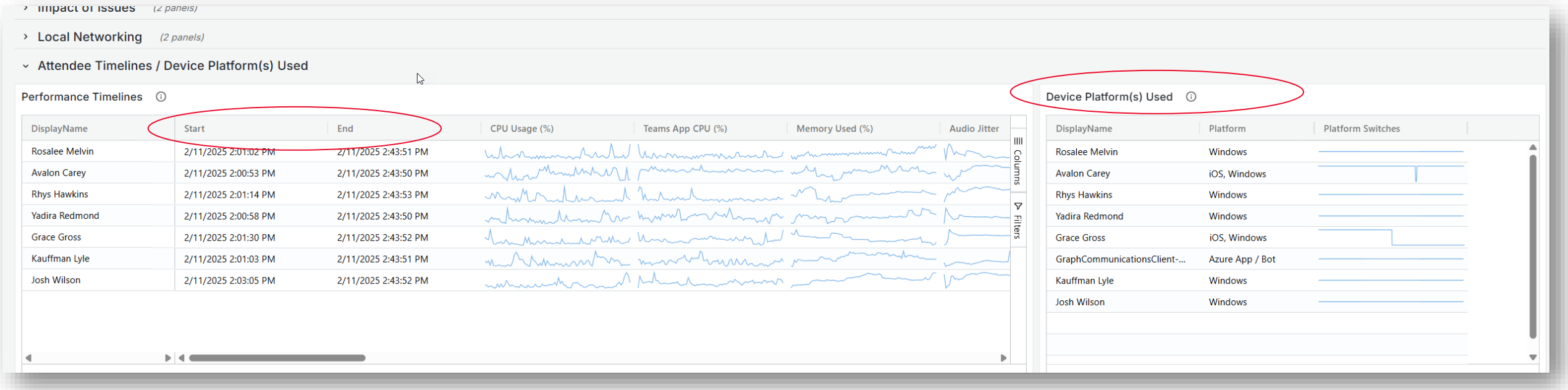
Assigned Microsoft Licenses



License Distribution for Active Users

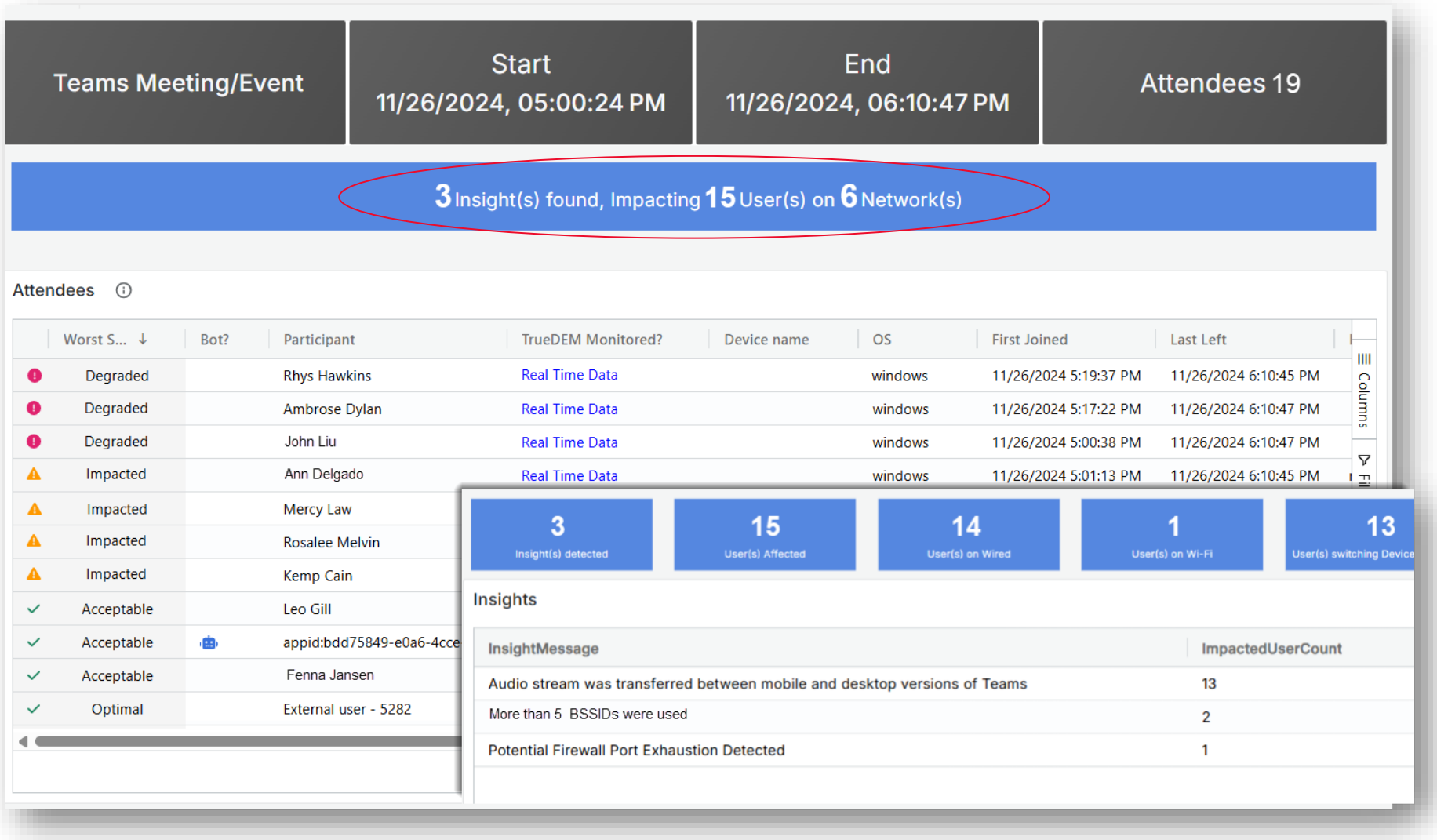


Call Debug


Impact of Issues (2 panels)
Local Networking (2 panels)
Attendee Timelines / Device Platform(s) Used
Performance Timelines
DisplayName
Start
End
CPU Usage (%)
Teams App CPU (%)
Memory Used (%)
Audio Jitter
Rosalee Melvin 2/11/2025 2:01:02 PM 2/11/2025 2:43:51 PM
Avalon Carey 2/11/2025 2:00:53 PM 2/11/2025 2:43:50 PM
Rhys Hawkins 2/11/2025 2:01:14 PM 2/11/2025 2:43:53 PM
Yadira Redmond 2/11/2025 2:00:58 PM 2/11/2025 2:43:50 PM
Grace Gross 2/11/2025 2:01:30 PM 2/11/2025 2:43:52 PM
Kauffman Lyle 2/11/2025 2:01:03 PM 2/11/2025 2:43:51 PM
Josh Wilson 2/11/2025 2:03:05 PM 2/11/2025 2:43:52 PM
Columns
Filters
Device Platform(s) Used
DisplayName
Platform
Platform Switches
Rosalee Melvin Windows
Avalon Carey iOS, Windows
Rhys Hawkins Windows
Yadira Redmond Windows
Grace Gross iOS, Windows
GraphCommunicationsClient-... Azure App / Bot
Kauffman Lyle Windows
Josh Wilson Windows

Call Debug

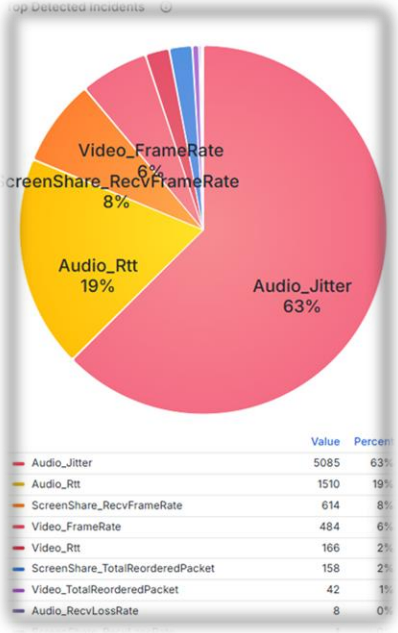
- Insights



Deep Dive:
Call Insights

Upgrade Your Time

What’s the difference ?



Teams Calls - Facts and Issues

vs.

Call Insights

2 Insight(s) found, Impacting 6 User(s) on 4 Network(s)

Teams Calls – Facts and Issues

__Facts__ due to meeting a condition and exceeding a threshold

Examples:

- **Cpu_TotalPctOver90** - CPU over 90% (for the last 30 sec window)
- **Cpu_PrivPctOverRatio30** - Privileged CPU % takes more than 30% of total CPU time. This is only evaluated when the privileged CPU % is 25% or greater
- **Network_DataOut_InCall_Exceeds20Mbps** - Greater than 20Mb/s data send during a call
- **Network_DataIn_InCall_Exceeds20Mbps** - Greater than 20Mb/s data receive during a call
- **Network_InCall_DataOut_WifiNearCapacity** - Data send rate exceeds 50% of the negotiated Wireless transmit rate
- **Network_InCall_DataIn_WifiNearCapacity** - Data receive rate exceeds 50% of the negotiated Wireless receive rate

Call Insights

***Analyze** and **correlate** Teams call data among end users **based on Facts**.*

Examples:

- **Potential Firewall Port Exhaustion Detected**
  - •Conditions:
    - No local network changes
    - One single audio stream (user did not suffer any type of disconnect)
    - Public facing / external NAT port changes during the call

- **Non-default Audio Ports Detected**
  - Audio should use the local ports of 50000-50019. Other ports could result in QoS policies failing to identify and prioritize the traffic. https://answers.microsoft.com/en-us/msteams/forum/all/microsoft-teams-ipports/b21fb0e0-1226-4bcf-b527-92c810bc7a87

- **Mid-call codec downgrades**
  - AV1 to h264 or h264hw to h264sw
  - Calls using h264sw.

https://www.panagenda.com/kbase/x/E4QeBw

Call Insights - Example

6 Insight(s) found, Impacting **250** User(s) on **38** Network(s)

2	5	1	4	2
Insight(s) detected	User(s) Affected	User(s) on Wired	User(s) on Wi-Fi	User(s) switching Device/Platform

Insights

Insight 1	CallerDisplayName 2	ManagedShortNetworkNa...	ManagedNetworkId	Teams NetworkType	Au
Audio stream was transferred between mobile an...	[redacted]	Unmanaged	Unmanaged	Wired	UD
Mid-Call Device Network Disconnect/Reconnect	5d169f5e-b91d-4fe6-ab05-fcc...	Unmanaged	Unmanaged	Wi-Fi	UD
Mid-Call Device Network Disconnect/Reconnect	87e9994a-8097-4f05-b62b-c6...	Unmanaged	Unmanaged	Wi-Fi	UD
Mid-Call Device Network Disconnect/Reconnect	caf83127-a776-4db9-9a77-e9...	Unmanaged	Unmanaged	Wi-Fi	UD
Mid-Call Device Network Disconnect/Reconnect	[redacted]	Unmanaged	Unmanaged	Wi-Fi	UD

Columns Filters

Entries: 5

Network Switches During Call

User	Network Changes During Call
No Issues Detected	

Device Platform(s) Used

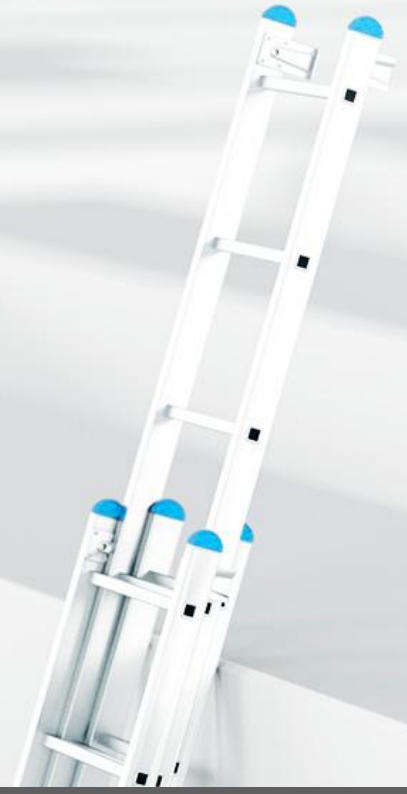
DisplayName	Platform	Platform Switches
[redacted]	Windows	
[redacted]	Windows	
[redacted]	Windows	
[redacted]	Windows	
[redacted]	Windows	
[redacted]	Windows	
[redacted]	Windows	
[redacted]	Windows, iOS	
[redacted]	Windows	
[redacted]	Windows	
[redacted]	Windows	
GraphCommunicationsClient-...	Azure App / Bot	
GraphCommunicationsClient-...	Azure App / Bot	
GraphCommunicationsClient-...	Azure App / Bot	
[redacted]	Windows	
[redacted]	Windows, Android	
[redacted]	Windows	
[redacted]	iOS	
[redacted]	Windows	
[redacted]	Windows	
[redacted]	Windows	

Call Insights - Example

InsightMessage	Users	ManagedNetworks
TCP was used for Audio traffic	274	10
Mid-Call Device Network Disconnect/Reconnect	88	20
User Experienced Mid-Call Failure(s)	7	6
Potential Firewall Port Exhaustion Detected	14	8
More than 5 BSSIDs were used	3	2
Audio stream was transferred between mobile and desktop versions of Teams	6	6
Audio switched between wired and Wi-Fi In-Call	8	

ManagedShortNetworkN...	Users ↓	InsightMessage	ManagedNetworkId
[redacted]	113	TCP was used for Audio traffic	10.[redacted]
[redacted]	66	TCP was used for Audio traffic	10.24.160.0/20
[redacted]	21	TCP was used for Audio traffic	Ur[redacted]
[redacted]	21	TCP was used for Audio traffic	10[redacted]
[redacted]	20	Mid-Call Device Network Disconnect/Reconnect	10[redacted]
[redacted]	18	TCP was used for Audio traffic	10[redacted]
[redacted]	18	TCP was used for Audio traffic	10[redacted]
[redacted]	13	TCP was used for Audio traffic	10[redacted]
[redacted]	12	Mid-Call Device Network Disconnect/Reconnect	10.24.160.0/20
[redacted]	7	Mid-Call Device Network Disconnect/Reconnect	10[redacted]
[redacted]	7	Mid-Call Device Network Disconnect/Reconnect	Ur[redacted]
[redacted]	5	Mid-Call Device Network Disconnect/Reconnect	17[redacted]
[redacted]	5	Potential Firewall Port Exhaustion Detected	10[redacted]
[redacted]	4	Mid-Call Device Network Disconnect/Reconnect	10[redacted]
[redacted]	4	Mid-Call Device Network Disconnect/Reconnect	10[redacted]
[redacted]	4	Mid-Call Device Network Disconnect/Reconnect	10[redacted]

LIVE DEMO



Customer Case:

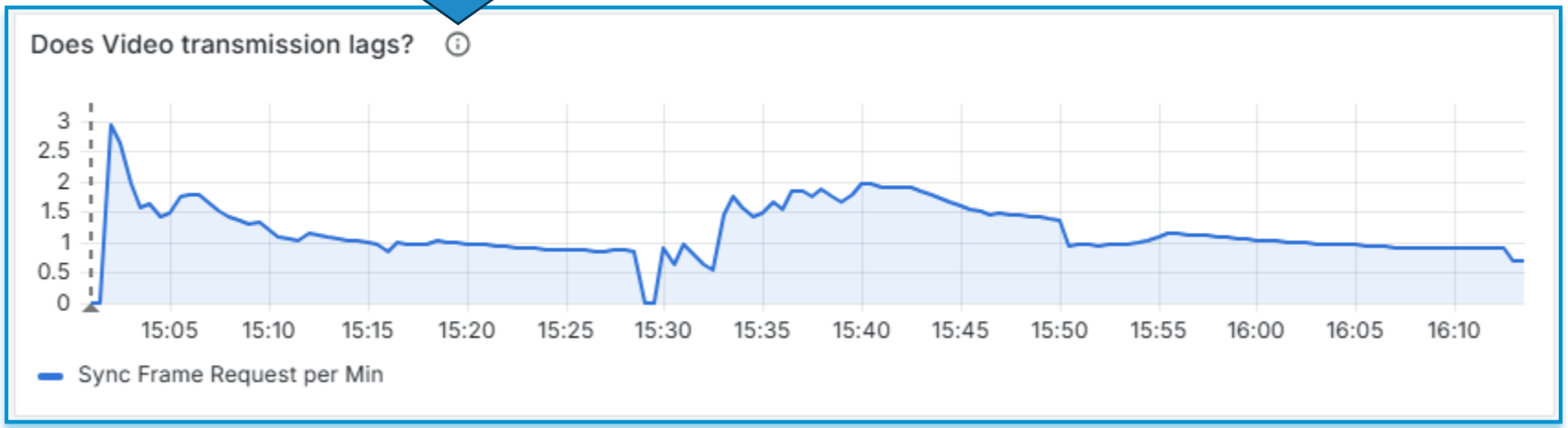
GPU or no GPU – that is the question

GPU or no GPU – that is the question

- We had a recent customer case (>50k users ; energy sector)

- Title: **My video lags in Teams calls (not matter if 1on1- or group calls)**
  - It started with a new laptop
    - Intel(R) Core(TM) Ultra 7 165H
    - 32GB Memory
    - NVIDIA RTX 1000 Ada; Intel(R) Arc(TM) Pro Graphics
    - Windows11 24H2 (Build 26100.xxxx)
    - Teams version 25107.1601.3586.7190
  - It happens independent from the network situation (home with or without VPN and office)
  - It doesn't have any effects on other people in the call
  - It happens persistently → multiple times per minutes (video freezes for ~5secs)

What we found out using TrueDEM's real-time data (video)



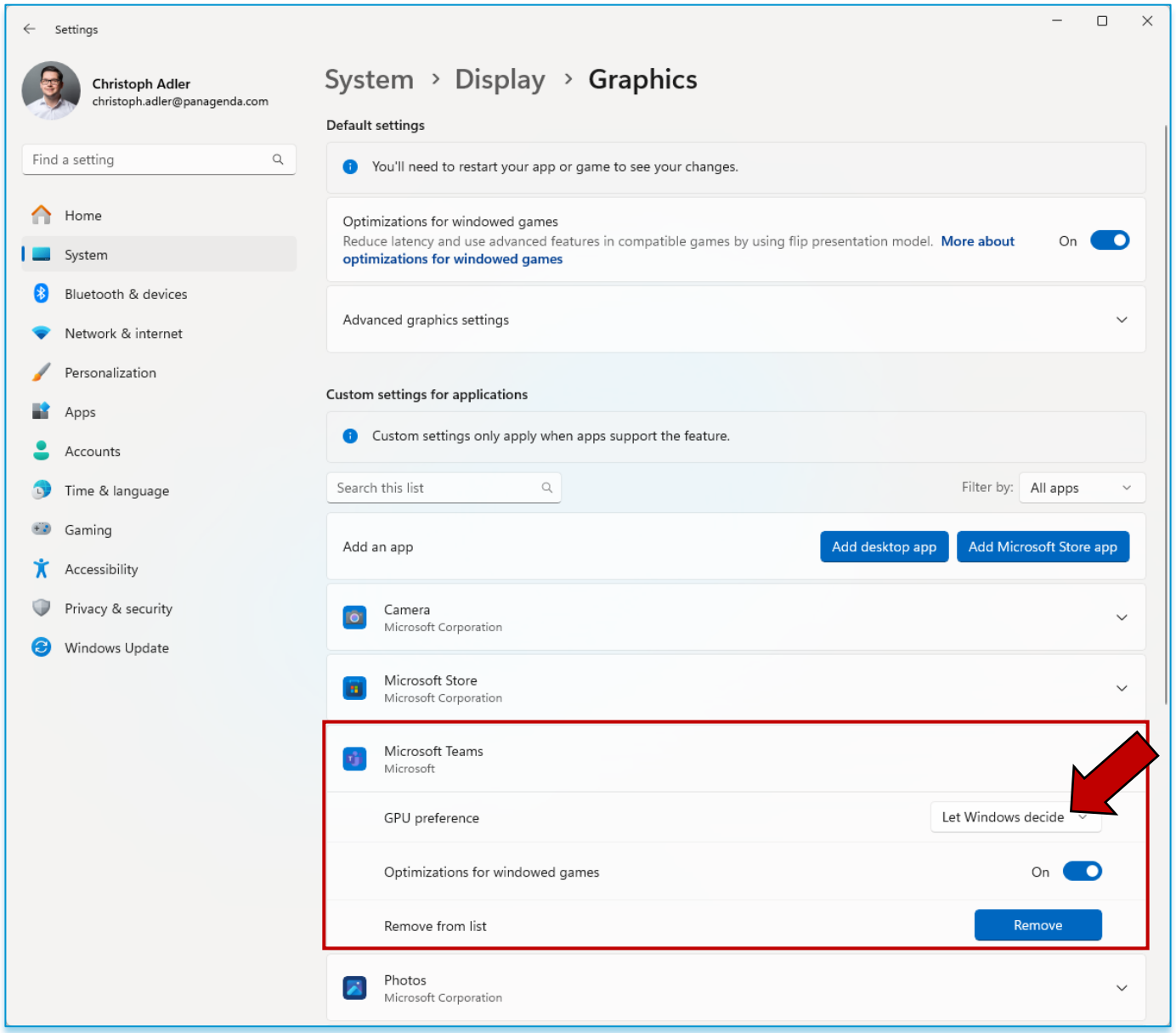
What we found out using TrueDEM's real-time data (raw data)

Raw Call Data

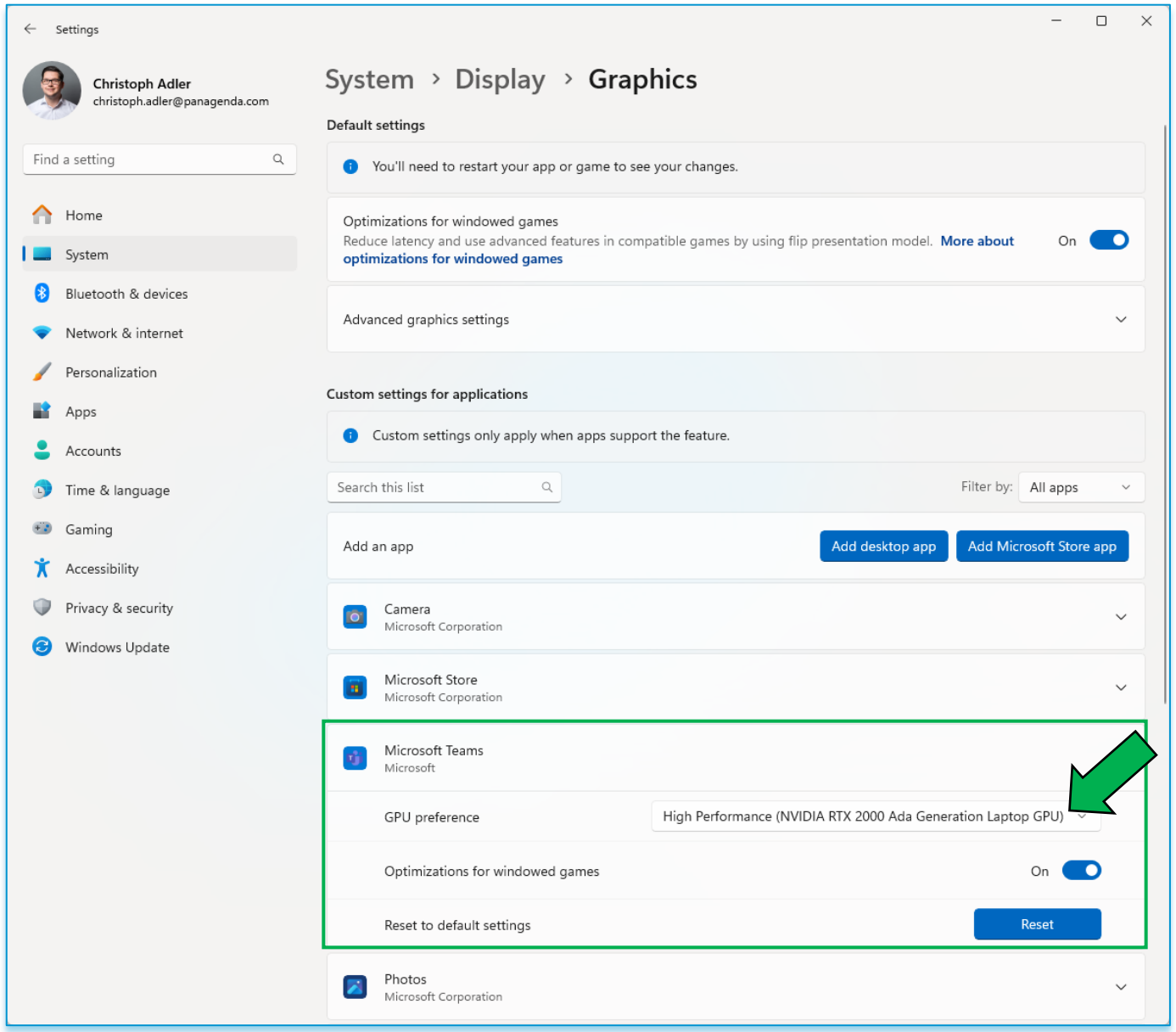
Raw Call Data

Video_RenderDeviceName	Video_RecvCodec	Video_SentCodec
NVIDIA RTX 1000 Ada Generation Laptop GPU;Intel(R) Arc(TM) Pro Graphics	h264 sw	h264 hw
NVIDIA RTX 1000 Ada Generation Laptop GPU;Intel(R) Arc(TM) Pro Graphics	h264 sw	h264 hw
NVIDIA RTX 1000 Ada Generation Laptop GPU;Intel(R) Arc(TM) Pro Graphics	h264 sw	h264 hw
NVIDIA RTX 1000 Ada Generation Laptop GPU;Intel(R) Arc(TM) Pro Graphics	h264 sw	h264 hw
NVIDIA RTX 1000 Ada Generation Laptop GPU;Intel(R) Arc(TM) Pro Graphics	h264 sw	h264 hw
NVIDIA RTX 1000 Ada Generation Laptop GPU;Intel(R) Arc(TM) Pro Graphics	h264 sw	h264 hw
NVIDIA RTX 1000 Ada Generation Laptop GPU;Intel(R) Arc(TM) Pro Graphics	h264 sw	h264 hw
NVIDIA RTX 1000 Ada Generation Laptop GPU;Intel(R) Arc(TM) Pro Graphics	h264 sw	h264 hw
NVIDIA RTX 1000 Ada Generation Laptop GPU;Intel(R) Arc(TM) Pro Graphics	h264 sw	h264 hw
NVIDIA RTX 1000 Ada Generation Laptop GPU;Intel(R) Arc(TM) Pro Graphics	h264 sw	h264 hw

Current situation



Solution


Settings
Christoph Adler
christoph.adler@panagenda.com
Find a setting
Home
System
Bluetooth & devices
Network & internet
Personalization
Apps
Accounts
Time & language
Gaming
Accessibility
Privacy & security
Windows Update
System › Display › Graphics
Default settings
You'll need to restart your app or game to see your changes.
Optimizations for windowed games
Reduce latency and use advanced features in compatible games by using flip presentation model. More about optimizations for windowed games
On
Advanced graphics settings
Custom settings for applications
Custom settings only apply when apps support the feature.
Search this list
Filter by: All apps
Add an app
Add desktop app
Add Microsoft Store app
Camera
Microsoft Corporation
Microsoft Store
Microsoft Corporation
Microsoft Teams
Microsoft
GPU preference
High Performance (NVIDIA RTX 2000 Ada Generation Laptop GPU)
Optimizations for windowed games
On
Reset to default settings
Reset
Photos
Microsoft Corporation

Perfect example of a future “Call Insight”

QUESTIONS?

THANK YOU!

WEBINAR Series

panagenda WEBINAR

Join Us Next Time On:

June 11th 2025