Video Interop in the Hybrid Work Environment

How interoperability decisions impact your workers every day.

March 2022
Introduction

The “new” way of working is not about where you work. And it’s not about using a specific application or service.

It’s about creating simple and engaging experiences that motivate your staff.

It’s about enabling your team to contribute and participate effectively.

It’s about fostering an inclusive environment that is equally accessible to everyone.

But most of all, it’s about letting your people work ...

- where they want
- how they want
- using the tools they prefer

What’s the common theme?

The new way of working (a.k.a. the hybrid work environment) is about using technology to empower employees to choose how they want to work.
The Hybrid Work Environment

How are companies meeting the hybrid work expectations of their global workforce?

That's easy …

VIDEO CONFERENCING

• By providing workers with powerful virtual meeting tools

• By creating more video-enabled workspaces in their offices

• By making almost every meeting a virtual meeting

• By treating in-office and remote workers as meeting equals – all the time

98% of all meetings will have at least one remote participant *

* Source: https://www.cisco.com/
The Interop Challenge

Today’s video conferencing solutions are reliable, affordable, and amazingly powerful.

So, what’s the problem?

**VIDEO INTEROPERABILITY**

Not all video conferencing systems can communicate with each other.

Even solutions that do “interoperate” often provide a compromised user experience (non-intuitive workflow, marginal audio/video quality, limited features., etc.).

Imagine that.

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Video interoperability issues can significantly impact the meeting experience.
Interop Challenge Examples

EXAMPLE #1
A pharmaceutical company uses one video conferencing platform in London and a different platform in New York.

As a result, calls between this company’s locations are complex to initiate and lack some key features.

EXAMPLE #2
A law firm makes and joins video calls with clients using different video platforms.

This causes frequent meeting delays (and even failures) and impacts day-to-day business.

This is the reality of today’s VIDEO INTEROPERABILITY

Interop challenges impact both internal meetings and meetings with externals.
Not all video interop approaches and solutions were created equal.

Solving Interop Issues

Good News! There are many ways to solve video interoperability issues.

But beware --- with video interop, the details matter …

• Some work with specific systems or platforms only
• Some involve additional cost (upfront or recurring)
• Some depend on additional products or services
• Some add significant complexity
• Some force users to bring laptops to the meeting rooms

And some approaches provide basic interoperability only, resulting in a compromised overall experience.

The next section highlights the pros and cons of common video interop approaches available today.

Some video interop approaches add cost and provide a compromised user experience.
One option is to compel EVERYONE to use the same video conferencing platform or service. This is the dreaded corporate edict.

**PROS**
- Low cost (unless new systems must be purchased)
- Simplifies the meeting room estate
- Provides a consistent user experience and workflow
- Streamlines management of the video environment
- Avoids potential security issues during inter-platform calls

**CONS**
- Feels old-school and dictatorial
- May force users to abandon the platforms they know and like
- Such policies are difficult or even impossible to enforce
- May cause rogue deployments of users refusing to shift
- Addresses internal interop issues only (does not ensure successful calls with partners, clients, and prospects)

**REALITY**

For many reasons (technical, political, managerial), this approach does not work in most companies.
REALITY
This approach offers strong flexibility, but due to its trade-offs, many companies have not embraced BYOD.

Approach #2
Host Your Own Meeting (BYOD)

This approach uses a participant’s laptop to host the video meeting in the meeting room.

PROS
• Supports almost any video collaboration app or platform
• Utilizes the meeting room’s camera, mics, and speakers
• Offers strong usability for those familiar with personal apps
• Provides obsolescence protection

CONS
• Only works with BYOD-capable video solutions
• Requires “host” participant’s laptop and takes over that laptop for the duration of the session
• Depends on the laptop’s mic, speaker, and camera settings
• Uses apps optimized for personal use (not meeting room use)
• Each desktop app uses its “native” UI (confuses some users)
• Some meeting controls available on the host’s laptop only
• Unlikely to support dual-display or multi-camera experience
• Offers limited (if any) remote monitoring and management
**Approach #3**  
The Meeting Room PC

This approach involves the use of a desktop PC running multiple apps in the meeting room.

**PROS**
- Supports almost any video collaboration app or platform
- Utilizes the meeting room’s camera, mics, and speakers
- Offers strong usability for those familiar with personal apps
- Supports use of shared login (easy for users) or personal login (provides access to user’s files, contacts, etc.)
- Provides obsolescence protection

**CONS**
- Requires the installation and upkeep of a meeting room PC
- Requires BYOD-ready AV devices in the meeting room
- Uses apps optimized for personal (not meeting room) use
- Each desktop app uses its “native” UI (confuses some users)
- Often provides a compromised meeting join workflow (even when launcher apps are used)
- Need to log in to PC causes delays, security concerns, etc.
- Offers limited (if any) remote monitoring and management

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**REALITY**

The need to buy, install, and manage a shared meeting room PC and related security concerns make this approach less interesting for many organizations.
This approach uses additional AV equipment to add BYOD or multiplatform support in the meeting room.

**PROS**
- Allows rooms to support multiple video apps / platforms
- Adds flexibility to existing meeting rooms and systems
- Can be customized to meet specific feature & workflow needs

**CONS**
- Adds significant additional cost and complexity
- Requires the installation of additional devices in the room
- Typically involves custom designs and professional installation
- May require an AV control system to make the system “usable”
- Often takes weeks or months (or longer) to install

**REALITY**
This approach adds flexibility, but is often too expensive and complex for large-scale deployments.
Approach #5
Video Conferencing Standards

Following defined standards (SIP / H.323) allows interoperability between systems and platforms.

PROS
- Leverages long-standing, field-proven comms protocols
- Allows calls with legacy video systems and platforms
- Supported by many video conferencing products/platforms
- May allow direct (system to system) communications if both systems support the chosen standard

CONS
- Not all systems and platforms support standards
- Not all standards implementations are the same (some interop issues may remain)
- Some usability and experience features are not covered by the standards (provides a basic interop experience only)

REALITY

Video conferencing standards promote interoperability, but not all systems and platforms support standards.

Also, using standards may limit the available features and the overall user experience.

STANDARDS
REALITY

WebRTC is a relatively modern communication standard, but workflow, user interface, and the overall user experience provided varies by vendor and platform.

Approach #6
WebRTC

WebRTC is designed to simplify adding real-time communications (RTC) to web browsers.

PROS
• Supported by many leading video calling platforms (e.g., Cisco, Google, Microsoft, and Zoom)
• Supported by some current-generation video systems (depending on device and platform in use)
• Typically offers an easy meeting join workflow
• Doesn’t typically require additional gateways or licenses

CONS
• Not all systems or platforms support WebRTC
• Uses guest access to join meetings, which may impact workflow (based on security settings) and available features
• User interface varies between vendors / platforms
• Quality of experience depends on each vendor’s WebRTC implementation within their device and platform / service.
Approach #7
Gateway Services

Gateway services let video systems and users dial into meetings on incompatible platforms.

PROS
- No hardware to purchase or install
- Relatively quick to deploy
- Gateway service is managed by others
- Accessible to the entire company (not just one user or room)
- Lets participants use the native UI of their chosen platform

CONS
- Adds additional cost (usually a monthly or annual fee)
- Typically supports dial-in only (not dial-out-from meetings)
- Available for some platforms only (e.g., Meet, Teams)
- May require some initial configuration / integration
- May impact scheduling or join workflow
- May introduce compromises (call quality, layouts, features)
- May not be acceptable to organizations unwilling or unable to use cloud services (e.g., for security reasons)
Some video systems (typically Android video bars) support multiple collaboration apps & platforms.

**PROS**
- Video bar typically includes mics, speakers, and camera
- Video bar form factor offers quick and easy installation
- May include BYOD support (depends on device/app in use)
- Ability to change platforms gives obsolescence protection
- Offers “native” experience on each supported platform
- Does not depend on additional hardware or gateway services

**CONS**
- Video bars may not support large or special spaces
- Only support specific “approved” video apps and platforms
- Customer must purchase licenses for each platform to be used
- Changing platforms takes time and requires an admin (today)
- Each app uses its “native” UI (may confuse some users)
- Using multiple apps and platforms complicates management (e.g., capturing/analyzing usage data, resolving issues, etc.)

**REALITY**

These devices provide obsolescence protection and a native experience on multiple platforms.

But the interop benefits are limited to BYOD (if supported) and the interop capabilities of the app/platform in use.

**Approach #8**

Multi-App Devices
Making Good Interop Decisions

There are many ways to avoid interop issues.
To make informed decisions, customers should:

**THINK** about who your users need to meet with (colleagues, partners, clients) over video

**FOCUS** on making things quick, simple, and consistent

**PRIORITIZE** the meeting experience (video/audio quality, meeting join workflow, supported features)

**UNDERSTAND** the cost impact of each approach

**SEEK** solutions that offer strong security & management

**CONSIDER** today’s & tomorrow’s interop requirements

**TAKE** the simplest approach (Occam’s Razor applies)

**REMEMBER** – The right solution may be a combination of multiple approaches
Summary

Companies should look for video conferencing products and services that support the right combination of interop approaches to address their specific needs.

For most companies, video interop is NOT a one-size-fits-all discussion.
Solution Spotlight

The sponsor of this eBook (Cisco Systems) supports many of the interop approaches described above.
One Ecosystem – Many Approaches

BYOD / USB Passthrough

All currently available Webex Room, Board, and Desk video systems from Cisco support BYOD (natively or using an external INOGENI HDMI to USB Adapter).

This native BYOD support allows meeting room users to host and join meetings on almost any platform.

Video Conferencing Standards

All Webex Room, Board, and Desk video systems from Cisco, and the Webex cloud service, offer bi-directional SIP and H.323 support without the need for additional licenses or gateways.

This native SIP / H.323 support lets Cisco video systems join meetings on other platforms (and vice-versa).
One Ecosystem – Many Approaches

Gateway Service

The “Cisco Webex Video Integration for Microsoft Teams” (or VIMT) cloud service lets Webex customers with the proper license dial into Microsoft Teams meetings using SIP.

WebRTC Support

Cisco’s WebRTC support let’s Cisco Webex Rooms devices:

- Join scheduled Microsoft Teams meetings with “one-button-to-push” on a Cisco touch panel
- Join scheduled Google Meet meetings using “one-button-to-push” and dial into Google Meet Meetings

Google Meet Systems can also join Cisco Webex meetings.
Recon Research conducted extensive interop testing between numerous video conferencing devices and the leading video calling services and platforms.

This hands-on testing confirmed that Cisco’s support for various interop approaches (USB passthrough, SIP / H.323, WebRTC, and Gateway services) enables video calling with a wide range of third-party products and services. *

* This effort did not include hands-on testing of Cisco’s Microsoft Teams gateway service.
THANK YOU!