Telepresence vs Video Conferencing
Finding the right fit for your business

Telepresence and video conferencing offer many benefits to organizations of all sizes. You don’t have to dig very deep to understand that video meetings are both effective and lucrative for the tech-savvy company.

A short list of video collaboration praises might read:
• Better communication
• Multi-party engagement
• Increased productivity
• Savings on corporate travel
• Higher interpersonal trust and accountability

The big question is, “What is the difference between telepresence and video conferencing,” and “Why does it matter?” This guide will provide you with practical answers to important communication questions. Let’s lay some ground work with basic definitions and technical information.

**Video Conferencing:**
Software-based video meetings. Runs on a PC, laptop, or mobile device. Webex, Skype, Google Hangout

**Telepresence:**
Hardware-based video meetings. Dedicated processing unit. Large displays. Vu Telepresence, Polycom, Cisco. Often includes a software component for PC, laptop, or mobile users.
The Camera Lens

First, let’s address the differences in video quality, determined by the camera lens.

Traditional video conferencing uses a webcam. Webcams are designed for close range image capture where the optimal distance from the subject is less than 3 feet from the lens.

<table>
<thead>
<tr>
<th>Positives:</th>
<th>Negatives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Small form factor.</td>
<td>• Image distortion (bloating).</td>
</tr>
<tr>
<td>• Less data transfer.</td>
<td>• One or two user limit on camera.</td>
</tr>
<tr>
<td>• Cheap and easily accessible.</td>
<td>• High data compression.</td>
</tr>
<tr>
<td></td>
<td>• Low to mid-level image quality.</td>
</tr>
</tbody>
</table>

Telepresence uses full lens cameras which send video signals to a media control unit (MCU). These cameras have an optical zoom and focus – and sometimes they have remote panning and tilting capabilities.

<table>
<thead>
<tr>
<th>Positives:</th>
<th>Negatives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Full HD quality.</td>
<td>• More bandwidth required.</td>
</tr>
<tr>
<td>• Natural representation of the user and environment.</td>
<td>• Larger form factor by comparison.</td>
</tr>
<tr>
<td>• Designed to capture multiple users in the same room.</td>
<td></td>
</tr>
<tr>
<td>• Highest level of image control.</td>
<td></td>
</tr>
</tbody>
</table>
The Microphone
Next, let’s understand the differences in audio quality.

Microphones for PC-based video conferencing solutions are meant for close-range speech and one voice at a time. These microphones pick up a fraction of the tonality in your voice and compress the sound.

**Positives:**
- Built into most laptops.
- Easily accessible.
- Good for close range.

**Negatives:**
- Limited sensitivity control.
- Limited recording spectrum.
- Limited range.

Telepresence systems include high quality microphones capable of listening to many voices at once. They capture the entire vocal spectrum and reproduce the human voice near reality.

**Positives:**
- Supports multiple users.
- 10+ feet diameter range pickup.
- Built-in echo cancellation.
- Realistic voice representation.

**Negatives:**
- Less portable.
The Display

In our comparison of video conferencing and telepresence, display size plays a critical role.

**Most PC-based video conferencing** lets you use any computer monitor that you choose. However, on most laptops you are locked into a screen size of 17”.

**Positives:**
- Easy desktop video chatting.
- Portability.

**Negatives:**
- Lifelike experience unachievable.
- Too small for meeting rooms.

**Telepresence systems** always use high definition large screen monitors. Their processing algorithms are designed to enlarge compressed data onto big displays at excellent quality.

**Positives:**
- Lifelike virtual meetings.
- Works for meeting rooms or board rooms.
- Users can see fine detail.
- Multiple people fit on screen at the same time.

**Negatives:**
- Requires more space.
- Not as portable.
Connectivity

Every office building has different network bandwidth based on the contract with its internet service provider.

Software-based video conferencing requires the least amount of bandwidth by sacrificing image size and quality. Popular solutions transfer video signal at maximums of 256kbps. This means that dozens of connections can be made, but users will be displayed in a very small window.

**Positives:**
- Mobility.
- Capability to host multiple users on the same network.

**Negatives:**
- Very Limited Quality

Hardware-based telepresence solutions require more bandwidth than video conferencing in order to provide the best visual experience. HD telepresence can run anywhere from 800kbps to 2.4mbps. The dedicated media compression unit optimizes the data signal for transfer and compression/decompression. Some telepresence solutions can continue unbroken SD video transfers down to 450kbps in the event of a network hiccup.

**Positives:**
- Highest possible video and audio quality.

**Negatives:**
- Immobility
Security
This item has proven to be one of the most critical concerns depending on the type of business interested.

PC-based video conferencing services leave you wide-open to cyber attacks and video interception. Many businesses hesitate to approach such services on this fear alone. These cloud-based platforms use no encryption, and they are easily hacked into.

**Positives:**
- Ease of accessing cloud-based video conferencing.

**Negatives:**
- Cyber threats.
- Breach of compliances.

Some telepresence systems have data encryption to protect your meetings. It would be disastrous for the sensitive information of many companies to be leaked on behalf of poor security measures. This is a big differentiator for telepresence.

**Positives:**
- True security from cyber-attacks.
- Certain industries maintain regulatory compliance.

**Negatives:**
- Requires hardware-based solution for compression/decompression.
Choosing the right solution for your business

To determine if you need a telepresence solution or a video conferencing solution you should assess your business need.

**Here are some questions to ask yourself:**

1. How many endpoints will need to join the video call?
2. How many people need to be on screen?
3. How professional should the video meeting appear?
4. Does my business have security concerns or regulatory compliance to meet?
5. Does my video meeting solution have to be mobile?
6. Will my solution be for a meeting space or a desktop?
7. Do participants need to see detail, such as a white board?
8. Will I be using this to communicate with executives, clients, partners?
9. Do I require continuous, clear, jitter-free video and audio?

PC-based video conferencing is best suited for quick casual meetings. The data-compression in video conferencing creates an inconsistent, frequently jittery experience. It does the trick if all you need is to see someone’s face. However, the hiccups take away a layer of professionalism.

The other great use of video conferencing is for companies that require double digit endpoints. Perhaps it’s a webinar with 100 participants. Maybe it’s a global announcement requiring 25+ people to join on video. Because of the super-low bandwidth requirements, video conferencing is best suited for these applications.

Telepresence is the most professional way to do video meetings. Continuous HD video and audio present a lifelike experience so the users don’t get distracted by the technology. It is designed for people to communicate freely, and in a way that represents them as they truly are. Users can talk with their hands or use body language and facial expression to share ideas. This maintains a level of trust and professionalism that can’t be attained by a low-quality video chat.

In order to achieve a true telepresence experience you need to use a display that represents the opposite user as true-to life as possible. This life-like experience begins with display sizes above 42 inches. Especially in the meeting room, you need a large display. Video conferencing is a better option for cubicle settings, since most mobile users or cubicles can’t use large displays.
Vu Telepresence is a hardware-based telepresence system. Vu’s propriety camera is designed to make video meetings effective for one or many participants. For groups, zoom out to include everyone in frame. For individual users, zoom in and find your best framing.

Vu’s microphones have been developed for the meeting room environment, providing superior audio quality when compared to stock PC microphones. Your entire vocal spectrum will be represented accurately, and built-in echo cancellation makes for natural conversation.

Vu Telepresence was built to bring you a true telepresence experience in as many environments as possible, regardless of bandwidth restrictions. It operates best at 800kbps, however you will have a continuous video experience down to 450kbps if needed. Compare this to HD Skype which has a minimum bandwidth requirement of 1200kbps, and Vu triumphs in every application.

Vu also has built 128 bit encryption in point to point video calls, a feature not available on any software-based video conferencing. This setting will keep you out of the cloud altogether. There’s no more secure way to meet by video.

Want to learn more?
Let’s talk about how we can add a video meeting solution to your conference room or executive office.
www.VuTelepresence.com

For sales inquiries please contact:

**USA**
stephen@vutelepresence.com
724-944-2272

**India**
anuj@vutelepresence.com
+91- 9820394075

**Other**
ahmad@vutelepresence.com
+91- 9320436212