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50 Years of Growth, Innovation and Leadership

Enable Ubiquitous Visual Collaboration without Breaking the Bank
How to Address the Key Challenges of Video Conferencing
Deployments in Meeting Rooms

A Frost & Sullivan
White Paper

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EXECUTIVE SUMMARY

Global competition, economic uncertainty, and the changing nature of the workplace are compelling businesses to boost collaboration in order to become more agile and responsive. Frost & Sullivan research shows that effective collaboration with teams delivers a competitive advantage, and video communications can play a critical role in this endeavor: they allow users to see one another face-to-face, reading facial expressions and body language, without having to incur the high costs and low productivity associated with most business travel.

But traditional, room-based telepresence and executive video conferencing systems are expensive and complex, requiring training, management and advanced scheduling techniques to be effective. As a result, they are rarely available to everyone in the organization. In response, many companies are deploying low-cost desktop video solutions at users' desks and in conference rooms, letting people connect to multi-user meetings. Desktop video requires very little training and maintenance, and it appeals to users who are already using Skype and other consumer-grade video communications tools on their personal devices.

But there is a gap in the market between room-based systems and desktop video conferencing; one delivers a high-quality experience but at a cost, while the other is available to all employees and is easy to use, but does not deliver a professional image and is less effective for group collaboration. To bridge this gap, companies should pay attention to the audio and video peripherals that help support the new technology. Non-optimized peripherals can significantly degrade the quality of the video collaboration experience. In order to gain maximum benefit from their investments, businesses must deploy peripherals that support HD audio and video, and integrate with multiple-vendor platforms and devices. Professional, integrated, full-duplex speakerphone and webcam peripherals that can tilt, pan and zoom, as well as allow remote control, can help enable effective, economical, and timely collaboration from anywhere.

HIGH-END VIDEO COLLABORATION SOLUTIONS REMAIN OUT OF REACH FOR THE MASS MARKET

Cost, interoperability, complexity and space limitations prevent many businesses from deploying room-based, telepresence and executive video conferencing solutions on a large scale, sometimes leaving out key user groups that can benefit from video collaboration. Frost & Sullivan's research shows that, in 31 percent of organizations currently deploying video, it is only used by senior management.

Affordability: The cost of existing videoconferencing solutions—ranging from as little as \$2,500 for an executive desktop to as much as \$500,000 for a fully integrated immersive telepresence suite—is prohibitive for most organizations. According to a Frost & Sullivan survey, cost is the main barrier to adoption among 42 percent of organizations currently not deploying video.

Interoperability: Interoperability and complexity concerns also deter broader video adoption. According to Frost & Sullivan research, lack of user training and difficulty in implementing and integrating video conferencing solutions rank among the top five reasons for delayed implementation.

Real Estate Limitation: Additionally, real estate constraints, such as scarce video-enabled conference rooms requiring advance reservations, effectively prevent a large portion of enterprise users from accessing existing video equipment for unplanned, yet urgent, team collaboration events.

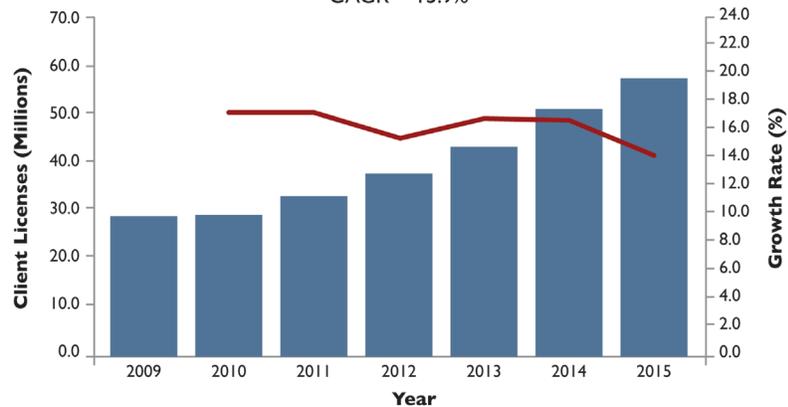
DESKTOP VIDEO COLLABORATION TOOLS ADDRESS MASS MARKET’S PAIN POINTS

The challenges of deploying executive and room-based video systems have pushed businesses to adopt desktop video conferencing—either as purpose-built solutions or integrated in Web conferencing and unified communications (UC) platforms such as Microsoft’s Lync and Office 365 suites, or even as consumer tools such as Skype or Google Talk. Desktop video conferencing enables users to collaborate more easily and conveniently using their PCs and laptops, anywhere and at any time. More importantly, it is accessible to a broader range of organizations and users due to its low upfront costs and ease of use, requiring little or no training. Because of this low barrier to entry, some companies are deploying desktop video in conference rooms to enable a group meeting experience.

Frost & Sullivan expects demand for desktop video conferencing to be strong and user license shipments to grow at a compound annual growth rate (CAGR) of 15.9 percent from 2010 until 2015.

Total Market Forecast—Desktop Videoconferencing Clients

Desktop Videoconferencing Market: Total Client Licenses Sold (Global), 2009–2015
CAGR = 15.9%



	2009	2010	2011	2012	2013	2014	2015
Client Licenses Sold (Millions)	27.4	27.5	32.1	37.2	43.3	50.4	57.5
Growth Rate (%)		16.9	16.9	15.6	16.6	16.4	14.0

The Gap in Video Conferencing Solutions

Existing solutions cater to a limited set of use cases:

Standard and Immersive Video Rooms

Sophisticated room-based video conferencing and immersive telepresence systems remain the most appropriate solution for high-end collaboration events that require superior audio and video quality, and which need to accommodate large groups of people.

One-to-One Video Collaboration

Executive desktop solutions support professional one-to-one video communications at the workplace, whereas consumer video applications such as Skype and Google Talk provide a viable alternative for casual one-to-one video communications or occasional small group meetings using external HD webcams and PC speakers.

There exists a gap in the market due to unmet customer needs:

Professional Video for Small Group Meetings

Growing demand for small group collaboration events on the fly (anywhere, anytime the business need arises) requires affordable and flexible business-grade desktop video conferencing applications and peripherals that deliver a professional experience and boost productivity.

NON-OPTIMIZED PERIPHERALS POSE NEW CHALLENGES AS A SUBSTITUTE FOR PROFESSIONAL VIDEO ENDPOINTS IN MEETING ROOMS

To get the most value from desktop video applications, companies should deploy the right peripherals to support their collaboration effort, especially in conference rooms, since the quality of the desktop video conferencing experience can be degraded significantly by the poor audio and video capabilities built into most PCs.

Most PCs and older-generation laptops are not even equipped with webcams. In newer laptops that do have an embedded camera, the image is choppy, dark and distorted, and the resolution is too low to support a professional experience. Even with an external HD webcam, it is challenging for more than one person to effectively participate in a multi-user session using a desktop PC or laptop. With the lack of wide field of view or correct height to view participants, end users end up huddling around the PC, causing discomfort, which can discourage frequent use. Also with embedded microphones, audio quality from the receiving end can vary based on the position of the user who is speaking.

With such limitations, desktop video isn't able to scale on some of the technology's most valuable applications, such as product demos, hands-on training or technical support in a conference room.

APPROPRIATE VIDEO CONFERENCING PERIPHERALS BOOST THE USER EXPERIENCE

To ensure maximum return on investment, businesses investing in desktop video that are trying to emulate a video conferencing environment must deploy advanced, business-grade peripherals that help boost the user experience and thus encourage adoption and use.

Purpose-built, professional audio and video peripherals typically offer best-of-breed functionality and help overcome the shortcomings of audio and video capabilities embedded in the most common computing devices. In order to optimize business collaboration in a multi-user meeting environment, whether in a small conference room or executive office, audio and video peripherals should deliver the following benefits:

Portability: Purpose-built video peripherals enable users to replicate a professional collaboration experience across multiple devices and physical locations. For example, users can take the peripherals with them when working from home, a conference room, a client's site or a co-worker's desk. Such peripherals are the preferred choice for heavy conferencing users that require access to video capabilities on the go.

Superior audio and video quality: Audio and video quality are critical for effective communications and collaboration. Advanced collaboration solutions supporting HD audio and video are increasingly available. Businesses looking to maximize the return on their investment in HD applications and infrastructure must deploy peripherals that also support HD in order to deliver superior quality to the end user.

Webcam flexibility: More flexible peripherals that can be positioned to capture specific angles or parts of the environment can deliver greater value. Frequently, collaborative sessions involve dynamic content, such as users writing on a white board, manipulating equipment and demonstrating functionality, or visually enacting a concept. A webcam that rotates, tilts, zooms and extends, and thus follows users around the room, can help conference participants accomplish more and have a richer collaborative experience. Furthermore, the flexible webcam allows users to spread out and avoid the physical and emotional discomfort of crowding in a confined space.

Natural height level: The ability to adjust the webcam to eye level can help present a more flattering image of the participants, which can impact user confidence, the desire to use the video application more frequently, and the ability to communicate more effectively.

Webcam zoom and autofocus: Superior webcam zoom and autofocus capabilities enable users to share printed documents, product details or other information during a video conference with greater clarity and precision.

Integrated audio and video peripherals: While standalone USB webcams are widely available, microphones are typically embedded in PCs and laptops, which makes them highly dependent on the audio capabilities, position, and portability of these devices. A combined portable webcam with a full-duplex speakerphone can help ensure that both the video and audio capabilities are independent of the computing device and positioned in the most convenient way for the purposes of the meeting.

Full-duplex speakerphone with omni-directional sound and noise/echo cancellation: A full-duplex speakerphone with omni-directional sound can help ensure consistent audio quality as collaboration participants move around the room. Furthermore, peripherals with advanced noise cancellation allow users to multi-task during a video conference without disturbing those at the receiving end. Such peripherals also help businesses address noise-at-work regulations, protecting employees from the health hazards of continued exposure to loud noises.

Independent device control, including remote control: The ability to use separate controls on a portable webcam and speakerphone empowers users to more easily and quickly answer a call or hang up. Collaboration participants also benefit from the ability to easily pan, tilt and zoom the camera to look at a white board or to the person talking. The ability to remotely control volume (including a mute button) as well as the call itself is most beneficial when dynamic content is presented, and the participants are mobile throughout the collaboration session.

Headset audio jack: When users require privacy they will benefit from the ability to use a headset. Peripherals that offer this capability can serve multiple purposes and support a broader range of video collaboration events.

Computing device compatibility: Audio and video peripherals compatible with both PCs and Macs offer investment protection to businesses supporting different systems at the same time or planning a switch in the future. Additionally, such peripherals are more convenient for users that may have different systems at home and at work.

Video conferencing platform compatibility: Audio and video peripherals must be compatible with major video conferencing platforms such as Microsoft Lync, Skype and Google Talk in order to support a multi-vendor environment, which is typical for most businesses.

Audio and Video Peripheral Capabilities	End User Benefits
Portability	<ul style="list-style-type: none"> • Consistent experience across devices and locations
HD audio and video	<ul style="list-style-type: none"> • Superior audio and video quality • Greater user satisfaction and more frequent usage of video conferencing • Improved user productivity through collaboration • More professional image
Webcam flexibility (tilt, rotate, extend)	<ul style="list-style-type: none"> • Ability to present dynamic content • More flattering participant appearances • Improved productivity • Reduced physical and emotional discomfort
Natural height level	<ul style="list-style-type: none"> • More flattering participant appearances
Webcam zoom and autofocus	<ul style="list-style-type: none"> • Ability to share documents, product details and other information with greater video clarity
Integrated audio and video	<ul style="list-style-type: none"> • Convenience • Synchronized audio and video capabilities • Economical use of desktop real estate
Full-duplex speakerphone with omni sound and noise cancellation	<ul style="list-style-type: none"> • Independence of computing device • Ability to present dynamic content • Improved productivity (multi-tasking, elimination of noise distractions) • Greater user satisfaction and reduced health hazards • Compliance with noise-at-work regulations
Independent device control/remote control	<ul style="list-style-type: none"> • Convenience • Ability to present dynamic content
Headset audio jack	<ul style="list-style-type: none"> • Privacy • Support for personal and group use
Computing device compatibility	<ul style="list-style-type: none"> • Flexibility and convenience • Investment protection and improved ROI
Video conferencing platform compatibility	<ul style="list-style-type: none"> • Flexibility and convenience • Investment protection and improved ROI

CONCLUSION

A highly collaborative workplace helps foster innovation, accelerate decision-making, and grow revenues. Forward-thinking organizations are deploying video collaboration tools to harness the collective intelligence of their distributed workforce and improve customer service, while reducing travel costs and lost productivity. However, most businesses cannot afford to deploy complex, high-end video conferencing systems on a large scale. Desktop video conferencing presents a flexible and affordable alternative. But in order to maximize the return on such investments, businesses must carefully evaluate and deploy optimized professional peripherals that deliver superior audio and video quality and boost performance through an enhanced collaboration experience.

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