



## Successful Video Deployments Require Attention to Architecture: *Connecting Everything to Everyone from Anywhere*



F R O S T & S U L L I V A N

A Frost & Sullivan White Paper

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## INTRODUCTION

Video collaboration can play a significant role in improving communication across the organization, especially if it is deployed to and embraced by the majority of employees; if it can be leveraged by people outside the company, including partners and customers; and if it is integrated with other communications tools and business processes. Frost & Sullivan research shows that among companies that report extensive use of video throughout the organization, the benefits accrue at a much higher rate than they do for less-pervasive users.

However, these business benefits are best maximized when everyone who needs to be is regularly up and running on video collaboration. The key to driving usage at all levels is to embrace a video-enabled collaboration architecture that supports all users, regardless of what type of device or network they are on, and all forms of video, including real-time conferencing and asynchronous, on-demand content.

This paper will discuss the changing nature of business today, including the impact of an increasingly mobile and virtual workforce in a BYOT world; highlight the key benefits Frost & Sullivan research shows video conferencing can deliver; note advancements in video technology that are making it easy to deploy to everyone, everywhere; and suggest best practices for choosing a video provider. Most critically, it will detail the importance of architecture in supporting a successful video collaboration environment.

## BUSINESS CHALLENGES DRIVE THE NEED FOR NEW APPROACHES TO TECHNOLOGY

The world is changing rapidly, and the resulting business challenges continue to grow. In a recent Frost & Sullivan survey of more than 250 C-level executives, the vast majority cited the need to leverage social media in the enterprise, devise a workable mobile strategy, and support a virtual workplace as the biggest challenges they face in the next 12 months. These trends apply today to developed countries and multi-national corporations, but they will soon be felt in other regions and by growing organizations throughout the world.

All these challenges are the result—and to some extent the cause—of global shifts in the business culture. In today's increasingly virtual workplace, employees are working from locations that are different from their colleagues, managers and direct reports, as well as their customers and business partners. In this new business environment, it's critical that companies invest in and deploy advanced communications and collaboration technology, including video collaboration. Only in doing so will they be able to support their workforce in a way that enables rapid knowledge-sharing, immediate decision-making, and intelligent collaboration, all of which are key to success in a mobile and hyper-connected global business environment.

All companies must consider the challenges these CXOs are facing as they embark on a video collaboration implementation, since these dynamics affect architecture and decisions. Let's take a look at them one at a time:

**Mobility** The very definition of a “mobile worker” is changing. No longer limited to the road warriors of yore, today's mobile workers may spend the bulk of their time at the office and yet still regularly work away from their desks. Whether they are in a hot-desking environment, on a retail floor, working outside normal business hours from home or on the road, or staying in touch while at lunch or on other personal time, employees want and need to stay connected to their colleagues, partners, customers, and business processes.

*Supporting a Virtual Workplace* Frost & Sullivan research shows that survey respondents report that at least 25% of employees are remote, mobile or both. If enough people on a given team or at a given company routinely work away from the office, even those remaining at a traditional desk become “virtual,” as they struggle to stay connected to their far-flung co-workers. And, of course, business partners, suppliers and customers are almost always located separately from a company’s employees. In an increasingly global environment, it is critical that organizations support the growing number of virtual workers and use technology to strengthen the level of communication among them.

*Managing BYOT* The so-called consumerization of IT—otherwise known as “bring your own technology”—reflects the fact that employees are increasingly bringing their own devices, applications and services into work, and using them to improve productivity and performance. This can deliver measurable benefits to businesses, but it also poses a challenge, as companies must decide how to manage the trend. Key considerations include what devices and applications to allow and/or support, how to improve the user experience, how to deliver uniform video services to these end users, and how to architect an infrastructure that will make it easy, safe and convenient for employees to leverage their own technologies at the office—without negatively impacting network performance, compliance and security policies, or IT staff resources.

*Integrating with Other Collaboration Applications* When executives tell us they are worried about how to best leverage social media, what they often mean is that they are looking for ways to better and more fully integrate the vast array of communications and collaboration tools in their organizations. In the future, these will almost certainly include enterprise social media capabilities, but for now, executives are often more focused on advanced collaboration technologies such as Web and video conferencing. They are struggling with how to best deploy, support and leverage a wide array of business communication tools so that they deliver the benefits promised.

## THE DATA IS CLEAR: VIDEO COLLABORATION IMPROVES BUSINESS OUTCOMES

Video conferencing and collaboration technologies can address all these challenges. They deliver clearer communication, allowing people to see visual cues such as facial expressions and body language that help focus meeting participants and cross-geographic, language and cultural divides. Coupled with enhanced features such as application and screen sharing, integration with other collaboration tools and business processes, and recording and streaming capabilities, video collaboration can even improve in-person meetings for any user on any device.

Frost & Sullivan research shows that regular users of video conferencing realize bigger benefits from all their communications and collaboration applications. For instance, extensive users of video conferencing generally have a better impression of enterprise communications and collaboration technologies to advance and improve decision-making, customer service, competitiveness, and collaboration and productivity across dispersed teams—often by 10 or more percentage points.

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The shift in work styles is driving the need for an integrated collaboration architecture that includes pervasive video. As this occurs, IT managers and users will begin to naturally seek-out “video collaboration” solutions.

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“We have approximately 580 employees, and all are video enabled at the desktop in addition to having access to telepresence systems in their office,” said Troy Treto, video practice manager at Nexus, a solutions integrator based in Valencia, Calif. He expects usage to increase since the company recently upgraded its collaboration infrastructure to improve performance.“For us to realize our business goals, we had to ensure that our users would utilize video heavily to change the way they were doing business, and for that to happen, quality had to be great out of the gate. You can only ensure a high-quality experience by addressing the network and architecture as a whole.”

These data also clearly indicate video collaboration is mitigating the challenges of a dispersed and empowered workforce. Consider: 75% of extensive users of video conferencing say it improves collaboration and productivity across dispersed teams, compared with 56% of all respondents. And 75% of extensive users of video conferencing say it enhances employee mobility, compared with 49% of all respondents.

**Extensive video collaboration users are realizing significant business benefits:**

- 100% of such users say video conferencing helps them accelerate decision-making, compared with 58% of all survey respondents.
- 75% say video helps improve customer service, compared with 53% of all respondents.
- 50% of extensive users say it improves competitiveness, compared with 36% of all respondents.

## DESIGN AN ARCHITECTURE THAT IS CONNECTED TO EVERYTHING AND EVERYONE

The requirements of a successful next-generation video collaboration deployment create a pressure point on IT organizations. Integrating and connecting video with collaboration applications and business processes, ensuring it can adapt to any environment and user BYOT, and providing simple and intuitive experiences that can be personalized and available on any device can look like daunting tasks. Additionally, policy, security, and network considerations for video must be carefully evaluated to get pervasive video collaboration off the ground.

Frost & Sullivan research shows that companies looking to expand their video conferencing and collaboration capabilities must make sure their infrastructure can support new work styles. This goes well beyond ensuring the network can handle the increased traffic. Rather, advanced, ubiquitous communications and collaboration require an architecture that is simple, open, and flexible in order to give organizations of all sizes the choice to deliver the solutions they need when they need them. It must support and connect any type of deployment (cloud, premises, and hybrid), provide investment protection as future requirements shift, and maximize experiences for all users across any device and application securely.

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Executives who report extensive video conferencing usage within their organizations generally report better alignment between IT and their company's broader business goals. This suggests that an infrastructure that supports pervasive video adoption can directly correlate to supporting better business.

- 54% of video conferencing users say their IT and communications infrastructure improve employee effectiveness, compared with 45% of all respondents.
- 50% say their IT and communications infrastructure help them deliver a higher level of service, compared with 43% of all respondents.

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#### Support for Vast User Choice with a Consistent Experience

Although many employees' experiences with video collaboration are through traditional room-based systems, the ways in which end users access the technology today is expanding. A recent Frost & Sullivan survey of more than 850 IT decision-makers shows that the most frequent video conferencing endpoint is the desktop computer (whether Windows or Mac), followed by laptops and mobile phones. This shift can be attributed to both the new ways of working (a distributed, hyper-connected workforce demands that individual employees have individual access to video collaboration outside the conference room) and recent technology changes that make it possible to support and integrate software- and hardware-based solutions.

Clearly, organizations must support their end users on a wide variety of endpoints and devices. This will almost certainly require a mix of software- and hardware-based solutions, including applications that enable robust video collaboration on the desktop; dedicated systems that deliver an exceptional meeting experience; and conferencing solutions that make it all work together, regardless of the endpoint any given participant is using or the network he or she is connected to.

This requires that the platform is architected to adaptively deliver the best possible experience to every user, regardless of what type of endpoint he or she is on. So, for instance, if one meeting participant is on a smart phone, and another is in a telepresence room, they won't have the same video experience—but each should get the best possible resolution and audio quality as possible given the limitations of their respective devices and networks.

It also means the supporting architecture needs to be aware of individual users, so that device and application access is simple and connected to directory systems and policies; aware of a user's personalized features, preferences, and contact lists no matter what device they're on; and able to accommodate user-based commercial models that are easy to manage and change.



### Architecture Boosts Employee Choice and Flexibility:

- Ability to escalate to and from conference modes
- Ability to use scheduled and ad-hoc conferences
- Consistent meeting experiences, from sign-on to in-meeting tools, across all endpoints and platforms
- Customizable and persistent user experiences
- Security across heterogeneous endpoints
- Support for attendees inside and outside the firewall



### Integration with Other Applications and Services

On its own, video collaboration offers a wide array of benefits. But few organizations will use the technology as a stand-alone application. Rather than looking at video as a siloed technology, executives should approach it as one piece of a complete, integrated communications and collaboration infrastructure.

Start with the basics: can every user access video collaboration capabilities via his or her chosen endpoint, and can they communicate with one another across network and devices? The architecture must include conferencing capabilities that connect desktop and laptop PCs, smart phones and tablets, appliances, and room-based and telepresence systems—and deliver a high-quality experience to all users.

It is also important to consider the use of asynchronous video content and how that will impact data storage, security, policies and, of course, the network. A successful video collaboration architecture will support recorded and archived video calls, as well as stand-alone content delivered via video, such as vodcasts. Employees and customers are increasingly asking to access information as a video download or live stream, and forward-thinking companies will look for ways to integrate such capabilities into an overall video collaboration environment.



IT managers must consider the degree to which they want to integrate video into other applications, including UCC, back-office, and productivity tools.



Finally, IT managers must consider the degree to which they want to integrate video into other applications, including UCC, back-office and productivity tools. This will help them deliver contextual communications, making it easy for employees to leverage the benefits of video without leaving their day-to-day work environments, and support communications-enabled business processes (CEBP) by injecting video into key points along the way in any given process. (For instance, tight integration with sales force automation tools or video-enabled contact centers will positively impact customer service and support.) An open architecture constructed using standards-based technology, as well as open APIs and SDKs, is necessary to make such integration possible.

Nationwide, a UK-based financial services firm, wanted to provide more efficient access to its experts, allowing it to resolve customer service challenges and capture market share from competitors without having to hire more specialists. So the building society introduced a video-enabled remote advisor mortgage consulting service at times and places that met its customers' needs.

With its video-enabled collaboration architecture, Nationwide launched a pilot to test a remote advisor service. Whenever a customer had a question, branch staff used instant messaging (IM) to check on remote consultant availability; once connected, the customer spoke with the advisor in real time over video, reviewing documents and mortgage choices, and receiving documentation for review or signature.

Nationwide benchmarked customer satisfaction and found that while its branch-based mortgage consultants achieved net satisfaction scores of 70%, the Remote Advisor experience was rated at 90%. More than a third of respondents also said they would have considered going to another provider if they had not been able to get a Nationwide appointment immediately.

#### Deployment Models:A Cloud-Connected Architecture Extends Value

When it comes to video collaboration technologies, companies have a lot of choices—and the biggest may be whether to deploy premises-based or cloud-based solutions. *Cloud-based solutions* are becoming more popular, because they make it easy to scale up or down as needed, ensure that all users are on the most up-to-date version of the technology, enable connectivity across multiple networks, free up IT to manage more strategic initiatives, and spread out costs on a predictable schedule.

*Hybrid deployments* are increasingly common, especially among mid- and large-size organizations, because they let companies take advantage of the benefits of both CPE and cloud-based solutions, depending on the circumstances. For example, a company might decide to deploy several room-based systems at its corporate locations and manage them in house, making sure the relevant networks are tuned to deliver optimal performance. It might also choose to give its knowledge workers access to video on the desktop through cloud and on-premises solutions—based on factors such as usage, policy, and cost—so that employees can use video collaboration on their PCs and mobile devices from anywhere, on any network. It might likewise deploy room-based or appliance systems to remote offices around the globe by contracting out to a provider for managed services, if the company doesn't have on-site IT staff in those locations.

This cloud-connected architectural approach gives businesses maximum flexibility, while managing costs and maintaining the optimum level of control and consistent business-class features and functionality. IT managers may also deploy other services enabled via cloud to further augment existing capabilities, including the ability to host larger events or integrate with recording or Web conferencing services.

### **Benefits of a cloud-connected environment**

**Accelerate** usage on a global basis, including teleworkers, partners, suppliers, and customers.

**Maximize investments** in premises-based infrastructure while offering options to extend capacity/reach through subscription to cloud-based services on an as-needed basis.

**Drive effectiveness** with an architecture that supports common experiences and features, as well as the ability to shift capacity and service resources more dynamically to align with user needs.

### Synergize Core Network Capabilities, Monitoring and Management

As they deploy video collaboration to more end users on more devices, companies must prepare for a different degree of use. IT managers need to think about how to scale provisioning of end users and devices. Designing an architecture that enables centralized monitoring and management, as well as the ability to allow users to enable greater levels of personalization, can create greater efficiency.

Also, more usage will be ad-hoc rather than scheduled or will need to be scheduled by the end user, even when it comes to traditional room-based systems. This is great for employees, but it puts a burden on IT, which can no longer anticipate or control usage; the end result can be network overload, degraded performance, and negative impacts on other applications. So as they prepare to extend video collaboration to more users, companies must consider the necessary network upgrades any such deployments will demand and ensure they architect for peak usage without impacting other applications or ending up with unused resources on a regular basis. Policy-based infrastructure approaches can optimize resource utilization and automate policy decisions, which may include overflow to cloud-based resources.

To a great degree, this concern can be mitigated by treating video collaboration as an integral part of the overall communications, data and network infrastructure. One of the benefits of integrating video into other communications and collaboration applications is that doing so allows IT to develop universal management, monitoring and performance policies around the technology. But to truly enable such capabilities, companies must architect for it by deploying and applying the right tools and by ensuring they are integrated on the back end.

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Architect for network awareness and end-to-end monitoring and analytics, so you can route calls to optimize paths, isolate issues in call flows, and accelerate troubleshooting and issue resolution.

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### Service Velocity and Extensibility

As the pace of business accelerates, the ability for employees to quickly connect to applications, user communities and collaboration tools promises to streamline work processes and enable more intuitive ways of engaging with peers, customers and partners. An architectural approach simplifies the ability for IT groups to connect services, federate identity and policy, deploy software updates, and expanded communications and collaboration technologies.

A software-based architecture is key to enabling rapid service delivery, so that when feature updates are available or new services are required, IT managers can flexibly update their systems, whether virtual or dedicated. This also helps protect their investments and scale services quickly.

Furthermore, when an architecture can recognize individual users, employees can easily use all the services they have access to and escalate calls between voice, chat and video conferencing. Companies can also provide next-generation services, including mobility and hot-desking, for their employees, and rapidly upgrade in the face of new demands by customers, partners and external trends.



Service velocity can deliver rapid response to external changes. This is the case at Moffitt Cancer Center in Tampa, Fla., which uses video collaboration to enable telemedicine and to improve internal and external collaboration among caregivers and patients. “Our video-enabled collaboration architecture approach not only allows us to reach our partners, patients and other organizations, it enables us to project a professional image with the high-quality experience but also protects our investment for future expansion,” says John Maass, manager of Conferencing Technologies.



### **What to look for in a video collaboration provider**

As with any technology, functionality challenges in video collaboration create management headaches, user silos, low utilization and poor return on investment. Architecting for video collaboration can help eliminate these barriers, but you still need to partner with a vendor that will support your vision today and into the future. Key provider considerations include:

**Viability** Both your chosen vendor and the technology it produces should be around for the long haul. Standards and applications change, but it's critical that the provider you choose now will be around in five years to help you not only adapt to new markets and use cases, but also create them. Explore the vendor's technology roadmaps and partner relationships, and its willingness to participate in standards bodies.

**Integration** Make sure your video collaboration provider leverages the most widely adopted standards and is supportive of emerging standards that can complement your investments and make it easy to integrate video with other UCC applications.

**Deployment Choice** Whether you opt to deploy video on premises, in the cloud or as a combination, you'll want a provider that can support all three—you never know when your needs might change, and you don't want to be stuck switching suppliers mid-stream. You also should look for a vendor that supports both hardware and software solutions to allow you to optimize performance requirements.

**Anywhere, anytime, any device** As employees continue to look for ways to stay connected no matter where they are, companies must support video collaboration on a range of endpoints and networks. That includes room-based systems, PCs and Macs, smart phones and tablets. It also means supporting services on everything from optimized corporate networks to jittery public Internet connections.

## KEY TAKEAWAYS

When it comes to deploying video collaboration, companies should take a holistic approach to both the technology and the way they architect for it. Key considerations to achieving greater success include adopting video-enabled and video-aware technologies and architectures that:

- Leverage user-level insights, extending beyond infrastructure ports and applications, to create consistent and persistent experiences across devices.
- Integrate cloud services in a way that promotes flexibility without sacrificing quality, consistency, and performance.
- Connect to the network and across all users and applications for real-time management, resource planning, and troubleshooting.
- Are open and interoperable for integration across existing and next-gen UCC tools and business processes.
- Support modular, flexible, and extensible deployment models to respond to changing internal and external requirements, and protect your investments.

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