A Forrester Consulting Thought Leadership Paper Commissioned By Avaya

Video Collaboration Challenges And Opportunities

March 2012

FORRESTER®

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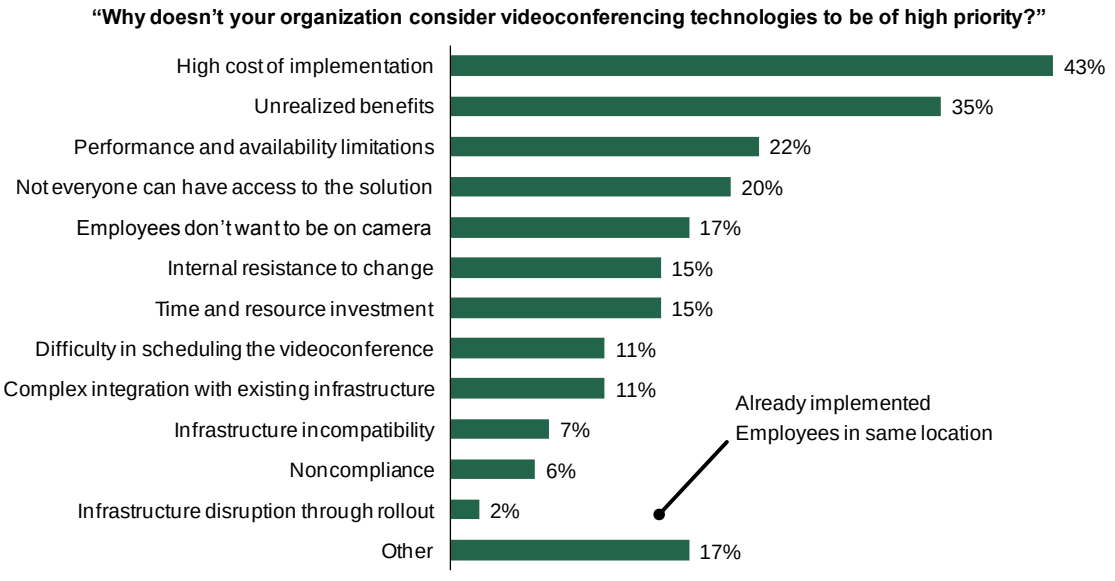
Implementation Challenges: Three Potential Risks And Mitigation Strategies

Video is a no-brainer to today's generation entering the workforce. The "YouTube" generation expects to be able to use video to express themselves and communicate. This desire brings video solutions into the workplace, as resourceful employees strive to be more effective in their role using the latest tools and technologies. As these resourceful employees prove the value of video in accelerating and improving communication — and thus collaboration and innovation — their peers and managers take notice and look to adopt similar solutions. One government agency describes desktop video today as part of the fabric of their organization — but it was initially introduced as a "rogue application" by employees looking to improve communication and coordination between departments less than five years ago.

As more groups adopt more video solutions — ranging from streaming corporate content, to desktop point-to-point live video, to high-definition multi-point videoconferencing — additional loads are introduced on the organization's network. Increasing video traffic requires additional network bandwidth capacity, and real-time video adds the additional complexity of managing quality of service beyond existing and prevailing network architecture capabilities. IT operations and planning professionals are faced with disjointed video adoption, which requires them to cobble together network infrastructures to meet poorly understood demand profiles, engineer interoperability interfaces, and define network architecture requirements. Implementation costs and unrealized benefits are frequently cited as the top concerns and reasons that videoconferencing is not considered a high priority (see Figure 1).

Figure 1
Implementation Costs And Unrealized Benefits Push Video Conferencing Down On The Priority List



Base: 54 US IT and business decision-makers at organizations with 1,000 or more employees

Source: A commissioned study conducted by Forrester Consulting on behalf of Avaya, January 2012

The best way to ensure that video works on your network and for your company is to avoid these three common risks:

Potential Risk No. 1: Interoperability Failures

> *"I have multiple desktop video solutions that have been implemented by business units, a collection of room-based videoconferencing endpoints of different ages and technologies from our preferred vendor. Now the executives want me to put in an immersive system from another vendor and I can't manage what we're already using."* (Videoconferencing project manager at a global consumer products company)

One of the most frequently cited issues is interoperability. One firm reported difficulty getting its existing high-definition rooms to display correctly on immersive desktops, while another was struggling to define the architectures and protocol translations required to connect its desktop UC client, which supported point-to-point and multipoint video communications, to its HD videoconferencing room network. Interoperability must be considered in architecting a network and applications infrastructure to support video:

- **Standardize or translate between signaling and coding protocols.** Protocols such as SIP and H.323 that set up and tear down video connections are used by different systems. Many video gateways and bridges perform this function, but network administrators need to make sure that all the endpoints (particularly in a multivendor environment), gateways, and bridges are configured to understand and translate signaling protocols on behalf of the endpoints. Codecs like H.264, SILK (Skype's video codec), RTAudio, and the Telepresence Interoperability Protocol (TIP) all define other protocol and codec parameters that may be required to interconnect heterogeneous endpoints. (Be careful: Not all H.264 is the same. H.264 AVC is known as MPEG-4 part 10, but H.264 annex G is not — employing a Scalable Video Codec [SVC] algorithm.)

- **Optimize bandwidth use.** Architect bridges and gateways to incorporate dynamic translation and deliver the appropriate resolutions for the video endpoints sending and receiving a video stream. For example, a smartphone today might look great displaying a stream with 640x480 resolution and H.264 compression at 30 frames per second using less than 2 Mbps of bandwidth, while a 60-inch HD videoconferencing endpoint would look most realistic with 1920x1080 resolutions and H.264 compression at 30 frames per second using around 6 Mbps — when displaying the same video stream.

- **Addressing must be standardized.** Using IP addresses was popular in early videoconferencing solutions and has proven difficult for users, occasionally failing within DHCP environments when addresses are dynamically reassigned. Some videoconferencing solutions include a searchable, natural language address book. This is great when all the endpoints are from the same vendor and of the same generation — an increasingly rare situation in today's fast-moving technology market. Standardized addressing, such as URI addressing, that is incorporated into gateway routers and corporate addressing schemes enables seamless connections between various endpoints — and even endpoints outside the enterprise if the edge routers are properly configured.

Risk Mitigation Strategy

Architecting the whole network for video and enabling open addressing and codec translation is a complicated and constantly shifting problem set. Be prepared to expend significant time on training and certifying your video technicians to design, deploy, manage, and operate your video estate. An alternative that 69% of respondent companies consider is using some form of managed or cloud service to deliver video solutions, passing those technical challenges off to a firm that derives its livelihood from understanding and maintaining video infrastructure.[1]

Potential Risk No. 2: Usability Failures

> *"If I have to wait five minutes for a videoconference to come up, I stop trying and just use an audio bridge."* (Senior corporate executive at a financial services firm)

Once a video solution is brought into the workplace, information workers (iWorkers) must use it to connect and communicate. Excellent quality of experience and intuitive and consistent user interfaces are the most critical elements to enabling this adoption to accelerate. Several common missteps include delivering video with obvious shortcomings such as:

- **Poor video resolution.** Users want clear audio in sync with recognizable video — or they might as well just use a telephone. When audio and video are reliably in sync, then iWorkers will desire higher resolutions. Video communications should replicate a life-like meeting experience to the greatest extent possible, enabling nuanced communication and ideation activities to take place naturally. When asked if he agrees with the sensitivity analysis in a business case, there's a big difference between a boss saying "Uh huh" while rolling his eyes and saying "Uh huh" while nodding his head thoughtfully and scribbling notes.
- **Unreliability of operation.** One company we spoke to was having issues with the reliability of its videoconferencing, requiring executives to advise IT of videoconferences in advance of the meeting time to establish the connections. If it takes more than 5 minutes to start a videoconference, meeting organizers immediately turn to the telephone and are unlikely to use the videoconferencing solution again. If the solution doesn't work as designed or work reliably to connect distant locations with high-quality video, then adoption will suffer and innovation with remote team members will continue to stagnate.
- **Non-intuitive or inconsistent interfaces.** One-click simplicity is the expectation of iWorkers based on today's consumer solutions, and delivering that at work will make them more productive. Enabling users to help each other by having uniform interfaces for desktop, room-based, immersive, and even streaming video solutions will ensure a smoother learning curve, driving higher adoption in the months immediately following deployment. Including requirements to use new applications, networks, passwords, and scheduling systems to access videoconferencing capabilities will delay or prevent adoption. One iWorker we spoke to found the scheduling system for her company's video solution so cumbersome that she kept a separate laptop on her desk just for the administration and scheduling of the videoconferencing facilities. One day, scheduling a meeting proved too difficult to accomplish via the laptop running the scheduling systems, and the video solution itself was disposed of not too long after.

Risk Mitigation Strategy

Testing the solution before you purchase and deploy it within your company is common sense that any buyer undertakes, but also look at all the connection points that can't be displayed in a demo environment. Does the scheduling system sync to your corporate calendaring solution? Do the video endpoints interoperate with your network administration console and quality of service paradigm? How easy will your users find the solution to adopt? Is it similar to other applications within your standard operating environment? Managing the interface points, or insisting that your vendor does, will prevent failures, and selecting a system with consistent, intuitive user interfaces will allow users to help each other learn the solution and leverage its capabilities to make video a part of their daily routines.

Potential Risk No. 3: Cultural Misalignment

> *"No matter what I do, my users won't use video. I sent out webcams to use with our new collaboration solution and I still see those boxes unopened all around the company."* (IT director at a midsize professional services firm)

Some companies, workgroups, and teams have higher needs for effective innovation and collaboration — like product designers, market development groups, or corporate strategy teams. These teams are made of individuals who may or may not really like or want to be on video. The intersection of these two streams — need for technology to connect distributed teams engaged in innovation and desire of individuals to connect via the most intimate means — will define the opportunity for video within your company. You must understand the cultural biases that may form obstacles to adoption before embarking on a video deployment program:

- **Some iWorkers don't want to be on camera.** Many corporate planners associate this purely with generational attributes, and while it may be generally true that younger workers are more likely to be willing to adopt video, we see more experienced groups of employees willing to adopt video as well, with more than a third of managers aged 36 to 50+ using desktop videoconferencing.[2] Just as not all students will try out for the play or volunteer to read announcements over the public address systems, not all information workers want to be seen on videoconferencing. There is also a role-specific fit for video, with 40% of directors and vice presidents reporting using desktop videoconferencing as opposed to only 20% of managers/supervisors and 7% of individual contributors.[3] These team leaders use video to communicate, collaborate, and resolve problems with their remote team members.

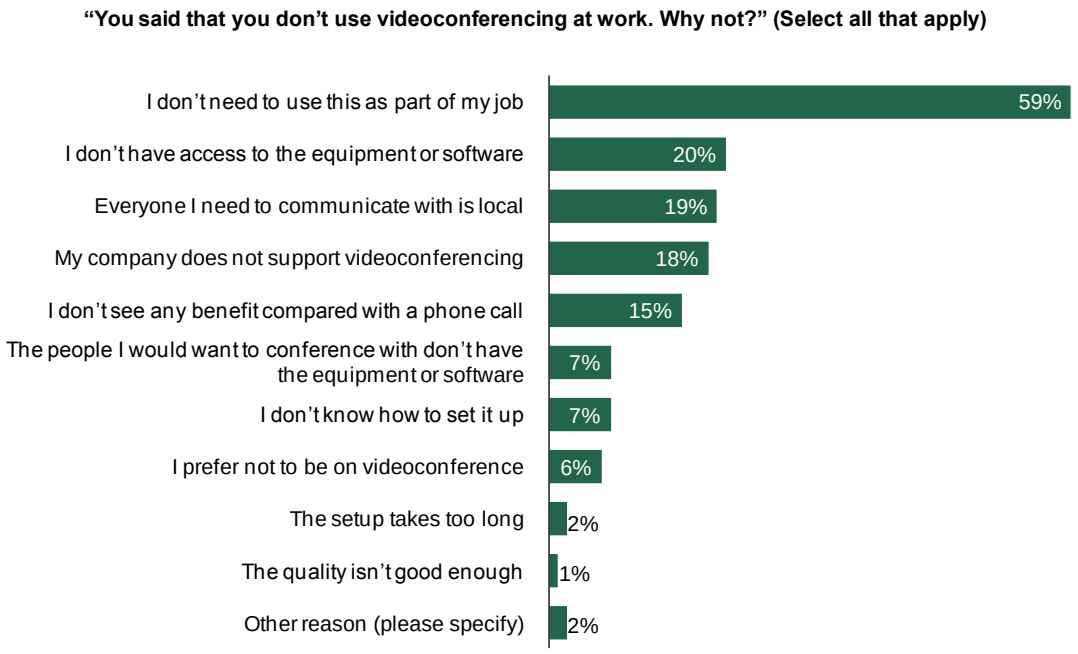
- **Corporate culture highlights that information is power.** When iWorkers don't have a culture of open communication because they believe that more sharing of the unique information will devalue their role within the firm, video (or any other collaborative technology) is hard to sell. In companies that are moving from an "information is power" paradigm to one of "none of us is as smart as all of us," video can most often first be deployed in one-way communications venues such as all-hands meetings.

Risk Mitigation Strategy

Making sure your company, team, and workers are a cultural fit for video is important. Helping workers understand how video will help them do their jobs will go a long way toward overcoming objections to video — ultimately employees want to do their job and earn their paycheck. Today, almost 60% of workers who don't

use video at work don't see how it can help them do their jobs. Address that objection and adoption will accelerate (see Figure 2). Get the business process right first and then adopt video technology where remote workers and distributed teams will most benefit because they *want* to use video.

Figure 2
Some Employees Just Don't See A Need To Use Videoconferencing For Work



Base: 569 US technology end users at organizations with 1,000 or more employees

Source: Forrsights Workforce Employee Survey, Q1 2011, Forrester Research, Inc.

KEY RECOMMENDATIONS

Information workers want a natural, human work environment. Collaboration tools can create this environment for organizations that have grown too big for face-to-face communications. A tweet is a shout down the hall, and an IM is a knock at the door or a quick hallway conversation, while video and higher order collaboration tools such as webconferencing capture the essence of the war room, where teams sit and cogitate on solutions to more complex issues. To fully realize the benefits of collaboration tools:

- **Choose collaboration tools that match your workplace.** Be aware of the locations and tools that your workers use, and make sure that collaboration tools will work there. Remember that regardless of location or task, information workers generally prefer more intimate communication modes such as voice and video for relationship-building and problem-solving, while simple Q&A can often be handled with textual communications such as IM or SMS.
- **Choose collaboration tools that match your workers.** Be aware of the roles, teams, and connections required to drive business productivity and success so that you can build collaboration tools that enable those communications and connections. Depending on the role being fulfilled by the iWorker, the effectiveness of tools will differ.
- **Architect your network to handle video.** Quality of service, nonblocking networks, and open addressability are critical requirements. Building a network that allows you to connect internal endpoints and exposes video connection to external partners and customers is critical to increasing the number of endpoints and leveraging Metcalfe's Law — the value of the network increases exponentially with the number of connected endpoints.
- **Plan for and measure the impact of your collaboration tools.** Always remember — you can't improve what you don't measure. Having a plan to justify your investments in collaboration and tracking your results against that plan will allow you to adjust your deployments as your business situation changes and to deliver results accordingly.

Appendix A: Methodology

In this study, Forrester conducted an online survey of 133 IT and business decision-makers and interviewed six IT decision-makers at organizations with more than 1,000 employees in the US to evaluate the challenges they face in business innovation and collaboration and to assess the investments they have made in video and mobile technologies to overcome those challenges. Survey participants included IT and business decision-makers responsible for mobile and video collaboration strategies. Questions provided to the participants asked about what elements they feel are vital to business innovation, what challenges they face in the area of collaboration, and what benefits they have realized from investments in video and mobile collaboration technologies. The study began in December 2011 and was completed in January 2012.

Appendix B: Endnotes

[1] When asked, "Which deployment models is your firm interested in using in the future for videoconferencing?" 69% of 315 North American and European enterprise and SMB telecom and networks decision-makers responsible for unified communications at firms with 20 or more employees replied managed on-premises, hosted, as-a-service, or outsourced.

[2] Individual workers under 25 (65%) and 25 to 35 (53%) are the most likely to use desktop videoconferencing. But, of respondents with a manager or supervisor job title, 39% of iWorkers age 36 to 50, and 37% of iWorkers over 50 are using desktop videoconferencing too. Source: Forrsights Workforce Employee Survey, Q1 2011, Forrester Research, Inc.

[3] From a survey of 5,498 North American and European business technology users who use a computer at work responding "Yes" to "Do you use desktop video for work?" Source: Forrsights Workforce Employee Survey, Q3 2010, Forrester Research, Inc.