

The Four Ways to Save Video Conferencing

It's a killer app, but if your organization fails to take four key factors into account, your efforts could be dead on arrival.

The costs and hassles of travel, exploding energy costs, concern about the environment — these are just a few of the reasons companies and organizations of all sizes are interested in video communication.

And now, with the low cost and flexibility of business-grade Video as a Service (VaaS), more and more organizations are adopting it.

Potential buyers usually pay a great deal of attention to equipment. Our experience, however, is that they do not pay enough attention to preparing for video communication, especially in regard to the networks that will carry video communication traffic — even though the network ultimately determines the quality of the user experience.

Simply put, if the experience is poor, people *will not use it*. When that happens — and it all too often does — the investment made in video is wasted and, more importantly, its benefits are not realized.

There are two basic facts about video communication that must be taken into account.

The first is that video communication is in real-time. It doesn't matter very much if an email or a file transfer takes a few seconds longer to reach its destination; the recipient is not likely to notice. But it makes all the difference in the quality of the experience if video images or audio streams arrive out of sequence or late.

Second, video requires substantial amounts of bandwidth. Even with today's sophisticated compression techniques, high-definition video requires as much as 1 MB of bandwidth for each participant. Most networks were designed for applications that use much less bandwidth. Failure to provide adequate bandwidth leads to contention for bandwidth, which will affect not only the video communication experience but also the proper functioning of other applications.

If you are considering video communication for your company or organization, here are the four factors to consider before implementing it on your network:

1. Bandwidth Requirements

The first step is to analyze both existing demands for bandwidth and the additional bandwidth that will be required for video communication.

- Determine existing bandwidth utilization, especially by time of day, day of the week, and during peak periods of the year.



Simplify and Save with Appia Managed Services

- Determine the impact of video communication. When will users hold video communication sessions and how long will sessions last? How many participants will there be in a session? At what resolutions will participants send and receive video and audio streams? It is also important to remember that video often requires a burst of bandwidth when a video session starts up.

This analysis will enable you to map bandwidth requirements and, importantly, determine the peak periods for which you need to plan bandwidth capacity.

2. Network Infrastructure

Video communication requires routers, firewalls and switches to process substantial volumes of both large video packets and small audio packets. Unless your equipment is able to handle the load, quality will degrade.

It is also important that networking equipment be able to apply quality of service (QoS) rules that give audio and video a higher priority than email, Web traffic, file transfers, etc. Bandwidth shaping and other tools can also be used.

3. Wide Area Network

Some cable and DSL offerings may appear to provide adequate bandwidth for video communication. However, the bandwidth those connections actually deliver may be considerably less than what the vendors promise, especially at certain key times during the day. Speed testing over a period of time will give you a more accurate picture of how the WAN performs.

Moreover, some networks have been designed so that traffic takes a large number of “hops” from sender to receiver. Each hop represents an opportunity for packets to be delayed or even lost.

4. Bandwidth Monitoring

No matter how carefully you analyze and plan, networks are dynamic and changes in bandwidth usage are inevitable. It is therefore important to ensure that you’re able to monitor bandwidth utilization and network performance with sufficient accuracy. You’ll need this information to respond to changes that will affect performance and therefore the quality of the users’ experience.

Taking these four factors into account will prepare you to offer a video communication experience that users will appreciate — and that will enable your company or organization to reap the many benefits video communication can provide.

©Appia Communications, Inc. 2009

