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What Makes the Right Cloud-Based HD Video Collaboration Better?

3 Essential Technical Advantages



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These days, most videoconferencing/collaboration solutions reside on-premises, which means any enterprise deploying them must invest substantial sums in both a video infrastructure and the expertise needed to operate and maintain it.

Now, a new alternative — cloud-based video collaboration — can reduce the up-front capital expenditures long associated with videoconferencing as well as make video collaboration much easier to use.

The right cloud-based solution provides all the functionality, security, and integration necessary to make video collaboration truly useful for all enterprises, from the smallest to the largest. Here's how:

(1) Broad functionality

Cloud video collaboration is based on the provider's centralized administration of the collaboration infrastructure, so the facilities and remote workers of a subscribing company don't need the help of IT staff for day-to-day use of video collaboration.

How it works. A credentialed IT staffer at the subscriber securely logs into a cloud-based administrative console from any browser to set up endpoints and users. Provisioning is automatic after the staffer unpacks endpoint devices, notes their serial numbers on the outside of the boxes, and plugs them in. After provisioning, IT can use the console to control bandwidth and reassign seats as needed.

The service automatically sends instructions for downloading the (free) lightweight soft client — which runs on PCs, Macs, and soon on mobile devices — along with a login and a temporary password.



No expertise required. Users need no knowledge about video-call configuration or endpoint setup. With one click to enable the cloud service, the endpoint connects to the cloud, identifies itself with its serial number, and confirms configuration information. The cloud then provisions the endpoint, tells it how to traverse firewalls, and provides users with complete directory services that show all endpoints and users deployed in the company.

Power to the user. Every user (whether at an endpoint or a soft client) has the capability to initiate or participate in a continuous-presence videocall with up to nine participants, each of whom can share content.

Cloud video collaboration supports a variety of transmit and receive resolutions, including 720p30, 576p30, 480p30, VGA, and 360p30, in 16:9 and 4:3 aspect ratios. It also enables auto-bandwidth and resolution tuning with an option for manual configuration of both transmit and receive bandwidths.

Multi-party videocalling is completely ad hoc, not chairperson-centric, and any participant can share content — either the entire desktop or a specified window. What's more, any videocall can be seamlessly escalated from peer-to-peer to multi-party.

And every soft client user can invite non-subscribers by entering the name and email address of the guests into their soft client. The cloud infrastructure will then send the guest login info and a link to download the software.

Lower bandwidth requirements. The right cloud-based video collaboration solution “mixes” multi-party calls in the cloud and optimizes for bandwidth. Each user uploads a 360p video/audio stream, and what's sent back to them is not a video/audio stream for each party on the call but rather a single 720p composite video/audio stream.



The result: Each user's transmit bandwidth requirement is a few hundred kilobits, and the receive bandwidth needed is only about one megabit — a fraction of the download bandwidth requirements of a typical peer-to-peer video collaboration environment.

Vast scalability. Cloud video collaboration not only eliminates up-front CapEx, it's also scalable to thousands of seats and can be ratcheted up or down on a month-to-month basis as business demands.

(2) Strong security

The right video collaboration cloud solution does not punch a hole in the corporate firewall. Instead, the provider builds into the cloud a complete firewall and NAT traversal solution that automates standards-based session border control and enables secure HD videocalls within and across networks — with no configuration required.

Furthermore, encryption is employed on both signaling (call initiation) and the videocall medium using multiple encryption algorithms (AES 256, AES128, 168 3DES, DiffieHellman, 1048RSA) and SSL, TLS, and SRTP encryption protocols.

(3) Unparalleled integration

To ensure a seamless video collaboration experience for users, the right cloud video collaboration solution builds in deep vertical integration and extensive optimization that abstracts away the complexity of using and configuring video services.

Sticking with industry standards. Industry-standard programs and devices — Session Initiation Protocol (SIP) and codecs, including H.264, H.263, and VPX for video, and SILK, Siren7, and Siren14 for audio — are used for coding and decoding digital data streams that work with endpoints and soft clients for PCs, Macs, and mobile devices.

Hardware, software, and cloud optimization. To make sure the entire video collaboration solution functions as efficiently and seamlessly as possible, its hardware, software, and services are provided by one vendor who has optimized all elements to work together.

Thus, cloud-based multipoint conference unit (MCU) functionality and firewall traversal is native technology and completely transparent to the user.

And because of the deep integration between endpoints and soft clients, these can be mixed in any videocall. In addition, cloud gateways can enable the right video collaboration service to work with third-party videoconferencing equipment and services in the future.

Finally, because endpoints are auto-configured via a web interface, a video system can be configured in about one minute rather than the 2-4 hours of IT staff time required by some on-premises solutions. Users, meanwhile, need to know only the endpoint device name on the service.

Cloud-based HD video collaboration is affordable for just about all enterprises, from the smallest to the largest, because it can be deployed without any up-front capital outlays and is easy to precisely scale to an enterprise's requirements.

Now, the power to reduce costs, improve productivity, and boost revenues with video collaboration is available to everyone.