

Run Skype for Business as a Secure Virtual App —with a Great User Experience

Improve security and manageability while avoiding the performance problems of traditional virtual installations.

Deliver secure, high-performance unified communications for your organization with Citrix XenApp or XenDesktop, optimized for Skype for Business—the only Microsoft-endorsed solution for delivering Skype for Business in a virtual environment.

Skype for Business is quickly gaining widespread adoption as companies replace traditional PBX systems with the Microsoft unified communications platform. It's an easy decision to make—the shift to Skype for calls, messaging, online meetings and video can yield dramatic cost savings in both hardware and management. Running Skype as a virtualized app can take these benefits even further by allowing IT to use a single standardized version to support people on every platform in the organization. More importantly, virtualization eliminates the security risks associated with logs and other files stored locally on users' devices. On the other hand, traditional virtualization delivery methods can also significantly degrade performance for Skype, and a frustrating user experience can undermine adoption. IT needs a way to deliver Skype as a virtual app with performance at least as good as a traditional PBX.

Citrix XenApp and XenDesktop with the HDX RealTime Optimization Pack for Skype for Business let organizations leverage the full benefits of Skype in a virtual environment, including efficient single-image management and support, the inherent security of centralization and a reliable high-performance user experience. Developed in close collaboration between Citrix and Microsoft, the optimization pack delivers the security and optimal user experience business needs.

Virtualizing Skype for secure unified communications

It's easy to understand why so many organizations are moving to Skype for Business—already the third most-used PBX in the U.S. The platform lets you simplify your infrastructure while supporting the full spectrum of communications, including calling, instant messaging (IM), conferencing, video and desktop sharing. It's also included in the Microsoft Office 365 suite, making the decision even easier to make. Of course, as with any business technology, the way you implement Skype makes a big difference—especially when it comes to security and performance.

With a traditional local installation of Skype, chat and video logs, transferred files and other content is stored on the user's endpoint, whether a laptop, smartphone or tablet. If the device is left behind in a taxi, stolen or otherwise lost, so is all that data, exposing potentially sensitive company and customer information to risk. Malware poses a more active threat, including T9000, a backdoor developed specifically to target Skype users. T9000 allows attackers to capture encrypted data such as logs and files, and take screenshots of specific applications, and even detect and evade numerous security products that may be installed on the device. The heavy usage of IM in business today makes exposure to T9000 and other malware a constant threat.

Virtualization makes Skype secure and simple to manage

Fortunately, there's a simple way to avoid these risks to locally stored Skype data: don't store Skype data locally. Instead, as many businesses are already doing, you can use Citrix XenApp or XenDesktop software to deliver Skype virtually. This way, the Skype client and associated data are kept in the datacenter and never exposed to risk on the device itself. A lost device would not compromise company or customer information, and a T9000 infection would find nothing to steal. For the user, the experience does not change—they still click a Skype for Business icon to launch the app just as they would in the native interface, even though it's now running virtually in the datacenter.

The benefits of virtualization go beyond security. IT can manage a single version of Skype for Business client to support all users, regardless of the device—Windows, Mac, Linux or thin clients. A consistent experience across every device people use, including the same familiar interface and login procedure, minimizes user training and cuts down on helpdesk calls that can cost IT an average of \$70 each. Centralization of the app greatly simplifies management and makes it easier to apply patches and updates.

Potential pitfalls with traditional virtualization methods

With most virtualization vendors, the improved security and manageability of Skype for Business comes at the cost of performance. The typical virtual architecture often involves "tromboning" or "hairpinning," colorful descriptions of Skype traffic from one party traveling to a datacenter far out of its way en route to the receiving party. Consider a call between a user in Boston whose virtual Skype app is hosted in a Washington, D.C. datacenter, and another user in San Diego whose virtual Skype app is hosted in Dallas. The packets for each party will travel first to that user's datacenter, and then to the other user's datacenter, and only then to the receiving party. A few dropped packets for a text chat probably won't be noticed, but for a voice or video call, a less-than-ideal network connection will lead to obvious stuttering, delays, freeze frames, buffering and an

overall painful experience. People won't put up with this for long before switching to their personal smartphones or other alternatives, driving down Skype adoption and undermining its benefits.

Scalability is another concern. In many implementations, the use of Skype began as a replacement for another IM platform such as AOL Instant Messenger, and only later evolved into a full PBX replacement for unified communications. The addition of audio and video naturally increases compute requirements, requiring additional servers at the datacenter and driving up IT costs.

How Citrix delivers the best results for Skype for Business

Performance and scalability for virtual delivery

Recognizing the advantages of delivering Skype virtually, Citrix and Microsoft have worked together to ensure that these implementations realize the full benefits of improved security and manageability without sacrificing performance. [Citrix HDX RealTime Optimization Pack for Skype for Business](#), the only Microsoft-endorsed solution for delivering Skype for Business in a virtual environment, ensures local-like quality for audio and video with smooth call quality and maximum server scalability.

Unlike other virtualization deployments, the unique Citrix architecture and RealTime Optimization Pack avoid the "tromboning" or "hairpinning" effects described above. The authentication, signaling and control processes of the virtualized Skype client run in the datacenter, while media traffic is decoupled and rendered locally on the endpoint. In the example cited earlier, the users in Boston and San Diego would establish their connections to the virtual Skype client in Washington and Dallas datacenters respectively; once the connection had been made, subsequent audio-video media traffic would travel directly between the users' devices located in Boston and San Diego on a secure channel, intelligently bypassing the datacenters. Call logs, chat archives, connection availability and other content would be maintained at the datacenter, and nothing would live at the endpoint.

A related consequence of this architecture is that because no CPU and memory resources are spent rendering media traffic, higher user density per XenApp server is possible, reducing the number of servers required at the datacenter. In this way, the Citrix delivers both high-definition call quality for users and a cost-effective secure platform for the organization. No wonder Brad Anderson, corporate vice president at Microsoft, says: “Skype for Business on Citrix VDI—it’s the ONLY way to use Skype and VDI together.”

A consistent, high-quality user experience

The best part about virtualizing Skype for Business with Citrix is that the user experience remains exactly the same. Once people login to their virtual environment, they see a regular Skype for Business icon just as if it were locally installed. Users continue to use Skype accessories and the same user interface to make audio, video and text calls as they would on a locally installed client. IT can use XenApp or XenDesktop to deliver, manage and monitor Skype as a virtual app or part of a virtual desktop across most Windows, Mac or Linux devices. This enhanced user experience is available even if one or more of the parties on the call is on a locally installed Skype for Business client.

Enhanced network performance

Citrix NetScaler SD-WAN further improves performance through WAN virtualization and optimization. mSD-WAN capabilities mirror the redundancy built into traditional PBX switch systems, in which the failure of one circuit immediately switches call

traffic to an alternate circuit. With NetScaler SD-WAN, multiple connections of different types—MPLS, Ethernet, DSL or wireless—act simultaneously as a single virtual connection, so that the failure of any one physical connection won’t disrupt the session. This built-in fault tolerance protects users from dropped calls or service failures. Virtual WAN connectivity is especially valuable for supporting branch sites, which tend to face more challenging network conditions and bandwidth limitations.

Flexible Deployment Options to Meet Your Business Needs

Citrix offers a variety of ways to securely deploy digital workspace solutions like XenApp and XenDesktop, to meet your unique needs. Deploy through Citrix Cloud, in a cloud of your choice, fully on-premises, in a hybrid of both or with a service provider. You choose how and where to manage your apps, desktops and data. Subscribe to the XenApp Service and XenDesktop Service through Citrix Cloud to reduce infrastructure and centralize control with SaaS-style management and updates. If you want to deploy in a public cloud, such as Microsoft Azure or Amazon Web Services, and manage your app and desktop workloads locally, Citrix is the only vendor to provide to allow a hybrid deployment. Deploy XenApp and XenDesktop in your own environment and centralize management in your datacenter with a fully on-premises solution. Leverage Citrix Smart Scale across your site to proactively scale and power manage workloads to control costs. Learn more at www.citrix.com/products/xenapp-xendesktop/how-do-i-deploy.

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Brad Anderson | Corporate Vice President | Microsoft

Conclusion

Organizations of every size are adopting virtualized Skype for Business as the perfect solution to meet user expectations and security requirements. As an app designed to help people in multiple locations communicate and share information, Skype demands a high level of security to protect sensitive data. When Skype is delivered through Citrix XenApp or XenDesktop, chat and video logs, files and other transferred content remains secure within the datacenter—not exposed to risk on the user's endpoint. The solution also addresses the need for an efficient way to support Skype users on a variety of desktop and mobile platforms; with a single golden image to support users on every type of

device, updates and patches can be applied once, centrally—not across hundreds or thousands of distributed endpoints. A consistent experience across devices reduces helpdesk costs. With the Citrix HDX RealTime Optimization Pack for Skype for Business, proven in numerous large-scale production deployments, these security and manageability benefits are combined with a high-performance user experience from any device. In this way IT can deliver the ideal unified communications solution for the organization while increasing ROI and user satisfaction.

To learn more about the Citrix HDX RealTime Optimization Pack for Skype for Business, please visit more.citrix.com/skype.



Enterprise Sales

North America | 800-424-8749

Worldwide | +1 408-790-8000

Locations

Corporate Headquarters | 851 Cypress Creek Road Fort Lauderdale, FL 33309, United States

Silicon Valley | 4988 Great America Parkway Santa Clara, CA 95054, United States

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