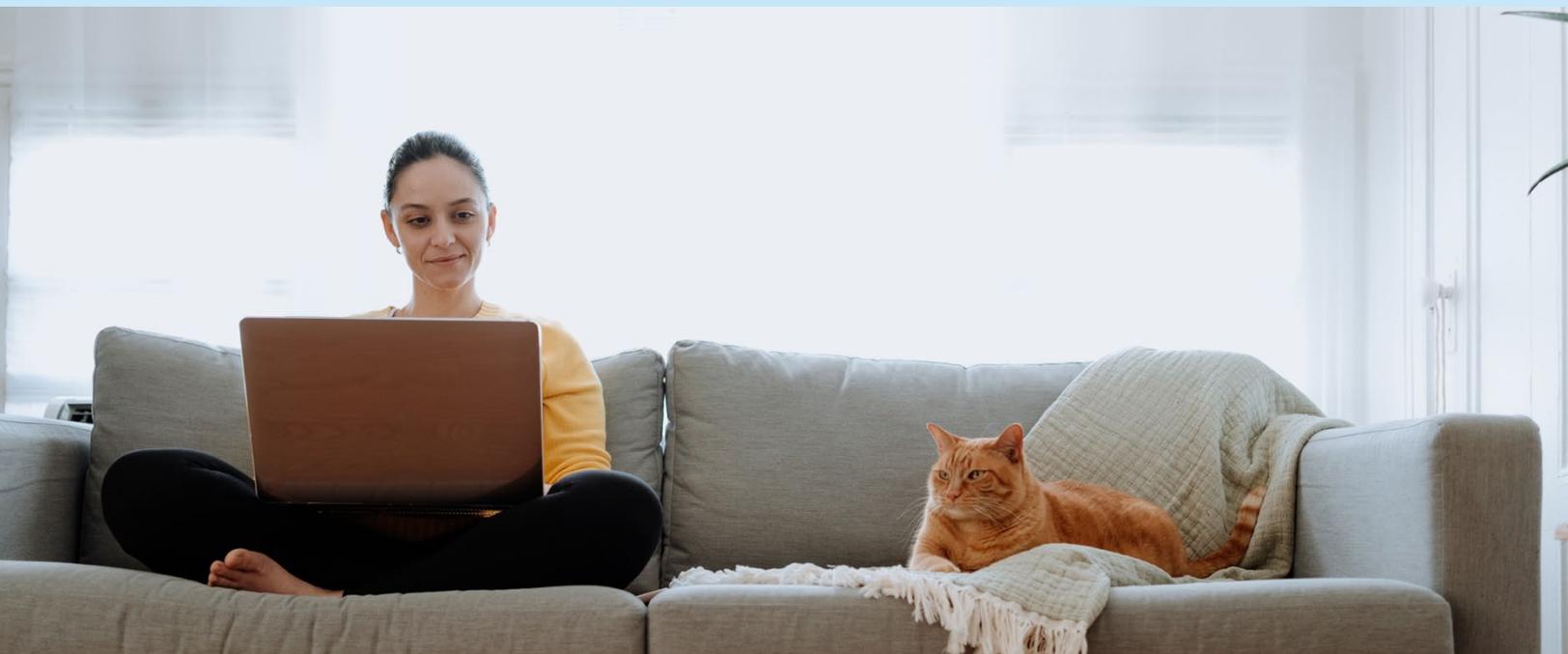


Rethink the workday with Citrix and Microsoft Teams

Discover a better employee experience built on intelligence, collaboration, and digital workspace efficiencies.

The combined power of Citrix Workspace, Microsoft 365, and Microsoft Teams infuses work with flexibility by giving employees unified access to the applications, content, and collaboration services needed for secure, anywhere productivity.



Combine Microsoft Teams with Citrix Workspace and Citrix SD-WAN to gain the best user experience with centralized control, stronger security, and maximized investments.

Gain a competitive edge with an intelligent workspace

In what felt like an instant, where, when, and how work got done changed. As workforces went remote, the need for an even better employee experience with improved ways to communicate and collaborate suddenly became essential. While the COVID-19 pandemic has accelerated the trend, one study found that 80 percent of respondents' employers did not have a remote-work program in place before the crisis.¹ Continued business uncertainties will sustain the shift toward expanded remote work and more flexibility in work schedules and styles.

For IT, these changes bring increased challenges for deploying and managing applications, improving network performance, and strengthening cybersecurity, all while sparking a digital workspace experience that enables greater employee productivity and engagement.

Citrix and Microsoft share a similar vision for digital transformation and how IT can address current challenges by delivering value in cloud-first and mobile-first ways to work. We've joined forces to simplify cloud transformation and speed up adoption of digital workspaces and desktops-as-a-service to enable greater agility, productivity, and security.

Combining Citrix Workspace and Microsoft Teams for the ultimate collaboration solution

Teams and Citrix Workspace work better together, leveraging the strengths of both solutions. **Teams helps employees collaborate with groups of people, while Citrix Workspace improves employee productivity by intelligently organizing everything needed for work.** Implementing both solutions enables employees to engage, innovate, and do their best work with minimal distractions and context switching.

However, a traditional Teams deployment that connects thousands of users and distributed devices could expose inefficient network configurations, security risks, and variable user experiences. Using Citrix solutions to deliver Teams provides a zero-touch approach to security, with faster app performance, and the intelligent employee experience.



Microsoft Teams adoption^{2,3}

115 million Teams active daily users

894 percent Teams usage growth in early 2020

The **Citrix Optimization for Microsoft Teams solution was developed with and is endorsed by Microsoft**. It helps enterprises set the stage for a successful digital workspace transformation by streamlining the app deployment process; providing universal access to corporate data, virtual apps, and desktops from any device; and optimizing server scalability to minimize cost. Additionally, integrating Teams and Office apps with Citrix Workspace offers a fully featured, native application experience regardless of device.

Citrix SD-WAN ensures optimal routing of Microsoft 365 and Teams network traffic. And **Citrix HDX** optimizes every virtualized instance of Teams voice, video, and telephony to ensure the highest quality and most consistent experience.

Together, Citrix solutions and Teams provide multiple benefits for IT. Citrix offers the centralized control that allows IT to manage and deliver the native Teams app alongside other virtualized enterprise apps. It also supports advanced user authentication schemes across all apps in a way that adheres to IT standards and provides single sign-on (SSO) benefits.

Citrix improves Teams security in two ways. First, the Teams app is virtualized and securely delivered to any device, not installed locally. In the event a device falls into the wrong hands, Teams would be inaccessible without securely authenticating through Citrix Workspace. The second way security is improved is because Citrix Workspace stores chat logs, file exchanges, and other data in the cloud, not on user devices. Even if a device is misplaced or stolen, the Teams app and data would not be lost and is only accessible by authenticating through Citrix Workspace. The solution also delivers a secure and consistent Teams experience to all users anywhere on any device through optimizations on a remote desktop or virtual desktop interface (VDI).

Employee collaboration is more effective because users can quickly and easily share information from Citrix Workspace to Teams and vice versa. Users also enjoy easy access to information and apps in a single virtual workspace, high-quality audio and video, automated tasks, and simpler workflows within Teams.

To reduce the time to value for a Microsoft 365 investment, Citrix Workspace offers features such as embedded intelligent capabilities with microapp services. For example, Sarah is using Teams inside Citrix Workspace. The workspace integration inside of Teams sends her a notification to approve an expense report in SAP Concur. Without the need to exit Teams or open SAP Concur and click through menus, the Citrix microapp service allows Sarah to approve the expense report directly within Teams.

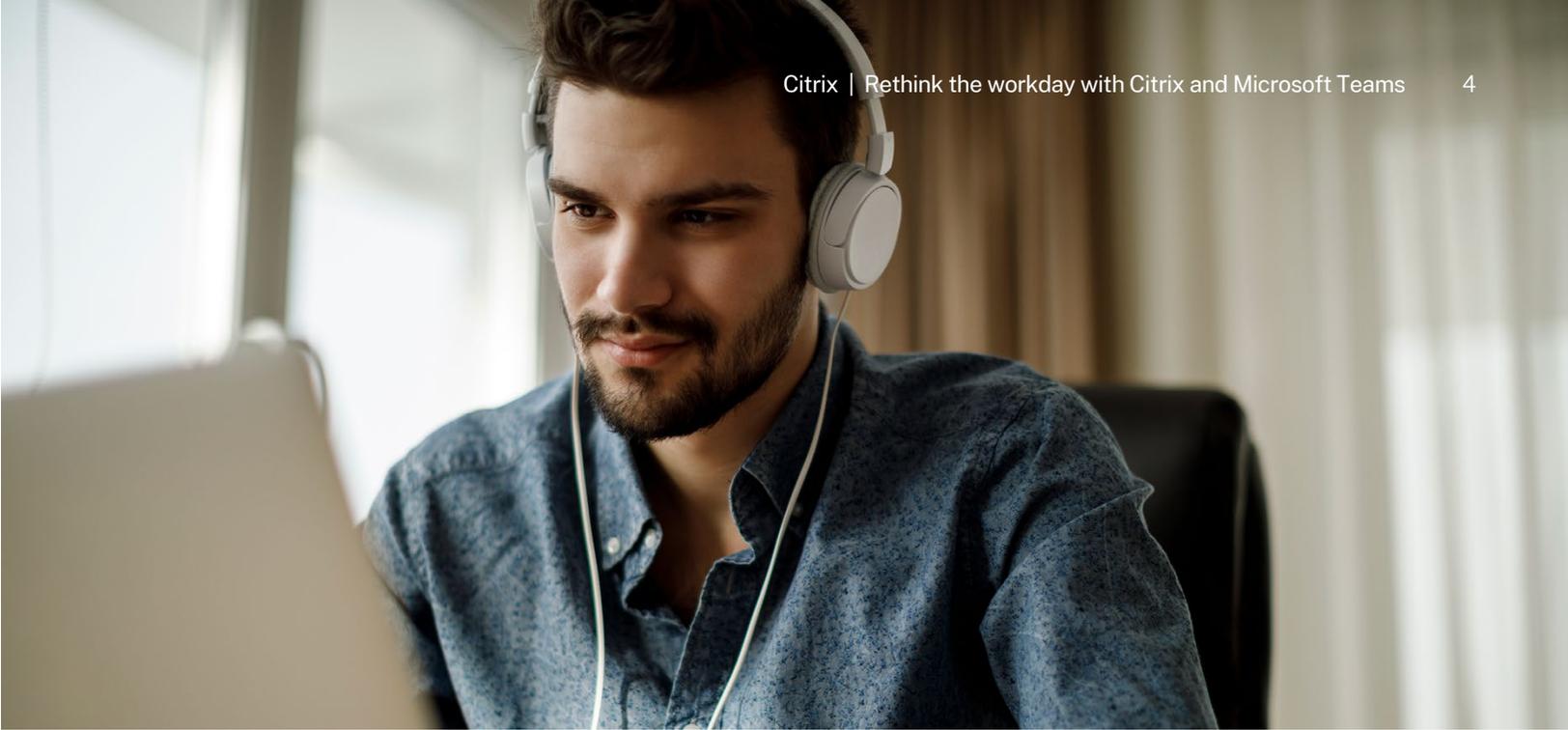
IT can gain these benefits of running Teams in Citrix Workspace when the implementation is made with special attention to three focus areas: **security and compliance, network optimization, and the user experience.**



Implementing proactive, policy-based security for Microsoft Teams with Citrix Workspace

The tools that enable easier collaboration also make it easier to inadvertently share and store sensitive data and intellectual property. When collaboration involves multiple groups of people, devices, and apps, new entry points that could breach corporate infrastructure and data can be exposed. These factors make security and data loss prevention more challenging.

Two essential capabilities will help IT address this challenge. First are **authorization and access controls** to ensure that only authorized users can join and collaborate in a Teams workspace. Second are **storage controls** to ensure all data and files associated with Teams are shared safely and stored in the enterprise cloud or data center, not on user devices.



Citrix Workspace gives IT a full set of capabilities to control who has access to what and under which conditions. Citrix also stores shared documents, chat logs, and other Teams data in the cloud, not on devices, giving IT centralized control over sensitive corporate information. Citrix Content Collaboration, included with Citrix Workspace, goes even further by allowing an organization to access, sync, and share files securely from nearly any file repository on any device. It supports hybrid storage architectures for Microsoft OneDrive, SharePoint, and Windows network shares, and solves GDPR compliance requirements for regulated industries such as government, healthcare, finance, and manufacturing.

Citrix Workspace offers conditional access controls based on user context and IT-designed policies. For example, one policy could verify users based on digital identity, multifactor authentication, and variable conditions such as time and location. Another policy could check the security posture of the user's device to verify it meets IT requirements such as operating system and browser versions, security patches, and absence of malware. A separate policy could validate the network carrying the access request, determining whether it is trusted or public Wi-Fi, the office LAN, or an employee's home network.

Predefined Citrix security policies within virtual instances of Teams support controls such as secure website redirect, website blocking, and permitted session recording. Citrix Workspace also supports IT policies that protect against key logging and other malware, while a watermarking feature deters screenshot captures. IT can also restrict user actions such as printing, file downloads, copy/paste, and saving to a user device.

Citrix Workspace helps IT protect sensitive data and intellectual property with customizable policies to control where data is stored, including restrictions to meet data sovereignty requirements. The policies quickly detect atypical user behavior and data exfiltration attempts, which helps IT prevent loss of sensitive business and personal data. Furthermore, Citrix Workspace also makes it easier to implement protections required for regulatory compliance including Common Criteria, FIPS 140-2, PCI, and HIPAA. These collective capabilities help IT shift from reactive to proactive security, detecting anomalies before they happen, not after.

Behind the scenes, **Citrix Analytics for Security processes the vast amount of data collected by the Microsoft Intelligent Security Graph to enable advanced threat detection.** The Citrix Analytics solution identifies and mitigates malicious activity automatically, without disrupting the employee experience.

Citrix Workspace and Teams offer additional benefits for improving security while enabling more flexible and collaborative work by employees. For example, the combination of Citrix Workspace and Teams helps users collaborate where and how they want while remaining within the security boundaries of established IT policies. In turn, IT benefits from secure unified communications that are delivered by a single, integrated solution. Citrix Analytics monitoring mode allows IT to trial the user experience before rolling it out to employees, then collect user feedback to eliminate any unnecessary disruptions.



Improving Microsoft Teams network performance with Citrix SD-WAN

Microsoft Teams is the fastest growing business productivity application in Microsoft's history. In fact, in the first half of 2020, Teams usage surged by 894 percent.² As adoption continues at an industry record-breaking pace, there is greater need to eliminate inefficient network topologies that would cause Teams network traffic to be backhauled through the data center. Instead Teams traffic should be broken out locally and routed directly to the cloud for improved voice and video performance. Without these network optimizations, especially when Teams is virtualized, network traffic is prone to hair-pinning, where all traffic routes through the datacenter then out to the Microsoft

cloud and back again in a very inefficient network design. This causes WAN latency resulting in a poor Teams experience for remote sites and branch offices.

The answer is to identify and break out the Teams traffic as it leaves the branch with Citrix SD-WAN, which sends it directly to the Microsoft cloud.

The massive scale, global footprint, and redundancy of Microsoft Global Network helps Citrix SD-WAN identify and then preferentially and directly route Teams traffic, which improves app performance.

SD-WAN optimizes Teams network traffic

Citrix SD-WAN is a next-generation WAN edge solution tailor-made to offer the best SaaS, cloud, and Citrix Workspace experience for Microsoft 365 including Teams. SD-WAN provides a foundation for network reliability, performance, and the best application experience, whether apps are hosted in SaaS, cloud, or data centers. It adheres to Microsoft's Network Connectivity Principles, supports Microsoft REST APIs, and has been independently tested and certified in the Microsoft 365 Networking Partner program.

Citrix SD-WAN works by first identifying Microsoft 365 traffic, including Teams. Next, it optimizes and steers that traffic from a branch directly over the internet, providing last-mile connectivity with local domain name service (DNS) to the Microsoft cloud. Citrix SD-WAN provides the network optimization required for improved call quality, resiliency, and connectivity.

Branch offices and remote locations with low-bandwidth or unreliable internet connections will see better app performance because Citrix SD-WAN reduces loss, jitter, and latency. Connecting branch offices to the cloud or data center is also simpler because using Citrix SD-WAN means IT doesn't need to deploy a full infrastructure stack in each location.

By using SD-WAN, IT and SecOps teams can consolidate their edge infrastructure (both routing and firewall) and manage it from a central location. Built into Citrix SD-WAN is a security stack that provides intrusion



detection and prevention (IDS/IPS), URL filtering, and anti-malware protection layers. These security layers protect organizations from attacks that originate from direct internet access at the branch and block threats from propagating laterally from one branch to another over the WAN.

Citrix SD-WAN improves the virtual Teams user experience

When Teams is virtualized and delivered with Citrix Workspace, the built-in **HDX Media Engine prioritizes real-time traffic and renders it on the client device at the branch**. The SD-WAN in the branch identifies, prioritizes, and steers Teams RDP traffic directly to the Microsoft cloud. The combination of Citrix HDX optimization for Microsoft Teams and Citrix SD-WAN gives users crystal-clear VoIP calls, unbuffered video, and uninterrupted screen sharing.

Citrix SD-WAN helps home workers, too

Remote workers can also gain the benefits of an optimized Teams experience with the Citrix SD-WAN 110 appliance. Workers simply leverage corporate credentials and Wi-Fi to connect the pre-configured desktop appliance they receive from IT, instantly boosting home broadband performance and resiliency. Citrix SD-WAN gives at-home workers improved reliability and ensures resiliency with options to

connect existing broadband and combine it with dedicated bandwidth with onboarded LTE. In rural locations where broadband may not be available, dual LTE SIM cards ensure connectivity and resiliency.

Boost UCaaS performance with Citrix SD-WAN Cloud Direct

Unified Communications-as-a-Service (UCaaS) and real-time apps are equally sensitive to latency, jitter, loss induced by the public internet as well as inefficient network routing caused by backhauling traffic through the datacenter. Customers that heavily rely on Teams can extend the value of an optimized WAN with the **Citrix SD-WAN Cloud Direct service**.

The Cloud Direct service directs UCaaS (including Teams) traffic over a private overlay network, connected to strategically positioned PoPs which are close to major UCaaS, SaaS and cloud service providers. Intelligent load balancing and QoS prioritizes traffic in real-time ensuring optimal performance for even the most sensitive voice traffic. “Hit-less” failover mitigates internet outages — even brownout conditions — without disrupting calls. The high-speed internet exchange network formed by the Cloud Direct overcomes the reliability and performance challenges facing UCaaS solutions.



Delivering the best employee experience with Citrix Workspace and Microsoft Teams

The deployment design for a collaboration app must strike a balance between delivering a high-quality user experience and meeting IT's implementation and management needs. To help IT find this balance, Citrix adds several benefits to the Teams experience. IT can deliver a consistent and secure Teams experience to all users, anywhere and on any device, with two options for optimization in Citrix Workspace.

The first option delivers the full native Teams desktop app within Citrix Workspace. During a Teams session, **Citrix HDX Optimization improves performance and server capacity by offloading audio, video, and screen sharing traffic to the user's endpoint.** In a peer-to-peer Teams call, the traffic flows directly between the participants, guaranteeing optimal performance and a great user experience.

Citrix + Teams performance improvements

- 94 percent overall performance improvement for Teams with Citrix SD-WAN⁴
- 93 percent less packet loss⁵
- 80 percent reduction in latency⁶
- 21 percent reduction in jitter⁴



The second option uses the browser version of Teams and the Citrix [Microsoft Teams redirection policy](#). To the user, this option appears as if Teams is running on the embedded browser within the endpoint. In reality, the Teams session is running in a browser on the **Citrix VDA** using browser content redirection.

The combination of cloud app delivery and data storage in the cloud or data center means simpler, more secure app and data management. Citrix Workspace also improves service scalability by making minimal use of CPU resources within the virtual desktop environment and offloading traffic to user endpoints.

Citrix Workspace creates a unified, secure, and collaborative location for a user's apps, data, desktops, and automated workflows, making all of them accessible in Teams. The native Teams app runs seamlessly within Citrix Workspace, giving employees a familiar and full-functionality experience on their choice of device.

Citrix Workspace handles the user's SSO and saves multiple re-authentications for each separate app inside of Teams. Users will receive clear voice and video in Teams collaboration sessions due to the performance boost provided by Citrix SD-WAN.

As a company's use of Citrix Workspace and Teams progresses, intelligent capabilities in Citrix Workspace will organize, guide, and automate employee work inside of Teams. These capabilities will allow employees to receive alerts, view documents and data, and take actions such as entering an approval — all without leaving Teams.



Optimizing Microsoft Teams with Citrix produces business value

The technical advantages of Citrix solutions for Teams bring clear economic value to the business in every deployment scenario. For example, IT can deploy Citrix Workspace on Linux 64-bit (thin) clients as a solution for low-cost, low-maintenance, and secure endpoints. These devices are ideal for task-focused work such as call centers, education, retail, or government self-service kiosks. Thin clients are equally attractive in healthcare, enabling caregivers to be on the move without carrying a full-function laptop.

Citrix also extends the life of aging hardware to reduce expenses for refresh cycles. Of particular value, Citrix Workspace supports a wide variety of older device and client types that would otherwise not directly support the Teams app or Windows Virtual Desktops (Included as a Microsoft 365 E3 or higher license entitlement). This option can serve employees now working from home who don't have a modern, company-provided laptop.

Independent third-party scalability and performance testing demonstrated that Citrix Virtual Apps and Desktops (a component of Citrix Workspace) deployed on Microsoft Azure with Windows Virtual Desktop yielded substantial enterprise IT and economic benefits including increased user density, faster response time, and virtual machine cost reductions.⁷ These measurable scalability improvements allow businesses to expand their use of Citrix Workspace and Teams across the enterprise, while gaining OpEx advantages.

In addition to hardware savings, any app benefits from delivery with Citrix Workspace. IT can make better use of resources with central control of all apps and the ability to manage one instance of the app, then deploy it to any user and any device type. Citrix Workspace makes it easier to support on-demand app provisioning, scalability, and retraction.

Citrix Workspace and Microsoft Teams: Accelerating the future of work

With over half a million joint customers, Citrix and Microsoft are uniquely positioned and aligned to give customers a competitive edge. An edge that ensures IT is always secure, business operations are flowing, employees are productive, and customers are satisfied under even the most challenging circumstances. Through the Citrix and Microsoft partnership, business and IT leaders are able to reduce the risk, costs, and complexity of accelerating their digital transformation towards the future of work.

The foundation for this is built on Citrix Workspace, Citrix SD-WAN, and Teams. This combination brings measurable benefits to IT teams and business leaders

including **greater security and compliance, network optimization, and the user experience.** Teams collaboration sessions are always secure, communicating over VoIP and video is always crisp, and workdays are streamlined with intelligent workflows.

The combined power of Citrix Workspace, Microsoft 365, and Teams provides a platform for flexible work by giving employees unified access to all the applications, content, and collaboration services needed for secure, anywhere productivity.

Start reimagining the workday with Citrix Workspace and Microsoft Teams today.

- [Visit more.Citrix.com/MSTeams](https://www.citrix.com/MSTeams)
- [Schedule a 1:1 demo](#)
- [Talk to an expert](#)

¹MindEdge/Skye learning study ²Microsoft ³Aternity Productivity Tracker ⁴Citrix ⁵Citrix case study: Metrie ⁶Citrix case study: Malux ⁷Citrix



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