Boost workforce productivity with a software-defined network

Speed, scalability, economics, and the promise of innovation are driving companies to the cloud. Gartner expects spending on cloud application services or SaaS to grow to $145.509 billion this year from $120.686 billion in 2020, and reach $171.915 billion in 2022. Microsoft 365 Teams hits 250 million monthly active users.[1] Microsoft 365 with Teams equips your enterprise with the most complete public cloud platform available for collaboration, communication, and productivity.

The challenge for IT is to provide the same user experience and performance of SaaS applications for all employees, regardless of their location — headquarters, branch offices, factory floors, call centers, or other remote sites.

The answer is Citrix SD-WAN, a WAN edge solution that delivers local breakout of trusted, latency-sensitive Microsoft 365 and Teams traffic to ensure optimal functionality at all times, from anywhere.

Here's how...

Citrix SD-WAN

OneDrive

Office 365

It's your network, not Microsoft 365

Microsoft has optimized Microsoft 365 cloud, but for M365 applications to perform to their full potential a new network paradigm is required to bridge the last mile to Microsoft Global Network. Citrix SD-WAN accomplishes this by optimizing and shortening the connection between users and Microsoft network edges, minimizing latency and inefficient routing.

"22 percent of IT leaders identified networking problems as the root cause for performance issues with Microsoft 365."

— Gartner[2]

Why networking is the root cause

The main cause of poor M365 performance is latency and network congestion, due to outdated legacy network architectures and protocols.

Traditional Windows application protocols — like Server Message Block and MAPI — are chatty and bandwidth-hungry. They quickly use up any available WAN capacity, leaving SaaS applications like M365 fighting for every megabyte they can get.

In addition, sending network traffic from the branch to the data center over the WAN is inefficient. It is crucial to optimize how applications are routed and how they use bandwidth to achieve the best user experience.

Citrix SD-WAN does both with real-time, packet-based path selection, bi-directional QoS, and local breakout to the closest M365 point of presence (PoP).

Four ways traditional network topologies slow down Microsoft 365 are:

1| *Not prioritizing latency sensitive WAN traffic*

2| *Backhauling M365 traffic through the datacenter*

3| *Hairpinning (NAT loopback) M365 traffic instead of directly routing it to the nearest Microsoft Global Network edge*

4| *Sending web and SaaS traffic over the WAN, not directly to the internet*

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Citrix SD-WAN ensures the best Microsoft 365 experience

Citrix SD-WAN is a next-generation WAN edge solution tailor-made to offer the best SaaS, cloud, and Citrix Virtual Apps and Desktops experience. It adheres to Microsoft's Network Connectivity Principles and supports Microsoft REST APIs. What's more, Citrix SD-WAN has also been independently tested and qualified in Microsoft's official Microsoft 365 Networking Partner program.

Here's how Citrix SD-WAN improves Microsoft 365 performance in four easy steps:

1| Identifies o ù 365 traffic with a physical or virtual appliance.

2| Optimizes trusted traffic to the nearest o ù 365 front door.

3| Steers o ù 365 traffic directly to the Internet from branch locations.

4| Provides last mile connectivity with local DNS to o ù 365 cloud front doors.

5| Makes intelligent decisions for selecting the best performing ISP and measures latency for direct breakout versus backhaul of Microsoft 365 traffic even with a single link!
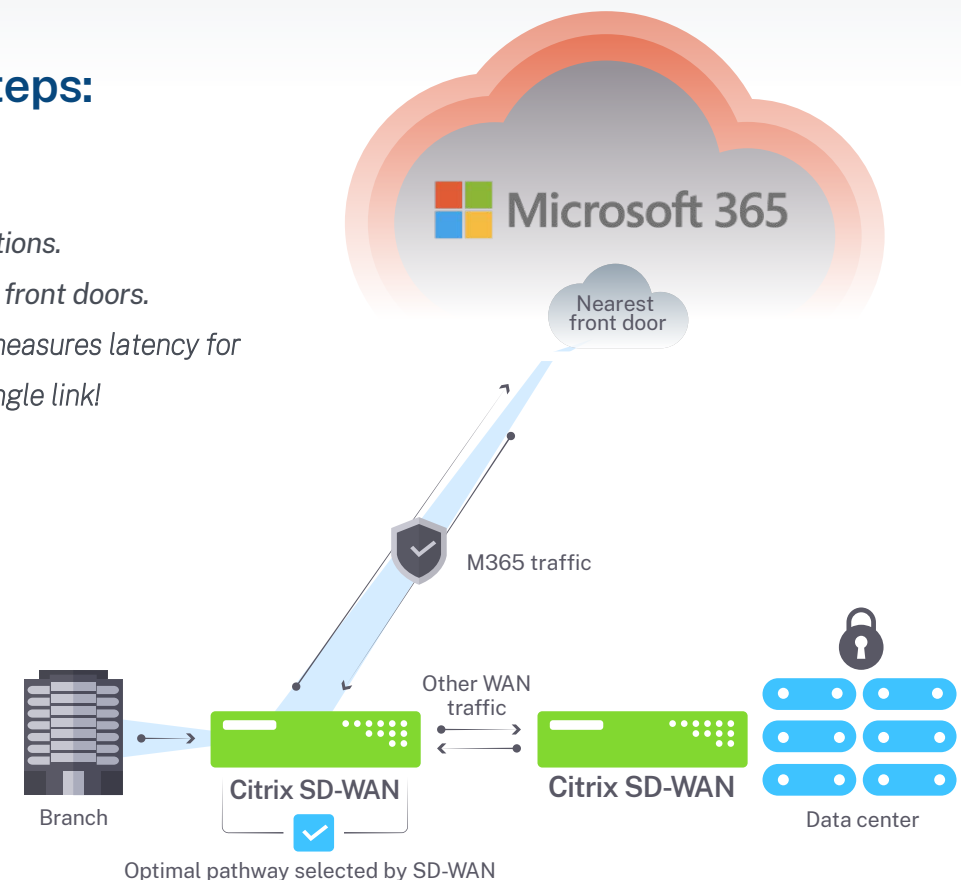
Microsoft has verified dramatic improvements with SD-WAN including:

2-5x faster upload speeds

3-10x faster download speeds

55% faster opening Word

40% faster opening PowerPoint

Microsoft 365

Nearest front door

M365 traffic

Other WAN traffic

Branch

Citrix SD-WAN

Optimal pathway selected by SD-WAN

Citrix SD-WAN

Data center

# SaaS apps are also faster with Citrix Cloud Direct service

In addition to the inherent M365 benefits offered by Citrix SD-WAN, M365 and other SaaS apps can be enhanced even further with Citrix Cloud Direct service. Citrix Cloud Direct service provides high-performance access to cloud exchanges and SaaS applications over an enterprise-grade private network — turning traditional internet connections into SD-WAN-enabled WANs with QoS, link aggregation, and failover links.

Citrix Cloud Direct service delivers SD-WAN functionalities through reliable and secure delivery of all internet-bound traffic regardless of the host environment, i.e. data center, cloud, or internet. This level of performance is optimal for real-time communications such as voice and video as well as accessing applications over large geographic distances.

With Citrix Cloud Direct service enterprise-level SaaS is as simple as a subscription, providing direct peering to thousands of cloud and SaaS providers with a 99.99% guaranteed uptime SLA and latency less than 20ms for any cloud application.

Optimize connectivity to SaaS

Workspace users

Branch, clinic, store, campus
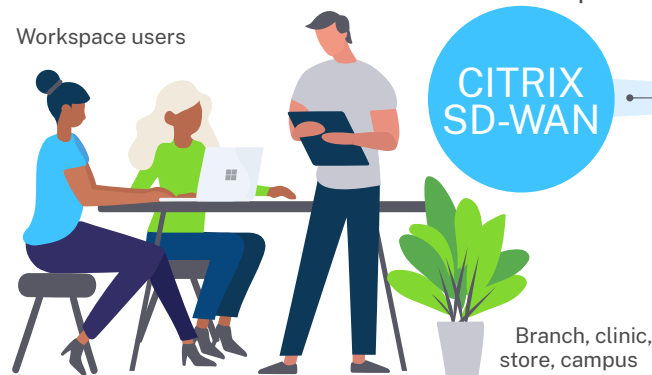
CITRIX SD-WAN

Citrix SD-WAN cloud direct: Enterprise-grade private network to bypass public internet

CITRIX CLOUD DIRECT

Microsoft 365

Dynamics 365 · salesforce · tableau · box · zoom · workday

citrix SD-WAN ORCHESTRATOR

Last mile optimization, sub-second failover
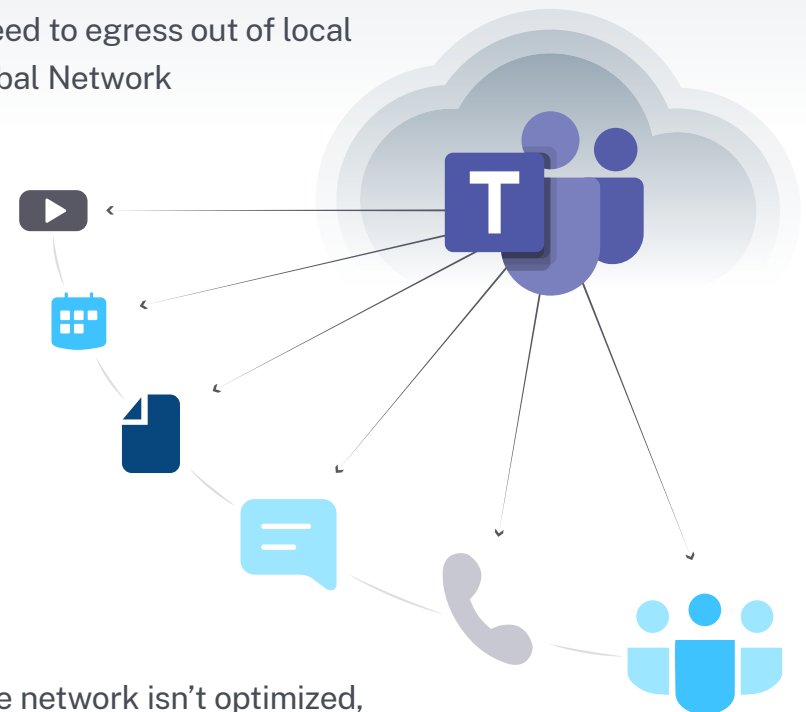Bi-directional QoS and connection load balancing

Microsoft Teams is equally reliant on the network

Microsoft Teams is a cloud-native workspace architected around the Microsoft 365 productivity suite. It's a virtual communications hub that combines chat, video meetings, calling, and files into a single integrated app. Teams is built on top of M365 groups and has the same enterprise-level security, compliance, and manageability as the rest of M365.

As adoption of Teams continues at a rapid pace, there is greater need to egress out of local internet points and onto the closest voice-optimized Microsoft Global Network peering location as quickly as possible for the best performance.

Teams is the fastest growing Microsoft application in history

250M+
monthly active users

Used by
500,000+
organizations

Available in
53+
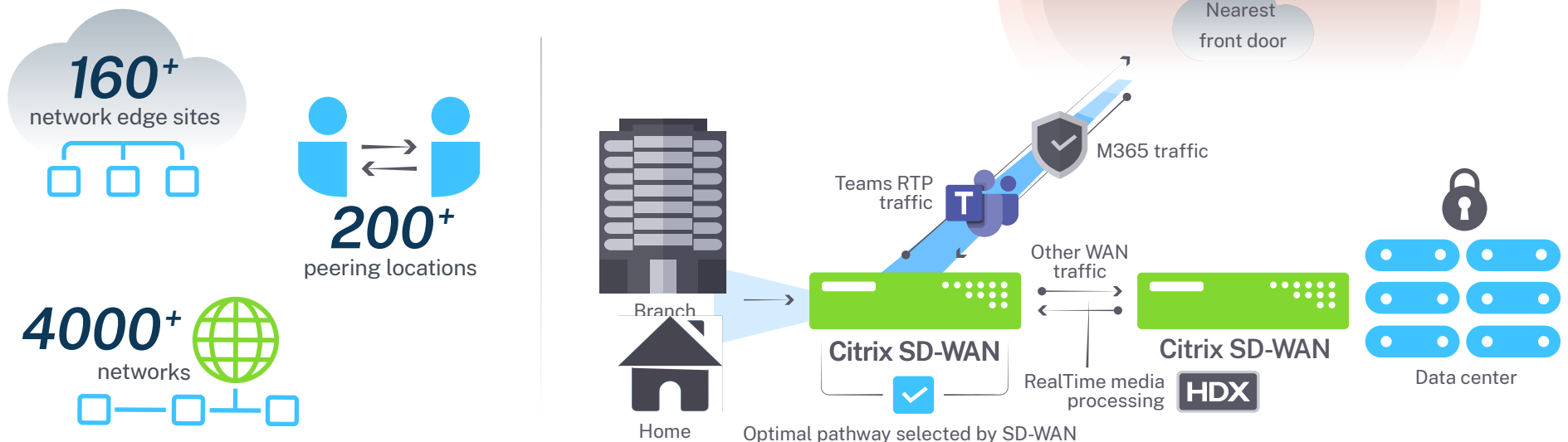languages across
181+
markets

When the network isn't optimized, a subpar Microsoft Teams experience for branch offices is often the result. Citrix SD-WAN maximizes Microsoft 365 investments — and helps retain valuable employees — by ensuring an always-on virtual workspace with crystal-clear VoIP.

Citrix SD-WAN optimizes Microsoft Teams, too

Citrix Virtual Apps and Desktops on the client device optimizes Teams uses the HDX technology stack to redirect Teams media traffic to the user device for local processing whenever possible. Citrix SD-WAN a with built-in HDX Media Engine identifies and steers latency-sensitive video or audio from Teams directly to the cloud — mitigating jitter, packet loss, and congestion.

The massive scale, global footprint, and redundancy of Microsoft Global Network helps Citrix SD-WAN route preferential Teams traffic more quickly, using public cloud SaaS entry points spread throughout the world.

Microsoft Global Network:

160+ network edge sites

200+ peering locations

4000+ networks

Microsoft 365

Nearest front door

M365 traffic

Teams RTP traffic

Other WAN traffic

Branch

Home

Citrix SD-WAN

Optimal pathway selected by SD-WAN

RealTime media processing   HDX

Citrix SD-WAN

Data center

Four Citrix SD-WAN remedies for the WAN

Citrix SD-WAN solves for a variety of complex network ills. Here are four remedies for common network challenges.
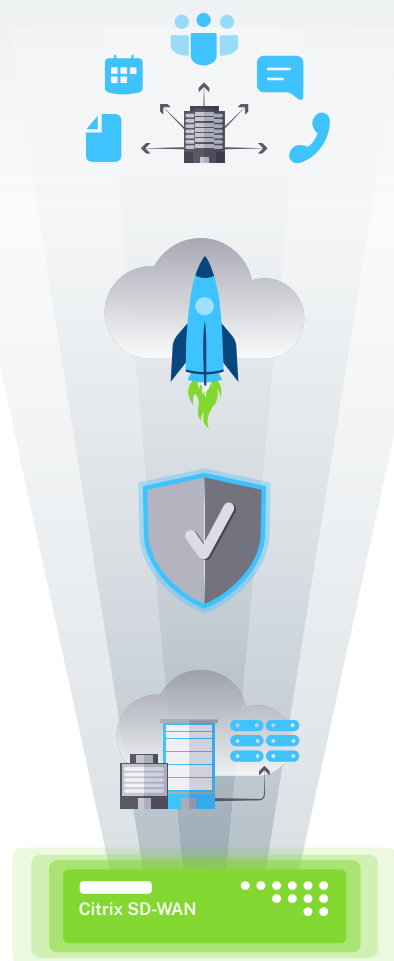
Modernize the WAN

The WAN infrastructure is outdated and MPLS circuits are maxed out. With Citrix SD-WAN lower-cost broadband and mobile connections can be pooled with more costly MPLS — to prioritize and dynamically route SaaS, corporate, and internet-bound traffic to the most optimal connection.

Optimize the last mile

Reliable SaaS apps require low to zero latency. Citrix SD-WAN Cloud Direct service leverages a private, enterprise-grade network to enable high performance SD-WAN access to thousands of SaaS apps and cloud exchanges. The PoPs are interconnected via a high-speed, fully redundant global IP network.

Secure the edge

CIOs are worried about enterprise security and so is IT. Citrix SD-WAN ensures security for the data center, cloud, and branch offices with an integrated firewall (certified by ICSA Labs) that extends security to the WAN edge, and TLS encryption for direct breakout from branch offices to M365.

Simplify branch office IT

Rapid growth propels expansion into new territories. With Citrix SD-WAN a branch office can be quickly connected to the cloud or data center without having to deploy a full infrastructure stack in every location.

Malux | **citrix** | ::: **Microsoft**

Citrix SD-WAN and Malux case study

The company:

Established in 1972, Swedish firm **Malux** imports and exports lighting and electrical equipment for hazardous environments with branches across northern Europe.

The problem:

IT infrastructure had evolved into a mix of PCs, thin clients, and outdated hardware. M365 applications were running slow with 40-50 milliseconds of latency making it difficult for employees to access the information they needed to be productive.

The solution:

Malux partnered with Citrix Platinum Solution Advisor AceIQ to develop a more secure, scalable, and agile IT infrastructure with Citrix SD-WAN and Workspace. Rather than hairpinning traffic through Helsinki to get to the M365 cloud, it is now optimized and sent directly to the edge nodes closest to the applications, resulting in an 80 percent reduction in latency for M365 access.

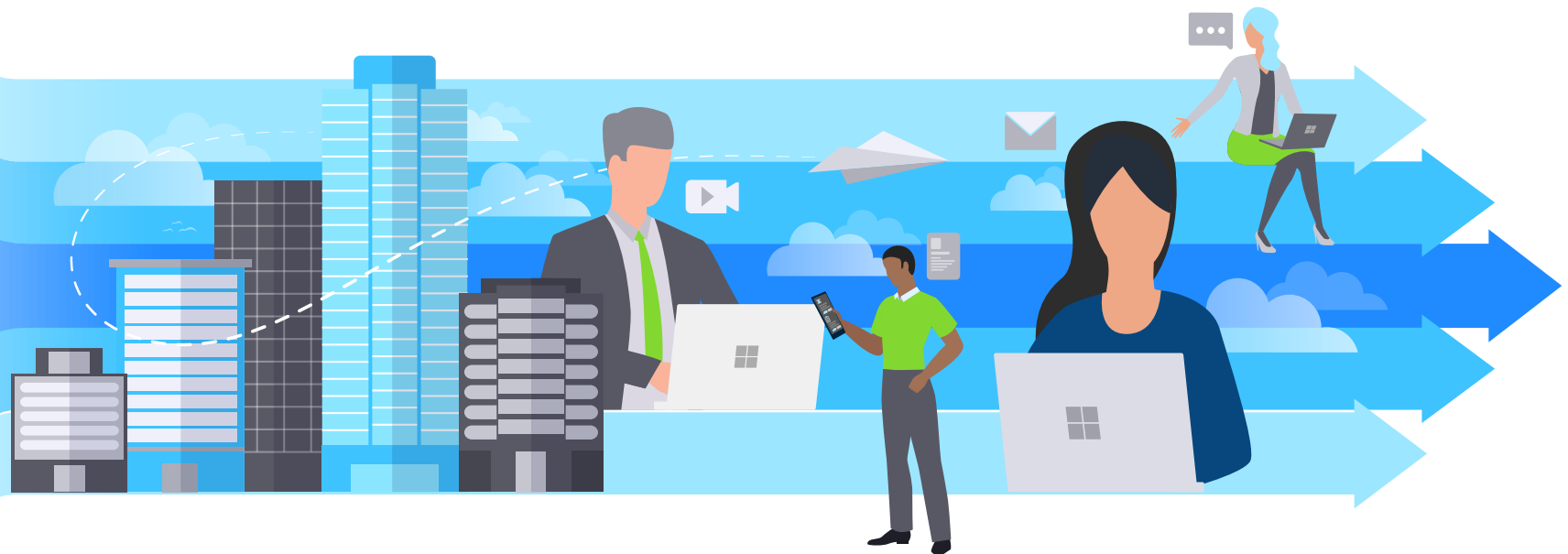Read full case study: **Malux makes growth easy with Citrix**

"When we turned on the Citrix SD-WAN VPX in Azure for M365, our traffic started going to the M365 front door in Amsterdam, latency went to under 10 milliseconds, a decrease of over 80 percent, and there was a significant improvement in the user experience."

— Jörgen Norman
CIO, Malux[2]

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Evolve your network to deliver the best **Microsoft** 365 experience with Citrix SD-WAN

Enterprises are moving to the cloud at a rapid pace, and they're looking at the network to deliver the value that business demands. To ensure success in the global marketplace, CIOs are transforming their networks with fully managed SD-WAN services. Citrix SD-WAN optimizes M365 and Teams network connectivity between branches, data centers, and the cloud, providing the highest quality user experience possible to users in any geographical region.

▶ **Learn more about SD-WAN**

▶ **Request a demo**

▶ **Try SD-WAN in Azure**

Citrix | Microsoft

Sources: 1. Gartner, Whttps://www.gartner.com/en/newsroom/press-releases/2021-04-21-gartner-
forecasts-worldwide-public-cloud-end-user-spending-to-grow-23-percent-in-2021
2. Citrix, Malux makes growth easy with Citrix