SD-WAN: A Simplified Network for Distributed Enterprises
Keeping up with changing technology

As the shift of virtual apps and desktops to the cloud accelerates due to reduced reliance on physical infrastructure and support the new trend of hybrid work. What can no longer be ignored is that network transformation dramatically improves application performance for cloud workloads.

Without a modern network, traffic destined for the cloud uses legacy routing significantly increasing network traffic on the WAN. And much of this traffic is realtime communications, including video and voice. This results in the necessity for more bandwidth, more latency sensitive applications, and more reliance on network availability and quality.

The emergence of new technologies has meant that network traffic in distributed organizations is manipulated in new ways. Not only do remote users need more bandwidth, notably in areas such as video or media, but they now expect faster access to cloud-based applications, Software as a Service (SaaS) and Citrix Virtual Apps and Desktops service.
The problem with traditional MPLS networks

Traditional multiprotocol label switching (MPLS) networks that carry traffic from remote offices to the datacenter cannot offer the high bandwidth, low latency, and high performance needed to access cloud-based applications. Combined with the complexity of remote operations and new management and security requirements, MPLS networks are out of their depth.

Current network architecture is more than a decade old and is therefore not prepared for today’s challenges, marked by an increase in connected devices, mobility, cloud models, and security needs. The result? The current infrastructure is unable to comply with the security requirements and current business models. These require fast response times that are unavailable over an inflexible network. All this makes the evolution of the network a priority, not just for the CIO, but the entire management structure.

“Implementing SD-WAN can cut enterprise bandwidth costs by 75% or more, compared with MPLS.”

- Telegeography 2020.
New networks must meet growing business needs

Business needs and market trends drive network evolution—a fact that can no longer be ignored by management. Enterprises need an intelligent network that can adapt accordingly.

The new network concept must:

- Connect users to applications regardless of the desktop device or connectivity route and whether it resides in the private or public cloud.
- Provide a uniform experience irrespective of where the connection is made.
- Optimize traffic for cloud and mobility, providing the best user experience.
- Apply prioritization and optimization criteria depending on the data and applications used.
- Allow applications to be deployed without special network requirements.
- Simplify the management overhead of distributed services, even, ideally, automating them.
- Provide more visibility to network managers, allowing them to eliminate potential conflicts in the network.
- Integrate security into the network with multiple layers and multiple control points.
- Rapidly provision applications and services in order to maintain the business’ competitive edge.

“With simple operations and comprehensive security as key criteria, organizations should consider investments in application-delivery infrastructure that integrates network and security policy enforcement.” - IDC 2021

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According to IDC, enhanced workforce digital experience. Integration with Citrix Workspace helps enhance user experience and leverage performance improvements and visibility into the Citrix HDX technology for site, session, and user-level reporting and faster troubleshooting. Integrated admin workflow simplifies deployment and configuration for migration from VPN.
SD-WAN: Responding to the needs of distributed enterprises

Companies are looking for cost-effective solutions that simplify operations. A software-defined wide area network (SD-WAN) integrates with your existing WAN architecture to streamline management and improve network efficiency.

SD-WAN uses software to identify the most effective way to route traffic to remote locations. SD-WAN transfers network and security monitoring and management from physical devices to a central controller, allowing network managers to configure and control traffic based on centralized security policies and rules.
Simplify network and security administration

You can make your IT team more efficient by unifying your network and security administration with a single pane of glass. Citrix Orchestrator is a cloud-hosted service that makes it easy for you to monitor and secure users and optimize application performance. Meanwhile, zero-touch deployment allows your IT team to quickly turn up a new location on the WAN. SD-WAN uses software accessible from anywhere as a hosted service to simplify management, intelligence, analytics, and monitoring for all offices. Software-based virtualization enables network administrators to manage network services more easily through abstraction of higher-level functionality. SD-WAN allows IT and business managers to quickly and easily deploy internet-based connectivity that provides a secured and reliable connection, with better bandwidth and lower costs.

For businesses looking for an alternative solution for their remote and home office users, SD-WAN is easy to implement and will result in significant gains.

The network has become a strategic asset and cloud has driven the need to move to a Secure Access Service Edge (SASE) architecture with SD-WAN to solve big issues for network and security administrators. This new way of looking at the network gives the needed flexibility and responsiveness, together with the control and security necessary to deliver on the needs to the new distributed enterprise.

42% of organizations report that supporting larger numbers of remote workers has increased the volume of cybersecurity vulnerabilities.\(^6\)
Streamline multi-location organizations

So, what are the benefits of SD-WAN to distributed organizations?

They include the following:

**Network reliability**
By quickly detecting and routing around network outages or poor quality links, SD-WAN solutions can prevent problems on any one link from affecting users. This makes a reliable connection between users and their applications and prevents business downtime.

**Business agility**
SD-WAN enables the rapid rollout of WAN services to remote offices without the need for on-site IT support. New circuits can easily be added without disrupting operations and business policies can be changed from a centralized location and immediately pushed across the organization.

**Bandwidth savings**
Internet connections are readily available, quick to deploy, and come at a much lower cost than equivalent MPLS networks. SD-WAN provides the reliability and security benefits of WAN services at internet prices.

**Architecture optimized for the cloud**
SD-WAN frees you from the inconveniences and constraints of traditional MPLS networks and bundles security, performance, and connectivity between cloud and office, which significantly improves the experience for users in remote offices when they use SaaS or cloud-based applications.
SD-WAN: Factors to consider

When evaluating SD-WAN vendors, network administrators and business managers should take into account certain factors:

It’s easy to rollout and administer for the hybrid workforce.

A key benefit of SD-WAN is its ease and speed of deployment to remote and home offices. There’s no need to send IT professionals to the offices and no need to individually configure each appliance.

Shift to secure hybrid cloud.

Most organizations have distributed MPLS deployed in remote offices. Companies can deploy SD-WAN solutions and security together by adopting a SASE framework. As they adopt cloud services, they can migrate to less expensive, but equally resilient public broadband and incorporate cloud-delivered security.

Intelligent traffic management.

SD-WAN provides the ability to prioritize traffic and mitigate the impact of network outages. The key is to provide network managers with intuitive tools to easily configure priorities automatically, based on real-time network load.
SD-WAN reduces reliance on MPLS

According to Telegeography research, as more managers install SD-WAN, the more that MPLS usage decreases.

GLOBAL PRICES VARY CONSIDERABLY

Country Average Monthly Price for 20 Mbps MPLS Port Plus Access

Notes: Each country price represents the average of all cities for which we collect data in that country for a 20 Mbps MPLS port at 10% CoS1, 30% CoS2, and 60% CoS3 and a 20 Mbps Ethernet access loop in the 0-5 km distance band.

Source: TeleGeography  © 2020 PriMetrica, Inc.
SD-WAN can cut enterprise bandwidth costs by 75% or more, compared with MPLS.

MPLS systems can also take months to procure and implement in new locations—making it hard for you to scale your network as your workforce shifts and your organization grows.
Citrix SD-WAN: Our challenge in the arena

Traditional WANs were not designed for today’s bandwidth demands. That’s why Citrix SD-WAN provides high levels of scalability, reliability, and adaptability to distributed enterprises. Citrix’s offering combines the strengths of its other products while leveraging smart WAN technologies, WAN optimization, integration with cloud security and application management to create a unique solution that provides a high quality experience for users in remote and home offices.

This solution can provide these features with less financial outlay due to significant savings in the remote communications infrastructure.

The principal benefits of Citrix SD-WAN:

Enhance Workforce Experience
- Secure, connected, and engaged hybrid workforce
- End-to-end network visibility reduces downtime

Simplify Transition to Multicloud
- Consistent WAN orchestration across major clouds
- Speed up site rollouts while lowering transport costs

Accelerate Journey to SASE
- Integrated SD-WAN and security cloud-delivered service
- Unified approach built on a global cloud architecture

With Citrix SD-WAN you can deliver a seamless experience for cloud and SaaS applications for your workers—whether at home, in an office or branch. Tackle your digital transformation with experience, security, and choice from an always-on network.
"Network Visibility And Multiple Connection Type"
Submitted: February 11, 2021

Overall User Rating

Product(s): Citrix SD-WAN

Overall Comment: "Citrix SD_WAN is a next generation WAN edge solution it will simplifies digital transformation for enterprises. It will offers comprehensive security, the best application experience foe SaaS, cloud, and virtual apps and desktops and cloud choice with automation to ensure an always on workspace."

Evaluation & Contracting
Integration & Deployment

Service & Support
Product Capabilities
Forestry business supports new workstyles with more reliable connectivity

Read the Success Story
The Challenge

Business continuity was also an issue. When MPLS suffered an outage, it would take time for the back-up connection to become active resulting in downtime at office and weighbridge locations. If a weighbridge lost connectivity, it would be unable to raise invoices for loads of timber, resulting in delays and poor customer service.

The solution — A virtual WAN via satellite and mobile connections

“Citrix SD-WAN gives us the ability to flex our network bandwidth up or down, aggregating different services and different providers to give us burst capability to meet our needs,” McGrath explains. “We didn’t have that capability with MPLS alone.

With Citrix SD-WAN, Coillte can combine any type of connectivity including 3G or 4G connections as back-up or supplemental bandwidth. It enables the team to prioritize network traffic by workload ensuring critical services are always available. One of the reasons thatCoillte chose Citrix SD-WAN was its rich reporting and visibility across the network which helps the team right-size every connection based on actual usage.

As Coillte adjusts to a post-Covid-19 work-from-home policy, Citrix SD-WAN’s reporting will enable it to further optimize bandwidth to meet new levels of in-office activity.

Citrix SD-WAN provides Coillte’s offices with local internet breakout, so staff enjoy the best performance whether using private or public cloud applications. Citrix Virtual Apps and Desktops ensures users have a consistent and secure experience on any device, from any location, whichever apps they need.

Having deployed SD-WAN to all its office locations, Coillte is now starting on its weighbridge locations, enabling all of the business’s 800 staff to enjoy the same, modern workstyle wherever they are located.

Key Benefit

Citrix SD-WAN delivers a secure reliable network and enables modern workstyles for 800 workers at home, in the office or in the forest.

“We now have the resilience and robustness that Citrix enables. And, where staff could previously only use their business applications, they can now ... join video calls or joint Teams calls and collaborate.”

— Paul McGrath
Technical Services Manager
Coillte Forest

Of course, this isn't the only success story where customers have deployed the Citrix SD-WAN solution

See more client success stories here
Distributed enterprises need reliable solution to ensure network connections.

Learn how Citrix SD-WAN can keep your users connected to the datacenter, the cloud, their applications, and each other:

Learn more at www.citrix.com/sd-wan

2. “Gartner Survey Reveals 82% of Company Leaders Plan to Allow Employees to Work Remotely Some of the Time”, 2020, Gartner
4. “Accommodating the next normal of the hybrid workspace,” 2021, IDC