

# Enabling Microsoft Teams Workplace Collaboration with SD-WAN



## WORKPLACE TOOL FEATURES

- Private line security
- Live captions and subtitles
- Whiteboards
- Company video backgrounds
- Live events in Microsoft 365
- Chatbots and virtual assistants

Companies everywhere are embracing cloud-based applications to secure their communication needs. Messaging apps like Zoom, Slack, G Suite and a host of other collaboration tools, are changing the way enterprises conduct business. While these sorts of services have greatly improved workplace collaboration, they are taxing network resources, especially lower bandwidth connection types.

A solution is needed to enhance bandwidth and prioritize applications over the network. As a result, companies are turning to software-defined wide-area networking (SD-WAN) to update how their network infrastructure handles traffic so that they can support these bandwidth-intensive applications. SD-WAN is being championed to address these challenges—providing the management and monitoring capabilities needed to allocate bandwidth, lower latency, and cut network costs.

SD-WAN is based upon the principles of software-defined networking (SDN), an architecture that provides a virtual network overlay on the physical network and enables administrators to set policies from a centralized controller to intelligently and automatically steer network traffic over available connections. By leveraging SD-WAN, organizations can give branch offices access to the corporate network using a choice of multiple WAN connections, such as MPLS, broadband Internet, and wireless.

## Intelligent workplace tools

Increased interest in collaboration has given birth to a host of applications. This has created a need for hubs, such as Microsoft Teams, which house various communication and collaboration tools in Microsoft 365. SD-WAN can help meet the bandwidth-consuming needs of a variety of workplace tools, including:

**Private line security:** Messaging tools like Slack and Google Hangouts have become the gold standard for creating a private channel that enables staff to communicate through instant messaging and group chats. This is particularly beneficial for companies with teams working together from disparate branch offices. These messaging tools are made all the more private with advanced security capabilities, such as limiting group participation and keeping records of private conversations.

**Live captions and subtitles:** Another way to make team meetings more inclusive is through live captions and subtitles. These tools, powered by artificial intelligence (AI), transcribe and translate video conferences, which enables foreign attendees and those with hearing problems to follow the discussion. It also serves as a useful backup if audio cuts out.

“Branch and mid-sized office copper MPLS connectivity for U.S. locations typically costs \$300 to \$600 per Mbps per month, versus broadband Internet connections, which run \$1.50 to \$15 per Mbps per month.”

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**Whiteboards:** While audio and video conferences are an excellent way to connect multiple branch offices over a secure and private channel, they don't always foster group participation for remote attendees. This is why whiteboard apps were developed, which allow distant staff to contribute their ideas during brainstorming sessions. With the service, everyone in the meeting has access to a touchable whiteboard app, which they can use to draw and sketch ideas.

**Company video backgrounds:** Companies are also using virtual, customizable backgrounds to promote their brand during video chats. Many platforms that host video calls, like Zoom, now allow businesses to upload a picture, such as a company logo, which appears behind them during a video conference call. Remote attendees are likely to benefit from this feature, which can provide the appearance of an office environment from home.

**Live events in Microsoft 365:** Another AI-powered tool unique to Microsoft Teams is the ability to host live events in Microsoft 365. This video distribution and broadcasting service allows companies to stream live events—whether big or small—to as many as 10,000 remote attendees in real-time. The producer of the video determines the video broadcast audience, such as an entire global company. Additionally, remote attendees can join a live event on any device, regardless of whether they have a Microsoft Teams account.

**Chatbots and virtual assistants:** Advancements in AI and Natural Language Processing (NLP) have given rise to other communication tools, like chatbots and virtual assistants. Team members can use them to retrieve a document or any other relevant information instantly. They also give enterprise staff the time to undertake more arduous challenges by automating mundane and repetitive tasks. Eventually, AI-powered chatbots are expected to schedule relevant events and tasks themselves by drawing from data in discussion threads.

### The limits of traditional networks

Private networks based on MPLS have been used to manage network traffic and deliver applications to the corporate data center. While MPLS networks have been a good solution for reliable connectivity in this model, they are not designed for organizations that are migrating mission-critical applications to the cloud and need to access them over the Internet.

The high-bandwidth requirements necessary to deliver workplace tools can extend beyond the connection capabilities of MPLS. Bandwidth updates are often expensive and time-consuming to deploy, and in some cases, not available.

In addition to their limited availability at some branch office locations, the circuits for MPLS can be difficult to install. It's also difficult to set up MPLS sites quickly, often taking carriers months to deploy. But more importantly, it isn't necessary to use private networks that connect through the data center to access applications that are available on the Internet. A method is needed to allow for direct Internet access with enough bandwidth to provide a reliable connection, like MPLS.

#### WHY SD-WAN?

- Centralized management
- Adding bandwidth
- Policy networking
- Traffic steering
- High availability
- Security

#### Benefits of SD-WAN

To provide bandwidth, while enabling agility and maintaining reliability, these cloud-hosted workplace applications need to be supported by a flexible network architecture that is easy to manage. VMware SD-WAN™ by VeloCloud® is a solution that can provide direct access to cloud-based collaboration services using centralized policy management to control traffic over available connections. As enterprises scale their network infrastructure to accommodate workplace tools, VMware SD-WAN is leading the transition.

#### Centralized management

The VMware SD-WAN Orchestrator makes it easy to monitor devices and the performance of applications. It saves hours spent on device management because it can configure all devices from the central console using policies. It is used to set policies for prioritization of applications on the network to make sure that your most important applications get the top priority.

The Orchestrator provides the ability to monitor performance of network connections and your applications, so you can see the benefits provided by VMware SD-WAN. The application monitoring features in the Orchestrator will allow you to troubleshoot issues in much less time. This will prevent poor application performance and save you from application down time.

#### Adding bandwidth

One way SD-WAN can help enable collaboration services is by combining multiple links of different types to provide more bandwidth at a lower price per unit. Companies with traditional MPLS networks have to gamble about how much bandwidth they should purchase over multi-year contracts. In some cases, companies purchase more bandwidth than needed; in other cases, not enough. SD-WAN is different in that it can utilize circuits that have no bandwidth penalties attached to them. Companies can upgrade by adding more and less expensive links, without making changes to the underlying infrastructure.

#### Policy networking

Another way SD-WAN can support these workplace tools is by effectively allocating available bandwidth to mission-critical applications. Not all applications are created equal, with some applications taking priority over others according to business policy. Using SD-WAN, enterprises can set policies in place that separate business-critical applications from less-critical ones. For example, if network traffic flow needs to be allocated to a business-critical application, SD-WAN can steer traffic to bandwidth available on multiple links. If one link fails, the other links can serve as backups and ensure the application continues to run smoothly.

#### Traffic steering

VMware SD-WAN steers traffic using Dynamic Multipath Optimization™ (DMPO) to mitigate the effects of network congestion and improve application performance by monitoring congestion packet-by-packet. With VMware SD-WAN, enterprises install simple edge devices at their different branch offices and these communicate with SD-WAN gateways to direct traffic to the corporate data center or the cloud. SD-WAN can further mitigate traffic congestion by using forward error correction where duplicate packets are sent over both links and data is reassembled on the other end.

### High availability

Workplace tools require high availability in order to run business operations throughout the day, and in many cases, night. SD-WAN can help ensure the high-availability needs of various applications by combining multiple links into a single high-speed connection and drawing a logical connection among them. The end result is a single and secure pipeline that connects multiple branch offices to headquarters at speeds far faster than those over an individual link.

### Security

Traffic on the public network is more vulnerable to security threats compared to a single-carrier MPLS network. Fortunately, the VMware SD-WAN solution includes built-in security features. VMware SD-WAN offers end-to-end encryption to obscure data over public links. This allows companies to protect and conceal data traveling across the Internet.

VMware SD-WAN also offers network segmentation, which can be used to isolate certain data types, such as payment card data, and it is certified for PCI audit. The branch office devices include a built-in firewall to protect access to these locations, as well as a virtualization infrastructure for hosted third-party firewalls.

The VMware SD-WAN solution also provides for service chaining of traffic to cloud-hosted security services.

### A complete solution for SD-WAN

VMware SD-WAN transforms the network. After implementing SD-WAN, you can use multiple transports of any type to increase bandwidth and reliability while reducing costs per megabyte. With SD-WAN's zero touch provisioning and centralized management, you can deploy in days—not weeks or months. VMware SD-WAN Gateways give you optimized cloud access with high performance connections to IaaS and SaaS and the monitoring capabilities of SD-WAN assist with performance-tuning troubleshooting. VMware SD-WAN gives you a complete solution for supporting collaboration tools. For more information see, [www.velocloud.com](http://www.velocloud.com).