

SD-WAN for Working at Home

Enabling your enterprise employees with Work @Home, video conferencing, VOIP calling



Reacting with a sense of urgency in times of change

COVID-19 has had a dramatic effect on work and social life. Enterprises have asked employees to work from home while governments have asked people to stay home and have closed schools. As a result, the whole family is using the home network, which amounts to an upsurge in traffic such that service providers are seeing a degradation in connection quality.

Challenges for the home network

Home networks are not ready for the increase in activity for the following reasons:

- They don't have quality of service
- They can't prioritize applications such as those for business over those for recreation
- They can't mitigate congestion
- Network performance on consumer broadband is highly variable
- They are not managed by IT, so who will help if things don't work?

Performance for software as a service (SaaS) and unified communication as a service (UCaaS) over the Internet isn't ideal. Office 365, voice, video & virtual desktop infrastructure (VDI) suffer with inconsistent wide area network performance, so the usefulness of these applications degrades. In order to improve performance of these applications, requirements for the home network include:

- The ability to monitor traffic and apply policies on demand
- A reliable connection to the cloud and access to multiple cloud networks
- Assured application performance

Meeting these requirements takes more than a simple VPN. It requires SD-WAN.

VMware SD-WAN™ by VeloCloud® helps our customers with connectivity from remote, branch and home offices, addressing all the requirements to ensure a successful home network experience.

Working from home with SD-WAN

As organizations adapt to remote work, SD-WAN is being used in new ways in the home:

- Employees are using more SaaS and IaaS applications
- Employees are increasing usage of video conferencing
- Call center workers are using voice over IP (VOIP)

SOLUTION COMPONENTS

- **VMware SD-WAN Edge** - Enables automatic prioritization of business traffic over that of other users in the home
- **VMware SD-WAN Gateway** - Serves to onboard traffic to the VMware SD-WAN infrastructure
- **VMware SD-WAN Orchestrator** - Acts as the management hub for this modern network architecture

VMware SD-WAN for Work @Home

As shelter-in-place orders are issued all over the world, in-office employees must transition to working from home and acclimate to using standard home-use broadband, often sharing it with partners, children, and other family members. Working from home requires high-quality and uninterrupted connectivity to SaaS applications. This requires SD-WAN.

VMware SD-WAN Edge

A VMware SD-WAN deployment starts with placing a VMware SD-WAN Edge device at the home. This is a low cost device that is available as a subscription. The Edge device enables you to connect your home to your service provider's WAN and to the Internet, and then connect to your applications. Implementing a VMware SD-WAN Edge in the home enables automatic prioritization of business traffic over that of other users in the home.

The VMware SD-WAN Edge device is easy to install. Your IT admin will create a config key and send it to you. Once the device is delivered, you just plug it into power in the home network. Simply click on the config key link to start the installation. VMware SD-WAN appliances automatically authenticate, connect, and receive configuration instructions once they are connected to the Internet in a zero-touch deployment model. VMware SD-WAN Edge is compatible with the home network. You just put it in line behind the cable or DSL model to separate home traffic from business traffic.

VMware SD-WAN is an ideal fit for home offices, as SD-WAN is easy to deploy, requires no trained staff to install, and can be brought online in minutes to allow the overflow site to immediately become part of the existing network.

VMware SD-WAN Gateway

VMware SD-WAN interoperates with several of the cloud-based networks such as Microsoft Azure, Amazon Web Services and Google Cloud Platform. If you are accessing SaaS applications or IaaS, you can use SD-WAN to connect to the cloud network for preferred access to these resources. The VMware SD-WAN Gateway connects to the cloud node on the cloud network and shares information with it to dynamically determine the best path.

VMware SD-WAN Orchestrator

The VMware SD-WAN Orchestrator manages the provisioning of the VMware SD-WAN Edge devices, saving time in setting up new sites and in keeping devices configured correctly for the best performance. The Orchestrator makes it easy to push out a predefined configuration. It is used to set policies for prioritization of applications on the network to ensure that your most important applications get the best performance. This means that your devices are always operating at their best, and if something happens, it can quickly be put right.

The VMware SD-WAN Orchestrator makes it easy to monitor the performance of your applications and your network. It gives you an end-to-end view of the entire application and network stack. This visibility helps you decide how to apply policies and troubleshoot issues on the network. The Orchestrator provides a means to observe performance of the home network as well as the corporate network.

Benefits of VMware SD-WAN

As broadband ISP networks become more congested with the increase of work from home users, VMware SD-WAN's patented Dynamic Multipath Optimization™ (DMPO) technology helps remediate poor link conditions for a more reliable experience, even when the home user only has one link or connection coming into the home.

VMWARE SD-WAN

- 60-day free trial
- Up to 50 units
- VMware SD-WAN Edge 510 or Edge 510-LTE*
- Hosted VMware SD-WAN Orchestrator
- Hosted VMware SD-WAN Gateway
- Secure connectivity to the enterprise data center
- Basic support services (if needed)
- Professional services:
 - New customers - 6 hours
 - Existing customers - 3 hours

VMWARE SD-WAN WITH HORIZON OR VMC

- 90-day free trial
- Up to 100 units
- VMware SD-WAN Edge 510 or Edge 510-LTE*
- Hosted VMware SD-WAN Orchestrator
- Hosted VMware SD-WAN Gateway
- Secure connectivity to the enterprise data center
- Basic support services (if needed)
- Professional services:
 - New customers - 6 hours
 - Existing customers - 3 hours

Using VMware SD-WAN, workers can simply use an LTE-enabled SD-WAN appliance or one with a USB port to connect to a Cradle Point LTE device or Inseego USB modem to connect to the Internet and gain reliable and secure access to the cloud and data centers. An additional LTE device can be added for additional bandwidth or redundancy and SD-WAN will automatically load balance the traffic between the two links.

Not everyone will have a dual link. SD-WAN provides benefits for a single link as well. You can get 10X higher throughput over a single link with SD-WAN. This is done by using forward error correction. If there is a problem on the network, the moment packet loss is detected, VMware SD-WAN immediately starts to remediate. This means that you can get a high-quality connection over one link, even if it has issues.

Real time applications such as VOIP require low latency and quality of service. SD-WAN provides support for VoIP. VMware SD-WAN can deliver a 4.0 mean opinion score (MOS) score with up to 15% packet loss. This will ensure that VoIP stays in the good to very good range of performance.

VMware SD-WAN benefits video conferencing, as well. We did a test with 2% packet loss. This was enough to degrade the feed without VMware SD-WAN but video remained high quality thanks to VMware SD-WAN. This shows that you can get a quality user experience, even with sub-optimal link conditions.

Empower your team with VMware SD-WAN Work @Home

To help organizations quickly empower a remote digital workforce, VMware is introducing the VMware SD-WAN Work @Home free trial offer, which provides end user hardware and hosted services using one of the following Work @Home bundles:

- Up to 100 VMware SD-WAN Edges: 510/Edge 510-LTE for up to 90 days with Horizon or VMC on AWS
- Up to 50 VMware SD-WAN Edges: 510/Edge 510-LTE for up to 60 days

Both VMware SD-WAN Work @Home bundles come with the following:

- Hosted VMware SD-WAN Orchestrator and hosted VMware SD-WAN Gateway
- Secure connectivity to the enterprise data center
- Three hours of professional service for existing customers, or six hours for new customers

With this new VMware SD-WAN Work @Home offer, organizations can expect:

- Speedy rollout and simplified management with automation
- Reliable access to traditional applications in the enterprise on-premises data center
- Assured performance for SaaS, UCaaS, VOIP, and VDI from providers such as Microsoft Office 365, Zoom Meeting, Vonage, Ring Central, Windstream, VMware Horizon Cloud, and more
- Secure last mile with multiple deployment options—on the VMware SD-WAN Edge appliance or in the cloud

Contact us for a quote and BOM: www.velocloud.com/solutions/business-continuity

