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Modern organizations are in the midst of a major migration to the cloud. All the while, IT teams continue to contend with constrained staff, tight budgets, technology complexity, security, and the need to align strategically to the rest of the business. Cloud-hosted desktops represents a way for organizations to drive better productivity as their workforce expands. However, ensuring that these desktops deliver the best possible user experience requires a closer look at the network that connects users to their applications.

A Cloud-First Strategy for the WAN

As organizations move their data centers to the cloud, low-cost internet delivers an efficient way to connect directly from the WAN edge to the cloud. Broadband is plentiful and inexpensive, yet it has drawbacks: a single link lacks redundancy and adding additional links requires manual failover, so users may still experience disruptions. SD-WAN can provide all of the reliability and performance required to deliver the experience users have come to expect, even from the cloud. However, not all SD-WAN solutions are created equally. Designed with simplicity and application performance in mind, Citrix SD-WAN represents a better way to connect users to Citrix Managed Desktops hosted in the cloud.
A Better Citrix Managed Desktops Experience with SD-WAN

Extending your WAN into the cloud should be quick and easy through automation and leveraging existing IT staff. Citrix SD-WAN offers the following benefits when deployed with Citrix Managed Desktops:

- **Best end-user experience** for office workers. SD-WAN optimizes the experience for users accessing hosted desktops, SaaS including Microsoft Office 365, and more.
  - With Citrix Managed Desktops, the ICA protocol is used between the branch and the SD-WAN instance in Azure. This provides HDX Quality-of-Service (QoS) and deep visibility into the individual traffic streams so critical traffic can be prioritized: real-time and interactive over Bulk and background. This even works over a single port configuration.
  - For visibility into the desktop session experience, a Quality-of-Experience (QoE) metric based on network conditions enables monitoring of HDX session quality. Then, drill down into the performance of HDX applications at each site by user and tune rules and policies to improve the QoE score.
  - SD-WAN ensures Fair Sharing of bandwidth between HDX users ensures that the activities of one user — streaming video or large file transfers or print jobs — don’t impact other users on the same network link.
  - Packet duplication ensures that the most latency-sensitive HDX traffic, such as user input, reaches its destination in the shortest possible time.
  - With Citrix SD-WAN, the HDX stack is able to take advantage of Citrix's UDP-based EDT data transport protocol, which outperforms TCP when users are not in the same location as their virtual desktop.

- SD-WAN supports Microsoft’s REST APIs which identify, categorize and steer trusted Office 365 traffic directly to the nearest Office 365 entry point—or “front doors”. Users running Office 365 in their virtual desktops...
Customers who outsource their networking can easily take advantage of best-in-class CMD connectivity with SD-WAN through a Managed Service provider.

A new study reveals that 96% of enterprises face costly IT outages, though IT says 51% of downtime is avoidable. (Source: LogicMonitor)

get an optimized experience because the Virtual Delivery Agents (VDAs) leverage SD-WAN VPX in Azure to connect to the closest Office 365 front door. For Microsoft Teams, the media processing is performed locally on the user device using the Microsoft Teams Optimization Pack allowing the on-premises SD-WAN appliance to steer the Teams traffic directly to the SD-WAN VPX in Azure.

- **Simple admin experience for End-User Computing and Network teams.** Gives both IT and users reliable, high-performance connectivity that is quick and easy to set up and simplifies network connectivity from your cloud-hosted desktops to your on-premises resources such as Active Directory and data sources. The integrated workflow makes it easy for existing IT staff to automatically provision and configure a SD-WAN virtual appliance (VPX) in the Azure CMD VNet while Citrix SD-WAN Orchestrator allows for quick activation. Managed Service providers can leverage Citrix SD-WAN Orchestrator to deliver Citrix Managed Desktops with built-in Azure connectivity as a managed service for customers.

- **The most reliable and secure network connectivity.** Since SD-WAN bonds multiple links together to form a virtual path, it increases bandwidth and creates redundancy by ensuring there are no interruptions to desktop sessions even when network conditions change. Smart load balancing ensures reliability by automatically redirecting traffic to the remaining best available connections in the event link conditions degrade (brownouts) or experience outages. Further, built-in intelligence in Citrix SD-WAN selects the best WAN link in real-time allowing users to benefit from a consistent, high-performance experience. Security options make it easy to protect desktop traffic over the network and in the cloud. Starting from the branch, SD-WAN redirects HDX traffic to the stateful firewall in the VPX appliance in Azure. For Internet breakout, Citrix partners with security vendors who provide cloud-based security. Unlike the competition, Citrix doesn't simply integrate with these solutions. In fact, APIs synchronize with the management systems of partners such as Zscaler and Palo Alto Networks so setting up cloud security from Citrix SD-WAN is simply a few clicks away.

**Integrated for a Better Solution**

As modern enterprises everywhere are undergoing a major digital transformation, success is dependent on application performance, more often than not, to applications in the cloud. Citrix SD-WAN accelerates digital transformation with flexible, automated, and secure connectivity to ensure an always-on workspace experience. Citrix SD-WAN allows customers to quickly add new sites, rollout new applications, and monitor reliable connections to the cloud using automation, policy-based enforcement, zero-touch deployment, as well as intelligent reporting.

For more information about Citrix SD-WAN, visit citrix.com/sd-wan.