MPLS is dead. Long live SD-WAN

With more and more organisations moving towards cloud-based technologies and increasing numbers of devices escalating connectivity and bandwidth demands, particularly in light of the move towards remote working, it's safe to say that the networking landscape is now forever changed.

“Even prior to the COVID-19 pandemic, we've seen a growing adoption of the Internet of Things (IoT) technologies locally for instance – and a related jump in the number of connected devices,” says Marc van der Poll, Network and Solutions Architect at Datacentrix. “For companies, this has translated to an increase in bandwidth requirements, as well as new types of users connecting to the network.”

From a broader business perspective, there's mounting pressure to extract more value from technology investments than ever before, and the network has become one such area of scrutiny, adds Van der Poll.

As a result, there has been a great amount of contemplation around the benefits of software-defined networking (SD-WAN) technology – the relative newcomer to the tech world – versus the more traditional multiprotocol label switching (MPLS) approach.

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SD-WAN enabled routers dynamically direct traffic using intelligent path control, based on up-to-the-minute application and network conditions for improved application experiences. This technology provides centralised control over application performance, bandwidth usage, data privacy and availability.

“There are certainly specific drivers that put SD-WAN firmly ahead of MPLS in the network traffic protocols fray,” comments Van der Poll.

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When it comes to cloud strategy, an increase in capacity is critical, and SD-WAN technology is extremely helpful here as it not only addresses the question of capacity, but also performs application-level routing, which provides optimal pathways to cloud-based services.

“Redundancy is important here, as businesses looking for better uptime appreciate the fact that – being carrier-agnostic – SD-WAN is able to optimise algorithms to push traffic over the best suited link, using different media including fibre, microwave, LTE and even VSAT technology.”

Capacity requirements too are critical, as private WANs can be extended with the addition of public broadband services. This means that non-critical traffic can be off-loaded onto the public network during normal operation to improve the network's overall performance.

“When it comes to cloud strategy, an increase in capacity is critical, and SD-WAN technology is extremely helpful here as it not only addresses the question of capacity, but also performs application-level routing, which provides optimal pathways to cloud-based services,” Van der Poll continues.

“SD-WAN gives the local breakout to the internet needed for cloud services. This means that internet traffic to cloud services, such as Microsoft Office 365, does not have to transverse to the corporate backbone as with MPLS. This massively reduces WAN bandwidth usage.

“The same applies to businesses that are expanding and growing their physical footprint. Not only can new branches easily be brought into an existing SD-WAN setup, it is also beneficial for companies undergoing mergers, acquisitions or business segregation, as the deployment of an SD-WAN as an overlay allows for the central utilisation of corporate-wide policies and security standards.”

From a network management perspective, the major benefit around the 'touchless' central deployment of policies, hardware and firmware, as well as analytics gathering, is that it brings with it far lower rollout and maintenance costs.

Says Van der Poll: “To do their work, the mobile workforce needs to use multiple devices and relies on many applications, which they access directly via the internet. Consequently, companies everywhere are challenged with ensuring that their users have a safe, reliable and consistent digital experience.

“SD-WAN represents a technology shift towards solutions that are more agile, open, and cloud integrated, and is able to deliver on these requirements.”

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