

# 5 Common Industry Myths

## Myth #1: MPLS is more reliable than other transport options, especially compared to the internet, which is congested and delivers poor performance.

MPLS has long been established as highly reliable, and enterprise IT decision-makers have come to accept MPLS as the default choice, citing analyst praise and a strong record of adoption. Key to this belief are a number of supporting points, most of which are predicated on conditions that existed when MPLS was a relatively new technology.

### Beliefs Resulting in Myth #1:

- The internet is congested and lacks stability; MPLS would provide greater reliability.
- Application performance will suffer if moved off MPLS.
- Private connectivity means security.

### Mythbuster:

MPLS is no more reliable than other technologies. In fact, its reliability is challenged every time an outage occurs, because there typically is a single circuit to the customer premise. When the service is down, the entire site goes down with it. The arrival of the digital era is placing new demands on networks by requiring better performance and reliability at the edge. Further, reliability at the branch level has to account for the ability to handle growing applications and data as well as needs to support cloud, smart devices, IoT, and high bandwidth-intensive media applications at remote locations.

Today's internet can handle 4K streaming, routing high-definition video on demand into homes. From a business perspective, that means the internet provides almost limitless capacity to support voice, video and data. Most business applications have been modernized and specifically written for today's packet-based world, so they can perform better across the internet.

With the advent of high-speed broadband (up to Gig speeds) and software-defined wide area networking (SD-WAN), internet VPNs make more sense than ever. With SD-WAN, organizations can gain unprecedented network and application visibility through a mobile dashboard to achieve greater application performance and a more effective, modern alternative for performance management.

Some things to consider when assessing MPLS and the changing conditions of the digital age include:

- The internet of today is far more advanced and actively demonstrates its ability to support bandwidth-heavy applications. Service providers are making significant investments to further increase internet bandwidth and support for business needs (e.g., DOCSIS 3.1 and SD-WAN).
- Most new business and consumer applications are designed and optimized for IP traffic, and perform better over broadband internet (performance issues for applications are commonly a result of being "bandwidth starved"). Many cloud-based applications are designed to be substantially more resilient and capable of being run over the public internet, causing MPLS private connectivity to be less necessary.

- VPN technology and encryption have become essential in order to secure communications across distributed enterprises, where it's not practical to expect to bring all traffic back to the core network and out to the local branch offices.

### Conclusion:

More functionality is needed at the edge. Remote sites need access to software-as-a-service (SaaS) tools, data centers, unified communications, and advanced applications through broadband internet and public cloud connections. Some legacy networks may be overburdened to support these needs due to a lack of flexibility, complexity, and topology limitations. Companies are seeking alternate, more flexible technologies such as SD-WAN supported by carrier-grade broadband for performance and network availability at branch office locations to complement or replace legacy networks.

## Myth #2: A Service-Level Agreement (SLA) equates to real-world performance.

SLAs provide a reasonable expectation that performance and traffic delivery are guaranteed. Legacy infrastructure will perform better than traffic sent over the internet because there is a SLA in place that promises high network availability, low latency, low jitter, and low packet loss.

### Beliefs Resulting in Myth #2:

- SLAs provide accountability.
- SLAs help ensure delivery of priority traffic.
- SLAs are given on all enterprise services.

### Mythbuster:

SLAs do not represent real-world performance. SLAs are designed to help service providers manage expectations as well as to explain what measures will be taken if certain performance criteria are not met.

- Regardless of SLAs, individual links are still subject to the same routine causes for downtime and performance issues as any other individual link.
- Most application traffic is now designed and optimized for delivery over the internet.
- Most performance SLAs are based on network averages.

### Conclusion:

Guaranteeing a specific pathway performance is no longer the most efficient way to meet the objective of delivery optimization. With dynamic routing over broadband utilizing all available pathways, the availability of a single link is less significant. It is more important to reduce the existence of single points of failure and have a network solution that is flexible and agile with failover capability. Additionally, Comcast Business SD-WAN offers mobile and desktop portals to view network performance (e.g., latency, jitter, and packet loss) in real time to optimize network performance. SD-WAN can be an alternative solution for performance management.

## Myth #3: I need bandwidth on demand.

Bandwidth on demand is a key driver of the need for software-defined networking (SDN) and network function virtualization (VNF). The network intelligence and control functions inherent to SDN should be leveraged to dynamically change bandwidth allocation as a key cost management feature.

### Beliefs Resulting in Myth #3:

- Bandwidth on demand can imply unlimited capacity and suggest that usage-based billing is the most efficient option.
- Bandwidth on demand as positioned by legacy network providers is a natural evolution of technology to solve a company's desire to support usage spikes.

### Mythbuster:

Bandwidth on demand attempts to solve bandwidth constrained environments. Pairing SDN capabilities with Gig-speed broadband is revolutionary for the distributed enterprise. Branch offices will now have capacity and simplified network management to meet most application demands required for digital transformation.

- With reliable and scalable high-speed broadband, enterprises can have significantly more bandwidth at cost-effective price points.
- In addition to removing bandwidth constraints, SDN paired with Gig speeds enables branch locations to operate in the manner of a corporate headquarters with the ability to leverage local breakout for efficiencies.
- High-speed bandwidth and virtualized network functions set the stage for innovation in the digital era, positioning the entire enterprise for future success.

### Conclusion:

If companies have enough bandwidth at an affordable price, they won't need bandwidth on demand. SDN paired with Gig speeds provides a better solution than staying in a bandwidth-constrained network, and this concept allows for simple, integrated, and manageable billing.

## Myth #4: I don't need SDN to modernize my network.

Existing IT models are working today and are sufficient for the foreseeable future. In fact, it is unsafe and ill-advised to abandon the tried and true methods in favor of the new software-based approach. Legacy migrations can be painful and expend valuable resources, and IT departments are not committed to "forklifting" the entire network.

### Beliefs Resulting in Myth #4

- IT teams are comfortable with their expertise and proficiency in making things work with the current tools and systems.
- IT teams have been able to successfully support previous major milestones in innovation (e.g., hybrid cloud and unified communications).
- The business value of alternatives are still debated as use cases and have not been firmly proven.

### Mythbuster:

Enterprise networking solutions continue to increase in cost and complexity. SDN has been identified as the way forward for companies to adopt alternative, more flexible solutions and drive competitive advantages.

- The combination of application-aware routing, a digital experience, and software automation allows for an efficient use of broadband.
- Business agility and access to more bandwidth at the edge are key themes for digital transformation.
- SD-WAN helps simplify network management and reduce physical site visits.

### Conclusion:

Software-defined networking is a competitive advantage in the digital age and will quickly begin serving as a key point of differentiation. As more applications become native to the cloud, it is important that your network has the visibility and flexibility to support and scale to deliver consistent experiences for your internal and external customers.

## Myth #5: SDN and SD-WAN are the same thing.

There is no distinction between SDN and SD-WAN. In fact, SD-WAN is just shorthand for talking about the application of SDN to the wide area network (WAN).

The view that SDN and SD-WAN are synonymous is the result of market confusion. The claim comes from the misconception that SD-WAN is just shorthand for talking about the application of SDN to the WAN.

### Beliefs Resulting in Myth #5:

- SDN and SD-WAN both support virtualization.
- SDN and SD-WAN are both transport-independent technologies.
- SDN and SD-WAN replace physical devices with software.

### Mythbuster:

SD-WAN uses SDN principles to provide distributed connectivity between sites that is secure, reliable, and application-aware — but SD-WAN is just one application of SDN. There are other attributes of SDN that can impact the larger WAN environment and go well beyond the capabilities of SD-WAN itself. SDN is a technology platform that enables the delivery and support of distributed enterprise networks through centralized software controls that can deploy, activate, and manage network resources when and where they are needed.

Several SD-WAN solutions in the market today do not have a robust SDN platform serving as their foundation. They are limited solutions that will not scale as network virtualization needs grow, and they are not supported by a native digital experience.

- Many present SDN solutions can create feature or vendor "lock in" and do not extend the benefits of orchestration, service chaining, and VNF support to customer premises.
- Many SD-WAN solutions in the market today do not have a vision as to how customers may adopt additional virtualized network functions.

### Conclusion:

The distributed enterprise needs an SDN platform that is designed with a long-term vision. Comcast Business' ActiveCore<sup>SM</sup> is a software-defined, Gig-ready platform for the digital world. ActiveCore is a network-based, carrier-grade SDN platform that enables customers to virtualize network functions such as SD-WAN, routing, or firewall as well as manage growing workloads moving to the cloud. With ActiveCore, service chaining and a broad set of virtual network and security functions can work seamlessly together across the distributed enterprise to enable businesses to easily provision multiple network functions at once — all through a single pane of glass.