



AS SD-WAN GROWS, IS MPLS STILL RELEVANT?



55 Main Street, Suite 315,
Newmarket, NH 03857
(888) 704-3183

www.amdcomm.com

The growth and rapid, almost frantic, change of communications technology has left many familiar standbys, which many people likely thought would be around forever, in the dust of history. Consider the landline telephone: How many have departed that technology in favor of its mobile equivalent? Something similar is happening in the communications space as well, as multiprotocol label switching (MPLS) finds itself under fire in favor of other technologies, such as software-defined wide-area networking. However, MPLS is still relevant, as it's offering a few specific use cases that no other technology can match, at least for now.

THE HISTORY OF MPLS

The immediate history of MPLS illustrates why it's come under intense competition in the last few years. Its origins date all the way back to 1997. Originally established by the Internet Engineering Task Force as an alternative to IP over asynchronous transfer mode (ATM) and multilayer switching, MPLS allowed for both traffic shaping and transmission

With MPLS, a device could do the same job as a router but with a performance that actually met or topped that of an ATM switch, which was faster than a router. That was a development that offered a significant advantage over many of its common competitors and posed a welcome boost to scalability, making it the go-to system for the 2000s and even some of the current decade.

WHY MPLS IS LOSING GROUND

Despite its sheer innovation, coupled with the fact that it could produce a lot of improvement over its contemporaries, MPLS is starting to lose ground in the marketplace. Several reasons contribute to this loss.

No Technology Is Eternal

Just like the landline loses out to the mobile, and HD-DVD lost to Blu-ray, technology loses ground to age. With MPLS now a 22-year-old technology in a field where life cycles are commonly measured in single-digit years — or even months

— it's an unusually long-lived system, and its time may have come. MPLS's own longevity likely drew attention to its own market, encouraging new developments to take place and pursue a piece of that market.

MPLS Can Be Expensive

MPLS delivers a lot of value, but MPLS also depends on a good amount of supporting infrastructure. In an era when almost everything is in the cloud, a system that requires hardware can be a tough sell. SD-WAN actually has the potential to cut WAN costs in half, which makes it attractive compared to MPLS.

MPLS Takes a Lot More Management

It's bad enough that MPLS is pricey to set up; it also requires additional costs in the form of ongoing support. That means portions of the IT department dispatched to attend to these systems, and that's a loss of potential opportunity elsewhere in the ecosystem. Every IT staffer detailed to handle MPLS is one less person available to address endpoint issues, bolster security, future-proof current operations, or perform any of a hundred other tasks that would be as valuable as MPLS.

MPLS Has a Marked Lack of Agility

Establishing MPLS at a site that doesn't have it can require months' worth of setup, and the process to establish MPLS has very few corners that can be cut. The sheer amount of time required can leave some businesses in the lurch. It's also very difficult to pivot when a system's infrastructure has to come along for the ride. Necessary retooling can take weeks, or again, even months. In a business environment where seconds count for more than anyone expected, a system that takes weeks to pivot is sometimes seen as an outright liability.

MPLS Comes with Capacity Issues

When MPLS got its start back in 1997, there was a lot less data floating around than there is today. With businesses increasingly turning to analytics, and Internet of Things (IoT) systems generating more raw-data fodder for analytics systems, businesses need higher-capacity systems than ever

Bandwidth Costs Are Sometimes Prohibitive

before. MPLS is falling down on the job in capacity, especially as that capacity requires still more infrastructure to support.

The combination of high overall costs and capacity issues poses an entirely new problem when it comes to MPLS: bandwidth costs. As consumers increasingly turn to bandwidth-intensive activities such as video, having to pay a higher cost for bandwidth can mean unpleasant choices for businesses. Can the business absorb the higher costs of bandwidth? Will these costs need to be passed on to the end users? Effectively answering both questions and others like them will likely require hard choices and suboptimal outcomes.

MPLS Doesn't Handle Proof of Concept Well

The ability to test a system out is welcome for many businesses. Why commit to a system that's not delivering the desired impact? MPLS doesn't handle proof of concept (POC) applications very well, which doesn't allow for the ready ability to try the system out to ensure it delivers. Given the extensive amount of hardware involved in MPLS, this is understandable, but it leaves it on uneven ground with platforms that can offer a POC more readily.

The Competition Is Phasing Out MPLS

An [IDC report](#) notes that, by 2022, SD-WAN will reach \$4.5 billion, and the success stories for SD-WAN use are steadily mounting. With that kind of a sales pitch behind it, more and more of a business's competitors will be taking advantage of SD-WAN and likely relegating MPLS to less of a role — if any at all. Those who don't make the move may find themselves on the bad end of a competitive shortfall.

THE CASE FOR MPLS IN THE FACE OF SD-WAN

With so much going against MPLS, how can it still be relevant in a modern operating environment? MPLS's benefits still shine through, even in an environment with growing competition.

MPLS has survived more than 20 years in the market, and

MPLS Is Reliable

there are still companies putting it to work every single day. That kind of longevity doesn't show up for just any technology, and MPLS delivers. Since it's delivered on a privately managed backbone, it often comes with quality of service (QoS) assurances baked-in. Guarantees of availability often start at the four-nines (99.99% uptime) level, and packet loss rates measure in the 0.1% range. That's hard for anyone to pass up.

MPLS Is Tailor-made for Mobile

With businesses going increasingly mobile, including hiring more mobile workers and telecommuters, stability is vital to ensure the best results. Since MPLS has a four-nines uptime with minimal packet loss, it makes it an excellent platform for several common mobile applications. This includes virtual desktops, VoIP applications, and videoconferencing tools, all of which make mobile workers an even better proposition.

MPLS Is Built with Enterprise Users in Mind

It's hard to pass up a service that's made particularly for a business user, and MPLS is exactly that kind of service. MPLS services come with built-in management and invoicing services and offer end-to-end delivery. That combination of added features means added value to many enterprise-level users. What's more, MPLS is also better suited to higher-bandwidth applications.

MPLS Works Well with Other Technologies

Usually, when people talk about SD-WAN as it relates to MPLS, they don't talk about SD-WAN taking over for MPLS. Rather, they talk about SD-WAN coordinating with MPLS. The two technologies are often mentioned within the same breath, as SD-WAN represents a tool that can address more than a few of MPLS's shortcomings. For instance, SD-WAN can be used as a way to reduce the spending involved in MPLS thanks to SD-WAN's ability to automate traffic routing. This means fewer manual configurations, which was a problem in MPLS.

Nothing is foolproof security-wise, but MPLS does an

MPLS Boasts Strong Security

excellent job on the security front. Its unique design makes it difficult for potential intruders to spot weaknesses, and since MPLS networks are built as “closed user groups,” or CUGs, only the nodes currently on the network can access data within that network. This improves security by making outside access substantially more difficult.

SD-WAN Can't Do Everything Itself

As often as people talk about the impact of SD-WAN, it's not without some problems in its own right. For instance, SD-WAN routers often aren't equipped to take on many common internet-based security threats. This means that edge firewalls, or even cloud security systems, are required to supplement security in SD-WAN deployments. MPLS, meanwhile, often serves as a stable support platform to systems like SD-WAN.

MPLS IS STILL RELEVANT; GET HELP PUTTING IT TO WORK

It's easy to believe that MPLS can't continue to operate long in the face of heavy competition from SD-WAN. There's still a value to be had here, though, and to put that value to work in your organization, get in touch with us. MPLS is still relevant, and we can provide the necessary materials to let it deliver its value for you. We can even get you started toward the use of MPLS replacements such as SD-WAN. Whatever you want to build your communications systems around, all you need to do is reach out to us to get started.



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