

# WHAT ARE THE **KEY BENEFITS** OF MPLS TECHNOLOGY?

CHOOSING THE RIGHT WIDE AREA NETWORK SOLUTION  
FOR YOUR MULTI-LOCATION ENTERPRISE



**Executive Brief**



## Executive Brief

### What are the Key Benefits of MPLS Technology?

#### Choosing the Right Wide Area Network Technology for your Multi-Location Enterprise

##### Introduction

Multi-Protocol Label Switching (MPLS) is a widely used technology that is used to connect the networks of multi-location, geographically dispersed businesses using different network speeds and protocols. MPLS technology encapsulates different protocols in “labels”, which enables the MPLS networks to forward packets with the need to understand the contents of the packets. MPLS networks operate in a way that is completely independent of layer 2 protocols. MPLS is considered to be protocol agnostic, which makes the technology highly valuable in certain settings.

Recent changes have led to new uses and renewed relevance for MPLS VPN technology. There have been a number of technology and economic “Sea Changes” recently that have created a greater demand for MPLS as a network solution:

- Recent financial recession and impacts to financial institutions
- Changes in technology and adoption of cloud computing
- Regulatory and compliance changes in a variety of industries
- Changes in the way health care is being delivered and paid for in the US
- The need for companies to be nimble and flexible when deciding on technology deployments

These have all created an environment where the need to connect different network endpoints securely and seamlessly has exploded. MPLS achieves this goal more cost effectively than other solutions, when all costs are considered.

##### Five Benefits of using MPLS in Wide Area Networking

MPLS is highly flexible, and can be used in a number of situations. The main benefits derived from using MPLS occur in the following situations:

1. Where prioritization of traffic using Class of Service is needed to prioritize critical applications and information across a mesh network (i.e. to reduce latency of VoIP and video applications competing for Bandwidth).
2. One of the advantages achieved using MPLS is the ability to effectively prevent DOS attacks or spoofing. This occurs prior to the attack interfacing with the customer’s private network and equipment.



3. As internal IT resources get stretched or eliminated, the MPLS solution provides companies with the ability to utilize a highly trained team of specialists that is in place and positioned to provide support 24x7x365.
4. MPLS provides the ability to manage and support multiple locations through a secured and meshed network regardless of network delivery
5. MPLS has the ability to deploy over different types of connections and speeds, which enable companies to create designs based on their specific requirements.

## How and why Five Verticals Successfully use MPLS to Securely and Efficiently Connect Multiple Locations

### HEALTH CARE

#### Health Care Industry Challenge

The players in the healthcare industry are many: hospitals, clinics, doctors, insurance companies, pharmaceutical companies, drug stores, and others all are impacted by the move to electronic medical records. This was mandated by the American Recovery and Reinvestment Act of 2009. This government requirement has placed a huge burden on the industry to get EMR up and running by 2014. Healthcare industry players have a great need to securely link geographically diverse locations and organizations, which are probably using different protocols to communicate. Also, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) require that technical safeguards be in place to protect private health information. This means controlling access to computer systems and enabling covered entities to protect communications containing Protected Health Information (PHI) transmitted electronically over open networks from being intercepted by anyone other than the intended recipient. There are serious consequences for providers who violate HIPAA and allow PHI to be compromised.

#### Health Care Industry Solution

MPLS VPNs are a particularly good fit for Healthcare because of its inherent security, which is critical for the players in this industry. The need to maintain compliance with HIPAA also makes MPLS invaluable to professionals in the Health Care industry. The ability to securely link far reaching locations with diverse networks makes MPLS a must have solution. The level of control of voice and data traffic using MPLS (CoS) is also valued highly by the healthcare industry. When lives are at stake, problems with bandwidth, latency, jitter, and packet loss can and should be avoided by using MPLS VPN technology.

### BANKING & FINANCE

#### Banking & Finance Industry Challenge

Banking in the US has been experiencing consolidation for some time, and the pace of that consolidation has quickened for a number of reasons, particularly since the recent financial crisis where many banks were acquired. The resulting enterprise WAN is often a patchwork of different networks using different protocols and speeds. Also, the headquarters have very different WAN requirements than a branch or stand-alone ATM might have, and the branch locations don't have the IT staff at the endpoints. Banking & Finance have always been highly regulated by a number of bodies, including the FDIC and SEC, and organizations whose data falls into the wrong hands can face a number of negative consequences, including fines, civil liability, and damage to the company's reputation.

#### Banking & Finance Industry Solution

Due to the state of the Banking industry, a secure, reliable, and cost effective solution is required. MPLS works with all network protocols, and can work across varying speeds. MPLS works well for the banking industry because IT resources are scarce and expensive. MPLS is a managed solution so no involvement with the network is required at the endpoints, saving the organization money.



## INSURANCE

### Insurance Industry Challenge

Insurance companies are extremely data dependent, and need to securely transit the data from branch and regional offices to headquarters. Different network speeds over various locations, and centralized IT staff make the need to stay connected challenging.

### Insurance Industry Solution

Network integration using MPLS allows for efficient transmission of data and access to information stored at company headquarters. This allows for more efficient access to data results in cost savings, better and more timely decisions, and improved customer satisfaction.

## UTILITIES

### Utility Industry Challenge

In order to maintain reliable service, utility companies that provide electricity, gas, and water rely on Supervisory Control and Data Acquisition (SCADA). This system allows utilities to monitor system voltage, line pressure, failure alarms, etc...Utility companies often have a patchwork of different legacy protocols to connect, which can make the business of monitoring these elements difficult and expensive.

### Utility Industry Solution

Utility companies often use MPLS to efficiently aggregate the legacy protocols and Frame Relay associated with SCADA, and save money and have better quality monitoring of utility deliver systems and fewer service interruptions and better customer satisfaction.

## MANUFACTURING

### Manufacturing Industry Challenge

Manufacturing companies often have far reaching manufacturing and distribution facilities, as well as vendors and customers that need to be connected with voice and data service. These facilities often have lower network speeds, and use different protocols. They also use applications like voice that can suffer from QoS issues which can lower efficiency.

### Manufacturing Industry Solution

MPLS is a great solution to securely connect manufacturing companies with their customers and suppliers, and maintain high quality voice and other bandwidth sensitive applications. This is particularly important in today's global economy where products are often manufactured half a world away from where they are sold.

### Common Traits and Requirements of Enterprises that use MPLS

Besides operating multiple locations that need to stay connected, the 5 verticals above share other requirements, which include:

- Use of different protocols (like Ethernet, ATM and Frame Relay)
- Voice and other bandwidth sensitive applications that require Quality-of-Service features
- Users that require high application performance, regardless of location
- High network availability and security
- Limited IT resource availability, making scaling across different locations and protocols
- Endpoints that may include lower speed connections, such as ATM machines and remote employees.

MPLS works well for these environments because of its inherent flexibility and ability to support other services like SSL, IPSec VPNs, and Managed Firewalls.



## Is MPLS a good fit for your enterprise? Here are some questions to ask:

### Are you or your customers in a regulated industry?

MPLS allows a higher degree of security and compliance than other comparable solutions

### What number of locations need to be connected?

If you have a number of distributed locations, MPLS supports routing and is scalable up to thousands of locations, nationally and internationally

### What protocols need to be supported?

If your enterprise networks use multiple protocols, such as Ethernet, ATM and Frame Relay, MPLS integrates these through encapsulation

### What applications are being used?

If your enterprise uses Voice and Video services that need to be high quality, MPLS uses Class-of-Service in order to avoid packet loss and latency.

### What services will be added in the future?

If you will you need VPNs, Remote Access, and Secure Internet Connectivity in the future, MPLS can accommodate the use of these technologies

### What security features are required?

If you need an additional level of security, MPLS routing capabilities can provide additional security since they can automatically address network breaches

### Who will manage the WAN across the enterprise?

Companies with limited or expensive IT resources find MPLS to be a good fit because it is a turnkey solution that is fully managed by the provider

### What will the cost impact be?

Because it is a fully managed solution, MPLS is normally priced higher than other connectivity options like Ethernet, but MPLS often results in significant savings because of improved efficiencies and functions that no longer need to be performed in-house.

## Summary

MPLS is a highly flexible way to enable secure connectivity between multiple business locations that have different network protocols and speeds. It is as relevant today as ever, since companies today are more reliant on voice & data connectivity than before, and businesses are more distributed. It also provides Quality-of-Service options that maintain high quality user experience across the enterprise.

First Communications is a leading technology solutions provider offering data networking, voice, and managed services throughout the Midwest. Founded in 1998, First Communications network has grown to include more than 600 on-net wire centers and supports over 35,000 customers. Headquartered in Akron, Ohio and a 24x7x365 Network Management Center in Chicago, First Communications is dedicated to pairing effective customer communications with next generation technology.

We create solutions to align with your business objectives, while our built-in scalability accommodates for the future. Combined with a strong focus on the customer experience and operational expertise, First Communications bridges technology with Five-Star customer service.

To find out more about how First Communications can help your business, visit [www.firstcomm.com](http://www.firstcomm.com) or call 1-800-860-1261

