

# M U L T I P R O T O C O L L A B E L S W I T C H I N G

US Signal's Multiprotocol Label Switching (MPLS) network is built on proven SONET and DWDM transport technologies to provide customers with private layer 3 access between multiple locations.

## At-a-Glance

- + Deploy an any-to-any private WAN technology replacing traditional hub and spoke network topology
- + Dedicated and burstable bandwidth speeds ranging from 1.5 Mbps to 10 Gbps
- + Core network backed by protected SONET and DWDM transport technologies
- + Pair MPLS with US Signal's Managed Router product to offload the management of layer 3 devices on premises
- + Tag traffic with DSCP and CoS values to prioritize packets into predefined Quality of Service queues

## TECHNICAL OVERVIEW

- + Provides private IP transport over US Signal's backbone by separating customer traffic inside of a customer-specific Virtual Routing and Forwarding (VRF) instance to route traffic through the US Signal MPLS/IP backbone
- + Supports Border Gateway Protocol (BGP) or static routes
- + Network operated over an IP infrastructure comprised of SONET-protected and 10 Gbps DWDM transport
- + Varying access port speeds ranging from 1.5 Mbps to 10 Gbps
- + Multiple access options are available, including direct fiber access from US Signal

## US SIGNAL ADVANTAGE

### Network Stability

US Signal owns the network between transport nodes, which allows technical staff to troubleshoot and resolve backbone circuit issues without having to contact a third-party vendor for resolution.

### Ordering and Fulfillment Process

High touch service delivery processes to effectively manage client information, provisioning, support and billing.



## MPLS PERFORMANCE METRICS

Traffic performance will be measured using four parameters: availability, latency, packet loss, and jitter.

### Performance Metrics with QoS

Performance Metrics	Class D	Class C	Class B	Class A
Availability	99.5%	99.995%	99.995%	99.999%
Latency	N/A	15ms	15ms	10ms
Packet Loss	N/A	<=0.1%	<=0.05%	<=0.005%
Jitter	N/A	4ms	4ms	4ms

### Security

Maintains security through logical traffic separation from other US Signal network customers by providing separate Virtual Routing and Forwarding (VRF) instances for each connected MPLS virtual private network. Due to this logical separation, interference between virtual private networks is not possible on the US Signal core network, providing the same level of security as directly connected Layer 2 VPN network technology.