

**SERVICE LEVEL AGREEMENTS:  
TECHNICAL STANDARDS OF PERFORMANCE**

**NETWORK**

**TECHNICAL STANDARDS OF PERFORMANCE**

**Private Line:** Availability 99.999%.

**Optical Wave:** Availability 99.99%.

**VES Point to Point:** Availability 99.995%.

**DEDICATED INTERNET ACCESS, VES MULTISITE, MPLS VPN**

**Performance Metrics**

<b>Availability</b>	<b>99.995%</b>
<b>Latency</b>	<b>15ms</b>
<b>Packet Loss</b>	<b>&lt;=0.1%</b>
<b>Jitter</b>	<b>4ms</b>

**ETHERNET TRANSPORT: E-LINE, E-LAN, E-TREE, E-ACCESS**

**Performance Metrics**

<b>Availability</b>	<b>99.995%</b>
<b>Latency</b>	<b>15ms</b>
<b>Packet Loss</b>	<b>&lt;=0.01%</b>
<b>Jitter</b>	<b>4ms</b>

## SERVICE AVAILABILITY

Availability Performance is the percentage of time within a specified time interval during which the Frame Loss Ratio Performance is small. A circuit is considered unavailable when there is a complete loss of use.

## MEAN ONE-WAY LATENCY (MEAN ONE-WAY FRAME/PACKET DELAY)

The One-Way Frame Delay for an egress Service Frame at a given Interface in the EVC is defined as the perceived time elapsed from the reception at the ingress interface of the first bit of the corresponding ingress Service Frame until the transmission of the last bit of the Service Frame at the given interface for a particular Class of Service Identifier. To obtain the Mean One-Way Frame Delay, statistics are gathered and averaged over the period of 1 month.

## MEAN JITTER (MEAN FRAME/PACKET DELAY VARIATION)

Frame Delay Variation is the difference between the one-way delays of a pair of selected Service Frames for a particular Class of Service Identifier and an ordered pair of interfaces. To obtain the Mean Frame Delay Variation, statistics are gathered and averaged over the period of 1 month.

## FRAME LOSS RATIO

Frame loss is a measure of the number of lost service frames inside the network for a particular Class of Service Identifier. Frame loss ratio is;  $\% = \# \text{ frames lost} / \# \text{ frames sent}$  over a period 1 month.

## SLA COVERAGE

Depending on the technology, US Signal handles SLA's based on several different network/technology domains.

**Core Domain** i.e. (Between Core PoP's across MPLS backbone)

**Edge Domain** i.e. (Metro Ethernet Networks)

**Access Domain** i.e. (Last Mile Access)

Latency, Frame Loss, and Jitter metrics are measured and provided in the Core Domain. The Availability Metric is measured and provided in the Core and Edge Domains. SLA's do not extend to the Access Domain.

