QWEST CORPORATION ("QC**" or "**Qwest**") ETHERNET OVER SONET ("**EoS**")**
SERVICE LEVEL AGREEMENT ("SLA**")**

Any QC intrastate tariff, price list, price schedule, administrative guideline, catalog, and other rate and term schedules, whether individually or together, will be referred to as "Tariff" in this SLA. QC offers this SLA in accordance with the applicable Tariff and Technical Publication 77332 ("Tech Pub"). In the event of a conflict between the terms of this SLA and the Tariff or Tech Pub, the terms of the Tariff and Tech Pub will control. If Service becomes de-Tariffed, this SLA will be offered in accordance with this SLA and the Tech Pub, rather than the applicable Tariff. Interstate EoS is offered in accordance with this SLA and the Tech Pub. Capitalized terms not defined in this SLA are defined in customer's agreement for EoS.

Measurement	Reference	Response/Comments (Performance Specifications)				
Compensation for loss of service at circuit level	Applicable when SHNS ring is up and individual circuits/ports on SHNS go down. This applies to all circuits/ports on SHNS, not just Ethernet.	Compensation is if SHNS ring bandwidth goes down.				
Service Availability	Service Availability requirement is 99.99% minimum. The service is available when it is in a state where it is fully useable. A service is in the available state unless a transition to the unavailable state is observed without a subsequent transition to the available state. Transitions between the available and unavailable states are: - Transition to the unavailable state occurs at the beginning of 10 consecutive Severely Errored Seconds. A Severely Errored Second or "SES" is a one second period containing >= 30% errored blocks or at least one severely disturbed period. A severely disturbed period occurs when, over a period of time equivalent to 1 ms, all the contiguous blocks are affected by a high bit error density. - Transition to the available state occurs at the beginning of 10 consecutive seconds, none of which is a SES.	At SHNS ring level and not at EoS circuit/port. Refer to SHNS SLA document, Service Availability parameter.				
	Service Availability requirement is 99.83%. The service is available when it is in a state where it is fully useable. A service is in the available state unless a transition to the unavailable state is observed without a subsequent transition to the available state. Transitions between the available and unavailable states are: - Transition to the unavailable state occurs at the beginning of 10 consecutive SES. - Transition to the available state occurs at the beginning of 10 consecutive seconds, none of which is an SES.	At SST system bandwidth capacity level and not at EoS circuit/port. Refer to SST SLA document, Service Availability parameter.				
Throughput	The EoS customer-orderable synchronous transport signals ("STS") transport bandwidth increments are a physical layer limit on the rate at which the customer's Ethernet frames can transverse the Network Interface (NI) and represent the maximum throughput that the QC SST or SHNS network will deliver in both ingress and egress directions under normal operating conditions.	This is a performance objective. There is no pay out for failure to comply. Throughput Objectives				

Throughput Objectives

Ethernet Interface	SPE Mapping Increment	Payload Capacity	MAC Frame Size (bytes)	Maximum Throughput
10Base-T	STS-1-1v	48.38 Mbps	All	100%
100Base-TX; 100Base-LX10; 100Base-FX	STS-1-1v	48.38 Mbps	64	56.4%
			128	52.7%
			256	50.6%

		512	49.5%
		1,024	48.9%
		1,518	48.8%
		9,000	48.4%
STS-1-2v	96.76 Mbps	64	100.0%
		128	100.0%
		256	100.0%
		512	99.0%
		1,024	97.9%
		1,518	97.5%
		9,000	96.9%
STS-3c-1v	149.76 Mbps	All	100%

Latency	Latency or delay is defined as the time interval between the transmission of a signal at one point and the reception or detection of the same signal at another point. Unidirectional or One-Way-Delay (OWD) is the elapsed time between when a node sends a packet and when the packet is received by another node. OWD is also referred to as end-to-end transit delay. For SHNS or SST the OWD is the time measured between when the first bit of a customer Ethernet frame enters the ingress Network Interface to when the last bit of the same frame leaves the egress Network Interface.	Less than 3 milliseconds (across a single SHNS or SST network), measured based on time between frame ingress and egress. This is a performance objective. There is no pay out for failure to comply.
Packet Loss	Packet or frame loss (varies by SONET mux) identifies the percentage of in profile Ethernet frames not reliably delivered between Network Interfaces over a given measurement interval. Specifically, over any calendar month the QC SHNS or SST network will successfully deliver at least 99.99% of a customer's packet from Network Interface to Network Interface. Any customer frames that are out-of-profile may be blocked or discarded at the Network Interface and will not be counted toward the packet loss objective such as in the following: - Exceeding the customer-ordered STS transport bandwidth increment - Frame sizes less than 64 bytes - Jumbo frames (larger than 1522 bytes) - Corrupted frames with Cyclic Redundancy Check (CRC), Frame Check Sequence (FCS), or alignment errors.	Bit Error Rate is 10^{-3} or better. This is a performance objective. There is no pay out for failure to comply.
Mean Time To Repair (MTTR)		QC is responsible for all equipment and cable on the QC side of the Network Interface at the customer premises. QC is responsible for maintaining the transmission facility between customer premises and between the Wire Center Hub(s) and customer premises. SHNS Upon receipt of a trouble report, QC will initiate action within 20 minutes to clear the trouble. Trouble reports include autonomous, QC system generated reports. QC is committed to 30 minute restoral in the event of a service

		interruption with the following two exceptions
		- Two hours maximum restoral time in the event that the working path or protection path fails as a result of an electronic component failure.
		- Eight hours maximum if the path failure is a result of a cable failure
		SST
		Upon receipt of a trouble report, QC will initiate action within 20 minutes to clear the trouble.
		QC is committed to the following service restoral times:
		- Four hour maximum in the event of a service interruption due to an electronic component failure.
		- Eight hours maximum if the trouble is caused by a cable failure.

REFERENCES:

SST Technical Publication:
http://www.qwest.com/techpub/77346/77346.pdf

SHNS Technical Publication:
http://www.qwest.com/techpub/77332/77332.pdf

State Tariffs - Local QC 14-state region
http://tariffs.qwest.com:8000/Q_Tariffs/QT_Tariff_State_Page/index.htm