Managed SIP Services - Service Level Agreement (SLA)

Managed SIP Services: SIP Trunking & Enterprise SIP Trunking

I. Product Description

tw telecom's Managed SIP Services product suite, including both the SIP Trunking and Enterprise SIP Trunking products, provides customers with a fully managed VoIP solution. Both trunking products include the placement of a CPE-based, fully managed Enterprise Session Border Controller (ESBC) which allows a standardized architectural environment, provides signaling normalization, and supports additional testing and security capabilities. The SIP Trunking product is designed for businesses requiring trunking for one or a few independent locations each having their own IP-PBX to take advantage of SIP's increased functionality and cost savings. Enterprise SIP Trunking provides additional redundancy by allowing customers to share a single set of SIP call paths across two IP-PBX locations as well as providing both inbound and outbound business continuity/disaster routing (BC/DR) capabilities.

II. Service Level Agreement

A. Network Availability

SIP Trunking and Enterprise SIP Trunking that is provisioned within the continental United States and in Hawaii will be available to Customer at least 99.99% of the time during each calendar month. SIP Trunking and Enterprise SIP Trunking service is unavailable during any period of time that it experiences a Service Outage. Upon Customer's request, TWTC shall issue credits for each Service Outage, and such credits shall be calculated by multiplying the percentage specified in the table below by the MRC for the non-performing SIP Trunking or Enterprise SIP Trunking Service.

Duration of Service Outage	Percentage Credit
Up to 5 minutes (99.99% availability)	No Credit
5 minutes up to 4 hours	5% of the MRC
4 hours up to 8 hours	10% of the MRC
8 hours up to 12 hours	15% of the MRC
12 hours up to 16 hours	20% of the MRC
16 hours up to 24 hours	35% of the MRC
24 hours or greater	50% of the MRC

B. Network Average Latency

TWTC measures network latency with respect to average round-trip transmission on its Network each month. Network latency calculations for SIP Trunking and Enterprise SIP Trunking service provided in the continental United States are made between designated points of presence ("POPs") within the continental United States and, for Hawaii, are made between its POPs in Hawaii and its POPs on the west coast of the continental United States (collectively "Network Latency"). Upon Customer's request, TWTC shall issue credits for TWTC's failure to meet the Network Latency metrics specified below, and such credits will be calculated by multiplying the percentage specified in the table below multiplied by the MRC for the non-performing SIP Trunking or Enterprise SIP Trunking Service. The credits specified below are not cumulative and, in any calendar month, Customer shall only be entitled to one credit specified in the table below.

Network Average Latency		
Network Average Latency – (within continental United States)	Network Average Latency (between continental United States and Hawaii)	Credit
0.00 - 45.00 ms	0.00 – 75.00 ms	No Credit
45.01 – 50.00 ms	75.01 – 80.00 ms	10%
50.01 - 60.00 ms	80.01 – 90.00 ms	15%
60.01 - 65.00 ms	90.01.01 – 95.00 ms	20%
65.01 - 70.00 ms	95.01 – 100.00 ms	30%
70.01 - 75.00 ms	100.01 – 105.00 ms	40%
75.01 ms or greater	105.01 ms or greater	50%

C. Average Packet Delivery

TWTC measures packet delivery on its Network on a monthly basis. Packet Delivery is determined by averaging sample measurements taken each calendar month between TWTC's designated POPs within the continental United States. Upon Customer's request, TWTC will issue credits for TWTC's failure to meet the Packet Delivery metrics specified in the table below, and such credits are calculated by multiplying the percentages specified in the table below for the contracted CoS by the MRC associated with the non-performing SIP Trunking or Enterprise SIP Trunking Service. The credits specified below are not cumulative and, in any calendar month, Customer shall only be entitled to one credit specified in the table below.

Average Packet Delivery	
Average Packet Delivery (within the continental U.S.)	***Percentage Credit***
99.9+	No Credit
99.5 - 99.8	10%
99 – 99.4	20%
98 – 98.9	30%
97 – 97.9	40%
less than 97	50%

D. Network Jitter

"Network Jitter" means the average variation in delay for packet transfers between TWTC's designated POPs during each calendar month. For SIP Trunking and Enterprise SIP Trunking Services provided within the continental United States, measurements are taken at TWTC's POPs in the continental United States; for Services provided in Hawaii, between TWTC's POPs in Honolulu, HI and TWTC's POPs on the west coast of the continental United States. Upon Customer's request, TWTC will issue credits for TWTC's failure to meet the Network Jitter metrics specified in the table below, and such credits will be calculated by multiplying the percentage specified in the table by the MRC for the non-performing SIP Trunking or Enterprise SIP Trunking Service. The credits specified below are not cumulative and, in any calendar month, Customer shall only be entitled to one credit specified in the table below.

Network Jitter		
Continental United States	***Hawaii***	***Percentage Credit***
0.5 ms	1 ms	No Credit
.51 ms - 2.0 ms	1.1 ms – 2.0 ms	5%
2.1 ms - 4.0 ms	2.1 ms – 4.0 ms	10%
4.1 ms - 5.0 ms	4.1 ms - 5.0 ms	15%
5.1 ms - 6.5 ms	5.1 ms - 6.5 ms	20%
6.6 ms - 7.5 ms	6.6 ms - 7.5 ms	30%
7.5 ms - 10.0 ms	7.5 ms – 10.0 ms	40%
>10.0 ms	>10.0 ms	50%