6/14/2020

Ptera SIX Extension Proposal

Pursuant to the SIX switch interconnect policy, this document will serve as Ptera's notice of intent, pending Seattle Internet Exchange approval, to provide SIX extension services to companies who are colocated at datacenters in the Spokane, WA area. There will be two extension switches, one located at US Bank (422 W Riverside Ave), the carrier hotel in Spokane, WA, as well as another extension switch located at the TierPoint datacenter (23403 E Mission Ave) in Liberty Lake, WA. Connections at speeds of 1G and 10G will be supported at this extension.

The purpose of these connection switches is to provide access to the SIX to carriers in Eastern Washington and Northern Idaho, as Spokane is the nearest bandwidth market with the next major hub being in Seattle. This will allow local networks the benefit of connecting to the SIX that would normally cost too much to obtain with the cost of transport and cross connects to Seattle.

Ptera, Inc. proposes to purchase, install, and manage two Cisco Nexus 3064-X's as the extension switches that will be dedicated to only SIX traffic.
-The switches will be monitored 24x7 for functionality and quality of performance
-An identical switch will be kept on hand in the event of hardware failure
-The switch at US Bank will be powered by A+B -48VDC feeds with over 12 hours of battery backup
-The switch at TierPoint will be powered by redundant AC power systems that are protected by both UPS and generator power
-Management of the switches will be limited to Ptera's internal private network management network, and read only SNMP access for SIX admins.
-The switches will support both the standard and jumbo frame VLANs
-The switch located at US Bank will be connected to the SIX via a protected 10G EPL to the 19th floor SIX switch
-The switch located at TierPoint will be connected to the SIX via a separate, diverse, protected 10G EPL to the 19th floor SIX switch
-The switches uplinks will be configured to be in a VPC/LAG, with 2x10G trunk/peer links between the switches over Ptera's dark fiber ring between the facilities.
 -Ptera would like to request that SIX set an initial MAC limit of 5 per VLAN on the uplink ports, and that they work with Ptera to adjust as membership grows.
-Ptera will bear the costs of the extension switch including maintenance. Power, colocation, cross connects, and the transport connecting to the SIX core.
-Ptera will upgrade and bear the cost to increase connectivity if utilization goes above 66% on a 5 minute sample.

Member Policies:
-Members will be made aware they are connecting to an extension switch, not the core.
-Members will be made aware of the SIX rules (https://www.seattleix.net/rules)
-There will be minimal monthly port fees that are designed to cover a portion of the transport and cross connect fees
-Members will be limited to a single MAC address per VLAN
-BPDUs will not be permitted
-Violation of the above will result in port shutdown that is accomplished automatically using the following configuration:

      spanning-tree bpduguard enable
      switchport port-security
      switchport port-security maximum 1
      switchport port-security violation shutdown

Implementation:
-Ptera has already paid 2x10G port fees
-Ptera's implementation of the SIX extension switches will be completed within 2 weeks of approval
-After SIX's approval of this proposal, Ptera has several interested parties in connecting.

Topology: