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Archeo Futurus SIX Extension Proposal

Pursuant to SIX, this document will serve as Archeo Futurus' notice of intent, pending SIX approval, to provide SIX extension services to companies who are collocated in H5 data center in Seattle Washington. The extension switch will be located in the Meet Me Room of H5 Data Center, 1000 Denny Way, Seattle, WA. Connections 1G, 10G, 25G, 40G, 50G, and 100G will all be supported in this extension.

The purpose of the connection switch is to provide access to the SIX in the 1000 Denny Way building. This will allow the local networks the benefit of connecting to a nonprofit internet exchange, that normally they could not accomplish due to not having enough individual traffic to justify the cost of the transport.

Archeo Futurus proposes to purchase, install, and manage a 100G/32 port Mellanox Switch as the extension switch that will be dedicated to only SIX traffic.

- The switch will be monitored 24/7 for both functionality, as well as quality of performance
- An identical switch will be kept on hand in the event of hardware failure
- The switch will be redundantly powered by circuits that each have both UPS and Generator back-up
- Management of the equipment will be limited to Archeo Futurus' private network, and read only by SNMP for SIX admins
- The switch will support both the standard and jumbo frame VLANs
- The switch will be connected to the SIX Core at 100G via Dark Fiber
- The initial uplink will be configured as a single member 100G to facilitate ease of future updates
- Archeo Futurus would request that SIX set an initial MAC limit of 5 per VLAN on the uplink port, and that they work with Archeo Futurus to adjust as membership grows
- Archeo Futurus will bear the cost of the extension switch including maintenance, power, colocation, cross connects in the Westin building, and the dark fibers connecting the switch to the SIX Core
- Archeo Futurus will upgrade, and bear the cost to increase connectivity if utilization goes above 65% on a 5 minute sample
- ACLs will be in place to provide protection of the fabric from unauthorized access

- All management access is performed via SSH and all switches have non-routable RFC 1918 management IP address space. This multi-tiered approach provides a defense-in-depth that meets Seattle IX standards for fabric security
- Archeo Futurus will enforce the same policy limits as the Seattle IX main switch fabric
- Archeo Futurus will provide notification to the SIX when new customers connect so that the MAC filters can be updated accordingly
- Archeo will be paying the current 100G port fee of \$10,000
- Archeo will make all reasonable efforts to maintain as high of an uptime as possible with sufficient prior notice for all service affecting events
- Archeo Futurus plans to provide interconnection requests mid June
- Archeo Futurus will interconnect with the SIX at the Westin in Seattle, and the interconnects will be SMF
- To further protect the SIX from MAC flooding a MAC based ACL will be configured on the uplink switch to SIX preventing any unintentional MAC addresses from flooding the SIX network as well as customary protections against STP frames
- The uplink port to SIX will be configured in trunk mode to support the 9K MTU VLAN

Member Policies:

- Members will be made aware that they are connecting to an extension switch, and not the core
- Members will be made aware of SIX rules <https://www.seattleix.net/rules>
- There will be minimal monthly port fees that are designed to cover a portion of Archeo Futurus' dark fiber, and cross connect fees
- Portal access will be provided to the connecting members so that they can see their own port utilization, and errors, as well as for the uplink port so that they can see that the uplink is not taking errors, or saturating
- One participant will not be able to see another participant's traffic details
- Members will be limited to a single MAC address per VLAN
- BPDU will not be permitted
- ACLs set per port (with event counters):
 - DMAC 01:80:c2:00:00:00 DISCARD (AKA Spanning Tree Protocol)
 - SMAC match <port-customer-mac> FORWARD
 - SMAC not-match <port-customer-mac> DISCARD
- When an event counter for either discard-packet ACL is incremented, the port will be disabled for 5 minutes

Implementation:

- Archeo Futurus is prepared to pay the 100G port fee
- Archeo Futurus' dark fiber connectivity to floor where SIX is located is completed