Adtran Network Switch Replacement

TLM-07- Replace TPX Adtran EOL Switches with new models from TPX

CalSAWS |

AGENDA

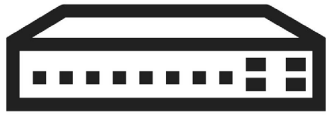
- 1.Project Scope
- 2. Overview & Requirement
- 3. Device Setup & Information
- 4. Timeline

Project Scope

Overview

Problem Statement
Adtran switches are part security standards, the Adtran switches nearing or at End of Life (EOL) are being replaced of TPX managed and operated infrastructure. To ensure compliance with

Recommended Solution
TPx has decided to replace all Adtran switches with Juniper switches due to Adtran's End-of-Life status. They will replace switches one at a time, minimizing downtime to less than 5 minutes per switch. In case of simultaneous replacement, downtime may extend to 30 minutes.



Project Tracking
- **SCR CA-274977**
- **Contract CN31**

Project Scope

Accenture Scope of Work

- The defined scope of work is limited to addressing specific identified gaps or required feature enhancements.
- In the absence of well defined requirements or a requirement traceability matrix our scope remains vulnerable to expansion, especially with the emergence of new standards, updates, or requests from consortium or internal teams, potentially leading to scope creep during this project.
- Any additional effort or costs resulting from this potential scope creep are not included in the current effort and would necessitate a separate contract change for undertaking.
- TPX equipment is rental and CalSAWS will not bear the cost of the hardware.
- TPX provides Adtran as part of WAN as a service, this hardware replacement effort will be borne by TPX.
- -Effort documented in this project TLM-07 covers Project Planning and Coordination, Communication with Counties and Testing with TPX
- TPX to provide mounting kits for the new hardware and will ensure redundancy.
- -TPX will ensure new hardware compliance with TPX hardening policies. CalSAWS policies (NIST & CIS) will be conveyed as requirements
- Changes will have to be performed across all 150+ sites (Data Center, Project, Managed County Sites, POP County Sites)
- Dependency on hardware procurement, supply chain management and direction under TPX management will determine timeline

Limitations and Out of Scope

- Replacing cables
- Replacing the VM Ware Velocloud devices which are NOT End of Life

Sequence of Activity

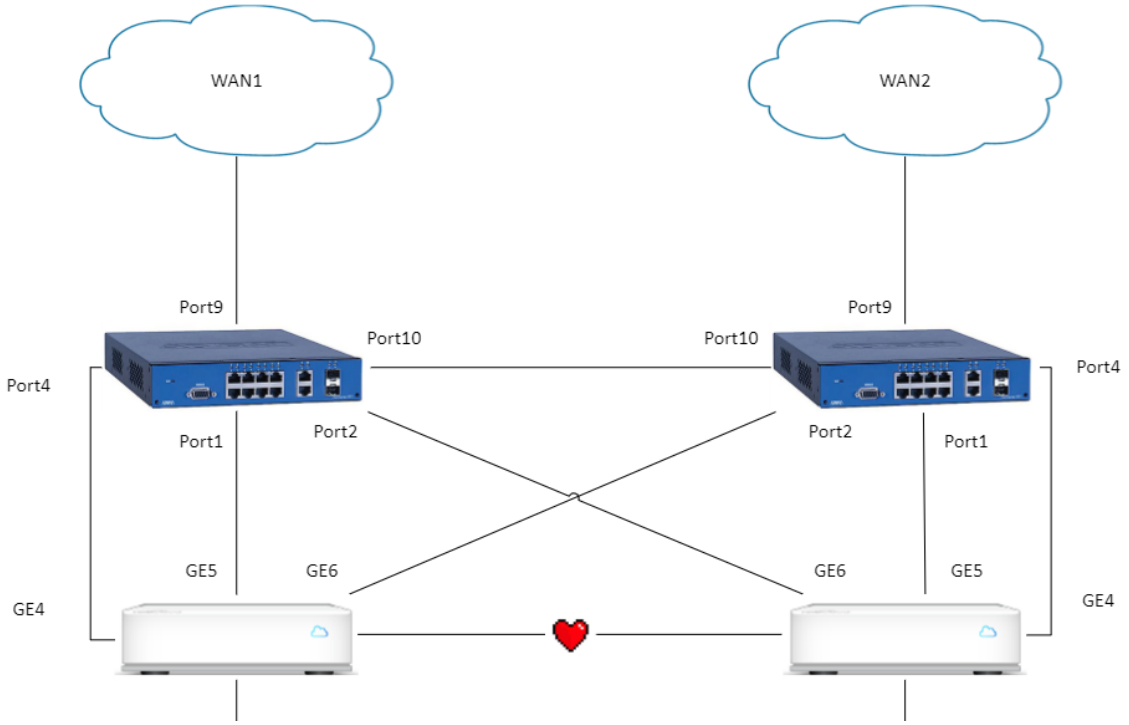
Phase	Description	Downtime	Impact	Duration of Visit / Activity at Site
Assessment	**This assessment is to evaluate power and space availability at the sites MDF/MPOE room.** Project would dispatch Site Technicians for Site Assessment on [Date & Time].	None	None, this is a visual inspection.	1-2 hours during standard business hours.
Remediation	**In case there are any actionable outcomes from the above assessment** Project would notify you separately with specific details.	May vary based on level and type of remediation work		
Staging	**This is a cutover activity in accordance with the Cutover Approach.** This staging would involve: Mounting & Powering on New Juniper Switch Cabling and Interconnectivity between devices Configuration Testing (ping) Project dispatches site technician from Gainwell to site	45 Min to 1 Hour	High , the new setup would be installed removing the OLD switch. Users should see disruption for 30 mins	Installation will be done after business hours
Juniper Switch Implementation	**TPx configures the SD WAN hardware to establish connection between CalSAWS router and TPx Velocloud.** TPx configures and validates reachability to Juniper switch TPx validates site is up from their monitoring. CalSAWS validates CalSAWS routers are up and can be remotely administered. Project dispatches site technician from Gainwell to site.	45 Min to 1 Hour	High , the new setup would be installed removing the OLD switch. Users should see disruption for max 45 min	Duration is 1-2 hours
Juniper Switch Integration	**County network connectivity to CalSAWS is established.** Cabling between CalSAWS and County edge Interconnectivity between County and CalSAWS router/firewall Network configuration Testing (ping) Project dispatches site technician from Gainwell to site	None	Low, The CalSAWS connection will be established in parallel with CalWIN sites. The connection and network configuration on County network will be independent of CalWIN.	Duration 1 hour

Requirements

	Adtran Network Switch Replacement
PREREQUISITES	Site surveys of the sites not completed yet. Shipment of the new Juniper switches to our warehouse CIT distribution to all the Counties
ACTION ITEMS – County IT	Respond to email communication sent to County on approval to schedule a maintenance window for the site Allow access to the server room for TPx and CalSAWS remote technician
ACTION ITEMS – CalSAWS IT	Send County an email communication to get approval Create and schedule the change request for the approved site Coordinate with the site Engineer & TPx during the scheduled maintenance window Update network documentation and diagrams
TESTING	• Check Orchestrator & SolarWinds for the status of the site. • Login to the core switch to check BGP status by: - ” Sh Ip bgp all summary” and ”Sh Ip BGP neighbor” • Ping the AWS IP 67.21.40.200

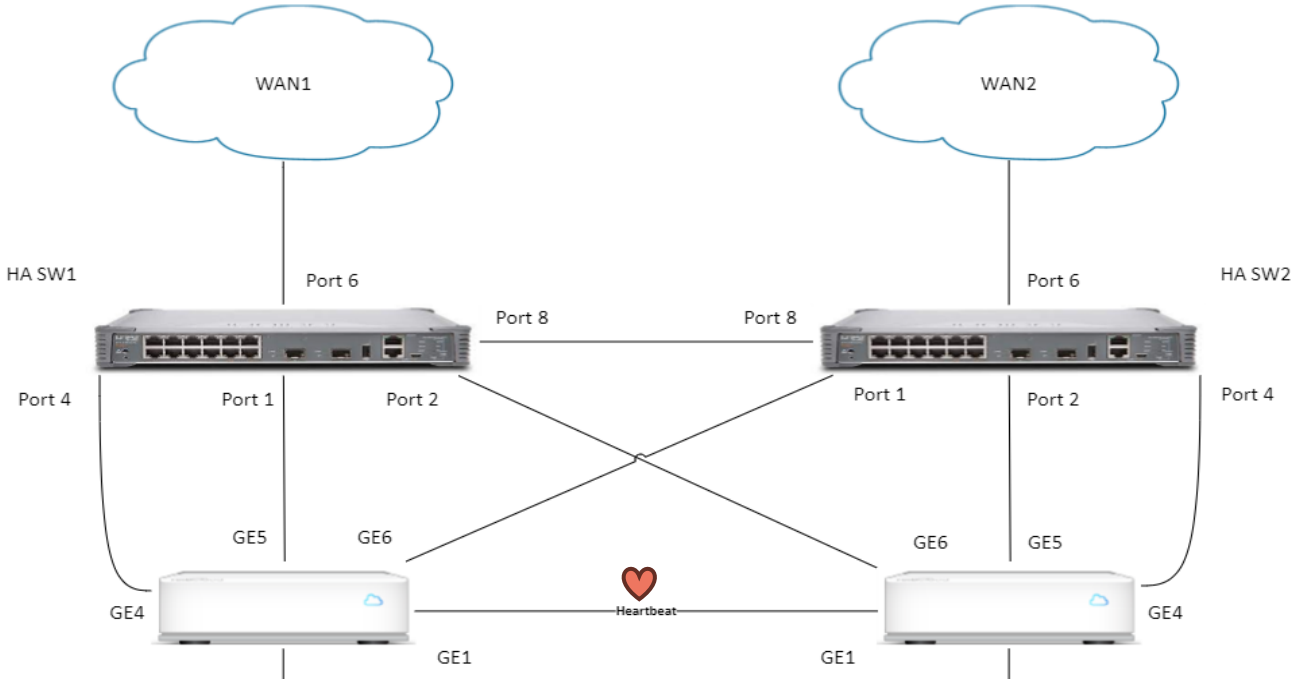
High Level Design

Current Design



Port 4 to GE6: Management port connection
Port 2 to GE6 – Circuit connection
Port 10 to Port 10 – Trunk port connection
GE6 to GE6 – SD-WAN (Velo cloud) connection

New Design



Port 4 to GE4 - Management port connection
Port 2 to GE6 – Circuit connection
Port 8 to Port 8 – Trunk port connection
GE1 to GE1 – SD-WAN (Velo cloud) connection

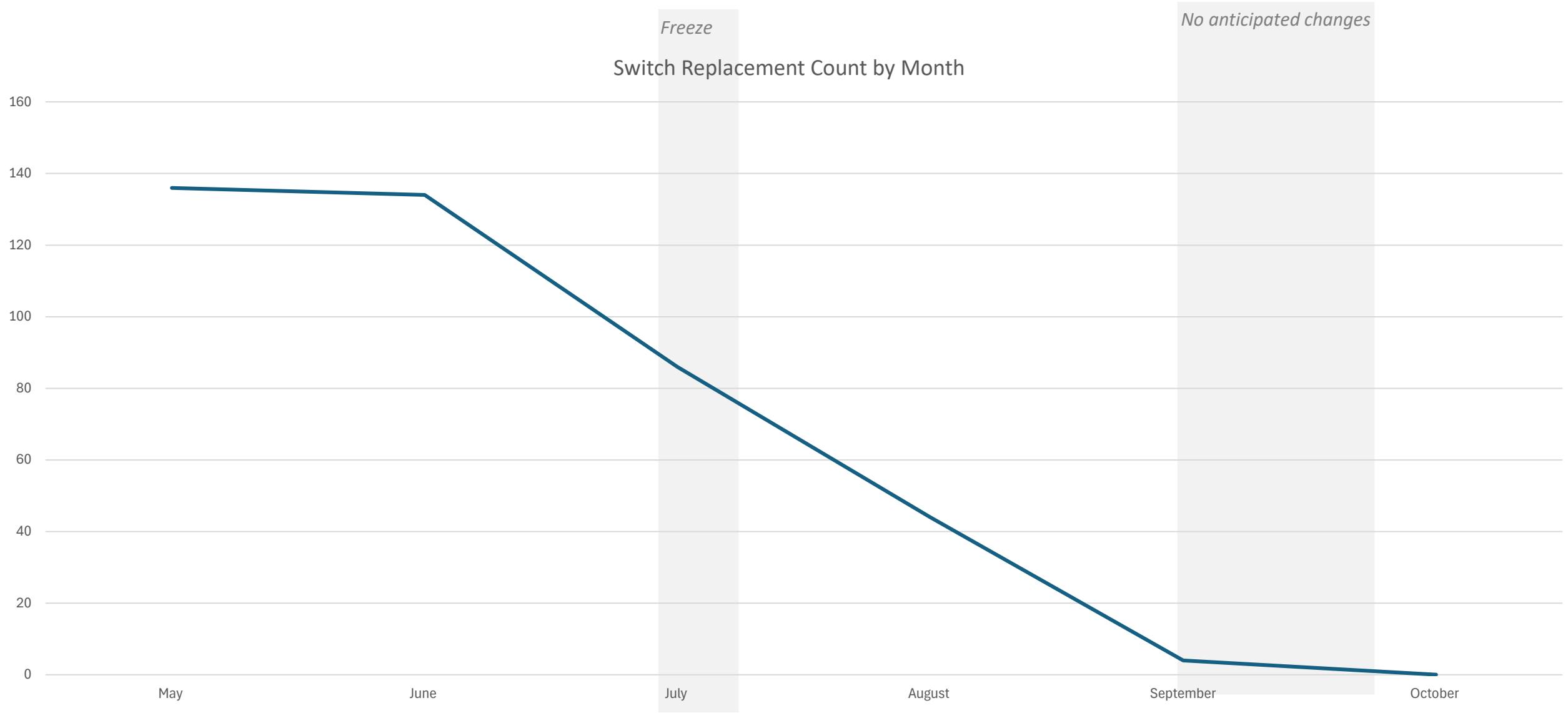
Appendix – TPX Equipment

Router – Physical Image	Speed	Ports	Power	Size	Version of Operating System
 **Adtran Switch**	24 Gbps (max. forwarding b/w)	8x 100/1000 Base-T port, 2x 1Gbps SFP Ports PoE+ Ethernet Switch	External AC 100 to 240V 50 – 60Hz Power load: 30 - 65W Plug Type: NEMA 5-15P	1.7 in. x 8.4 in. x 11.1 in. 4.3 cm x 21.3 cm x 28.3 cm (H x W x D)	N/A
TPX Provided Equipment  **Juniper Switch**	32Gbps	12x 10/100/1000BASE-T 2x 1Gbps SFP Ports	External AC: 100 -240V 50 – 60Hz Power load: 20W Plug Type: NEMA 5-15P	1.72 in x 9.4 in 10.98 x 4.4 x 23.9 cm x 27.9 (H x W x D)	Junos OS 21.4R3-S2.4

Wave 1	Wave 2	Wave 3
Counties & Implementation	**Counties & Implementation**	**Counties & Implementation**
Alameda – 1st week of June Alpine – 1st week of June Amador – 1st week of June	Monterey – 2nd Week of July Napa - 2nd Week of July Nevada - 2nd Week of July	San Bernadino – 4th Week of Agust San Diego – 4th Week of August San Fransico – 4th Week of August
Butte - 1st week of June Calaveras - 1st week of June Colusa - 1st week of June	Orange - 2nd Week of July Placer - 2nd Week of July Plumas - 2nd Week of July	San Joaquín – 4th Week of August San Luis Obispo – 4th Week of August San Mateo – 4th Week of August
Contra Costa - 1st week of June Del Norte - 1st week of June El Dorado - 1st week of June	Riverside – 2nd and 5th Week of July through 1st Week of August Sacramento – 1st Week of August San Benito – 1st Week of August	Santa Barbara - 4th Week of August Santa Clara - 4th Week of August Santa Cruz – 4th Week of August Shasta – 5th Week of August
Fresno - 1st week of June Glenn - 1st week of June Humboldt - 1st week of June	San Bernadino – 2nd Week through 4th Week of August	Sierra - 5th Week of August Siskiyou - 5th Week of August Solano - 5th Week of August
Imperial – 2nd week of June Inyo – 2nd week of June Kern – 2nd and 3rd Week of June		Sonoma - 5th Week of August Stanislaus - 5th Week of August Sutter - 5th Week of August
Kings – 3rd Week of June Lake – 3rd Week of June Lassen – 3rd Week of June		Tehama - 5th Week of August Trinity - 5th Week of August Tulare – 2nd Week of September
Madera - 3rd week of June Marin – 4th Week of June Mariposa – 4th Week of June		Tuolumne – 2nd Week of September Ventura – 2nd Week of September Yolo – 2nd Week of September
Merced - 4th Week of June Modoc - 4th Week of June Mono - 4th Week of June		Yuba – 2nd Week of September LA County – TBD

Projected Timeline

May				June				July				August				September				October			
Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4



Key Project Technical Contacts

Role	Name	Email Address
CalSAWS Network (Project Manager)	Rosemary Assabil	assabilr@calaces.org
CalSAWS Network Engineers for CalWIN	Anitha Raju Arpita Kumari	rajua@calaces.org kumaria@calaces.org
County Scheduling and Communications (Email)	Offshore Network Team	Tech.Network.Onshore&Offshore@CalSAWS.org

Escalations

- Tech Network Rosemary Assabil assabilr@calaces.org
- Tech Network Uzair Naveed naveedu@calaces.org
- Consortium Pete Quijada quijadap@calaces.org

Note: For any escalation, please copy your County Regional Manager, TPOC and PPOC