

KAMLOOPS KA1

SIX Extension Interconnection Proposal

PROPOSAL ITEM	DETAIL
Applicant / operator	Soheil Digital Solutions Ltd. (AS402366)
Extension full name	Soheil Digital Solutions (Kamloops KA1)
Extension short name	Soheil
Extension location	Equinix KA1 — Kamloops, British Columbia, Canada
Proposed SIX core	Westin Building — Seattle, Washington
Initial interconnection	2 × 100 GbE, carrier-diverse and path-diverse, LACP
Proposed switch	Dedicated Arista DCS-7280SR-48C6-F with identical onsite spare
Document status	Version 1.0
Date	September 18, 2026

Decision requested

Approval of the proposed KA1 extension in accordance with SIX procedures.
Exact transport providers will be finalized only after physical-route diversity has been verified.

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Soheil
Digital Solutions Ltd.



Security



Connectivity



Infrastructure

1. Executive summary

Soheil Digital Solutions Ltd. proposes to build and operate a participant-facing extension of the Seattle Internet Exchange (SIX) at Equinix KA1 in Kamloops, British Columbia. The extension will provide transparent Layer 2 access to the SIX fabric and will remain fully governed by SIX rules, addressing, onboarding, and operational procedures.

The initial design uses a dedicated Arista DCS-7280SR-48C6-F at KA1 and two 100 GbE transport circuits terminating at the same SIX core location in the Westin Building. The circuits will be supplied by different providers, follow physically diverse routes, and operate as one LACP bundle. An identical configured spare switch and critical field-replaceable components will be maintained onsite.

2. Purpose and expected benefit

- Create a practical local access point for networks in Kamloops and the British Columbia Interior that want to join SIX.
- Reduce the need for each local participant to deploy and maintain its own equipment in Seattle.
- Preserve SIX's operating model: every participant is approved and provisioned through SIX and remains subject to the same technical and policy requirements as a direct participant.
- Add capacity through a design that is carrier-diverse, path-diverse, observable by SIX, and expandable as utilization and participant demand grow.

3. Design commitments

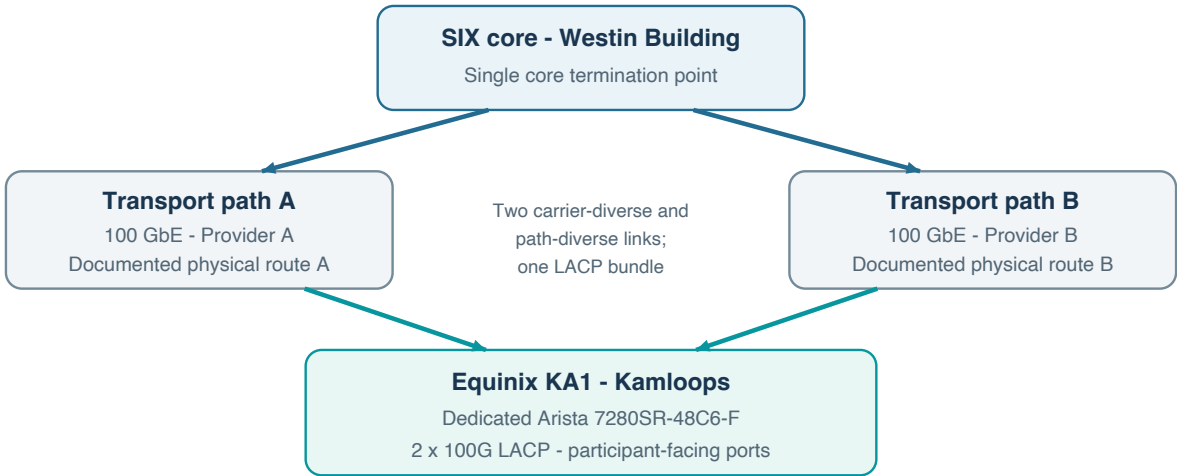
COMMITMENT	PROPOSED IMPLEMENTATION
Dedicated fabric	The KA1 Arista switch will carry SIX traffic only.
Core termination	Both transport circuits will terminate at one SIX core location: Westin.
Transport resiliency	Two 100G circuits, separate carriers and documented physical paths, in one LACP bundle.
Operational visibility	Restricted read-only SNMPv3, interface counters, alarms, syslog, and 24x7 monitoring.
Hardware recovery	An identical onsite spare, approved EOS image, backed-up configuration, and spare optics/PSUs/fans.
Policy compliance	SIX controls onboarding; one Layer 3 router and one MAC address per participant port unless approved otherwise.

Facility confirmation

Equinix has confirmed that this type of customer-operated equipment and connectivity is permitted within the KA1 cabinet, including carrier cross-connects and participant connections.

4. Proposed technical architecture

Proposed Kamloops KA1 extension topology



ELEMENT	INITIAL DESIGN
SIX core site	Westin Building, Seattle — both circuits terminate at this single core location.
Transport	2 × 100 GbE transparent Ethernet circuits from different carriers over independently verified physical routes.
Link aggregation	IEEE 802.3ad LACP; either member may fail without isolating the extension.
KA1 switch	1 × dedicated Arista DCS-7280SR-48C6-F in service; 1 × identical spare onsite.
Port inventory	48 × 1/10G SFP+ and 6 × 100G QSFP28. Two 100G ports are reserved for uplinks, leaving four 100G ports for initial participant use.
Participant access	Initial service options: 1G, 10G, and 100G, subject to SIX provisioning and available optics/ports.
Forwarding model	Transparent Layer 2 extension only; no transit, route servers, NAT, or local Layer 3 services on the extension switch.

4.1 Transport requirements

- Carrier selection will follow approval of the proposal and will be based on route evidence, commercial terms, and operational suitability—not provider name alone.
- The two carriers must disclose enough path information to demonstrate separation of long-haul routes and avoid a common single point of failure wherever reasonably possible, including building entrance and local access segments.
- Both services must pass the Ethernet frame size and control-plane behavior required by SIX. Optics, demarcations, and LOA/CFA details will be jointly confirmed before ordering.
- Final carrier names, route maps, service identifiers, and demarcation details will be added to the final interconnection documentation maintained for SIX administrators.

5. VLAN, MTU, and participant-port design

ITEM	IMPLEMENTATION
Production VLANs	SIX standard-MTU and jumbo-MTU VLANs; final VLAN IDs supplied or approved by SIX.
MTU	1500-byte participant service and 9000-byte jumbo participant service. Transport and trunks will be sized to carry the required Ethernet overhead without fragmentation.
Address families	IPv4 and IPv6 frames are carried transparently. The extension switch originates no participant routing.
Multicast service	Not proposed for initial activation. It may be added later only after SIX review and approval.
VLAN handling	No local VLAN translation or unauthorized VLAN extension. Only SIX-authorized VLANs will be permitted on participant and uplink trunks.

5.1 Participant-facing controls

Each participant port will use a documented template aligned with current SIX rules and approved interconnection practices. The initial controls are:

- One Layer 3 router and one source MAC address per participant per permitted VLAN unless the SIX board gives prior written approval.
- Port security and ingress source-MAC filtering; a violation will alarm and may automatically disable the affected port pending investigation.
- Spanning-tree BPDUs and other unauthorized Layer 2 control traffic will be blocked; BPDU guard will protect the extension fabric.
- Broadcast and multicast storm control will be enabled using the SIX-approved threshold; the initial template will use 0.01 percent unless SIX directs a different setting.
- The SIX blackhole MAC address 66:66:de:ad:be:ef will be discarded at the extension edge in accordance with SIX guidance.
- A participant port will be enabled/disabled and placed on VLANs under SIX direction.

Change control

Any material change to switch model, topology, supported VLANs, transport design, or participant-port behavior will be submitted to SIX for review before implementation.

6. Hardware, power, and sparing

COMPONENT	PROPOSAL
Production switch	Arista DCS-7280SR-48C6-F, front-to-rear airflow, dual hot-swappable AC power supplies.
Onsite spare	One identical DCS-7280SR-48C6-F, tested and stored at KA1 with a current approved EOS image and recoverable configuration.
Power	The production switch's two power supplies will be connected to independent A/B feeds backed by the facility's resilient power systems before activation.
Critical spares	Compatible uplink/participant optics, patch leads, power supplies, and fan modules appropriate to the installed configuration.
Software	An EOS release approved by SIX. Changes will be tested, backed up, and coordinated when they could affect the fabric.
Lifecycle	If growth or hardware lifecycle requires replacement, the operator will propose an equivalent or better SIX-approved Arista platform before migration.

7. Management and monitoring

- Out-of-band management over a private management network that is independent of the SIX participant fabric.
- Read-only SNMPv3 access for designated SIX administration systems, restricted by source ACL and credentials agreed with SIX.
- 24x7 monitoring of LACP state, interfaces, utilization, errors/discards, optical levels, temperature, fan state, and power-supply state.
- Central syslog, authenticated NTP, regular configuration backups, and alert escalation to the operator's NOC.
- Current topology, port assignment, optics, management, and transport documentation available to SIX administrators.
- Primary operational contact: noc@soheildigitalsolutions.com. Additional telephone and escalation contacts will be supplied before activation.

8. Capacity and incident management

- The operator will monitor five-minute utilization and work with SIX before aggregate peak utilization exceeds the 66 percent upgrade threshold.
- No new participant will be activated while five-minute aggregate utilization exceeds 66 percent; capacity must first be increased or utilization reduced below the threshold.
- If utilization reaches the 80 percent notification threshold or packet loss occurs, the operator will coordinate immediate mitigation and capacity planning with SIX.
- Planned work affecting the fabric will normally be announced at least two weeks in advance and coordinated with SIX administrators.
- Unplanned outages and security events will be reported promptly, with updates through restoration and a post-incident summary for material events.

9. Responsibilities and commercial scope

PARTY	RESPONSIBILITY
Soheil Digital Solutions	Procure, install, power, monitor, document, maintain, and replace the extension switch, spares, optics, and transport; fund KA1 cross-connects and the agreed extension infrastructure; maintain route-diversity evidence.
SIX	Review and approve the proposal; provide technical requirements, VLAN/IP assignments, onboarding, policy administration, and core-side coordination under normal SIX procedures.
Transport providers	Deliver the contracted transparent Ethernet services, provide demarcation and route information, and meet agreed service and restoration obligations.
Participants	Complete SIX onboarding, comply with SIX rules, install an authorized router/MAC, and arrange their KA1 cross-connect and port service as applicable.

The ordering and billing arrangement for Westin-side cross-connects will be confirmed with SIX during detailed design. The operator will not place transport orders until the topology, demarcations, and required approvals are clear.

10. Implementation sequence

1. Incorporate SIX administrator and board/advisor feedback before submission for membership review.
2. Submit Version 1.0 for the required two-week participant/public comment period.
3. After approval, obtain binding quotes and route documentation for two independent 100G transport services.
4. Purchase and stage the production and spare Arista switches, optics, management services, and cross-connects.
5. Complete configuration review and acceptance testing with SIX, then install at KA1 and turn up both Westin links.
6. Begin participant onboarding only after SIX authorizes production service.

11. Acceptance test plan

TEST	PASS CONDITION
Transport independence	Each 100G member carries traffic independently; removal of either member does not isolate KA1.
LACP and failover	Bundle forms correctly; member loss and restoration are alarmed and do not create a loop.
MTU	Standard and jumbo service VLANs pass the SIX-approved frame sizes end to end.
Port controls	MAC limit, BPDU protection, storm control, VLAN allow-list, and blackhole-MAC behavior operate as approved.
Observability	SIX read-only SNMP access, traffic counters, optical telemetry, syslog, and alarms are verified.
Recovery	Configuration restoration and the documented onsite-spare replacement procedure are demonstrated.

12. Items to finalize with SIX

OPEN ITEM	REQUIRED DECISION OR DELIVERABLE
Core demarcation	Exact Westin switch, panel, handoff, optics, LOA/CFA process, and cross-connect ordering/billing.
Transport	Two selected carriers, complete route-diversity evidence, service IDs, SLAs, and escalation contacts.
VLANs and addressing	SIX-assigned VLAN IDs, IP assignments, and any additional service VLAN requirements.
EOS and configuration	Approved EOS release, management ACL sources, SNMPv3 parameters, logging destinations, and final port templates.
Monitoring and SNMP	SNMP objects, polling sources, credentials, source ACLs, alert thresholds, and administrator access.
Maintenance and escalation	Final NOC phone tree, notification lists, planned-maintenance process, and incident severity expectations.
Acceptance	Joint test date, test witnesses, evidence format, and authorization to place the extension into production.

13. Compliance matrix

SIX REVIEW AREA	PROPOSAL RESPONSE
VLANs / MTU	Standard and jumbo VLANs; IDs finalized with SIX; multicast excluded initially.
Switch	Dedicated Arista DCS-7280SR-48C6-F; SIX traffic only.
Redundancy / spares	2x100G LACP, carrier/path diversity, dual PSUs, identical onsite spare, critical components onsite.
SNMP / monitoring	Restricted read-only SNMPv3 for SIX plus 24x7 operational monitoring, telemetry, and alerting.
Participant controls	One router/MAC, BPDU protection, storm control, MAC enforcement, VLAN allow-list, blackhole-MAC filtering.
Capacity	66% upgrade threshold and 80% notification/mitigation threshold incorporated.
Documentation	Topology, routes, ports, optics, management, contacts, and change history maintained for SIX.

14. Reference material

- [SIX Rules](#)
- [SIX Interconnection Proposal Archive](#)
- [SIX Join and Port Information](#)
- [SIX Blackholing Guidance](#)

Applicant commitment

Soheil Digital Solutions Ltd. will operate the KA1 extension in accordance with the final SIX-approved proposal and current SIX rules. No production participant will be connected until SIX authorizes onboarding and activation.