A YANG Data Model for SLA Assurance Management in Optical Transport Networks

draft-yu-ccamp-sla-assurance-optical-yang-03

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What changed in -03 — and why

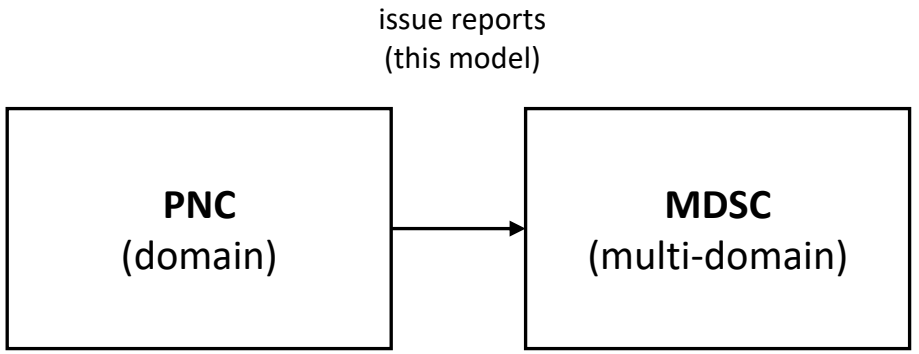
Area	What changed	Driver
Scope & terminology	Revised issue definition; SAIN scope; Mplify 173/175 Issue/Incident mapping	SAIN claim too strong; Align with Mplify terminology
ACTN interworking	PNC → MDSC issue reporting; reporting-only scope	Need a PNC/MDSC example
Protection latency	Protection-path delay vs switching time; detour ≠ absolute latency	Heading and text disagreed
YANG model	Read-only operational state; 6-digit availability; units; metadata	State, statistics and precision fixes
Open items	New Section 6.4 with five topics	Remaining model questions

Issue vs incident: terminology tightened

- **SLA assurance issue — revised definition**
  - A detected network condition relevant to the assessment or fulfillment of an SLA objective
  - May exist without customer-visible impact and without an associated incident
  - Mplify 173/175: Buyer-experienced Issue vs Seller-created Incident record; this draft does not redefine those terms
  - Shared-trench example: a protection-diversity risk while the service is healthy is an SLA assurance issue — not necessarily a Buyer-experienced Issue; an Incident record depends on the Seller's process
- **SAIN (RFC 9417) — scope clarified**
  - -01 said SAIN does not address asymptomatic issues
  - -03: SAIN can represent dependencies that do not affect the reported service health
  - Asymptomatic issues may need extra information — shared routes or infrastructure — outside the service health model
  - Figure 2 is illustrative, not a restriction on SAIN capabilities

ACTN interworking: PNC → MDSC reporting

- **New PNC → MDSC example in Section 5.3**
  - In ACTN (RFC 8453), a PNC reports domain-level observations to an MDSC
  - This model can supply the issue information for that exchange
  - Model scope is reporting only: no corrective actions or invocation interfaces
  - Enables cross-domain impact analysis and root-cause localization
  - Deployment context: Issue Server may sit within or alongside each domain controller



Model scope: issue information only.
Policy, remediation actions and invocation interfaces are out of scope.

Protection latency: separate the two properties

- **Before (-01)**
  - Heading: “Protection switching latency exceeds allowed limit”
  - Body text described delay along the protection path
  - Switch time and path delay were conflated
- **After (-03)**
  - Heading: “Protection-path latency exceeds allowed limit”
  - Explicit: delay along the protection path, not the time taken to switch to it
  - Detour-factor violation and absolute latency objective are reported separately

Switching time = how fast traffic moves to protection. **Path delay** = latency once traffic is on the protection path.

YANG model: operational state and precision

Aspect	**-01**	**-03**
Issue inventory	rw sla — writable config	ro sla; config false — server state
Availability	decimal64, 2 fraction digits	decimal64, 6 fraction digits; 0..100; percent
Durations	uint64, no units	uint64, units “seconds”
Timestamps	custom date-and-time-s	yang:date-and-time
CSN scope	globally unique	unique within the reporting server
Module metadata	prefix hnts; contact TODO	prefix ietf-optical-sla-assurance; contact, description, copyright, revision
IANA URI	...:yang:hnts	...:yang:ietf-optical-sla-assurance

References: RFC 9911 replaces RFC 6991; RFC 7950, RFC 9846, RFC 9940, RFC 8453 and Mplify 173/175 added.

Open items: new Section 6.4

- **Service/tunnel identification** — the composite key cannot represent a service-only or tunnel-only issue
- **Issue types** — the catalogue is more specific than the enumerations; a machine-readable, extensible definition is needed
- **Statistics semantics** — overlapping interruptions, window boundaries, incomplete coverage, planned maintenance
- **SFTP export** — file format, completion and error reporting for sftp-url
- **Capabilities & resolution** — discovery and resolution interfaces described in Section 5 are not yet modeled

Next steps / what we need from CCAMP

- **Review and comment on -03**
- **Help us prioritize Section 6.4:**
  - Reporting-only scope: is issue inventory + statistics RPC the right boundary?
  - Issue types: enumeration vs extensible, machine-readable identity
  - Statistics: how should overlapping or window-spanning outages be counted? Omit availability when coverage is incomplete?
- Authors will update the YANG model and align Section 6.1 duration wording in the next revision
- **Thank you — comments to ccamp@ietf.org**