

IETF 120 - CCAMP Meeting

Use cases, Network Scenarios and gap analysis for
Packet Optical Integration (POI) with coherent pluggables

under ACTN Framework

draft-poldt-ccamp-actn-poi-pluggable-usecases-gaps-01

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Recap on motivation & Updates from -00



- **Coherent** pluggable technology is **mature**, in particular 400G, 100G coming now.
- The operator's Goal is an end-to-end SDN control and management of the full network, **including the new DWDM pluggable** in IP/MPLS routers.
- After IETF 118, there was an agreement to move forward together with focus on **scenarios, use cases and modelling work** under general ACTN framework.
- **Network scenarios and use cases** are defined in this draft (unifying previous documents).
- Weekly open calls, led by operators.
- Github to track issues:
<https://github.com/oscarddd/draft-poidt-ccamp-actn-poi-pluggable-usecases-gaps>
- New contributors: Welcome Stefan, Deborah. Gert provided also a review of the text.

Updates from -00



- Minor editorial review.
- Enhancement of the use of Coherent DWDM pluggable insertion in the router line card.
 - Guidelines on the expected procedure after insertion.
 - The general agreement is that it is NOT recommended to start transmission until explicitly indicated.
 - In scenarios with an optical mesh avoids impacting other signals
 - In scenarios with dedicated fiber, there is no impact.
 - Preference is to keep a common behaviour
 - Default values: The router should always overwrite any default parameters
 - Discussion available in <https://github.com/oscarddd/draft-poidt-ccamp-actn-poi-pluggable-usecases-gaps/issues/9>
- Pluggable service provisioning use case
 - Clarified that detailed optical planning is **typically** required (not always)

Open issues (1)



- Issue #19 What is **required** to be covered by the inventory?
 - Proposal to differentiate between **inventory** and **capability** databases.
 - Capability: Covers “data-sheet” like information.
 - Do we need a "**capability**" database?
 - Does the equipment need to report the capabilities?
 - Does the inventory report all the modes supported by the pluggable, or just the modes also supported by both hardware?
- Issue #18: Relationships from Pluggable inventory towards other entities.
 - Which entities are required to be linked, e.g. to topology?
 - Currently, Ivy is defining relationships from the “core model”. Are those enough?
- Issue #17 Add security considerations

Open issues (2)



- Issues #16: Review from Deborah
 - Add operational considerations in the draft:
 - Avoid disruption in the network
 - Software upgrades/maintenance on the packet level or optical level are not disruptive on the other level.
 - Security levels for the different entities (IP/Optical)
 - Protection. Is “protection/restoration is for further study”?
 - Measures to include network wide multi-layer re-optimization strategy to prevent fragmentation and optimal use of capacity (e.g., RFC5557 provides guidance when using a PCE).
 - Measures to protect against network destabilization
 - Measures are needed to support graceful deletion at all layers
 - Fault escalation strategy to coordinate across the layers
 - Mechanisms for aggregating, summarizing, enabling and disabling of inter-layer notifications so as not to overwhelm the controller.
- Issue #14: Breakout use case

Next steps



- Solve open issues and current reviews.
- Authors believe the document is stable enough and has good consensus among authors.
- We think it is ready for working Group adoption.
- Work together with the Yang solution document solving use case by use.