

A YANG Data Model for Network Incident Management

draft-feng-nmop-network-incident-01

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Recap

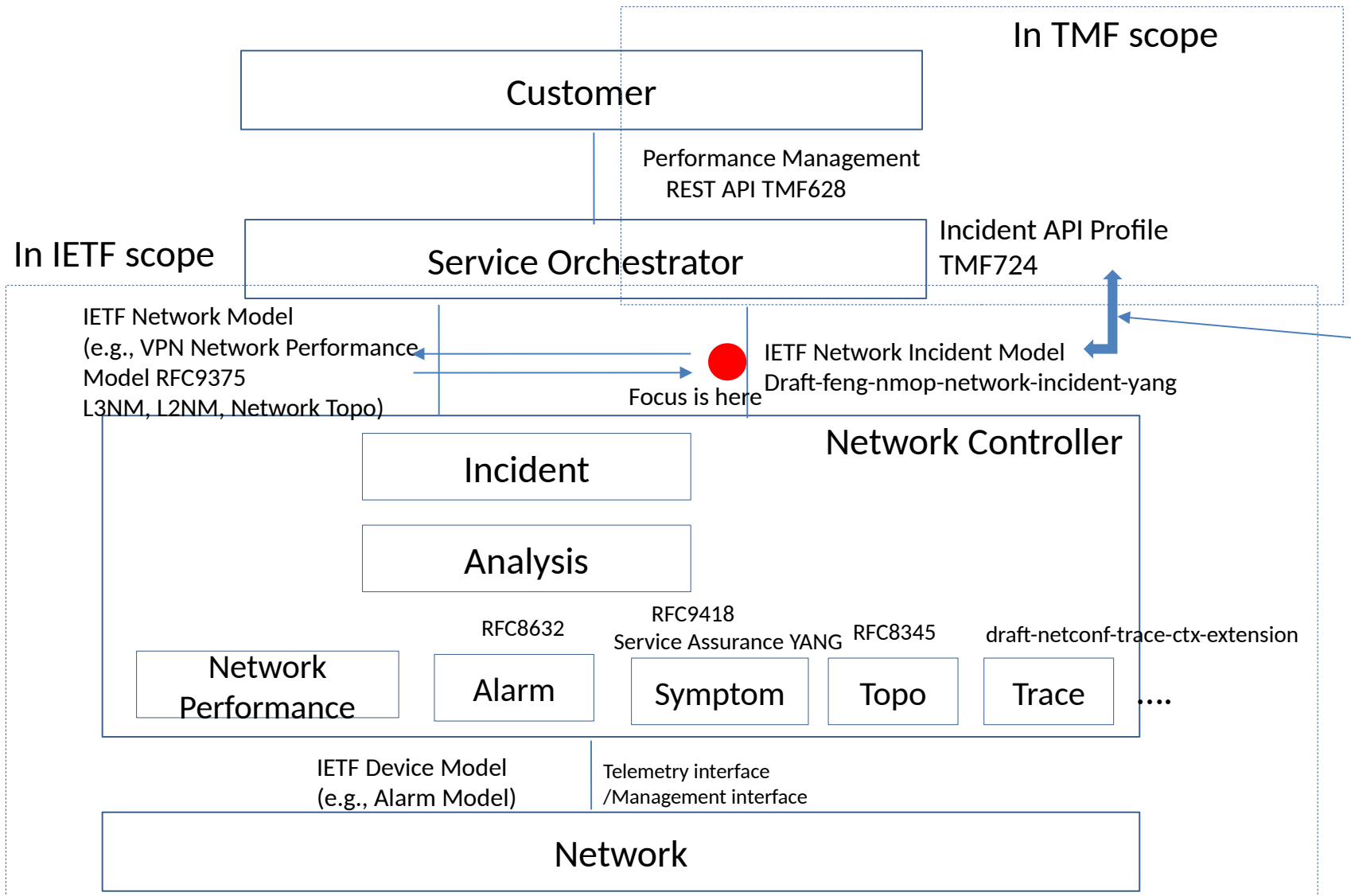
- **Problem Space**

- The frequency and quantity of alarms and performance metrics data reported to OSS overwhelms the management systems
 - Traditional method such as data compression is time consuming, and labor intensive
- Data source such as faults, alarms, performance metrics are managed by the management system separately, difficult to assess the impact of alarms, performance metrics and other anomaly data on network services without known
 - relation across layer of the network topology data
 - or the relation with other network topology data.

Recap

- **Goal:** Define YANG Data model for Network Incident management:
 - Allow upper layer OSS invoke Incident RPC in YANG model to investigate incident
 - Support Multi-domain, multiple layer network management
 - Reduce the burden caused by traditional fault management
 - Improve incident diagnosis efficiency
 - low O&M requirements

Network Incident management Eco-system



Mapping with TMF724

- Incident parameters in Incident API Profile define 'troubleshooting intent'
 - apply to both NBI and SBI of Service Orchestrator
- YANG data model in Draft-feng-nmop.. is used to realize this 'troubleshooting Intent'
 - Used in the NBI of Network controller
 - **3 RPCs and 1 notification** realize incident function Requirements defined in TMF724
 - Incident model parameters in draft-feng.. are corresponding to incident parameters in section 5.5 of TMF724
- Incident terminology in draft-feng-references TMF724

Network Incident Terminology Alignment

The question: Do we redefine the incident in IETF which originates from TMF724?

Quoting Two terms described in draft-feng-nmop-network-incident-yang as follows

Network Incident: An unexpected interruption of a network service, degradation of network service quality, or sub-health of a network service [TMF724A].

Problem: The cause of one or more incidents. The cause is not usually known when a problem record is created, and the problem management process is responsible for further investigation [TMF724A].

- **TMF 724 Specification Authors has confirmed the term used is aligned with TMF and how TMF document can be accessed**
 - https://mailarchive.ietf.org/arch/msg/opsawg/8Htekki_gs098wM-jDLgKdaRgFI/
- **See more discussion in Nigel's presentation on Incident Common Terminology**

Document Status

- draft-feng-opsawg-incident-management
 - First presented in NETCONF WG and NETMOD in the IETF 116 meeting, and
 - it was suggested to align with trace context series drafts and clarify the relation with them.
 - Presented twice in opsawg WG in IETF 117 and 118, organize one side meeting in IETF 118 on incident management
 - Thanks Thomas Graf, Nigel, Luis, Med, Oscar, Adrian, Greg, etc for valuable comments
 - Focus on network level on top of domain controller (Luis)
 - Add more detail for multi-domain use case (Thomas)
 - Incident terminology consistent with other SDO (e.g., TMF) meaning (Adrian, Nigel)
 - Usage example for incident generation besides SLA Violation (Greg)
 - WG Adoption call in opsawg after IETF 118 (Feb 8~ Feb 22 2024)
 - Received a significant amount of positive replies, opsawg WG chairs believe it is ready for adoption
 - Thanks Luis, Chongfeng, Ziyang, Wei, Adrew L, Adrian, Italo, Benoit, Rob Wilton, Joe Clark, Zhengqiang Li, Zongpeng Du, Xingzhao, Roland, Xuyunbin, Michale Richardson
 - <https://mailarchive.ietf.org/arch/msg/opsawg/ewbjjU3XoCOqWSKc8nnYj0IVyxl/>
 - One concern on access to some work by other bodies
 - It was suggested by AD to move to NMOP for adoption since incident work is fit into NMOP charter

Document Status

- The latest update is v-(01), changes compared to the previous versions:
 - Rename draft name as draft-feng-nmop-network-incident
 - Change title into A YANG data model for network incident Management
 - Merge ietf-incident-type.yang into ietf-incident.yang
 - Fix enumeration on leaf type
 - Clarify how the incident server know the real effect on the relevant services.

Next Step

- Request WG adoption in NMOPs
 - Based on AD's suggestion
 - Have got sufficient support in the adoption call in OPSAWG
 - Running code and Implementation ongoing
 - ONAP: <https://wiki.onap.org/display/DW/R13+Intent-Based+Network%3A+Enhance+of+Incident+API>
 - CMCC deployment
 - ..
- Setup Design Team meeting for this work?
- Do we need to coordinate with TMF in parallel
 - IETF NMOP WG sends liaison statement to TMF for terminology alignment
 - IETF and TMF formal liaison relationship setup?