

# A YANG Data Model for Network Diagnosis by scheduling sequences of OAM tests

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#### Introduction

- OAM testing is an essential part of network operations and management
- However, scheduling tests can be challenging, especially in complex networks.
- This proposed solution pursues to offer a way to simplify the scheduling process and improve the reliability of OAM testing

#### Motivation and objective

- To create data models enabling execution of network diagnosis procedures, creating sequence of unitary tests
  - Either on-demand or scheduled

- Define a YANG data model for network diagnosis on-demand using Operations, Administration, and Maintenance (OAM) tests
- Define both 'oam-unitary-test' and 'oam-test-sequence' for that purpose

## Sequence of unitary tests

- OAM unitary test:
  - it is a set of parameters that define a type of OAM test to be invoked. As an example, it includes the type test, configuration parameters, and target results.
- OAM test sequence:
  - it is a set of OAM unitary tests that are run based on a set of time constraints, number of repetitions, order, and reporting outputs.

#### Use cases

- Troubleshooting
  - After the detection of a problem in the network, a sequence of OAM tests are performed to find the root cause for the detected issue.
- Birth certificate
  - Define sequences of tests for birth certificate procedures
- Proactive supervision
  - Sequence of OAM can be run periodically at regular intervals depending on the specific SLA requirements and the network operator procedures.
- Performance-based Path Routing
  - Triggering of OAM test sequence to allow obtaining metrics (e.g. delay, loss) which can be used in the PCE algorithms.



## Conclusion and future work

- This is an initial work
- Comments from the WG would be extremely valuable
- Checking if there is interest in the WG to continue this work.