A YANG Data Model for Optical Performance Monitoring

CCAMP WG, IETF115

draft-yu-performance-monitoring-yang-00

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Motivation of This Model

- Performance monitoring is a basic function of network maintenance. A unified protocol is preferred for PM, e.g. RESTCON;
- Traditional PM interfaces are operated on network resources such as NE, board, port, channel, etc. Operators prefer to inherit existing PM functions without additional investment.
- The existing PM data models in IETF are either not network resource-based.
- The target of this draft is to specify a data model for performance monitoring based on traditional interfaces, such as TMF MTOSI, and cover all the existing functionalities. And this data model should be generic for various performance indicators.
The main functionality supported by our data model shall include:

- Control performance monitoring task as per network resource
- Configure TCA attributes and raise TCA notifications
- Retrieve current and historical performance data and performance monitoring capabilities
Interfaces defined for PM control in TMF:

- **clearPerformanceMonitoringData**: This operation clears (reset) the PM registers for a list of Measurement Points.
- **disablePerformanceMonitoringData**: This operation disables (turns off) the PM data collection for a list of measurement points.
- **enablePerformanceMonitoringData**: This operation enables (turns on) the PM data collection for a list of measurement points.

A “PM task” concept is introduced to control performance monitoring. The task is running as per resource which is similar to the measurement point in TMF. If the client clears performance monitoring data, this PM task can then be deleted.

The same resource definition of RFC8632 is reused
- Generic for different types of measurement point, for example node, board, port, etc.

The task-status is used to enable/disable PM data collection.
Some interfaces defined for PM data retrieval in TMF:

- `getAllCurrentPerformanceMonitoringData`: Retrieves current PM data for a list of measurement points
- `getHistoryPerformanceMonitoringData`: Retrieves historical PM data for a list of measurement points

- There is a great amount of PM data that changes frequently most of the time.
- It is inappropriate to define them as state data in the model, which can result in a lot of useless data saved in the data store. Not easy either for client to retrieve data by RESTCONF.
- Instead, two RPC operations are defined to support these PM data retrieval.
Next Step

➢ Investigate how to cover TCA functions based on current data model
➢ Investigate how to cover the left PM retrieval interfaces based on current data model
➢ Call for interest & joint contribution
Thank You