

A YANG Data Model for Resource Performance Monitoring

draft-yu-ccamp-resource-pm-yang-00
(replace of draft-yu-ccamp-optical-resource-pm-yang)

IETF 120 Meeting

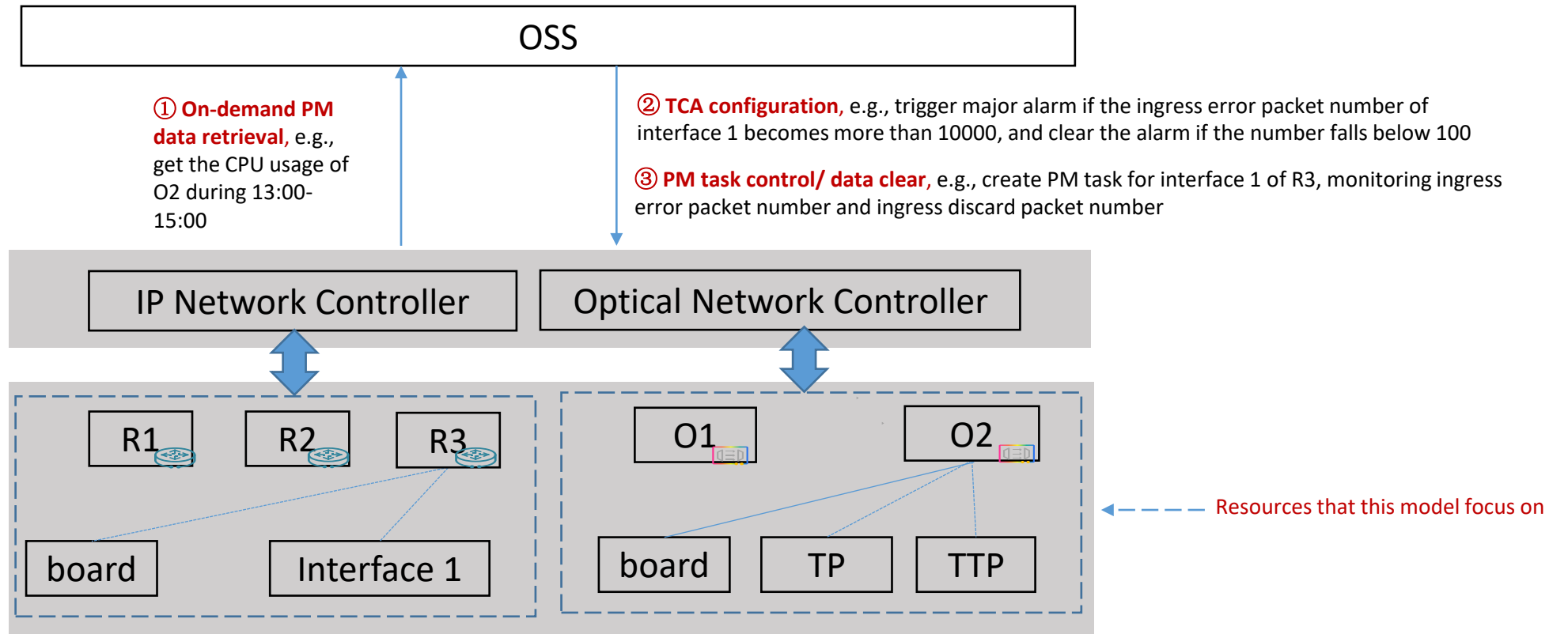
on behalf of Authors Team (Chaode Yu, Fabio Peruzzini, Zheng Yanlei,
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Document Status

- Started as a optical-specific work
 - <https://datatracker.ietf.org/doc/html/draft-yu-ccamp-optical-resource-pm-yang-03>
- Generalized for both optical and IP domain recently (latest version)
 - <https://datatracker.ietf.org/doc/html/draft-yu-ccamp-resource-pm-yang-00>
- Most of the MTOSI PM interfaces have been covered by the current model and it is harmonized with the existing IETF models and terminologies;

Model Usage Example

- Unified Resource PM Interface for both IP and Optical Domain



R1,R2,R3: network elements in IP domain
O1,O2: network elements in optical domain
TP: termination point
TTP: tunnel termination point

Model Overview

- Supported Resources and Corresponding PM Capabilities

- Resource-type: network element, interface, board, termination point, tunnel termination point
- Indicator-name: defined as “String” type, compatible for extension, example:
Network element: CPU usage, memory usage, total active routes, etc.
Interface: Ingress unicast packets, Ingress discard packets. Ingress error packets, etc.

- TCA Management

- profile: pre-define the TCA configurations for specific indicators
 - Threshold-type: upperbound-trigger, upperbound-clear, lowerbound-trigger, lowerbound-clear
 - Severity: indicate the alarm severity once the threshold is triggered, i.e., critical, major, minor, warning
- Tca: apply profile or define TCA configuration directly for resources

- Monitor task

- period: the period to collect the performance data
- Admin status: enable/disable

```

module: ietf-resource-pm
+--rw performance-monitoring
  |--rw resources
  | +--rw resource-list* [resource]
  |   +--rw resource          union
  |   +--ro resource-type?   identityref
  |   +--ro holding-time?    uint8
  |   +--ro indicator-name*  string
  |   +--ro sub-resources*   -> ../resource
  |--rw tca-management
  | +--rw profiles
  |   | +--rw profile* [profile-id]
  |   |   +--rw profile-id      yang:uuid
  |   |   +--rw profile-name?  string
  |   |   +--rw tca-cfg
  |   |     +--rw tca-indicator* [indicator-name threshold-type per
  |   |       +--rw indicator-name      string
  |   |       +--rw indicator-value     string
  |   |       +--rw indicator-value-unit string
  |   |       +--rw threshold-type     enumeration
  |   |       +--rw period              identityref
  |   |       +--rw severity            identityref
  |   |
  |   | +--rw tcas
  |   |   +--rw tca* [resource]
  |   |     +--rw resource          -> /performance-monitoring/resou
  |   |     +--ro resource-type?   identityref
  |   |     +--rw admin-status?    enumeration
  |   |     +--rw applied-profiles
  |   |       | +--rw profile* [profile-id]
  |   |       |   +--rw profile-id  -> ../../../../../../profiles/profi
  |   |     +--rw tca-cfg
  |   |       +--rw tca-indicator* [indicator-name threshold-type per
  |   |         +--rw indicator-name      string
  |   |         +--rw indicator-value     string
  |   |         +--rw indicator-value-unit string
  |   |         +--rw threshold-type     enumeration
  |   |         +--rw period              identityref
  |   |         +--rw severity            identityref
  |--rw monitor-tasks
  | +--rw monitor-task* [task-id]
  |   +--rw task-id      yang:uuid
  |   +--rw resource?   -> /performance-monitoring/resources/r
  |   +--ro resource-type? identityref
  |   +--rw task-name?  string
  |   +--ro admin-status? enumeration
  |   +--ro task-status? enumeration
  |   +--rw task-cfg
  |     +--rw period?    identityref
  |     +--rw indicators
  |
  |     +--rw indicator* [indicator-name]
  |       +--rw indicator-name      string
  |       +--rw indicator-value-unit? string
  
```

Next Step

- To see whether there are any feedbacks or new requirement

- Call for interest & joint contribution
 - Github: <https://github.com/YuChaode/draft-yu-ccamp-resource-pm-yang>