YANG Data Model for IEEE 1588v2

draft-jlx-tictoc-1588v2-yang-00

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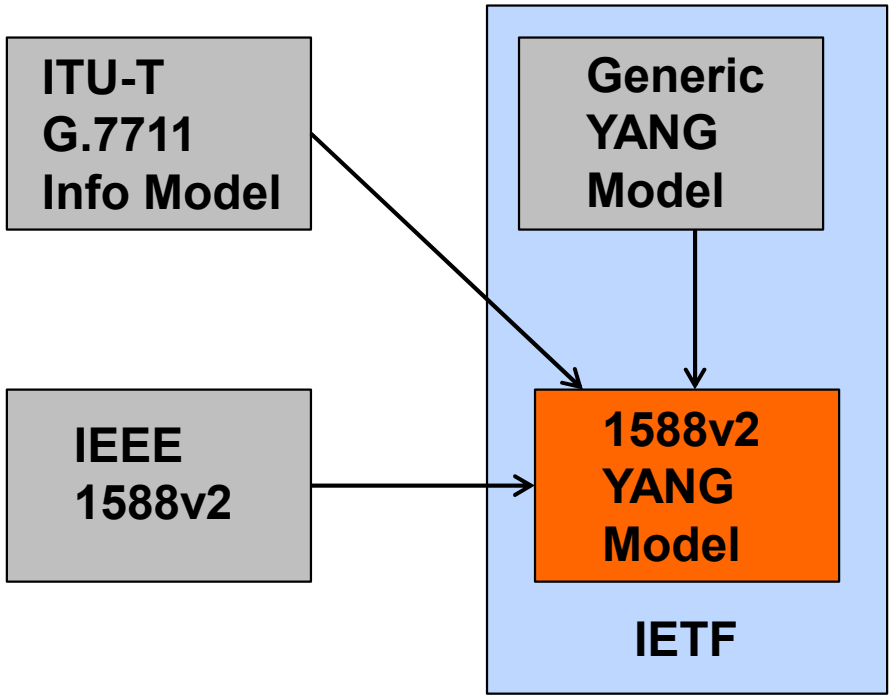
Backgrounds

- IEEE 1588v2
  - A critical sync technology in various application scenarios, widely deployed in the carrier networks;
  - 1588v2 MIB draft is progressing, but only with limited capability.
- YANG data model
  - Validation and rollback features;
  - Separation of configuration and state/statistics data;
  - Support of multi-layer hierarchical data models;
  - Reusable types and groupings;
  - Formal constraints for configuration validation.

Reqs & considerations

- Sync requirements
  - More configuration capability
  - Validation and fault management
    - Profiling of the current sync path
    - Fast diagnosis of a faulty path if sync is broken
- Compatible with 1588v2 MIB draft
  - State retrieval remains the same;
  - System info retrieval as it is;
  - Use YANG instead as the data modeling language

Relationship with other SDOs



YANG Hierarchy for 1588v2

```
module: ietf-yang-ptp-query
    +--rw device-ptp-query-table
    |  +--rw ptpDevicequery* [clock-identity domain-number]
    |     +--rw clock-identity            binary
    |     +--rw domain-number             uint32
    |     +--rw clock-current-DS
    |     +--rw clock-parent-DS
    |     +--rw clock-default-DS
    |     +--rw clock-running
    |     +--rw clock-time-properties-DS
    |     +--rw clock-trans-default-DS
    |        +--rw clock-identity?   binary
    |        +--rw num-of-ports?     uint32
    |        +--rw delay?            Enumeration
     ......
```

YANG Hierarchy for 1588v2

```
module: ietf-yang-ptp-config
  +--rw ptpDeviceConf
  |  +--rw ptpDevice* [deviceIdentity]
  +--rw todPortConf
  |  +--rw todPort* [todPortIdentity]
  |     +--rw todPortIdentity          binary
  |     +--rw todDirection?            enumeration
  |     +--rw todProtocolType?         enumeration
  |     +--rw timeGradeMode?           boolean
  |     +--rw timeSource?              enumeration {connect-bits}?
  |     +--rw clock-source
  |        +......
  +--rw ptpPortConf
    +--rw ptpport* [ptpPortIdentity]
      +--rw ptpPortIdentity            binary
      +--rw portEnable?                boolean
      +--rw delayMechanism?            enumeration
      +......
```

Next Step

- Add more config capabilities in the next version
- Reviews and feedbacks from WG are greatly appreciated
- Welcome more people to join this work

Thank You