Options for 802.1ASdn YANG

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Introduction

• Most PAR/CSD text for 802.1ASdn can be copied from other 802.1 PAR/CSD for YANG
• This presentation covers topics unique to 802.1ASdn
  • Goal: Reach consensus prior to wordsmithing PAR/CSD later this week

• Topics (agenda)
  • Dependency on 1588-2019 YANG amendment?
  • All managed objects?
  • Notifications?
  • UML information model?
Dependency on 1588 YANG? (1 of 2)

- **Roadmap in past** proposed to specify YANG for 802.1AS-2020 as an augment to YANG for 1588-2019
  - PAR 5.3 (dependency on other standard?) = Yes

- **Benefits**
  - Correct standards cooperation
    - Profile shouldn't re-specify the base protocol
  - Less work for P802.1ASdn
    - About half of 802.1AS managed objects (clause 14) are from 1588
  - YANG implementers know how to use augments
  - 802.1AS products can use optional 1588 management features
    - E.g. Performance Monitoring (logs of timing statistics)
Dependency on 1588 YANG? (2 of 2)

- Risk: P802.1ASdn waits on 1588 YANG
  - 1588 Amendment for YANG (P1588e) is underway
    - PAR approved by 1588 Working Group (PNCS)
    - Planned for Nescom agenda September 2020
      - Okay if P802.1ASdn PAR on same Nescom agenda
  - No precedent: 802.1AS-2020 didn't wait for 1588-2019
  - Presenter feels that likelihood is low, and impact is low

- Presenter's recommendation for PAR dependency: Yes
  - Plan P802.1ASdn as augment of 1588e YANG
All Managed Objects?

• 802.1Q YANG done as subsets (.1Qcp, .1Qcw, etc)
  • Advantage: Faster subset completion
  • Disadvantage: Due to incomplete YANG, a .1Q product rarely has all its standard features covered by standard YANG

• P1588e PAR project scope: "YANG data models for all data sets of IEEE Std 1588-2019"
  • Not a subset... all

• Presenter's recommendation for P802.1ASdn project scope: "YANG data models for all managed objects of IEEE Std 802.1AS-2020"
Notifications? (1 of 2)

- MIB and YANG notification: data that can be sent from server (e.g., 802.1Q bridge) to client asynchronously
  - Useful for monitoring, etc
- In 802.1Q
  - MIB-specific notifications (not in managed objects)
  - YANG has no notifications so far
- 1588-2019 revision had MIB/YANG in scope, but consensus was challenging due to notifications
  - Different opinions on what data, how to enable, etc
  - Rough consensus that when re-visited, 1588 will specify "data sets for notification" first, MIB/YANG second
Notifications? (2 of 2)

• P1588e PAR project scope: "The amendment does not specify notifications, only configuration and state for data sets."

• Presenter's recommendation for P802.1ASdn project scope: "The amendment does not specify YANG notifications."
**UML Information Model?**

- 802.1 PARs for YANG project scope: "This amendment specifies a Unified Modeling Language (UML)-based information model and a YANG data model that allows..."

- 1588's information model is specified as data sets
  - From which 802.1AS's managed objects are derived
  - Stating that the YANG data model is based on a new UML information model would be technically incorrect

- Presenter's recommendation for P802.1ASdn project scope: Do not mention UML in project scope
  - This doesn't preclude use of UML in figures as a summary (like YANG tree diagram)
Thank You