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