802.1AS-Rev:
Data Set Enhancements

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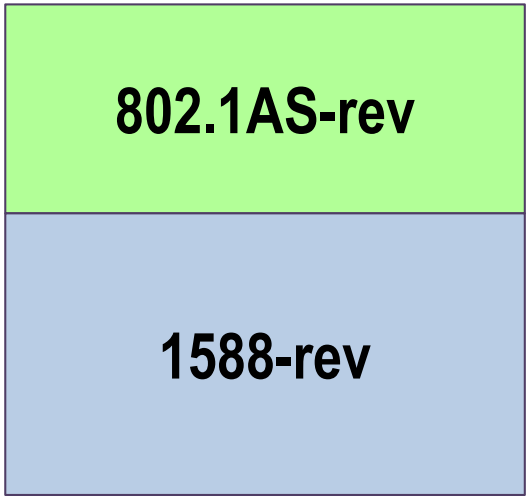
Review of Assumptions for Data Sets

- Build .1AS on foundation of 1588
  - As opposed to .1AS that is disjoint from 1588
  - Benefits: Shared tools, shared code, shared management, ...
- We are 'getting it right' for YANG
  - 1588 WG has cleaned up data sets
    - Serves as information model for YANG
  - Possible for MIB to remain as-is
- Use 1588-rev data sets as foundation of .1AS-rev data sets
  - Many new features same in both
    - E.g. Multiple domains



Changing Data Sets and not MIB

- Can we change the data sets without changing MIB?
  - I.e. Change .1AS clause 14 but not clause 15?
- Answer: Yes
  - .1AS-rev D4.2 below, retains MIB compatibility

14.6.4 ~~pttPortEnabled~~ptpPortEnabled

The value is equal to the value of the Boolean ~~pttPortEnabled~~ptpPortEnabled (see 10.2.4.13).

15.5 IEEE 802.1AS MIB module

```
ieee8021AsPortDSPttPortEnabled OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    REFERENCE   "14.6.4"
```

Implications for YANG

- YANG module for .1AS-rev:
  Augment of 1588-rev YANG module
  - YANG in future PARs (not ongoing revs)
  - Enables management of a product with multiple 1588 profiles
  - Analogous to 802.1Q port's augment of IETF Interface
- What is an augment?
  - Augmenting module adds members to augmented module
  - Augmenting isn't forced to use every member in augmented
  - But... **if** a member is used... it is used as-is
    - Same name, data type, description, ...

Comparison of Data Sets in .1AS-rev and 1588-rev

Comparison of Data Sets

- I compared data set members, categorizing each as:
  - Same: Specs are same in both
  - Augment: Exists in .1AS-rev but not 1588-rev
  - New: 1588-rev that we need in .1AS-rev
    - Small subset of new 1588-rev members
  - Diff: Exists in both, but specs differ
    - We need to repair the difference
- I submitted .1AS-rev comments for each New and Diff
  - Same and Augment don't need a change to .1AS-rev

- Subsequent slides discuss a few New/Diff topics

New: Multiple Instances (1 of 2)

- 1588-rev uses term 'PTP Instance' for each distinct implementation (i.e. domain)
- Top-level data sets are a list of PTP Instances
  - 'PTP Node' is the product that contains the list
- Proposal: Add description of this as 14.1.1
  - Next slide contains excerpts from current 1588-rev draft, which we can use as a starting point

New: Multiple Instances (2 of 2)

The following hierarchy summarizes the managed data sets within a PTP Node:

- instanceList[]
  - defaultDS
  - currentDS
  - parentDS
  - timePropertiesDS
  - portList[]
    - portDS

The instanceList is indexed using a number that is unique per PTP Instance within the PTP Node, applicable to the management context only (i.e. not used in PTP messages). The domainNumber of the PTP Instance must not be used as the index to instanceList, since it is possible for a PTP Node to contain multiple PTP Instances using the same domainNumber.¶

New: services.commonPdelay.<xyz>

- Data set for common Pdelay is a TODO in both
- Best location seems to be as a 'service' in PTP Node
  - Special PTP Instance is wrong, since it doesn't sync time
- Make commonPdelay independent of PTP Instances
  - Exchange path delay and rate ratio, not configuration
  - E.g. Do not infer common Pdelay interval from all PTP Instances' Pdelay intervals
- Comment pending in 1588-rev Working Group ballot
- Proposal: Integrate 1588-rev data set into .1AS-rev
  - Augment as necessary

Diff: Name Changes

- Both use same specifications for a port's state (role)
  - 1588-2008 name is "portDS.portState"
  - .1AS-2011 name is "portDS.portRole"
- Data type is the same (Enumeration8 from 1588)
  - .1AS uses subset of values, which is conformant
- Even if "role" is a better term than "state", we must fix
  - Shared technology more important than personal preference
    - E.g. .1AS YANG augment uses 1588's portState as-is
- Proposal: Change .1AS-rev to "portDS.portState"
  - Add notes to allow for "portRole" in code, MIB, etc

Thank you