802.1ah: Transparent Service Interface

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What are objectives?

- Provide an interface that forwards all frames to a single service instance (single ISID) regardless of C-MAC addresses or VLAN IDs in the frame.
- Ideally “transparently” transports all frames
  - But there are some unavoidable exceptions
    - e.g. 802.3x Pause, 802.3ah OAM, etc.

How transparent should it be?

- Closest analogy in 802.1ad is Port-based service interface
  - Transparent to:
    - Untagged, C-tagged, C-priority-tagged frames
  - Not transparent to:
    - S-tagged, S-priority-tagged frames
    - Control protocols using addresses that are in the reserved address table for S-components

Current specification of Transparent service interface

- Uses I-component
  - With one CIP, one PIP, and one VIP on the PIP
    - Provider Instance Port on I-component performs I-tagging functions
      - All frames tagged with same ISID, same priority, same B-MAC DA
  - Transparent to:
    - Untagged, C-tagged, C-priority-tagged, S-tagged frames
    - Even I-tagged frames (which enables hierarchical NNI)
  - Not transparent to:
    - S-priority-tagged frames
    - Control protocols using addresses that are in the reserved address table for S-components

Should it be more transparent?

- S-priority-tagged frames
  - Not being transparent seems like a non-obvious exception, but in practice not a big deal.
  - Typically nothing sources S-priority-tagged frames.
- L2 Control Protocol frames
  - Would like it to be transparent to control protocols using some of the addresses reserved for S-components
    - e.g. RSTP/MSTP, MMRP/MVRP
  - But not control protocols with a scope of a single physical link
    - e.g. 802.3x Pause, 802.3ah OAM, LLDP
  - Consider changing specification to make it block only a subset of the addresses currently in the reserved address table
    - Probably same subset as 802.1aj TPMR
    - Recommend not making this change now – needs more consideration

Is it different than S-tagged interface?

- Only difference is in the configuration constraints:
  - Single CIP, PIP, and VIP
- Is that worth calling it out as a separate interface?
  - If yes, what to call it?
    - Call it “transparent” even though there are exceptions to complete transparency
    - Call it “port-based” even though not completely analogous to 802.1ad port-based
    - Call it “all-to-one bundled” which intuitively is most descriptive, and meets MEF requirements for “all-to-one bundling” at the UNI, but doesn’t roll off the tongue.
  - Recommend keeping the separate interface name:
    - Call it “transparent”, describe as a special case of S-tagged, and explicitly describe configuration constraints.