P802.1Qbe:
Multiple I-tag Registration Protocol

Version 1

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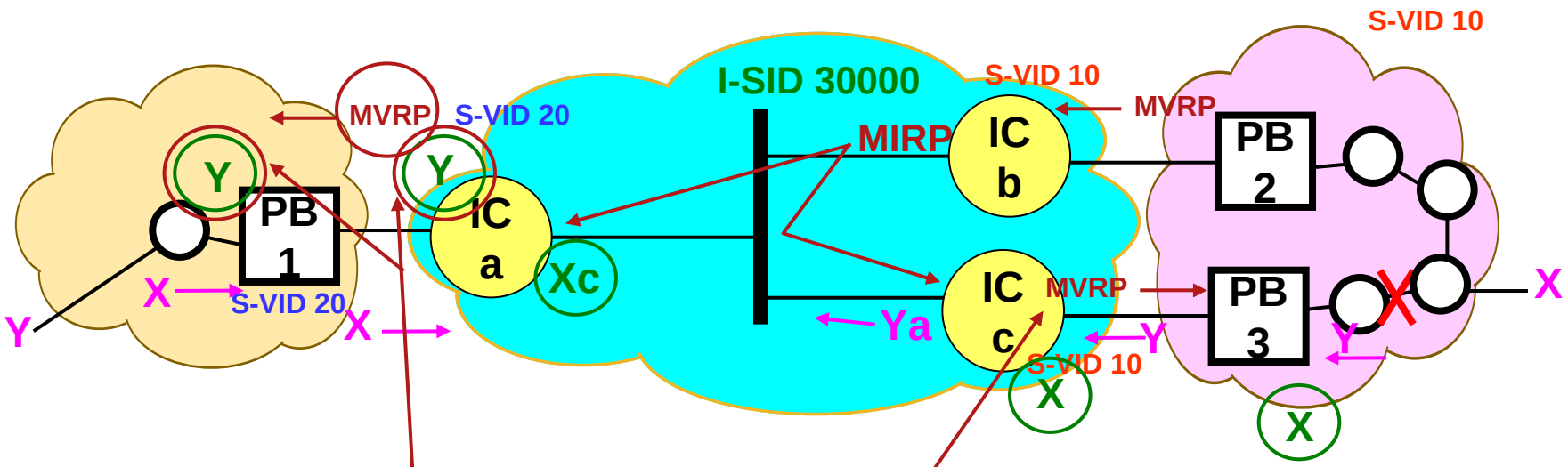
References

- Justification arguments for MIRP are in: http://www.ieee802.org/1/files/public/docs2009/new-nfinn-mirp-0908-v05.pdf
- This presentation is: http://www.ieee802.org/1/files/public/docs2009/be-nfinn-mirp-0709-v01.pdf

Summary of MIRP

MIRP



- MIRP notifies IC **a** and IC **c** to, "Forget S-address to I-component bindings you didn't learn from me." They, in turn, notify their networks.
- Addresses are forgotten.
- Note that configuration would be required to differentiate between IC **c** and IC **a**. In this particular case, IC **c** needs to propagate the TCN into MVRP; IC **a** does not.

Simple issues

- What destination MAC address is used to get a MIRP PDU to all of the I-components that would be interested in its contents, but not necessarily all I-components?

  If information about only one I-SID is contained in the MIRP PDU, send it to the destination MAC address used for that I-SID's multicast data frames.

  If information about more than one I-SID is contained in the MIRP PDU, send it to a newly-defined "all I-components" group MAC address.

- What B-VLAN?

  In many cases, an appropriate B-VLAN is available.

  But, it would appear that in other cases, a management, or "all I-components" B-VLAN is required. This is the usual MAC address of an MRP application from the ...-20 block.

An architectural issue

- Where does the MIRP component go in the 802.1ah architecture?
- The PIP has a port to the upper layers (802.1ah clause 6.10, NOTE 1).

MIRP vs. MVRP

- MVRP works on 12-bit VLAN IDs

  The database that is altered and propagated is the Port VLAN information in the Filtering database.

- MIRP works exactly like MVRP, except that:

  It carries 24-bit I-Service IDs as its attributes, instead of 12-bit VLAN IDs.

  And, there is no I-SID database corresponding to the Port VLAN database operated upon by MVRP.

MIRP Draft 1.

- In the absence of an I-SID database corresponding to the Port-VLAN database, some work on the state machines will be required, because a Bridge then:

  Does not register any I-SIDs.

  Does not propagate static (or dynamic) entries in any database.

  Does need to propagate topology changes with **New** commands.

- In other words, MIRP draft 1 will cover only the **New** command.

MIRP and MVRP

- For the case of S-tagged Backbone Services, a form of MVRP will be defined.

  Signaling by MVRP allows signaling among I-components connected via VPLS/MPLS connections, instead of by Backbone Bridges.

  There is an outdated IETF draft suggesting that this be accomplished by an MVRP PDU carrying 4094 New commands, which is a frame approximately 1400 octets long, which is legal, but impractical.

MIRP PAR Scope

- This standard specifies protocols, procedures, and managed objects to support topology change signaling to alter the binding (held in an I-Component) of Customer addresses to Backbone addresses on a per-I-SID basis. This is accomplished by extending the use of the Multiple Registration Protocol (MRP).
- This is exactly what this presentation proposes for P802.1Qbe Draft 1.