

# PBB model enhancements

Supporting 802.1ah comment 176, 178, 181, 182, 186, 188

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## Provider Instance Port (*Comment #176*)

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Clauses 6.10 and 26.8/Figure 26-2 have different functional description of PIP

- ❑ 6.10: single clause 6.10 instance per PIP
- ❑ 26.8: multiple clause 6.10 instances per PIP; one per VIP (see slide 3)

Clause 6.15 functionality included also in clause 6.10

- ❑ duplication unnecessary in case of single clause 6.10 instance per PIP
- ❑ duplication non functional in case of multiple clause 6.10 instances per PIP
- ❑ delete duplicate functionality from clause 6.10 (see slide 4)

Clause 6.10 combines clause 6.9 functionality with MAC encapsulation

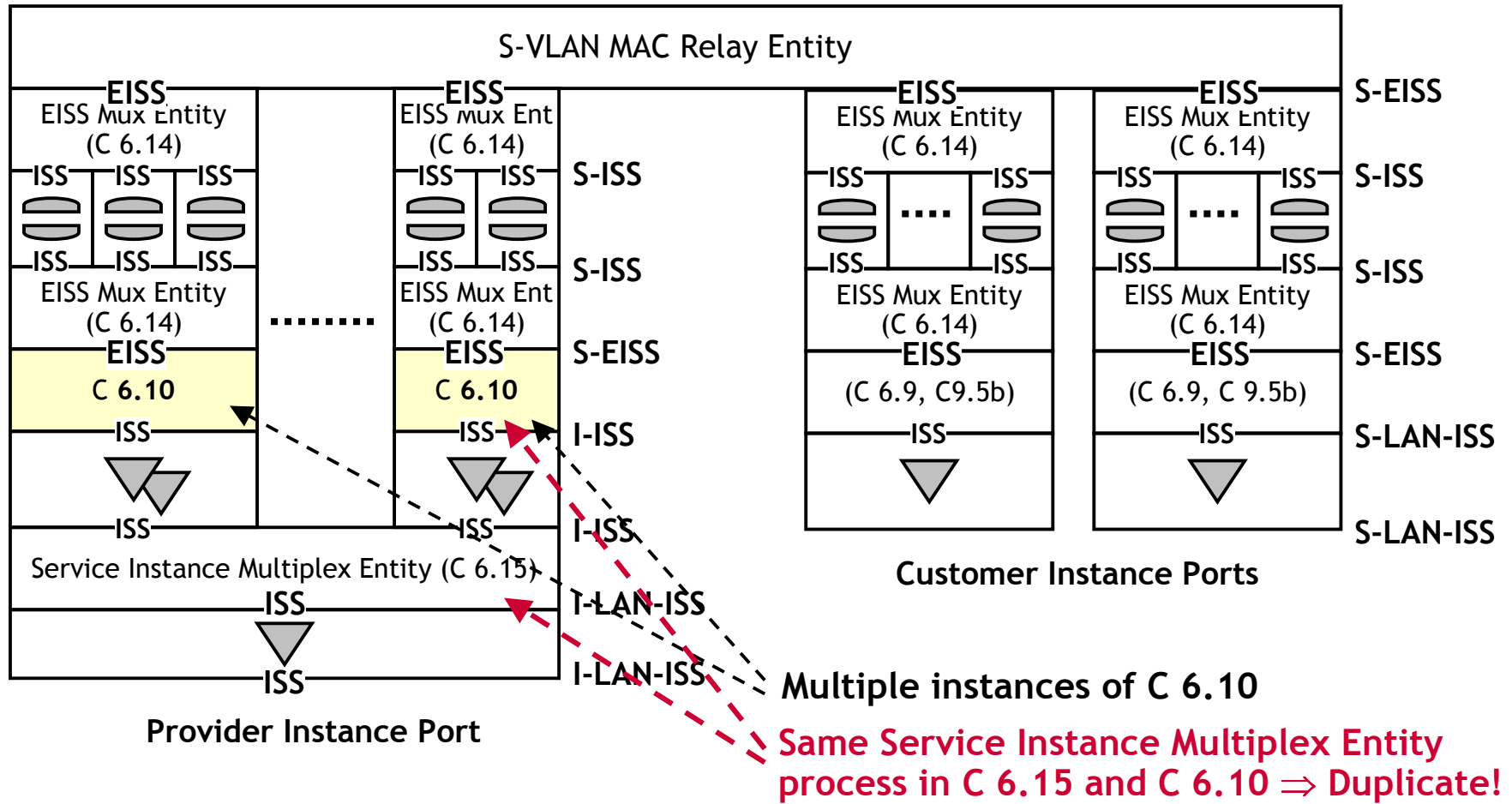
- ❑ duplication of specification unnecessary
- ❑ separate two independent functions (see slide 5)

802.1ah/D3.5 ignores clause 6.11/.1ad

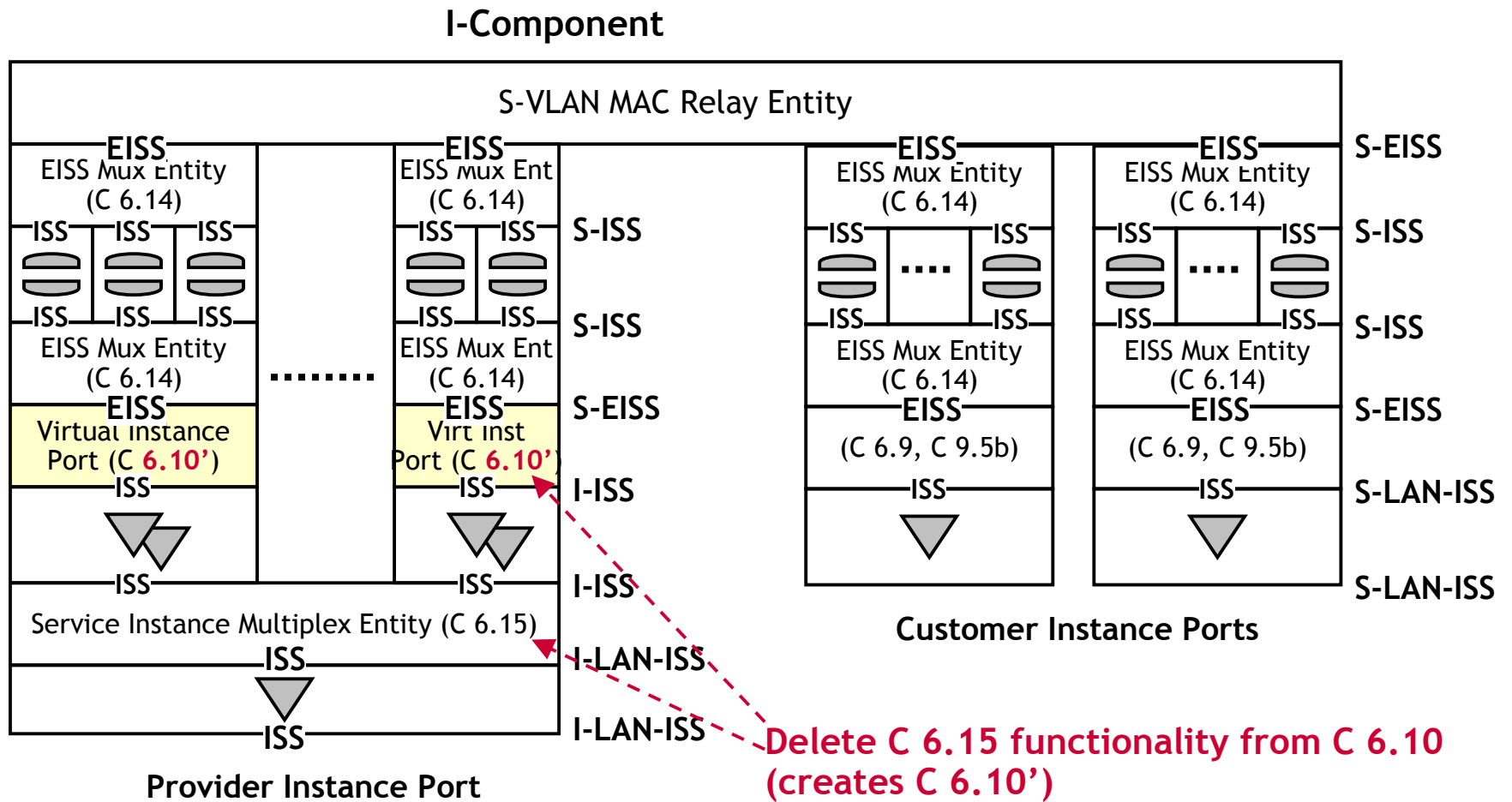
- ❑ enhancement necessary
- ❑ add support of clause 6.10 ISS by additional technologies (see slide 6)

# PIP Description C 26.8

## I-Component

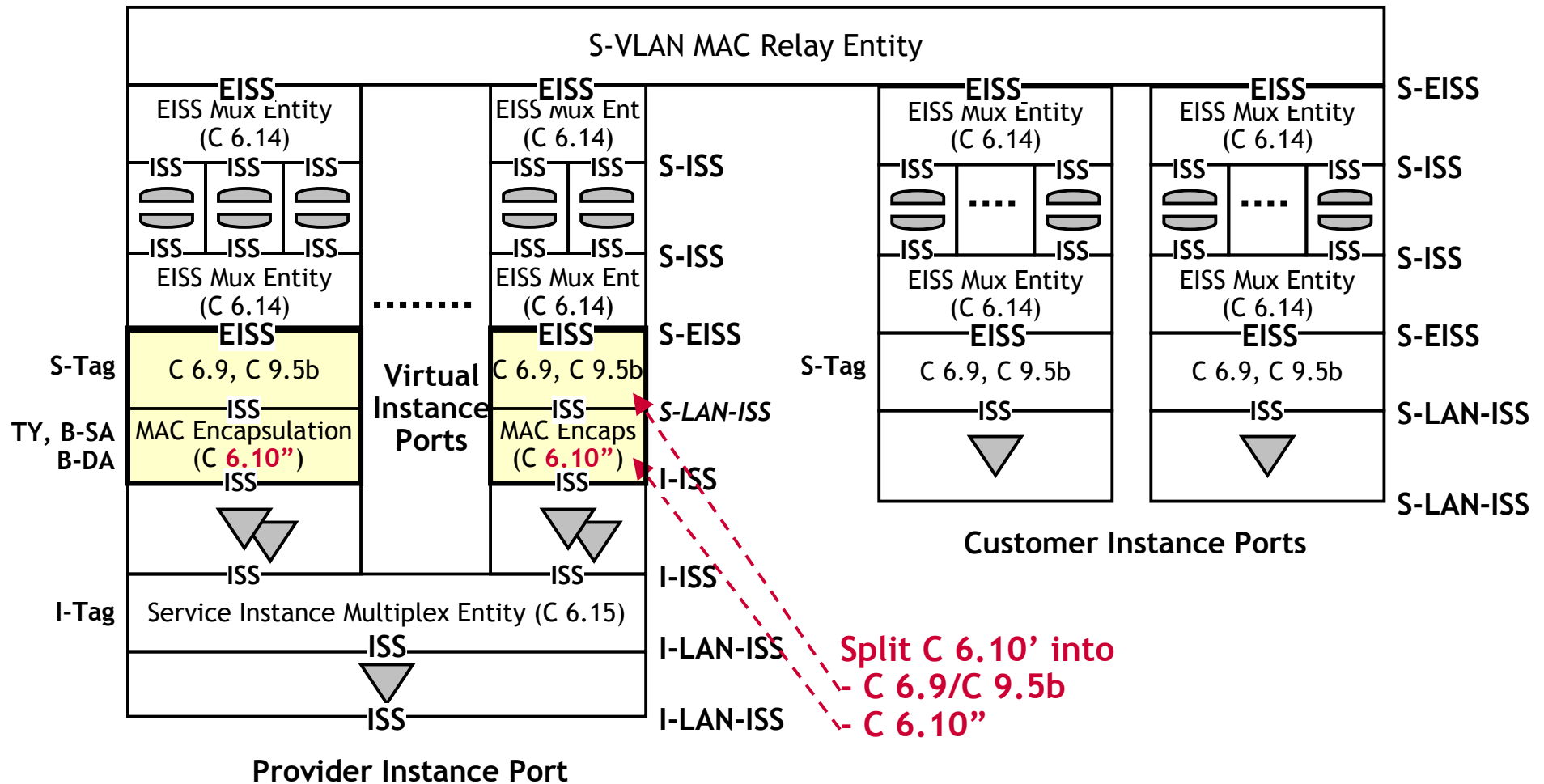


# Delete duplicated functionality from C 6.10 ( $\Rightarrow$ C 6.10')



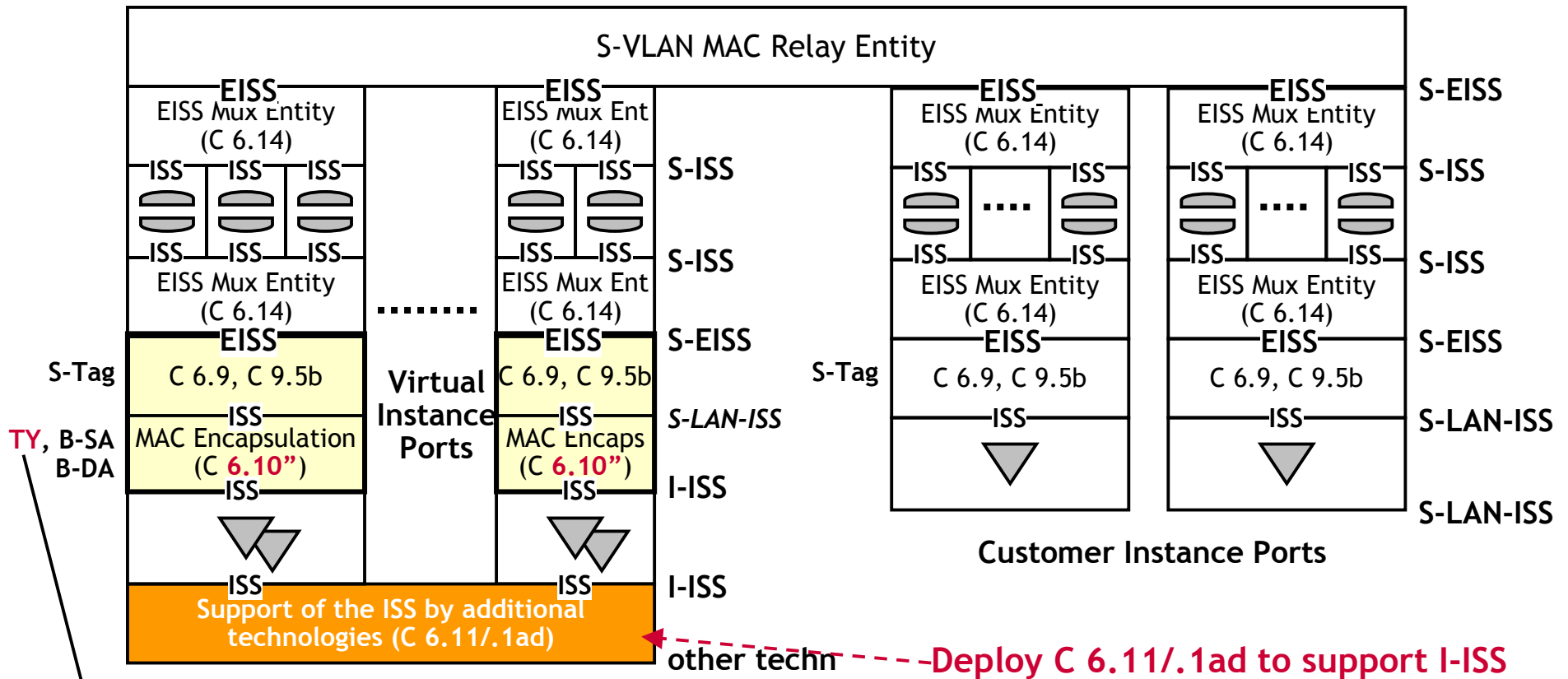
# Separate C 6.9 functionality from MAC Encapsulation in C 6.10 (⇒ C 6.10'')

## I-Component



# Support I-ISS by additional technologies (C 6.11/802.1ad) (comment #181, #182)

## I-Component



**TYPE field is mandatory when ISS supported by additional technologies**

## Customer Backbone Port (*Comment #178, #186*)

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Clause 26.8/Figure 26-2 does not present B-VLAN instances

Clause 26.8/Figure 26-2 does not present B-VLAN MEPs

- enhancement necessary (see slide 8)

Clause 6.11 includes clause 6.15 Srvc Instance Mux Entity functionality

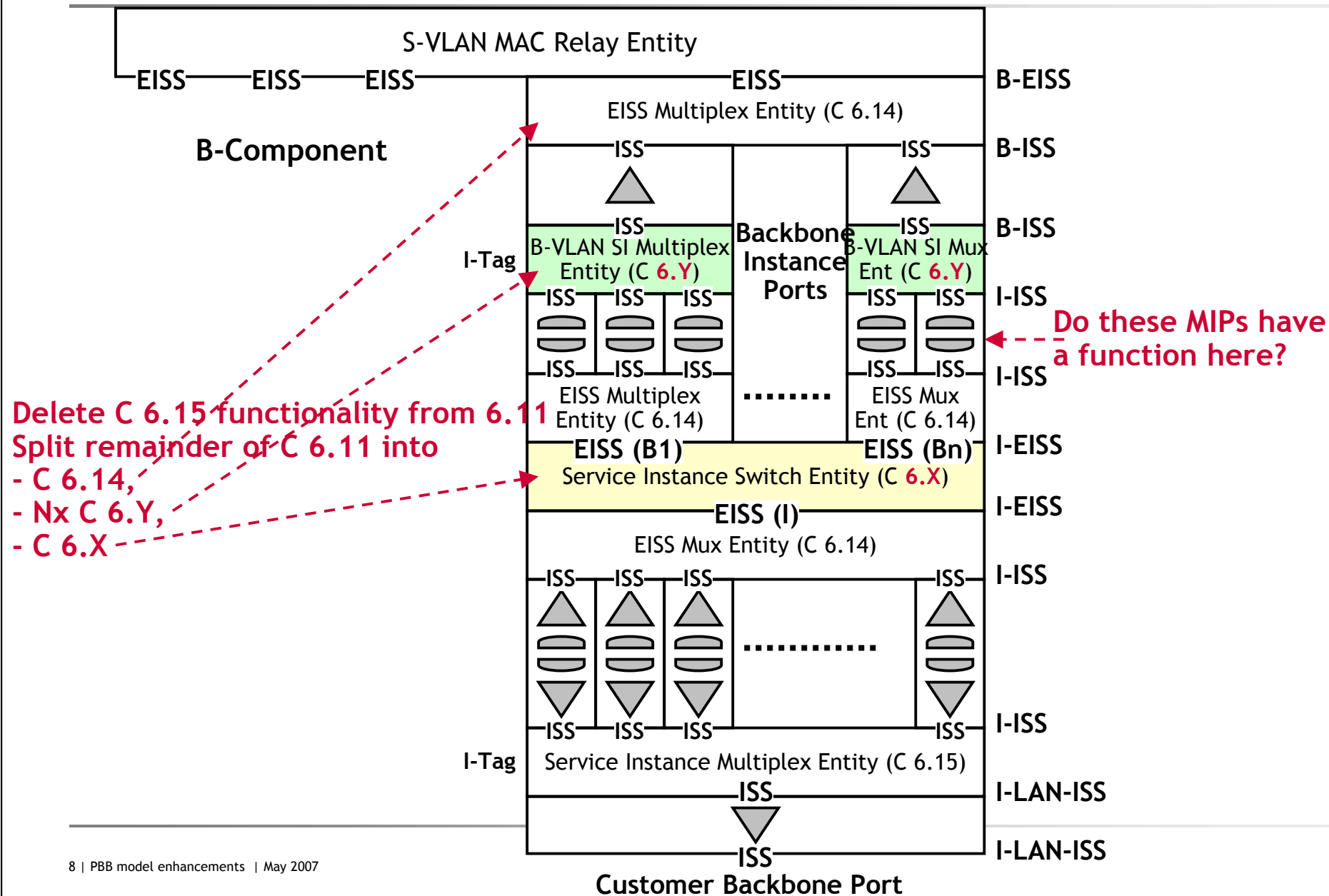
Clause 26.8/Figure 26-2 includes clause 6.11 and 2x clause 6.15

- in total three instances of clause 6.15 functionality specified in CBP
- one instance is sufficient
- enhancement appropriate (see slide 8)

Clause 6.11 includes PBB Service Instance switch functionality

- similar to C-VLAN Component MAC Relay functionality in clause 15.4/.1ad
- aggregates service instances into one or more B-VLAN instances
- consistency in 802.1Q specifications
  - describe PBB Service Instance switch function similar to C-VLAN Component MAC Relay function (see slide 8)

# Add B-VLAN Instances, delete duplicate functionality, depict Service Instance switch





## Service Instance Switch Entity (C 6.X)

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Connectivity similar to “C-VLAN Component MAC Relay” in 802.1ad

- point-to-point connectivity between CBP Port and zero or one Backbone Instance Port

## B-VLAN Service Instance Multiplex Entity (C 6.Y)

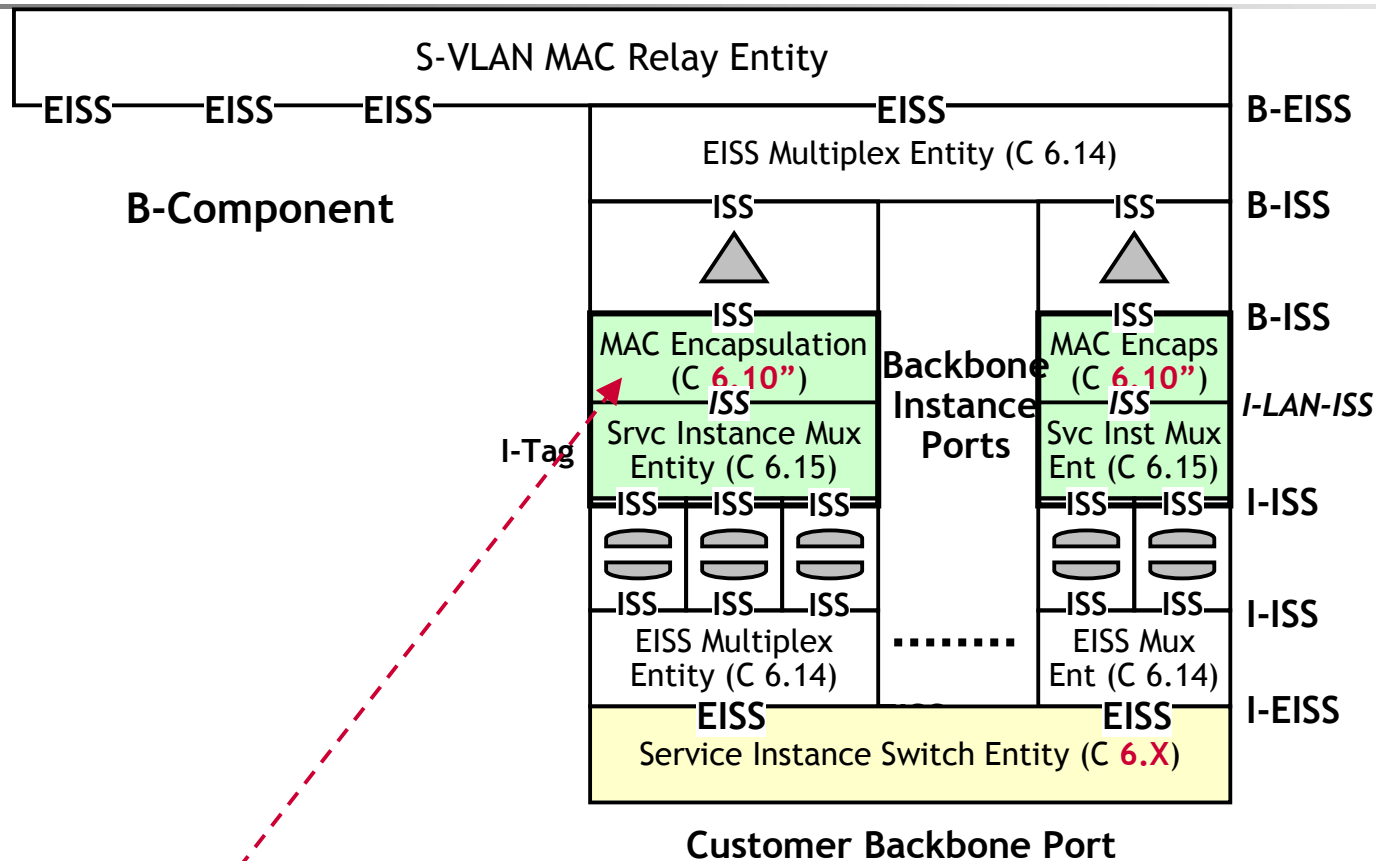
Clause 6.15 function with the following additions:

- ❑ all-group MAC address Translation
  - *all-group MAC address in I-LAN ⇔ I-SID group MAC address (OUI: 802.1ah, remainder: I-SID)*
- ❑ optional I-SID & Default Backbone Destination MAC address Translation table
  - port I-SID ⇔ backbone I-SID
  - port I-SID group MAC address ⇔ backbone I-SID group MAC address
- ❑ *Alternative: reduce dependency of I-SI with B-VLAN*
  - *backbone I-SID group MAC address (scope is B-VLAN) only*
  - *service instances deploy all-group MAC address and CFM-group MAC addresses (no changes to CFM!)*
  - *CBP Translates all-group and CFM-group MAC addresses into backbone I-SID group MAC address, and vice versa*
  - *seamless interoperability with networks supporting I-SIs with point-to-point trunks/tunnels, **backwards compatibility restored***

*(All)Group MAC address translation may be prevented*

- ❑ *Deploy clause 6.15 function unmodified*
- ❑ *Add extra Backbone MAC Encapsulation function*
  - *Same as present in PBB (minimum) (see slide 12)*

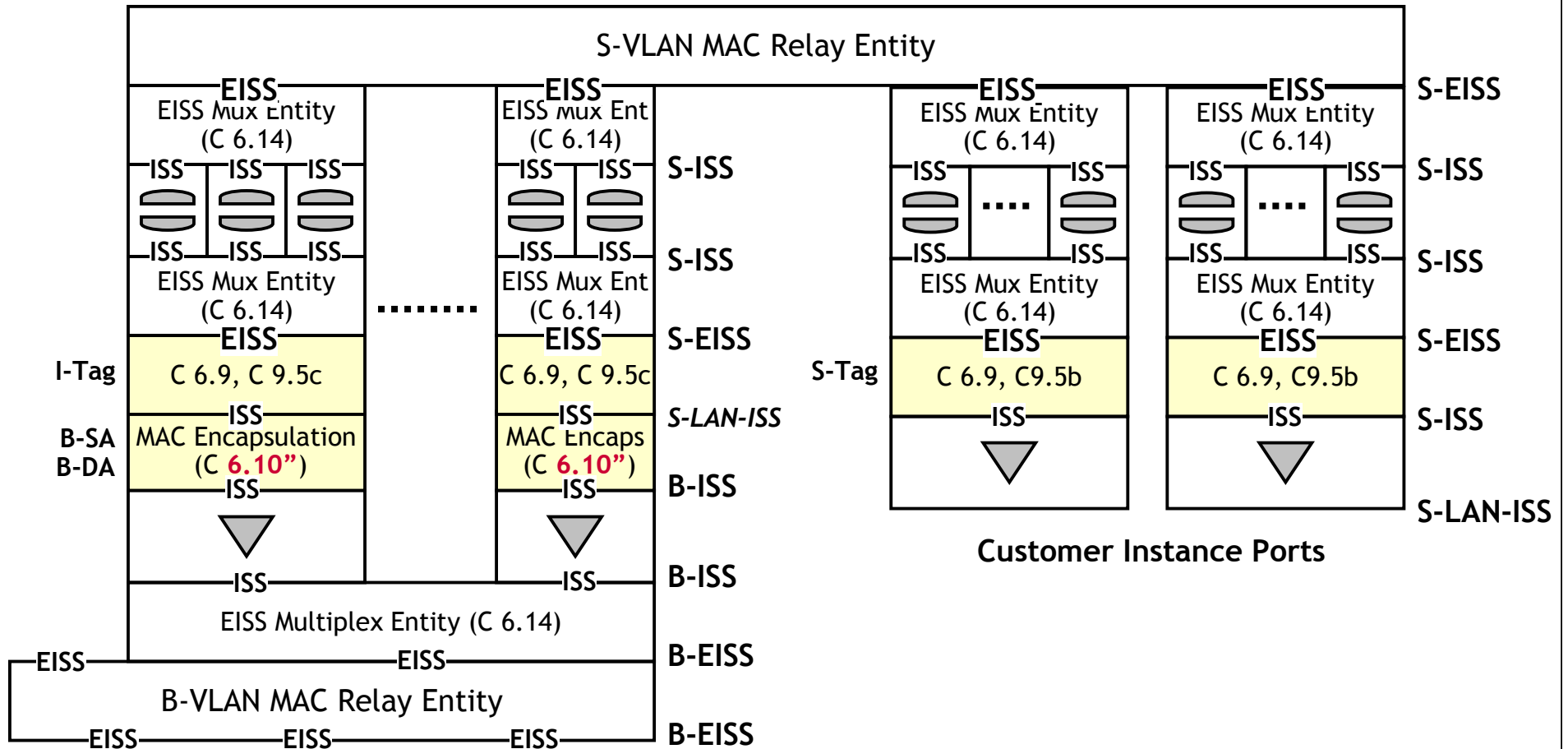
# Add MAC Encapsulation to Backbone VLAN (Comment #188)



- Additional MAC Encapsulation takes away Service Instance dependency with B-VLAN
- PBB SI can deploy all-group address; no need for <802.1ah.ISID> group MAC address in SI
- no need for MAC address Translation any longer; replaced by MAC encapsulation
- true “Backbone-MAC” address
- current B-MAC is a “Service-MAC” address

# PBB (minimum: S-VLAN, B-VLAN, no I-Service Instance)

BEB



# Integrated PIP/CBP

## Integrated PIP/CBP in IB-Component in BEB

