Introducing CFM in PBB

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CFM in Provider Backbone Bridge

- Draft 3.01 of 802.1ah does not specify CFM details
- Provider backbone networks expected to provide CFM
- Proposal to enhance 802.1ah with CFM specification
  - STEP 1: Identification of CFM entities in Peering and Hierarchical PBB Networks
  - STEP 2: Identification of CFM MEP and MIP locations
  - STEP 3: Locating MEP and MIP functions in PBB's I- and B-Components
  - STEP 4: Decompose PIP and CBP to prepare for CFM addition
  - STEP 5: Extending the CIP, PIP, CBP and PBP interface stacks with CFM shims
  - STEP 6: Reduced CFM in internal PIP/CBP in IB-BEB

- Proposal based on
  - ah-vissers-802.1-pb-pbb-models-1006-02
  - ah-vissers-802.1-impact-of-cfm-on-pbb-1106-01

Figure 26-1/802.1ah – Peer PBBN
S-VLAN, I-Service, B-VLAN and LAN Instances

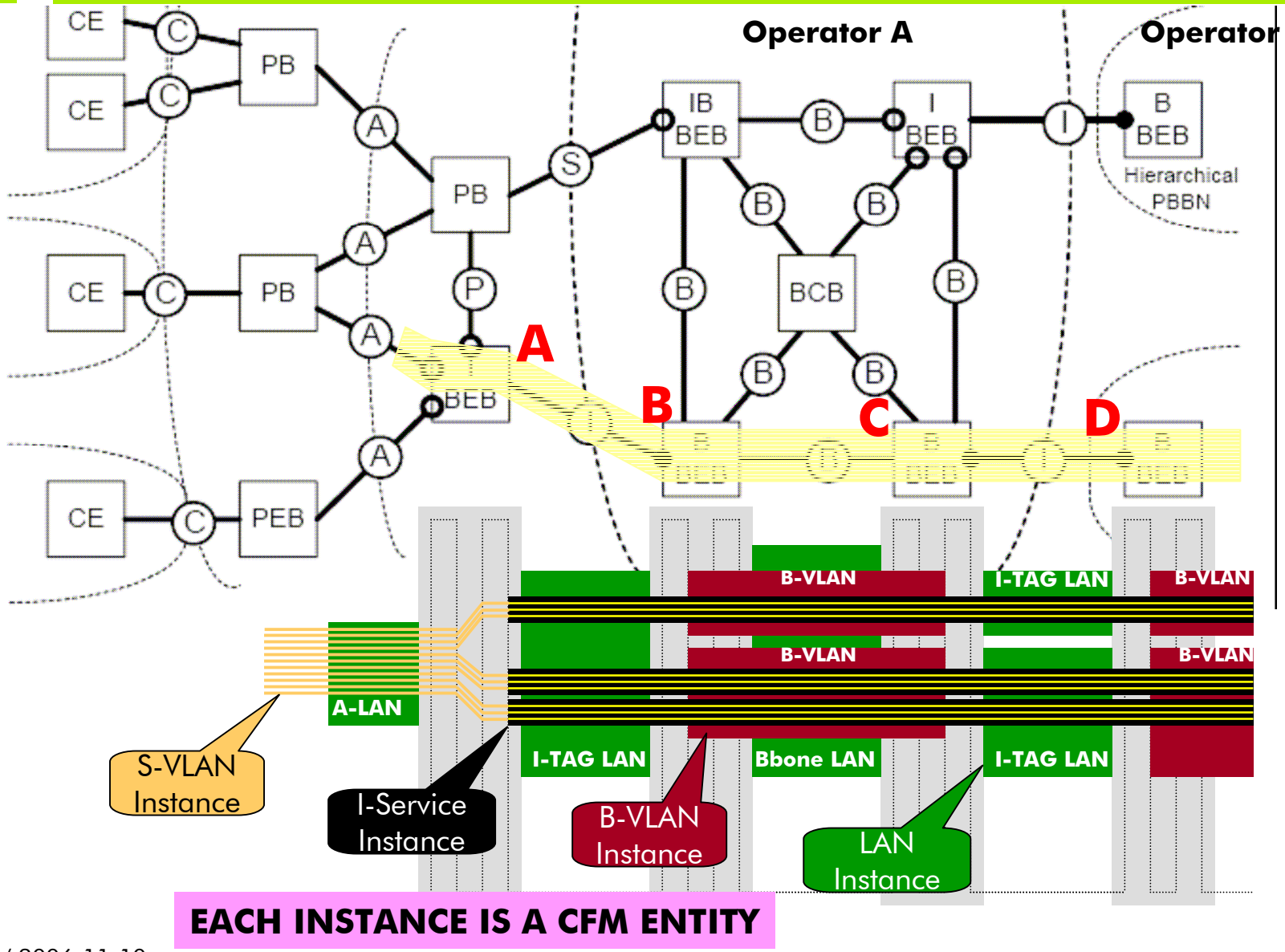


Figure 26-1/802.1ah – Peer PBBN Applying 802.1ag MEPs and MIPs

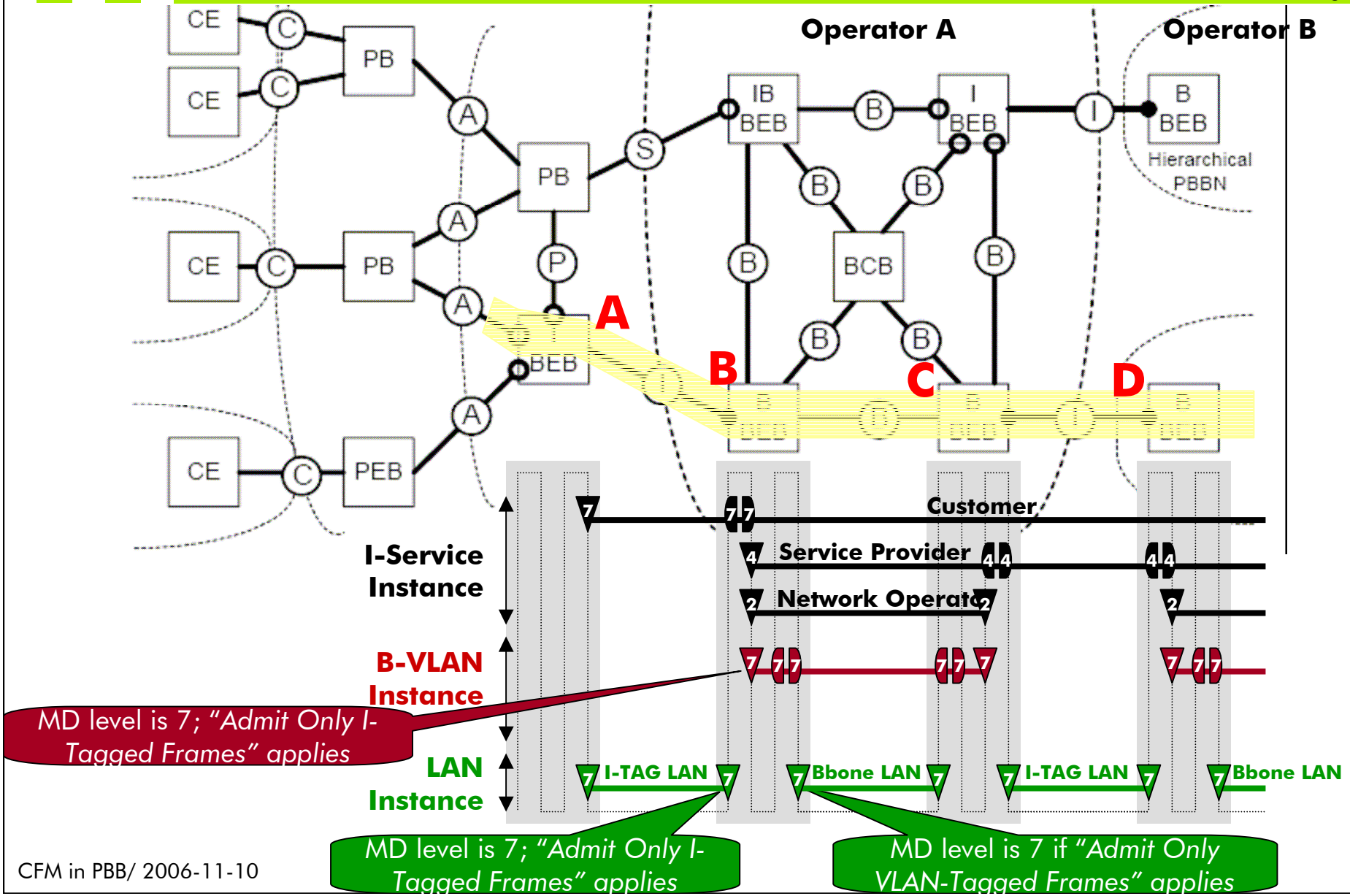


Figure 26-1/802.1ah – Hierachical PBBN
S-VLAN, I-Service, B-VLAN and LAN Instances

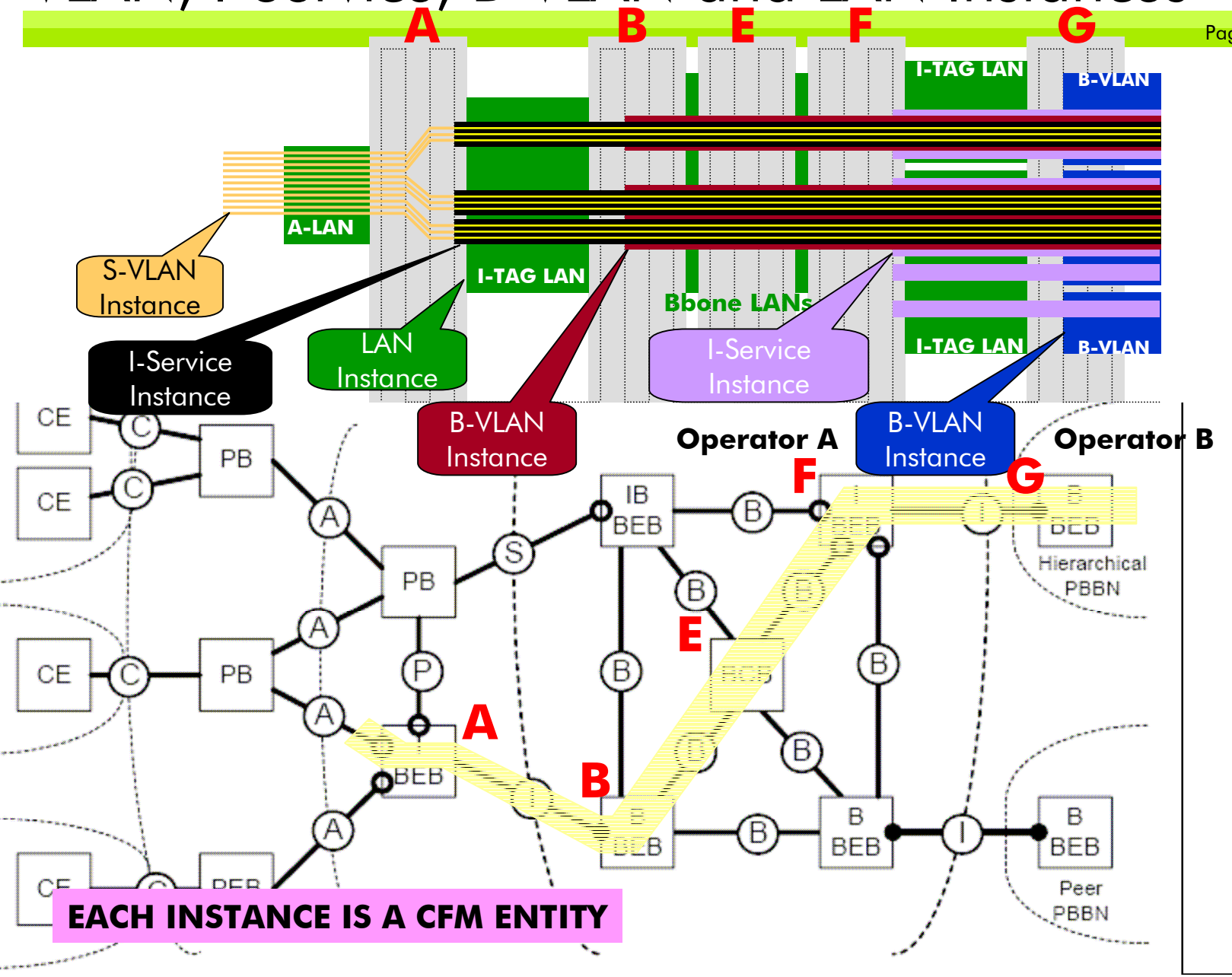
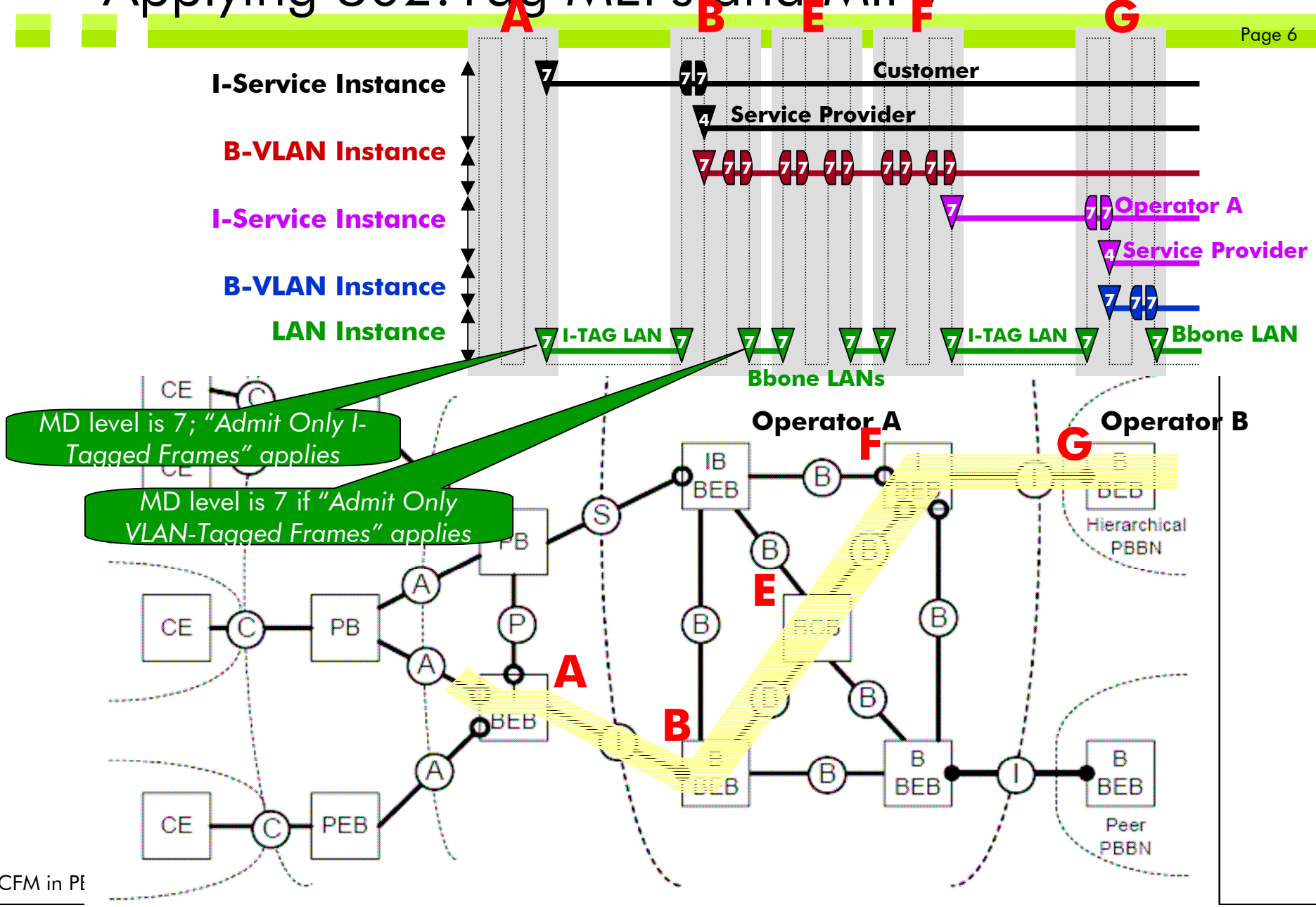
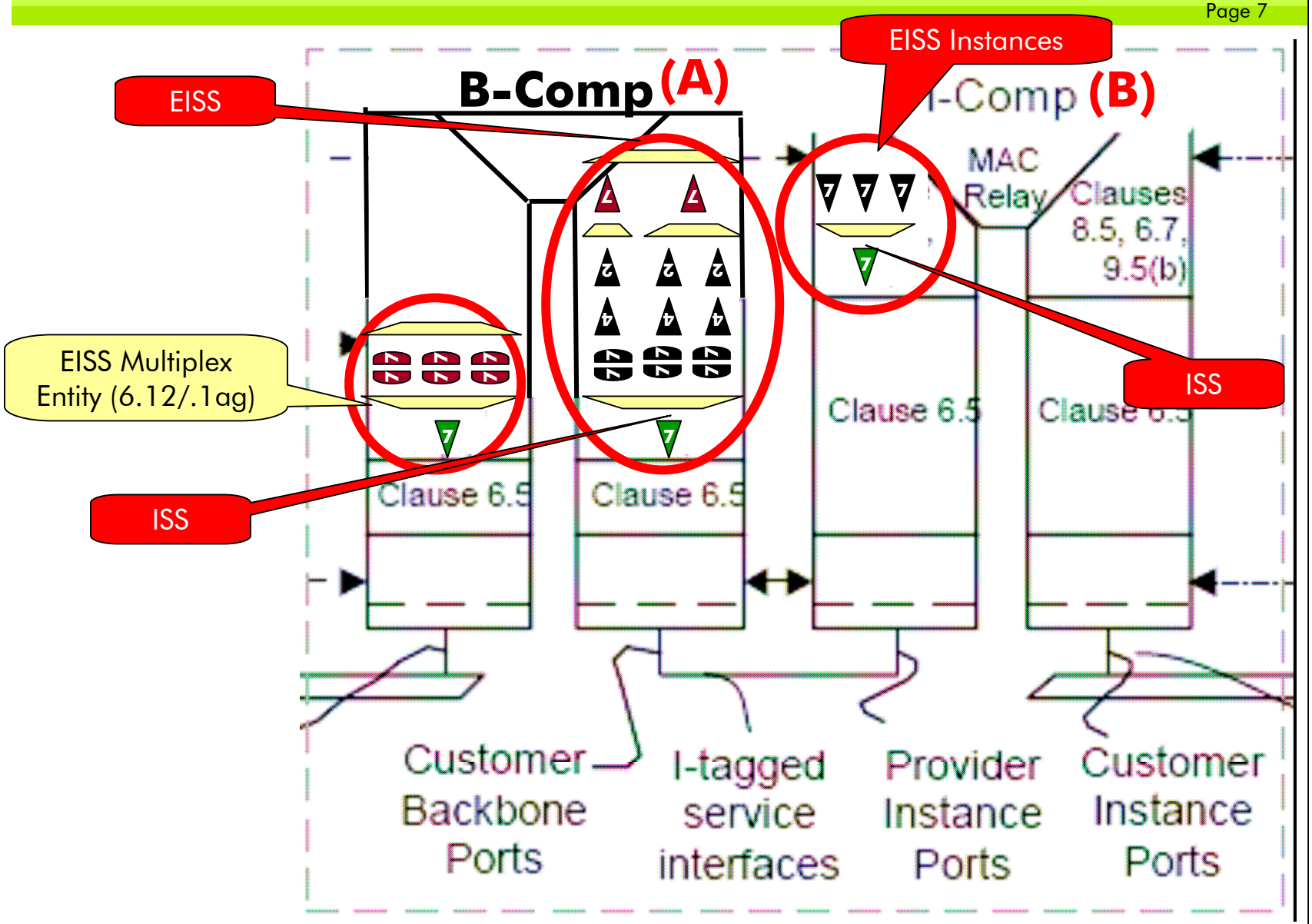


Figure 26-1/802.1ah – Hierarchical PBBN Applying 802.1ag MEPs and MIPs

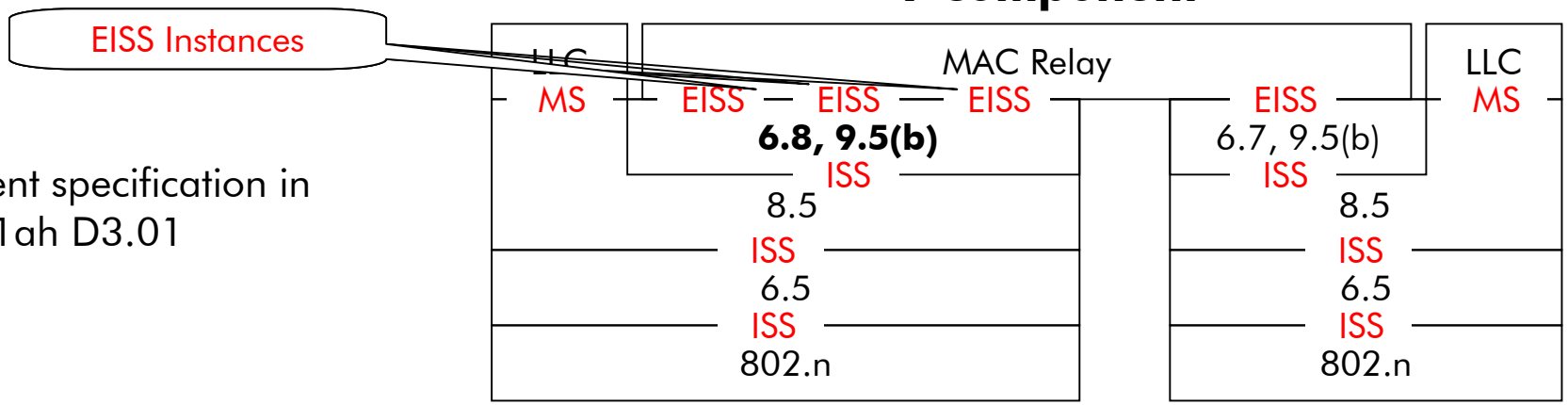


MEPs & MIPs in I-Comp & B-Comp bridge ports (Nodes A and B)



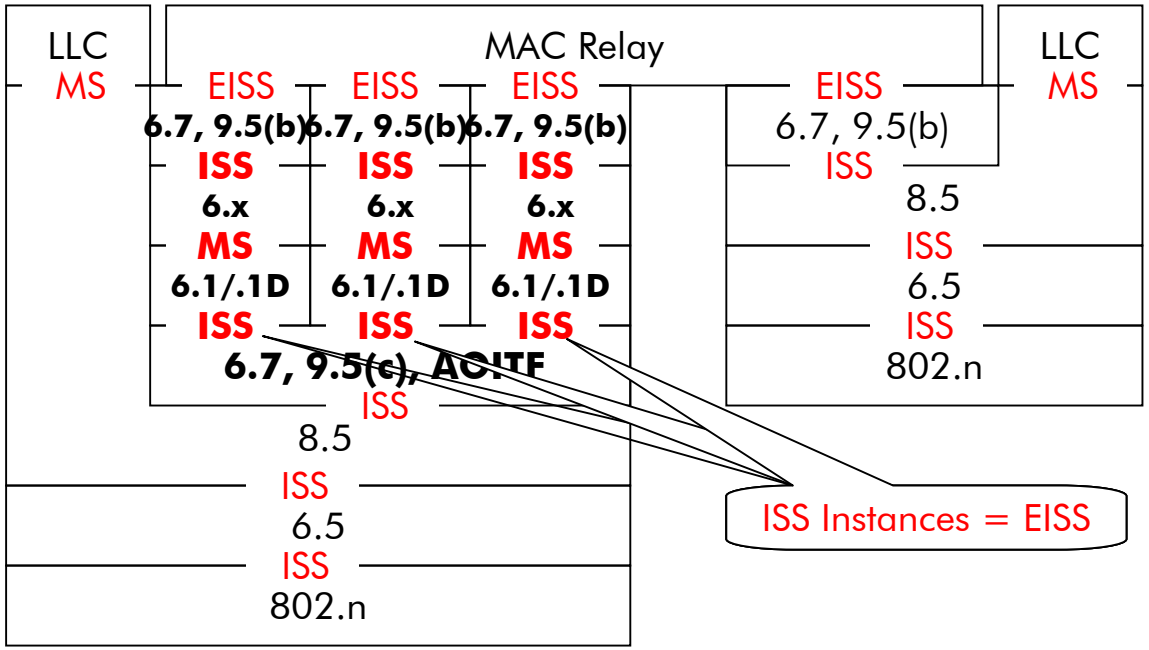
Decompose shim 6.8/802.1ah

Current specification in 802.1ah D3.01



shim 6.8 decomposed into:
- Nx shim 6.7, 9.5(b)
- Nx new shim 6.x "ISS⇔MS"
- Nx shim 6.1/.1D
- shim 6.7, 9.5(c) AOITF

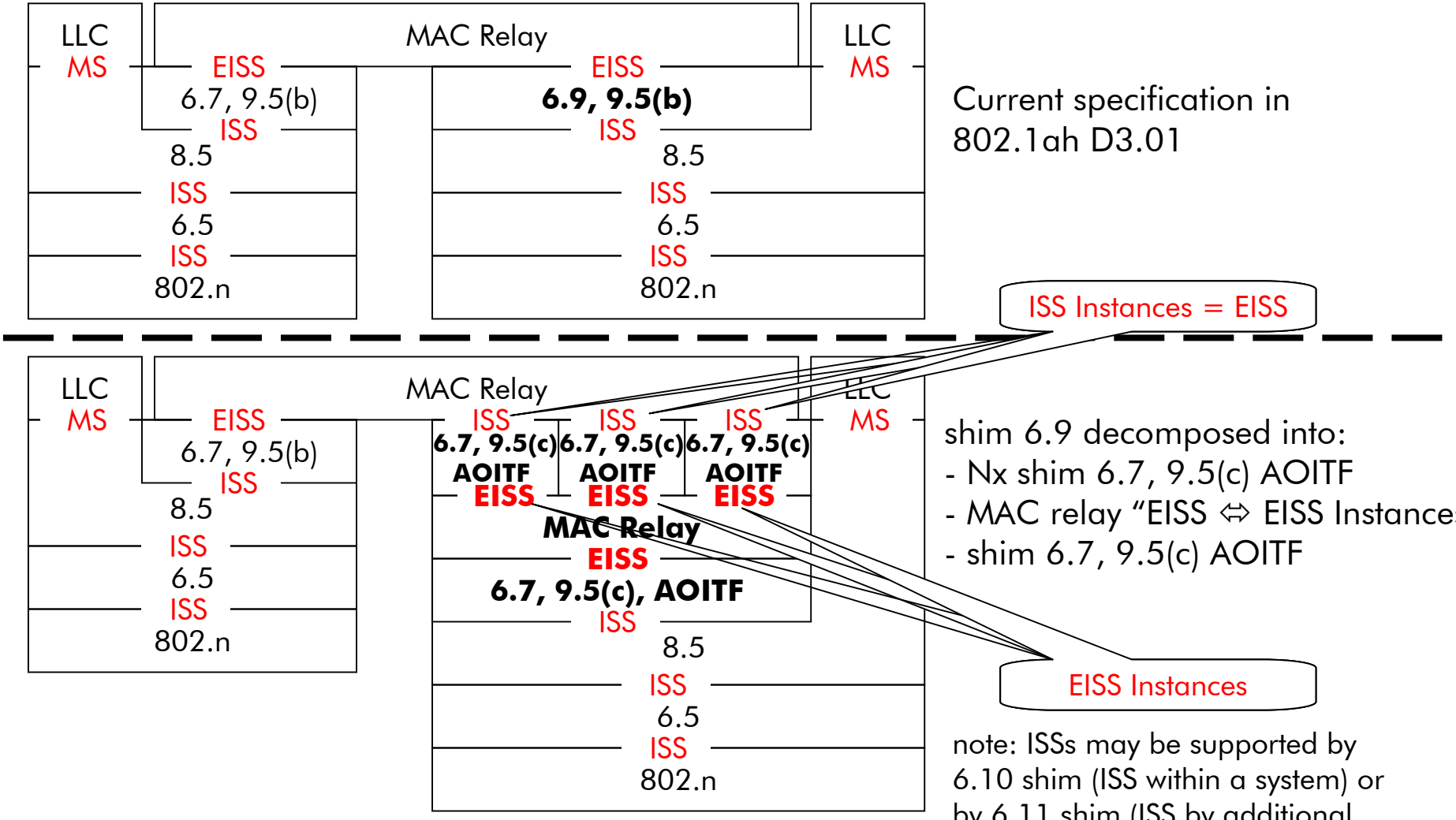
note: ISSs may be supported by 6.10 shim (ISS within a system) or by 6.11 shim (ISS by additional technologies)



AOITF: Admit Only I-Tagged Frames

Decompose shim 6.9/802.1ah

B-Component



Current specification in 802.1ah D3.01

shim 6.9 decomposed into:
- Nx shim 6.7, 9.5(c) AOITF
- MAC relay "EISS ⇔ EISS Instances"
- shim 6.7, 9.5(c) AOITF

note: ISSs may be supported by 6.10 shim (ISS within a system) or by 6.11 shim (ISS by additional technologies)

AOITF: Admit Only I-Tagged Frames

CFM interface stacks for CIP and PBP

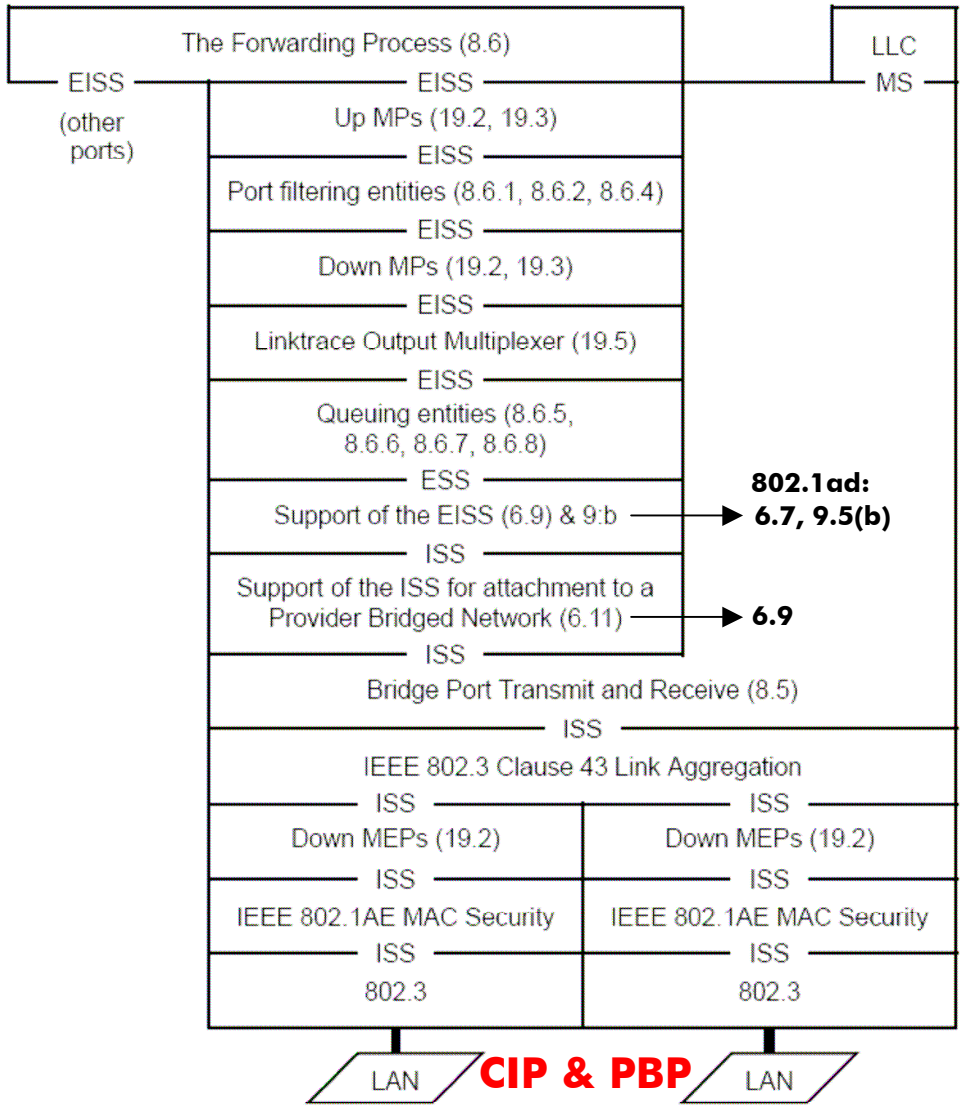
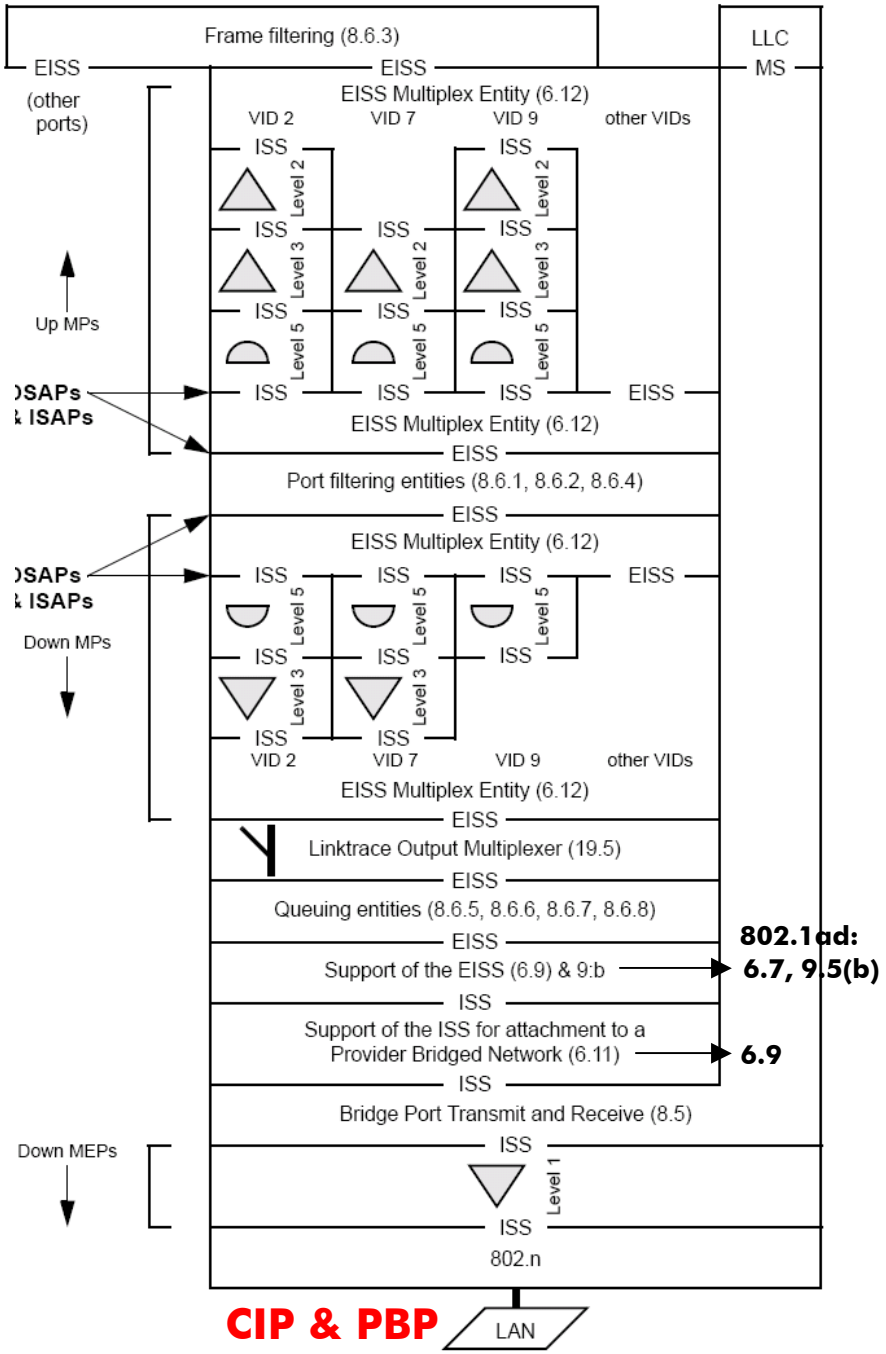
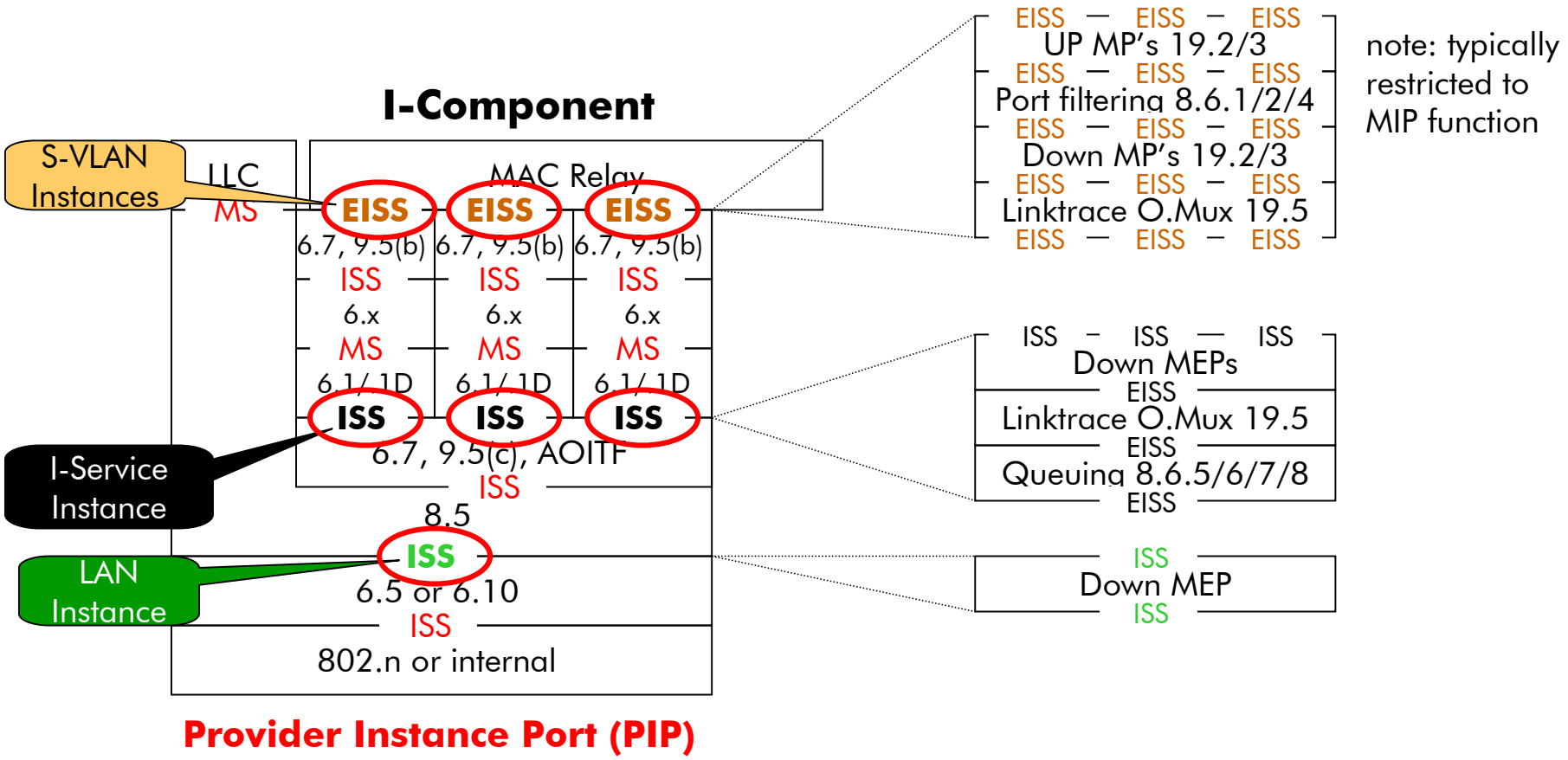


Figure 22-8—Maintenance Point placement relative to other standards



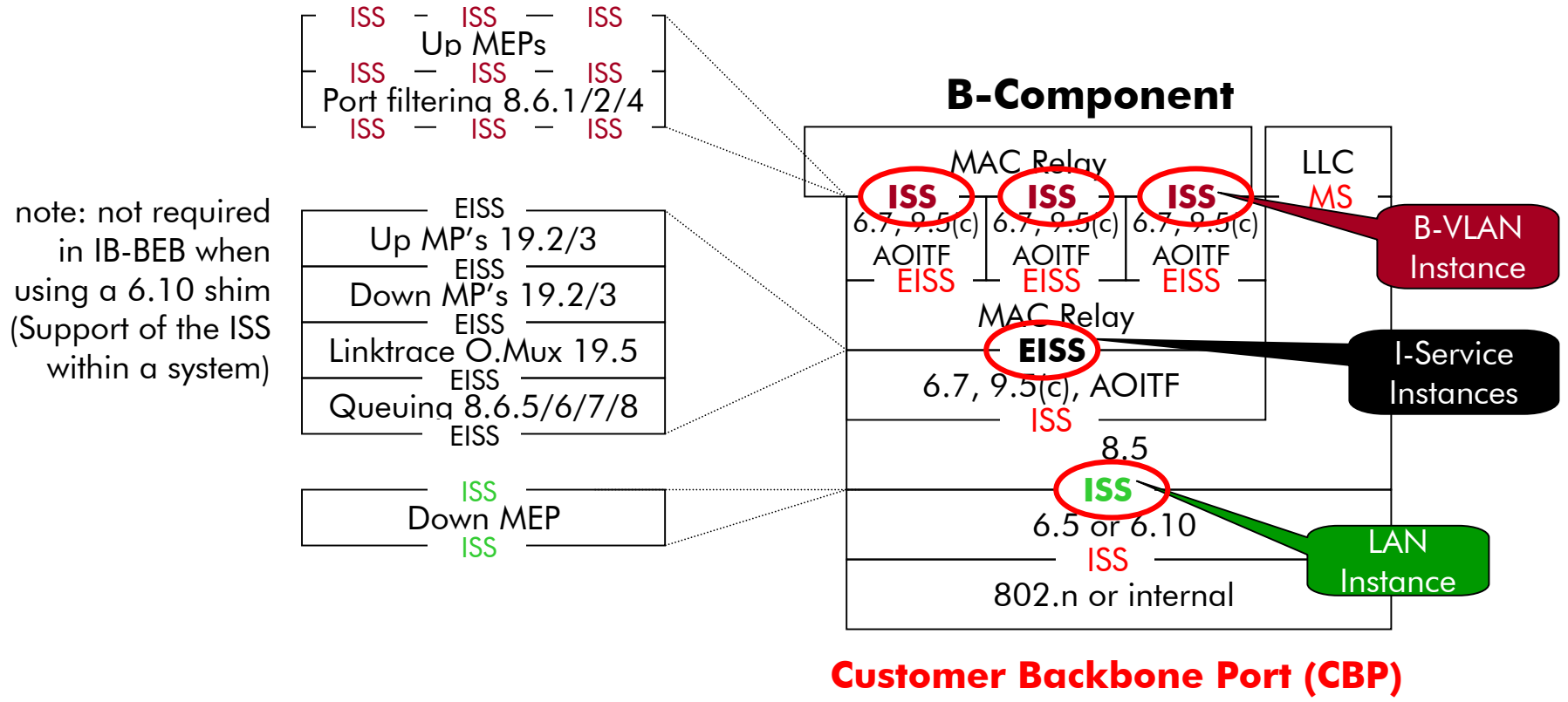
igure 22-4—More complete picture of Maintenance Point placement in a Bridge P

CFM locations and interface stack for Provider Instance Port (PIP)



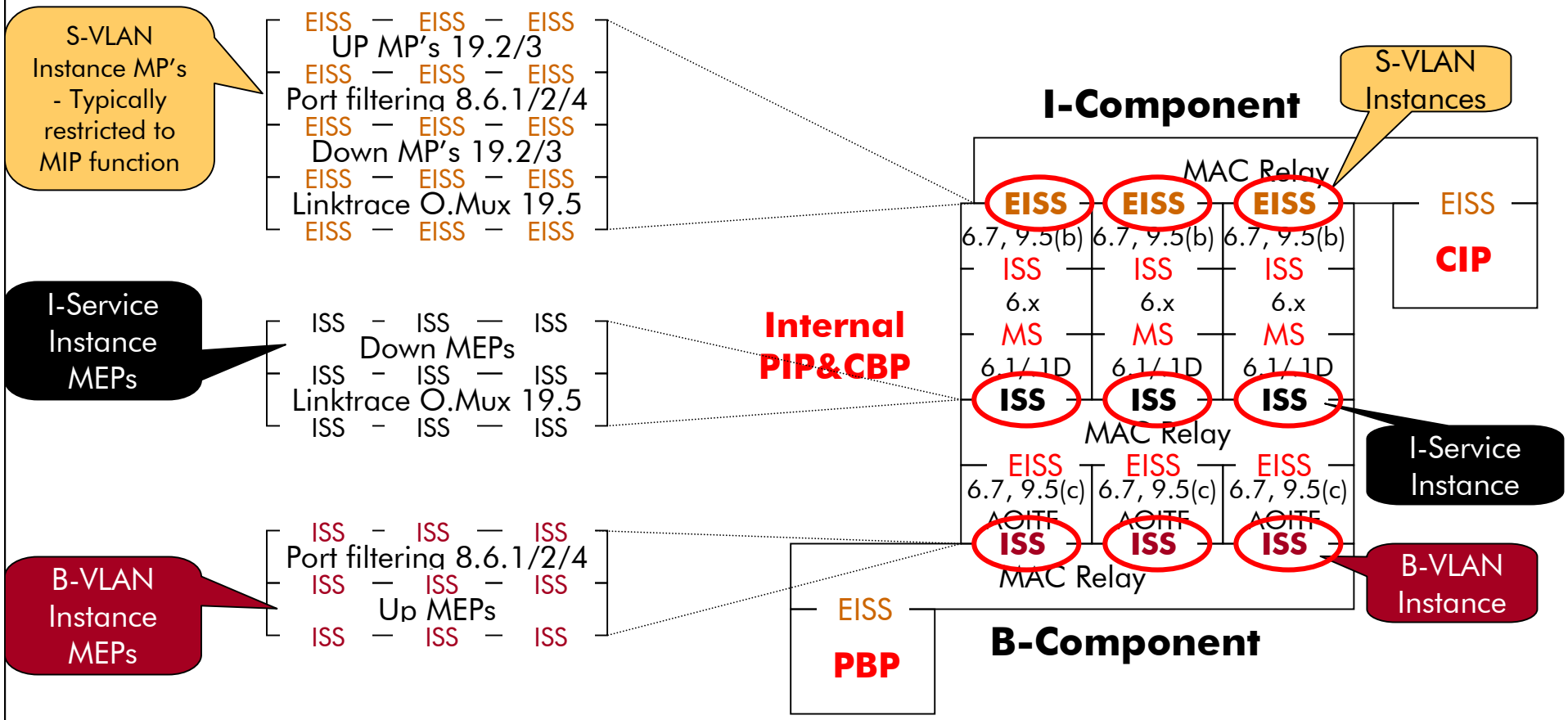
AOITF: Admit Only I-Tagged Frames

CFM locations and interface stack for Customer Backbone Port (CBP)

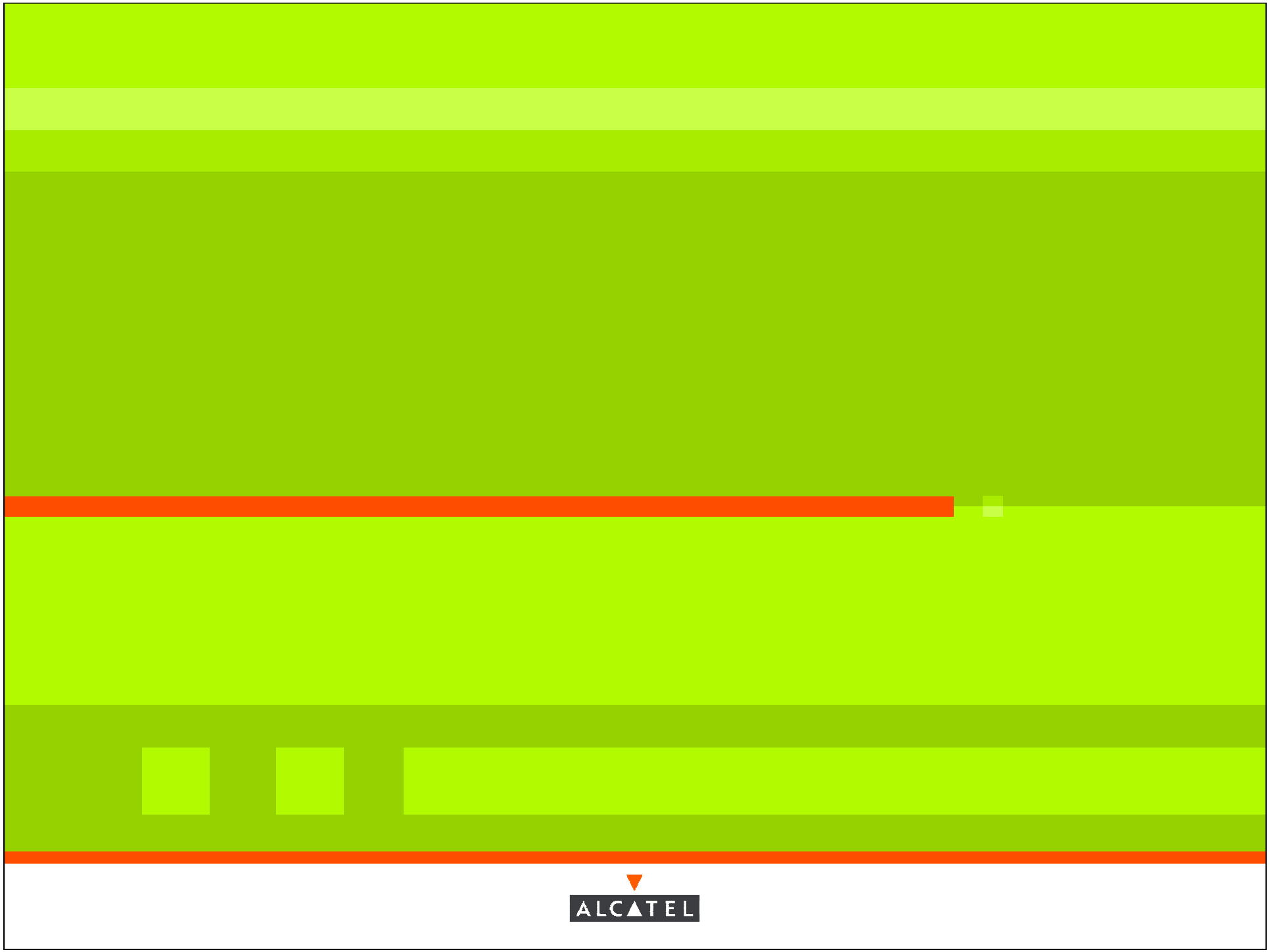


AOITF: Admit Only I-Tagged Frames

CFM reduction in internal PIP/CBP in IB-BEB



AOITF: Admit Only I-Tagged Frames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