

Reserved addresses for P802.1AEcg

EDEs – Two port 802.1Q, 802.1AE, 802.1X devices providing 'hop-specific' frame integrity and data confidentiality. 'Red side' port rx/tx unprotected, 'black side' protected by MACsec. Protected 'hop' can be TPMR to TPMR, Provider Bridge to Provider Bridge, Customer to Provider, Customer Bridge to Customer Bridge.

[.../docs2013/ae-seaman-edc-ppt-0913-v01.pdf](#)

[.../docs2013/ae-seaman-edc-0713-v02.pdf](#)

[.../docs2013/ae-seaman-macsec-hops-0626-v03.pdf](#)

[.../docs2015/ae-seaman-edc-interop-1015-v03.pdf](#)

Latest draft P802.1AEcg D0.6

Mick Seaman

10/27/2015

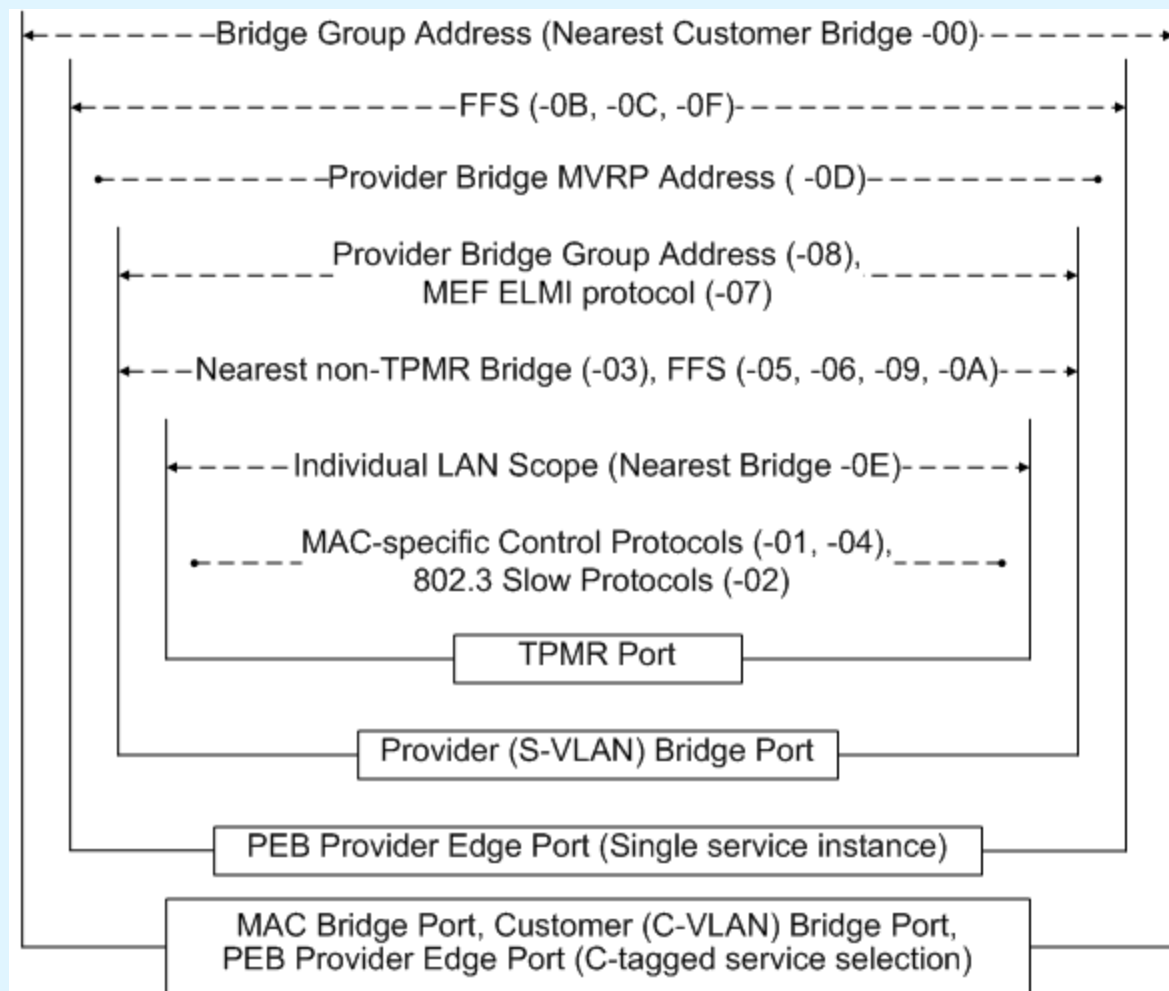
EDE specification objectives

- Maximal use of existing standards
- Minimal interference in unrelated issues
 - Could assemble an EDE out of existing bridges (except for address use by .1X)
- Integrated operation
 - Peering with existing spec MACsec bridges
- And transparent operation
 - Add to, and secure, existing bridged network

Why allocate Reserved Addresses

- EAPOL frames (carrying EAP+MKA) currently use Reserved Addresses
- Prevents accidental/undesirable creation of multi-hop MACsec tunnels, blinding peers along path
- EDE 'drop in' requirement, don't rely on rest of network to prevent undesirable behavior
- Why now – have to produce .1AEcg draft with address properties – limited choice of candidates so 'allocate later' not effective

Reserved address use today



EDE-CC PEP addressing choices

- New standard group address (called 'A1' here)
 - Not Reserved Address, PEBs need to forward
 - Changing PEBs to forward existing address impractical
 - Configuring bridges in Customer Network to filter would help prevent misconfiguration, though not essential
- One PEP might secure mgt connectivity to PEB i/f
 - Would require explicit PEB support, -00 address suitable
 - Specify -07 (ELMI) forwarding by EDE network components
- Allow configuration (A1 default)

EDE-CS PEP addressing choices

- Nearest Customer Bridge address (-00)
 - Interoperates with other EDE-CSs (x. single service)
 - Interoperates with MACsec Customer Bridges attached to untagged PBN port i/f's or single service instance
- EDE-CC PEP Address ('A1')
 - Interoperates with EDE-CCs (single VLAN/service)

Address requirements – EDE-SS's

- New allocation (-0B)
 - Needs to pass through Provider Bridges
 - Needs to be filtered by C-VLAN components/Bridges

EDE-T PAE addressing choices

- .1X PAE Address (-03, aka nearest non-TPMR), or Provider Bridge Group Address (-08)
 - ✓ Interoperate with MACsec Provider Bridge Ports
 - × Interfere with LLDP use between non-TPMRs/PB's
- Individual LAN Scope group address (-0E)
 - ✓ Does not interfere with non-TPMR use
 - ✓ Interoperate with PEB port for i/f access protection
 - × EDE-T's can't operate over TPMR media converters
- New allocation (-0A)
 - ✓ Avoids above issues, select as default
- Allow configuration (-03, -08, -0E, or -0A default)

Reserved addresses with EDEs

