EVPN OAM
Requirements and Framework
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Goals of the Draft

- Provide requirements and a reference framework for EVPN (RFC 7432) and PBB-EVPN (RFC 7623) OAM.

- Leverages existing concepts and elements including those from RFCs 6136 and 8029 and
  - IEEE Std 802.1Q Connectivity Fault Management
  - ITU-T Y.1731 "OAM functions and mechanisms for Ethernet-based networks"

EVPN OAM Framework

Layering
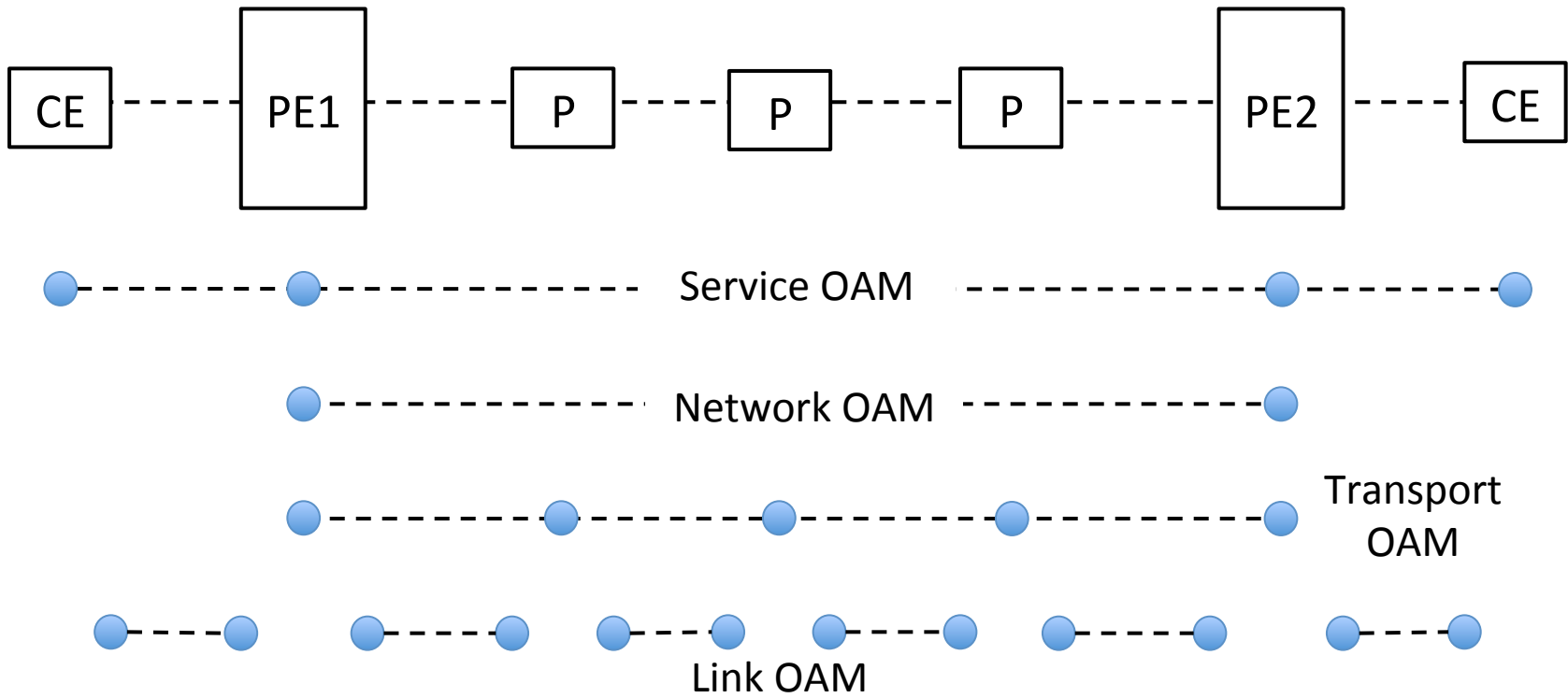
EVPN OAM Framework

- Link OAM
  - Depends on link technology
    Ethernet could use IEEE Std 802.3 Clause 57

- Transport OAM
  - Depend on transport technology
  - Mechanisms can include the following as appropriate
    - BFD
    - MPLS OAM
    - ICMP

EVPN OAM Framework

- Network OAM - Visible to the PE nodes only
  - MUST be able to check data plane and verify data plane against control plane:
    - MP2P tunnels supporting unicast
    - MP2P or P2MP tunnels supporting BUM
    - Split Horizon filtering
    - DF filtering
  - MUST support in-band management with the same entropy characteristics as data
  - SHOULD support both pro-active and on-demand

EVPN OAM Framework

- Service OAM
  - CFM for Ethernet service
  - Visible to CEs and PEs
  - PEs MUST support MIP functions, SHOULD support MEP functions

- Inter-working
  - Between domains
  - Between layers

EVPN OAM Requirements

Fault Management

- Fault Detection
  - In-band per-flow, representative path, all paths
    - Monitoring of all ECMP paths not a requirement
  - Forward and Reverse Defect Indication
- Connectivity Verification
  - Variable length to test MTU
- Fault Isolation

EVPN OAM Requirements

Performance Management

- SHOULDs
  - Packet Loss, Packet Delay

- MAY
  - Jitter

EVPN OAM Requirements

Security Considerations

- MUST provide
  - Protection against denial of service due to OAM messages
  - Ability to authenticate communicating endpoints
  - Prevention of OAM message leakage outside the EVPN network

History, Next Step

- Was previously draft-salam-l2vpn-bess-evpn-oam-req-framwk-02

- Call for BESS WG Acceptance of this draft.

END

EVPN OAM
REQUIREMENTS AND FRAMEWORK