



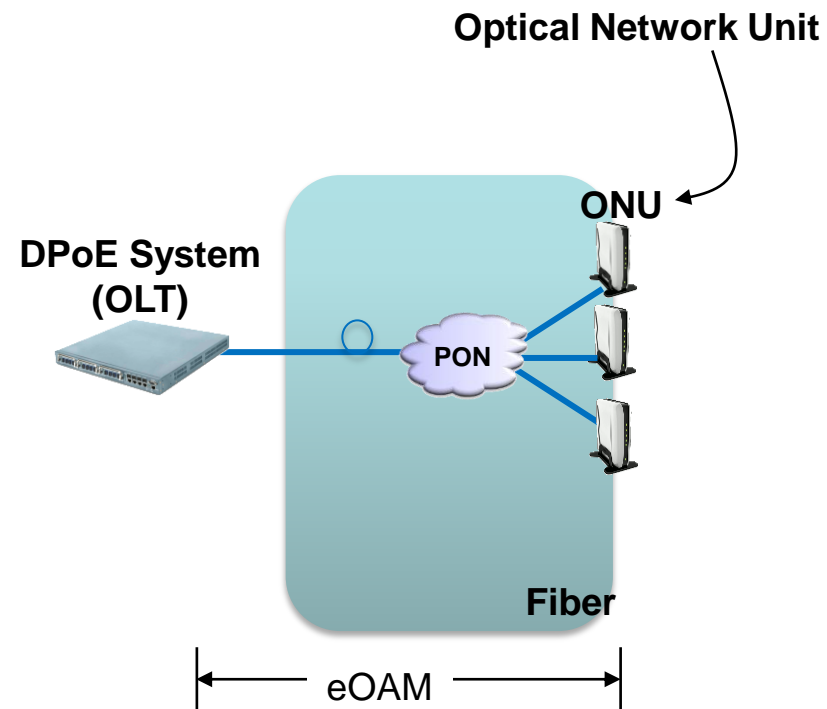
EPoC :: Management of CNU from OLT (a.k.a. EPoC Use Case)

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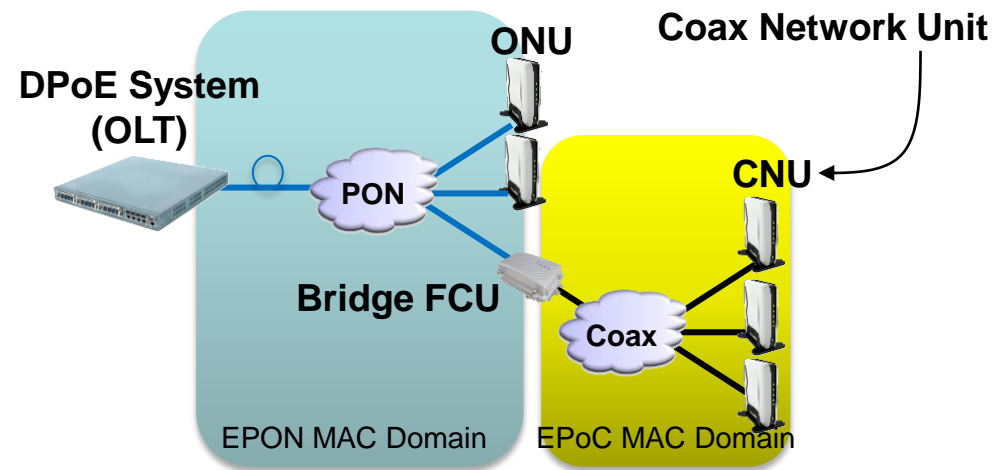
ONU Management in EPON

- ❑ In networks based on EPON technology, the OLT configures and manages ONUs
- ❑ Configuration and management messages between OLT and ONU use IEEE 802.3 Clause 57 OAM messages (OAMPDUs)
- ❑ The Organization Specific OAMPDU is typically used to provide specific configuration of ONUs



CNU Management in EPoC

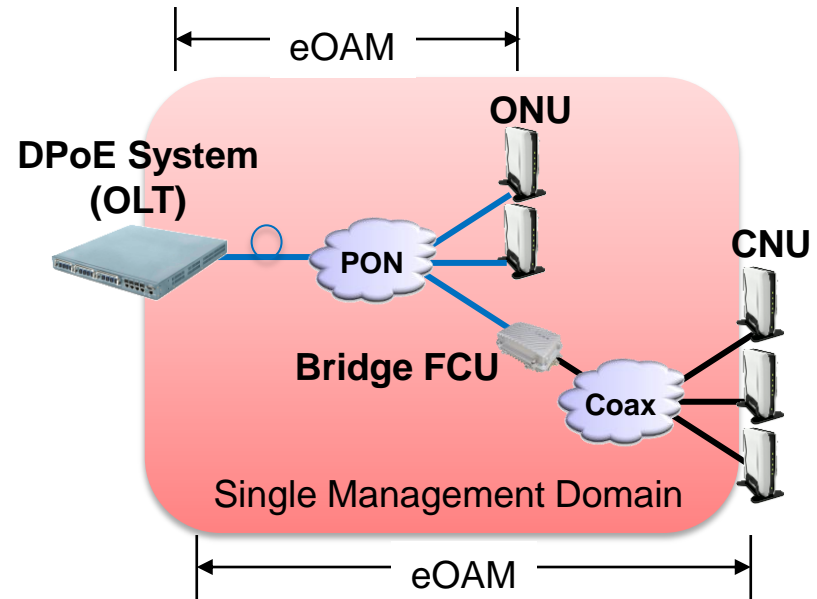
- ❑ In networks using EPON and EPoC technology, a Fiber Coax Unit (FCU) separates the EPON (fiber) domain from the EPoC (coax) domain
- ❑ OLT remains the central management point, configuring both ONUs and CNUs



Two MAC Domains with Bridge FCU

CNU Management in EPoC

- ❑ In the special case of Bridge FCU, two Layer 2 MAC domains exist between OLT and CNU
- ❑ However, all ONUs and CNUs in the network are configured and managed by the OLT using OAMPDUs
- ❑ Clause 57 PDUs are “link local”, so Bridge FCU is not allowed to forward OAMPDUs



❑ Tunneling

- Create a specific branch/leaf container to tunnel the OAMPDU through the EPON network
 - OLT creates the OAMPDU for CNU, inserts it in “tunnel” container and transmits to FCU
 - FCU extracts the OAMPDU destined for CNU, then forwards OAMPDU to CNUs
- Creates two-step process with additional overhead

❑ Unicast OAMPDU

- Allow for unicast frame to carry payload of normal OAMPDU
- OLT directly addresses a CNU by using CNU MAC address as DA in frame
- FCU forwards like normal Ethernet frame
- Provides consistent processing in OLT for both ONUs and CNUs

1. Allow OAMPDU payload to be transmitted using unicast Ethernet frame, and/or
2. Proposed P1904.2 UMT protocol provides this capability



Thank you!

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