STP Application of ICCP

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Use Case

- DSLAMs running STP are geographically scattered.
- These DSLAMs need to access the L2VPN with high availability. The PEs may deploy ICCP.
- This draft talks about how to support STP application in ICCP.
Virtual Root Bridge

- Access ports from different PEs.
- Pretending to be ports from a single ‘Virtual Root Bridge’.
Virtual Root Bridge

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• Pretending to be ports from a single ‘Virtual Root Bridge’.

port1

port2
STP Application TLVs

- 3.1. STP Connect TLV
- 3.2. STP Disconnect TLV
  - 3.2.1. STP Disconnect Cause TLV
- 3.3. STP Config TLVs
  - 3.3.1. STP System Config
  - 3.3.2. STP Topology Changed Instances
  - 3.3.3. STP CIST Root Time
  - 3.3.4. STP MSTI Root Time
  - 3.3.5. STP Region Name
  - 3.3.6. STP Revision Level
  - 3.3.7. STP Instance Priority
  - 3.3.8. STP Configuration Digest
- 3.4. STP Synchronization Request TLV
- 3.5. STP Synchronization Data TLV
STP System Config: MAC and ROID

• MAC: The MAC of the root
  – Elect the minimum as the BridgIdentifie of the virtual root bridge

• ROID
  – Identify the RO.
  – As specified in [ICCP] Section 6.1.3.
STP Topology Changed Instances

• InstanceID List
  – To identify those instances whose topologies are changed.

• MAC address flushing
  – When the “TC” TLV is received, the peer SHOULD flush the MAC addresses related to those instances.
Example: topology changes

• The partition point changes for some instances.
• This change MUST be sync up between the two ports.
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Next Steps

• Incorporate comments
• Call for WG adoption
Thanks!