Multi-chassis PON Protection in MPLS

draft-jiang-pwe3-mc-pon-00

Yuanlong Jiang, Yong Luo
Backgrounds

- Seamless MPLS
  - MPLS, as a multi-service transport technology, is pushing further and further towards network edges

- MPLS with PON Access
  - More and more PON equipments (OLT and even ONU) are provided with MPLS functionalities

- MPLS + PON, ideal for small cell backhaul
  - Saving chunk fibers
  - High bandwidth
  - And its low TCO
Type B protection scenario

Most faults are found in fiber cuts between splitter and OLT.
Services can be restored by type B protection in most cases.
ICCP extensions for PON

- Some PON application TLVs are needed
  - PON Connect TLV
  - PON Disconnect TLV

- PON Configuration TLV
  - System ID
  - System Priority
  - Port ID

- PON State TLV
  - Local PON port state
  - Remote PON port state
Protection Procedures

Faults in trunk fiber between working splitter and working OLT

88th IETF - Vancouver
Protection Procedures

Faults in a working OLT

Small Cells

Access Network

Splitter

Working PE

OLTA

ONU

ONU

ONU

Protection PE

OLTB

SW

X GbE

X GbE

X GbE

X GbE

ICCP

PE

Request Switchover

88th IETF - Vancouver

6
Protection Procedures

Faults in the working PW between a working OLT and a remote PE

88th IETF - Vancouver
Next Step

- Is ICCP for PON protection a good choice in MPLS?
- More inputs and comments from WG are greatly appreciated
Thank You