LDP Extensions for Pseudo Wire Transfer in MPLS-TP Network

draft-bao-pwe3-pw-transfer-03

Qilei Wang, Muliu Tao, Lizhong Jin, Xihua Fu  ZTE
Ruiquan Jing, Xiaoli Huo  China Telecom
Changes compared to 01 version

- **ER-TLV** is added to carry the PW path information
- Add clarification about transfer failure.
Contents in this draft

• Advantages compared with MBB
• LDP extensions and procedures
  – PW Transfer Capability TLV
  – PW Ownership Transfer TLV
  – SP-PE TLV or ER-TLV
Advantages

• Compare with MBB, PW transfer in this document have following advantages:
  – FEC label binding would not be modified.
  – PW LSP binding would not be modified.
  – Extra data plane resource is not needed.
  – Available and efficient batch operation.
Requirements

• Requirements
  – RFC6373
    • Section 5.3.3 describes the dynamic transfer of PW Control/Ownership to satisfy the requirement 47.
  – Requirements in RFC5493 also apply (e.g., No disruption of user traffic during the process of transfer).

• Consistency in the process of transfer
  – PW attributes MUST not be changed
  – PW transfer MUST be independent of LSP

• Support partial MS-PW segments transfer
LDP Extensions

• PW Transfer Capability TLV
  – Carried in LDP Initialization Message (RFC5561)
  – Negotiating the PW transfer capability between LDP peers

• SP-PE TLV (RFC6073) and ER-TLV (mspwr-er)
  – Both are used to carry data plane PW path information

• PW Ownership Transfer TLV
  • Carried in Label mapping and notification message
MP to CP transfer Procedure (SS-PW)

- **T-PEs**
  - Negotiate PW transfer capability
  - Send/Receive Label Mapping message with PW Transfer TLV
  - Create/Maintain PW signaling state in CP
MP to CP transfer Procedure (MS-PW)

- **T-PEs**
  - Perform all the procedures in MP2CP SS-PW transfer plus
    - Encoding PW path into SP-PE TLV or **ER-TLV**
- **S-PE**
  - Create PW LDP signaling state in CP
  - Decode the SP-PE TLV or **ER-TLV** to find the next hop
  - Forward Label Mapping message to the next hop
CP to MP Transfer Procedure

- **T-PEs**
  - Send CP2MP PW transfer Notification message
  - Delete T-LDP session according to local policy

- **S-PEs**
  - Forward Notification message
  - Delete T-LDP session according to the local policy
Next step

• Refine the document according to the feedback of this meeting and mailing list.