LDP DoD

draft-ietf-mpls-ldp-dod-01

Thomas Beckhaus (Deutsche Telekom AG)
Bruno Decraene (France Telecom)
Kishore Tiruveedhula, Nitin Bahadur (Juniper)
Luca Martini, Maciek Konstantynowicz (Cisco)

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- Motivation
- Updates from -00
- Next steps
Changes from -00

• Addressed open points from Taipei and mpls list
  – Added section Security Considerations
Motivation

• Seamless MPLS design (draft-ietf-mpls-seamless-mpls) relies on LDP DoD for scalability and support of access devices
  – well structured access topologies
  – compute and memory constraints limiting the amount of state access devices can hold

• RFC5036 specifies LDP Downstream on Demand mode of operation
  – but LDP DoD is not widely available on modern IP/MPLS devices

• Goal of the draft is to address that
LDP DoD for MPLS in access use cases and LDP DoD procedures

• Seamless MPLS access use cases drive the required LSR LDP DoD procedures for Access Nodes and border Aggregation Nodes
• `I-D.draft-ietf-mpls-ldp-dod-01` lists the access use cases and maps LDP DoD procedures against them

LDP DoD use cases (AN, AGN)

1) (AN, AGN) Initial network setup
2) (AN) Service provisioning, activation
3) (AN) Service changes, decommissioning
4) (AN) Service failure
5) (AN, AGN) Network transport failures

LDP DoD procedures (Access LSR)

a) LDP DoD session negotiation
b) Label request, mapping
c) Label withdraw
d) Label release
e) Local repair

• All described LDP DoD procedures rely on LDP specification [RFC 5036]
  – Exception is fast-up convergence
MPLS in access with LDP DoD baseline security

• LDP DoD relies on baseline security measures specified in LDP spec [RFC5036]
  – Authenticity and integrity of LDP msgs, protection against spoofing and DoS attacks
MPLS in access with LDP DoD additional security properties

• By design an upstream LSR accepts only mappings it sent a request for
  – This limits the potential of unauthorized third party interfering with label mapping operations on the wire

• ABR LSR acts as a gateway to MPLS core
  – Any changes of the access MPLS FECs can be easily controlled and monitored on ABR LSR
Next Steps

• Comments please