GMPLS Signaling Extensions for Shared Mesh Protection
(draft-ietf-teas-gmpls-signaling-smp-01)

Jia He (heija@huawei.com)
Italo Busi (Italo.Busi@huawei.com)
Jeong-dong Ryoo (ryoo@etri.re.kr)
Bin Yeong Yoon (byyun@etri.re.kr)
Peter Park (peter.park@kt.com)
IETF 105 @ Montreal
March 2019
History

• Adopted as TEAS WG document on January 14, 2019
• Updated to address comments received during WG adoption:
  • Difference between SMP and SMR
  • APS configuration
• Added description of notifications
• Jeong-dong, Bin and Peter added as co-authors
• Yuji added as contributor
Notification 1: Resource Unavailable

1) Working LSP 2 fails:
   • Node H generates APS(SF).
   • Node E sends PathErr and ResvErr with the error code/sub-code "Policy Control Failure/Hard Pre-empted" toward node A and node D, respectively, to notify that protecting LSP 1 is preempted
     • Path_State_Removed flag in the ERROR_SPEC object MUST not be set in PathErr and ResvErr messages to avoid protecting LSP 1 being torn down

Preemption priority of protecting LSP 1 is lower than that of protecting LSP 2
Notification 2: Resource Available

2) Working LSP 2 is recovered:

- Node H generates APS(NR).
- Node E sends Resv and Path messages toward node A and node D, respectively, to notify that protecting LSP 1 is no longer preempted.
SMP Pre-emption priority

• Section 12 of ITU-T G.808.3 defines pre-emption rules:
  • Higher SMP pre-emption priority
  • Higher SMP APS request priority
  • Protection LSP identifier

• SMP pre-emption priority seems different than GMPLS setup priority and holding priority
  • Protection LSPs pre-empted by the SMP APS should/could be maintained in the control plane

• A new object needs to be defined. Two options
  1) Define a new Object
  2) Define a new field within the PROTECTION Object
APS Configuration

• APS Protocol is “for further study” in section 14 of ITU-T G.808.3
• Assumption: APS protocol and message format is technology and/or vendor specific
• APS protocol messages need to identify the protection LSP an APS request applies to
  • Some implementations may re-use GMPLS LSP identifiers
  • Other implementations may define SMP APS identifiers which need to be configured when the protection LSP is setup
• Possible options
  1. Consider this outside the scope (as in current I-D)
  2. Define a new Object whose content is vendor-specific
  3. Define a new Object with a TLV structure
     • Some Types for standard-track allocation (standard technology-specific APS)
     • Some Types for expert review allocation (vendor-specific APS)
Next Steps

• Resolve pending open issues
• Get further feedbacks/comments from the WG