

# GMPLS Signaling Extensions for Shared Mesh Protection

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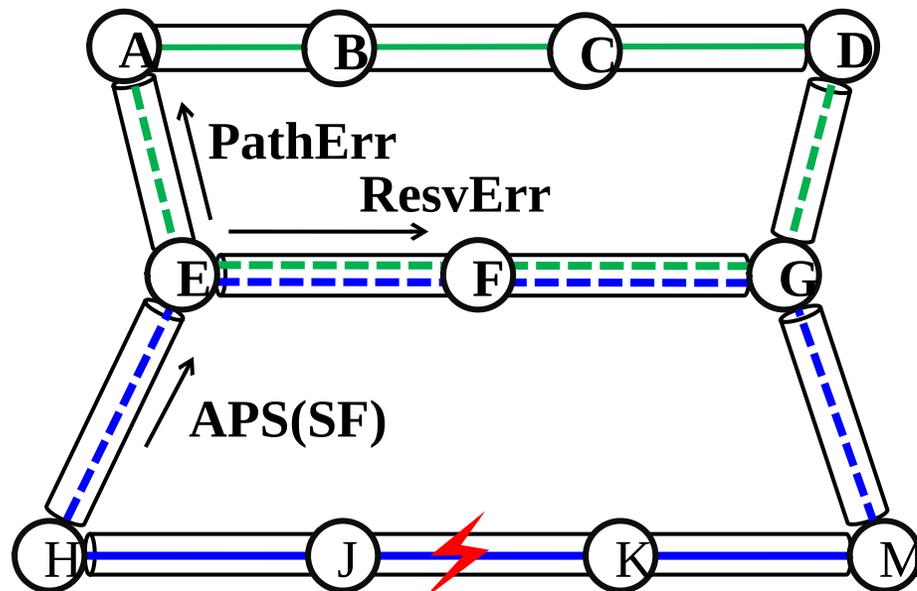
# History

- 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



— Working LSP 1

— Working LSP 2

- - - Protecting LSP 1

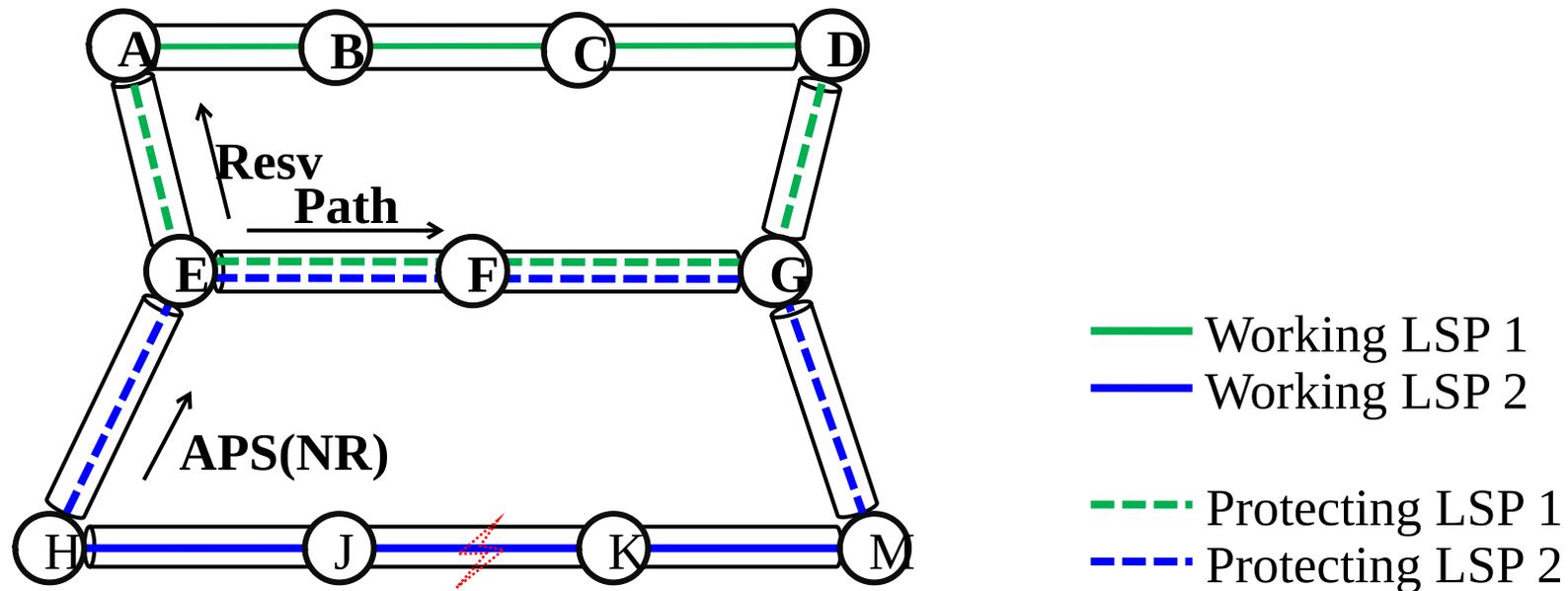
- - - Protecting LSP 2

Preemption priority of protecting LSP 1 is lower than that of protecting LPS 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