Extensions to the Path Computation Element Communication Protocol for Enhanced Errors and Notifications

draft-pouyllau-pce-enhanced-errors-03

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Outline

Motivation and proposal

Changes in -03

Conclusion
PCErr and PCNtf

Some error and notification types/values are standardized

No common rules

codes and specify associated behaviors is a need for:

- Enhancing PCE functionalities
- Improving the coordination among PCE systems
- Improving the coordination among PCE systems

Examples

Anticipating future evolutions of the standard

Examples
Proposal

Standardize error and notification attributes

- Allows specifying the criticality of errors and the type of notifications (request-specific or not)
- Allow specifying the propagation behavior

Restriction mechanisms:
- object: to limit the number of PCEP peers that will recursively receive the message (DLO): to indicate the PCEP peer addresses or domains of PCEP peers the message must be propagate to and to exclude

- some domains or PCEs: if a PCEP peer keeps track of the messages it has relayed, it could avoid propagating several times the same error/notification to the same peers.
Outline

Motivation and proposal

Changes in -03
Points raised on the mailing-list

1) Error type is more related to a family of errors, in the
   draft it is in terms of type, peer PCE processing indication
   option (propagation, shutdown, etc.)
   § 3 new TLVs defined
   § 2) A warning can be raised either as an error or as a
       notification with all possible combinations with restrictions
       Allows all possible combinations with restrictions
   § 3) DLO

   AS it belongs to that it is congested. The DLO object (in
   the manner of the IRO) can be used for that

   AS it belongs to that it is congested. The DLO object (in
- Propagation TLV:
  - 0: the message MUST NOT be propagated
  - 1: the message MUST be propagated

- Error-criticality TLV:
  - 0: low-level, further messages can be expected for this request
  - 1: medium-level, identifiers appear MUST be cancelled, no further messages can be expected for these requests

- Notification type TLV:
  - 0: request-specific
Changes in -03

Conclusion
Extending PCEP to generalize error and notification behaviors

- Giving a common error/notification framework for existing and future path computation methods
- Impacts on existing RFCs have been listed

WG approval as a WG document

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