PCEP Best Current Practices - Message formats and extensions

draft-many-pce-pcep-bcp-01

PCE WG, IETF 91 Honolulu

Early version of a work in progress.

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v1

Overview

- **Introduction and current issues**
  - PCEP has been defined in [RFC5440] and later extended.
  - PCEP RFCs describe specific extensions and focus on their constructs.
- **When implementing a set of extensions**
  - Lack of global view of related extensions – ordering issues?
  - Inconsistent naming
  - Lack of semantics and formal structure
- **First version:**
  - *Current issues with existing RBNF notation for PCEP messages and extensions draft-cmfg-pce-pcep-grammar-01, IETF87 Berlin*
- **Revisited Goals – Reduced scope:**
  - Identify document inconsistencies, provide a reference RBNF for PCEP messages, include object ordering and precedence rules, based on current practice
  - Do not modify the content of defined PCEP objects and TLVs.
  - Do not extend RBNF
  - Cover RFCs, WG id including stateful extensions
  - *Best Current Practice, Informational* → the normative definition is included in the existing specs (not precluding integration with a future revision of such documents).

Some aspects addressed in the draft

- **Clarify object ordering**
  - PCEP uses RBNF, and "an implementation MUST form the PCEP messages using the object ordering specified." -- [RFC5440], section 6
  - "ordering (…) in an assignment is explicit, (…) [RFC5511]

- **Unify naming conventions**
  - Given <A> then <a-list> ::= <A> [<a-list>],
  - why is <svec-list> ::= <SVEC> [<OF>]… [<svec-list>] → introduce e.g. <svec-entry>

- **Avoid ambiguity**
  - <response>::=<RP>[<NO-PATH>][<attribute-list>][<path-list>]
    - is <RP><NO-PATH><ERO> ok?
  - Verbose alternatives with intermediate constructs:
    - <response> ::= <RP> (<success> | <failure>)
    - <success>   ::= <path-list>
      - <path-list> ::= <path>[<path-list>]
    - <failure>   ::= <NO-PATH> [<attributes>]

Next steps

- Request WG feedback on
  - Is it worth the effort? Wasting our time? Obsolete when finished?
  - What do we cover? Does it make sense to cover extensions if not implemented / deployed? – e.g. monitoring, p2mp, etc. or should be exhaustive?

- Contributors welcome
  - Implementers following (or not) the suggested grammars
  - RBNF / Review nits – it is a big puzzle! ☺

- Next steps
  - P2MP is difficult to integrate
  - Add implementation notes