Extensions to Path Computation Element Communication Protocol (PCEP) for Hierarchical Path Computation Elements (PCE)

PCE WG, IETF 86th

draft-zhang-pce-hierarchy-extensions-03

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Differences from -02

• Restructuration and rewriting of document.
• Editorial changes:
  • Section on Extensions.
    • Component (e.g. Open Object).
    • Protocol Structure (encoding, Flags, TLVs)
    • Procedure (specific to this component).
  • Section on H-PCE procedures (general for H-PCE).
  • Section on Error Handling
• Scope of document revisited.
• Functions out of scope removed.
• NO-PATH new reasons added.
Scope of the document

• The scope of the extensions has been clarified.
• Functions out of scope of the document:
  • Finding end point addresses;
  • Parent Traffic Engineering Database (TED) methods;
  • Domain connectivity;
• All extensions aimed at implementing those functions have been removed from this document.
  • Inter-domain Node TLV, Inter-domain Link TLV, Reachability TLV, Destination Domain Query.
H-PCE procedures

- Two H-PCE procedures are defined in the document:
  - OPEN Procedure between Child PCE and Parent PCE
  - Procedure to obtain Domain Sequence
New NO-PATH reasons

• NO-PATH object can be used to communicate the reason(s) for not being able to find a multi-domain path or domain sequence

• Three new bit flags are defined to be carried in the Flags field in the NO-PATH-VECTOR TLV carried in the NO-PATH Object:
  • Destination domain unknown
  • Un-responsive child PCE(s)
  • No available resources in one or more domain(s)
OPEN points

• OF/Metrics
  • Need to qualify what applies to end-to-end segment
  • Additional OF codes needed?
• Error codes and handling
  • Additional information (e.g. non-responding PCE)?
• Management, Policy & Security
Next Steps

• Receive feedback!
• This solution document could be adopted as WG document for a solution of the framework document.