PCEP extension for associating Policies and LSPs

draft-dhody-pce-association-policy-00

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Introduction

A simple mechanism to associate policies to a group of LSPs via an extension to PCEP

This has been discussed before in various forms -
- draft-sivabalan-pce-policy-identifier; draft-alvarez-pce-path-profiles; draft-dhody-pce-association-attr

With this draft, we have converged on “association” based approach to Policy.
Policy

• Requirement - associate a set of LSPs with policy, *without the need to know the details of such policies*
  • which simplifies network operations
  • avoids frequent software upgrades
  • ability to introduce new policies faster

• Policy as an opaque identifier

• During path computation to decide how the path selection process should be constrained, that is, which constraints, diversities, optimization criterion, and constraint relaxation strategies should be applied.

• After setup for traffic steering, path monitoring, optimizations etc.

• Applicable to stateful and stateless.
PCEP Extension

• [I-D.ietf-pce-association-group] describes a generic mechanism to create an association between LSPs

• LSPs are associated with other LSPs by adding them to a common association group using ASSOCIATION object

• A new Association Type is defined for Policy Association Group (PAG)
  
  • VENDOR-INFORMATION-TLV could be optionally included for arbitrary vendor specific behavioural information.

• {Association Type = Policy, Association ID, Association Source} can uniquely identify a Policy
Policy in PCEP

Initiate LSP & Policy for traffic steering

PCInitiate

PCE

Policy enforced by PCC

PCC

Policy enforced by PCE

Service specific policy for constraint relaxation

PCReq

PCE

<table>
<thead>
<tr>
<th>Type</th>
<th>Policy</th>
<th>Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
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<td>Y</td>
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<tr>
<td>Source</td>
<td>PCE</td>
<td>PCE</td>
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Next Step

• This is a useful feature required by operators.

• Reusing generic association object leads to a simple extension.

• Implementations are in pipeline. Work with Association authors for early code point allocation.

• Comments?

• Candidate for WG adoption?
Thanks!