

State Synchronization Between Stateful PCE

PCE WG, IETF109

draft-litkowski-pce-state-sync-09

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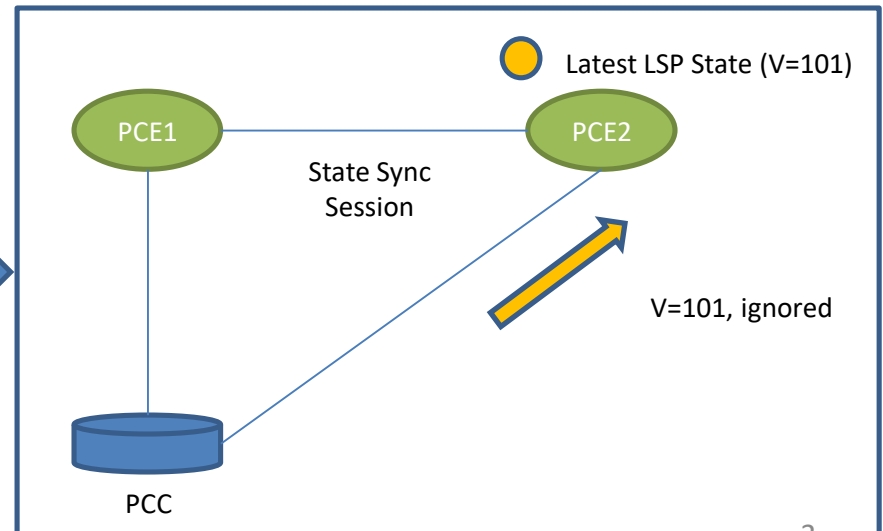
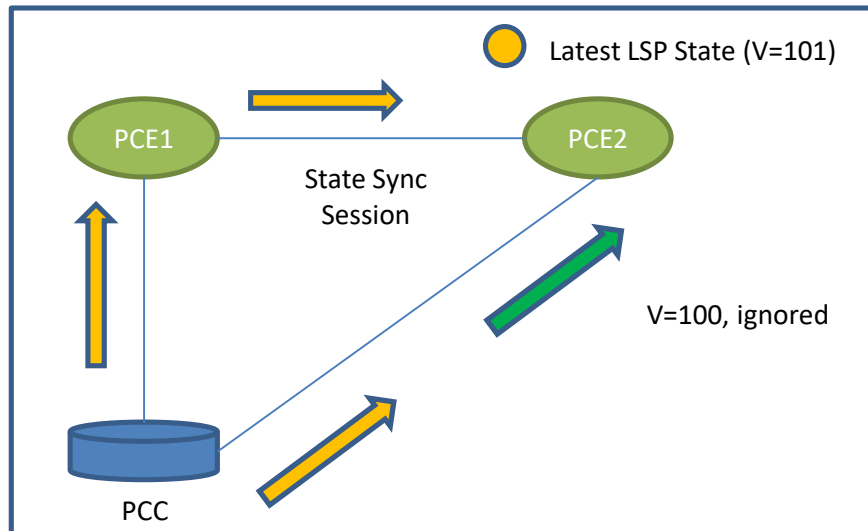
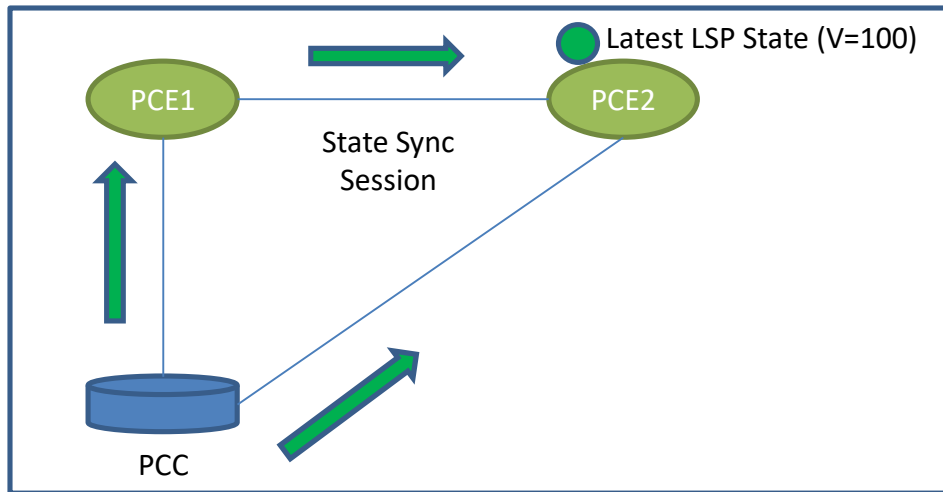
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Draft Re-Cap

- Procedure for Inter-Stateful PCE sync up
 - Making PCE deployments more resilient
 - Solve computation loop/optimality issues for dependent path computations (for e.g. diversity)
- Key Concept:
 - Initiate sync up PCEP sessions among stateful PCEs;
 - Sync incremental LSP states during the session;
 - Setting Primary/Secondary PCE for different responsibilities;
- Scenarios include:
 - Redundant PCEs (backup or load-balance)
 - Inter-domain PCEs / H-PCEs
- Discussed previously in IETF 105 with good support for adoption

Sync-up Example



Status & Next Step

- Editorial changes made to align with recent RFCs after IETF 105, especially terminologies;
- Added security consideration;
- Request WG adoption;

Extension For Stateful PCE to allow Optional Processing of PCEP Objects

PCE WG, IETF109

draft-dhody-pce-stateful-pce-optional-07

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Draft Summary and Changes

- Clarified how the P and I flag usage:
 - Identify the optional objects;
 - Applicable to PCRpt/PCUpd/PCInitiate message;
- Updated the handling of unknown objects based on these flags!
- Described the processing rule in the delegation mode;

P/I Flag Usage

- P Flag

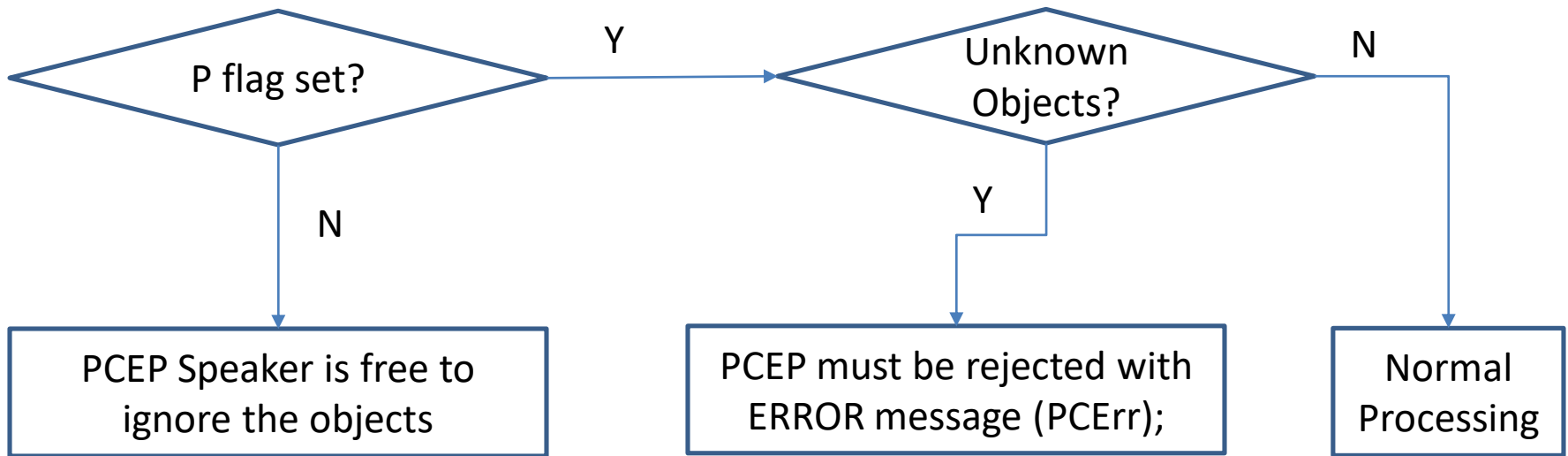
- Indicate whether the object is mandatory (1) or just optional (0);
- Indicated by PCE in PCUpd/PCInitiate, and by PCC in PCRpt;
- P=1, means the object MUST be taken into account;
- P=0, means PCC can be free to ignore;

- I Flag

- PCUpd, whether (1) or not (0) an optional object was processed, indicated by PCE;
- PCRpt, whether (1) or not (0) an optional object was processed, indicated by PCC;
- Meaningless in PCInitiate;

Processing of Unknown Objects

- Checking P flag and process as follow:



- LSP Error Code TLV defined in RFC8231 is used here.

Status & Next Step

- Problem statement confirmed on the list;
 - To be useful;
- Editorial changes made to align with recent RFCs after IETF 105;
- Request WG adoption.

Conveying Vendor-Specific Information in PCEP extensions for Stateful PCE

PCE WG, IETF109

draft-dhody-pce-stateful-pce-vendor-11

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Draft Re-Cap

- A Continuation of RFC7150/7470 about the vendor-specific information;
 - This I-D works on the stateful PCEP, i.e., the vendor information in PCRep, PCUpd and PCInitiate;
- Presented in IETF 105 with good support;

RBNF for Stateful PCEP Messages

```
<PCRpt Message> ::= <Common Header>  
                    <state-report-list>
```

Where:

```
<state-report-list> ::= <state-report>[<state-report-list>]
```

```
<state-report> ::= [<SRP>  
                  <LSP>  
                  <path>  
                  [<vendor-info-list>]
```

Where:

```
<vendor-info-list> ::= <VENDOR-INFORMATION>  
                    [<vendor-info-list>]
```

<path> is defined in [RFC8231].

```
<PCUpd Message> ::= <Common Header>  
                    <update-request-list>
```

Where:

```
<update-request-list> ::= <update-request>  
                        [<update-request-list>]
```

```
<update-request> ::= <SRP>  
                   <LSP>  
                   <path>  
                   [<vendor-info-list>]
```

Where:

```
<vendor-info-list> ::= <VENDOR-INFORMATION>  
                    [<vendor-info-list>]
```

<path> is defined in [RFC8231].

```
<PCInitiate Message> ::= <Common Header>  
                        <PCE-initiated-lsp-list>
```

Where:

```
<PCE-initiated-lsp-list> ::= <PCE-initiated-lsp-request>  
                            [<PCE-initiated-lsp-list>]
```

```
<PCE-initiated-lsp-request> ::=  
    (<PCE-initiated-lsp-instantiation>|  
     <PCE-initiated-lsp-deletion>)
```

```
<PCE-initiated-lsp-instantiation> ::= <SRP>  
                                       <LSP>  
                                       [<END-POINTS>]  
                                       <ERO>  
                                       [<attribute-list>]  
                                       [<vendor-info-list>]
```

Where:

```
<vendor-info-list> ::= <VENDOR-INFORMATION>  
                    [<vendor-info-list>]
```

<PCE-initiated-lsp-deletion> and <attribute-list> is as per [RFC8281].

Changes & Next Step

- Editorial changes made to align with recent RFCs after IETF 105;
- Added the implementation case (from Cisco);
 - Two more co-authors joined;
- Request WG adoption.

THANK YOU!