

Using PCE to act as a SDN Central Controller (PCECC) Component

[draft-zhao-pce-pcep-extension-for-pce-controller-03.txt](#)

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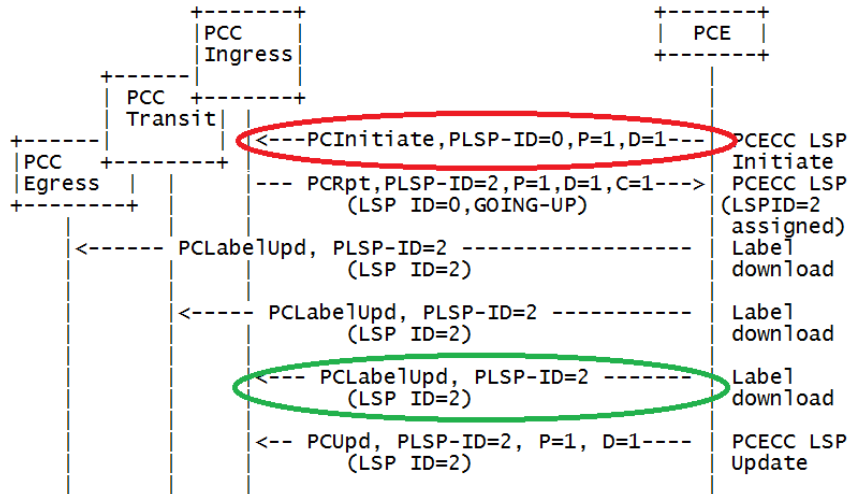
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Major updates in this new version

- Move the sections for label range related functionalities to the appendix sections for now, the next step will use another separate documents to cover this.
- Based on Adrian's suggestion from last IETF meeting, we have added one option for the PCECC label entry update functionality. So now the label entry update can be done either using a new message option or it can be done using the existing message by modifying the message's original format and procedures. These two options are:
 - New message: PCLabelUpd
 - Existing message: PCInitiate

Option 1: Using a New Message **PCLabelUpd**

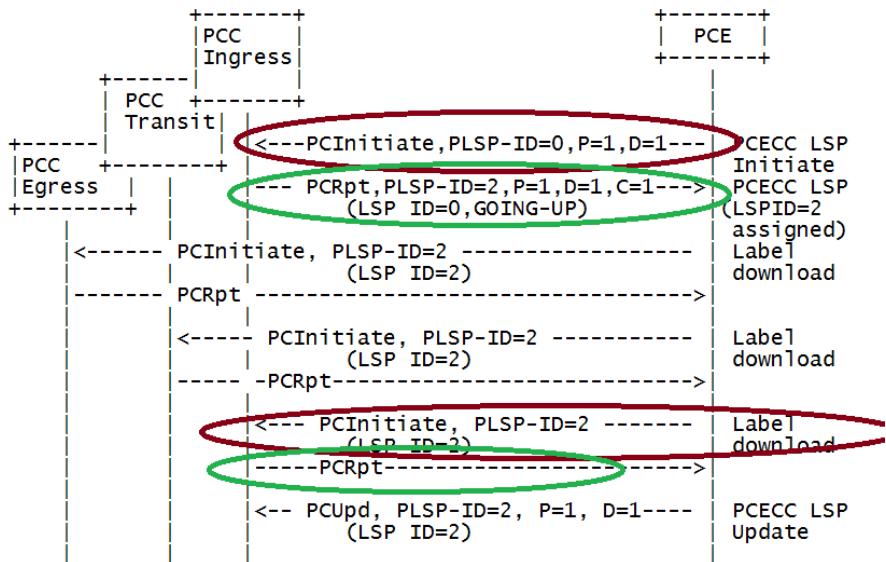


The format of the PCLabelUpd message is as follows:

```

<PCLabelUpd Message> ::= <Common Header>
                           <pce-label-update-list>
where:
<pce-label-update-list> ::= <pce-label-update>
                           [<pce-label-update-list>]
<pce-label-update> ::= (<pce-label-download>|<pce-label-map>)
where:
<pce-label-download> ::= <SRP>
                           <LSP>
                           <label-list>
<pce-label-map> ::= <SRP>
                   <LABEL>
                   <FEC>
<label-list > ::= <LABEL>
                  [<label-list>]
  
```

Option 2: Using the Existing Message **PCInitiate**



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

Where:

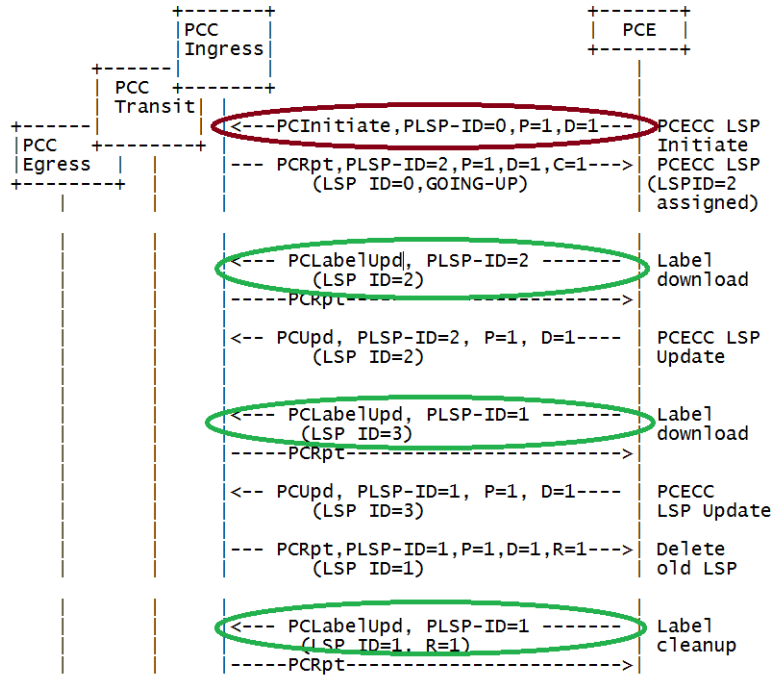
```
<PCE-initiated-lsp-list> ::= <PCE-initiated-lsp-request>
                             [<PCE-initiated-lsp-list>]
```

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

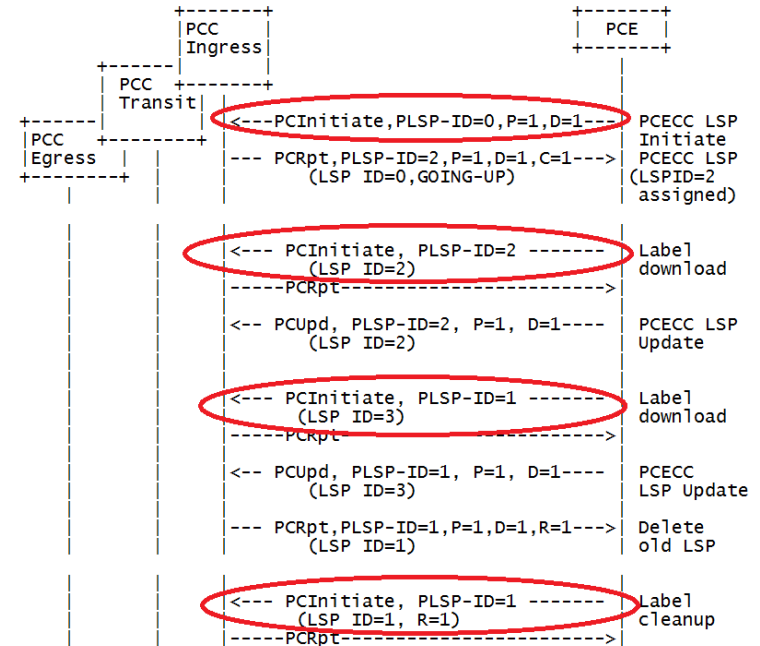
```
<PCE-initiated-lsp-instantiation> ::= <SRP>
                                       <LSP>
                                       <END-POINTS>
                                       <ERO>
                                       [<attribute-list>]
```

Compare 2: For the LSP Setup and Update

Option 1



Option 2



The Analysis of the Two Choices

Option 1 : Using a New Message **PCLabelUpd**

Advantages: It is clean for the procedure's flow, especially it is easy for trouble shooting and maintain. Also for the label entry which has only label list downloading, you don't need a new message.

Disadvantage: It introduces a new message.

Option 2 : Using the Existing Message **PCInitiate**

Advantages: Leveraging the existing message.

Disadvantage: It over loads the original functionality of the original message. It is harder to

debugging the message. For the pure label list/label range download, it still needs a

Next Steps

- We will collect more feedbacks for these two options for the label entry downloading;
- We will break this version of the draft into a few drafts to cover the different use cases specified in the PCECC use case draft individually so we can progress these protocol extensions in parallel or in a sequential order based on the urgency of each use case.
- After we posed these PCECC drafts, we have been approached by people working at another PCE vendor saying that they want to get involved, so we hope that they will be able to make contributions to the work in future revisions.

Thanks!