

# PCEP Extensions for Receiving SRLG Information.

draft-dhody-pce-srlg-collection-00

**Dhruv Dhody (dhruv.dhody@huawei.com)**

Fatai Zhang (zhangfatai@huawei.com)

Xian Zhang (zhang.xian@huawei.com)

# Motivation

- Extend PCEP to support collection of SRLG information during path computation and encoding this information in the reply message in multi-layer, multi-domain environment.

[ietf-ccamp-rsvp-te-srlg-collect] specifies a similar extension to RSVP-TE.

When PCEs are used for path-computation, easier to learn SRLG at the time of computation itself.

Can trigger backup SRLG disjoint path computation without waiting for signaling.

Only PCC/PCE upgrade v/s at the very least boundary node upgrade.

Easier for PCEs to consolidate SRLG information for end to end path.

Ease in management of Macro SRLG.

# PCEP Requirements

## SRLG Collection Indication:

- Capability to indicate whether the SRLG information should be collected during the path computation procedure.

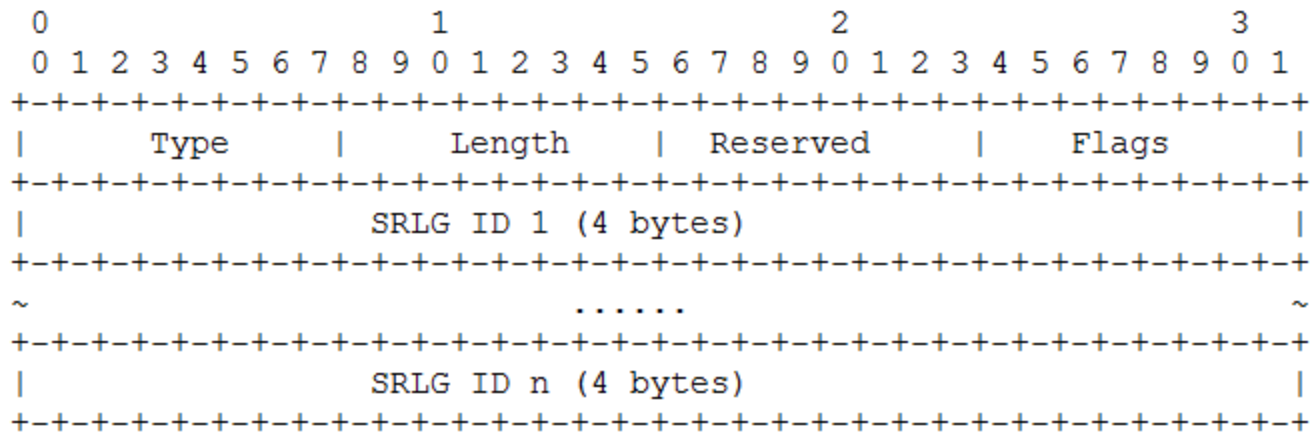
## SRLG Collection:

- If requested, the SRLG information should be collected during the path computation and encoded in the PCRep message.

# PCEP Extension

• **New flag in RP Object 'S' (SRLG - 1 bit)**: when set, in a PCReq message, this indicates that the SRLG information should be collected. In a PCRep message, when the S bit is set this indicates that the returned path in ERO also carry the SRLG information.

• **SRLG Subobject in ERO**: The SRLG of a path is the union of the SRLGs of the links in the LSP. The SRLG subobject is defined in [ietf-ccamp-rsvp-te-srlg-collect]:



# Next Steps!

- Feedback from the WG.
- In scope for WG adoption?

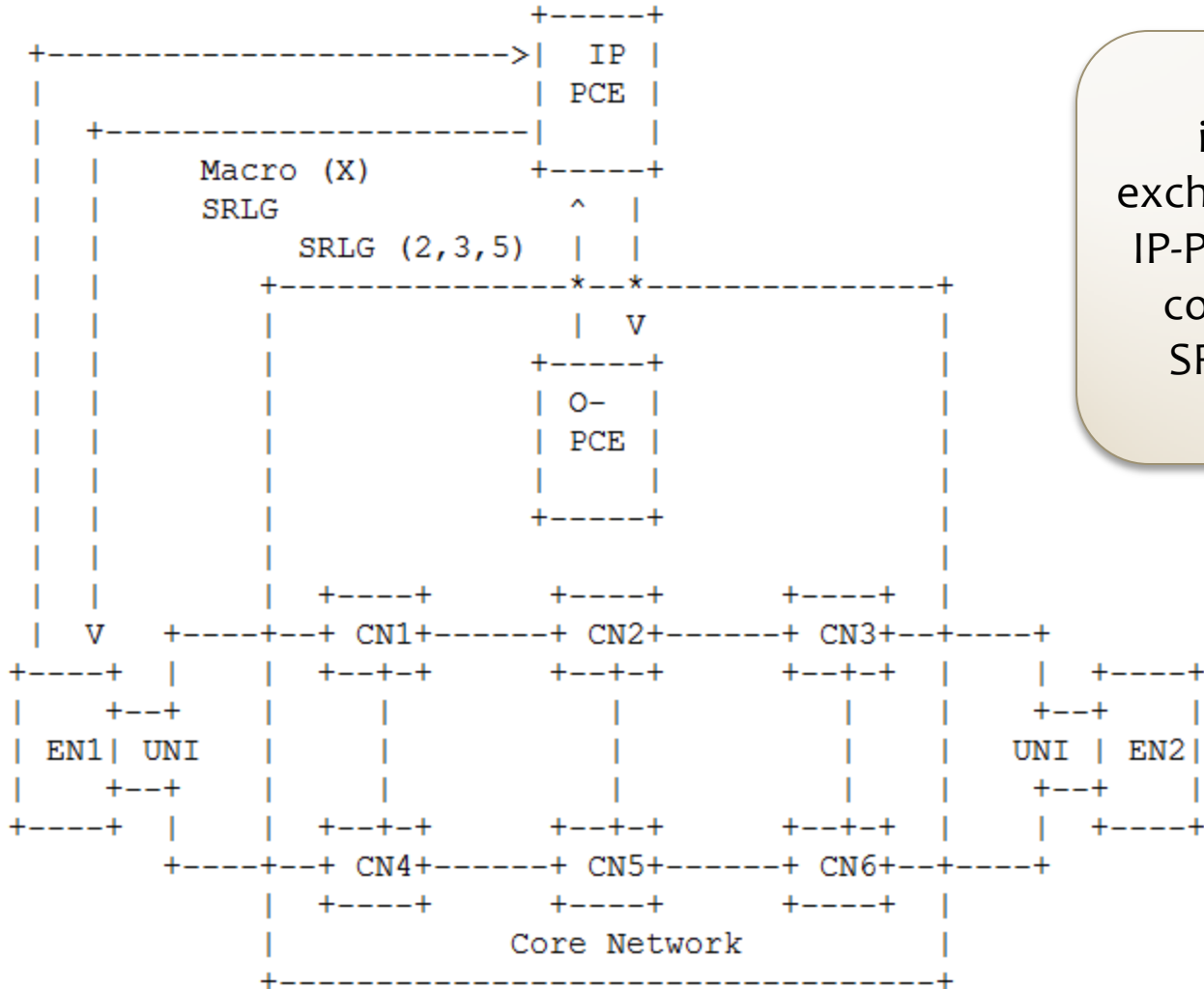
Questions  
&  
Comments?

Thanks!

# Backup Slides



# Macro SRLG



Macro SRLG [farrel-interconnected-te-info-exchange] can be generated by IP-PCE. The co-operating PCEs could easily convert Macro SRLG in IP to normal SRLG values in optical layer.

# Why collect SRLG for multi-domain?

- In case of multi-domain path, you can carry the full path in XRO (each hop) and use 'attribute' field.

```
0                               1                               2                               3
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-----+-----+-----+-----+-----+-----+-----+-----+
|X| Type = 1 | Length | IPv4 address (4 bytes) |
+-----+-----+-----+-----+-----+-----+-----+-----+
| IPv4 address (continued) | Prefix Length | Attribute |
+-----+-----+-----+-----+-----+-----+-----+

Attribute
The Attribute field indicates how the exclusion subobject is to be
interpreted. 2- SRLG.
```

- When you have path-key, you cannot carry the full path and the PKS subobject does not have this attribute.
- So one has to collect the SRLG information before hand and use it along with PKS subobject.