

# SR P2MP Policy

## draft-ietf-pce-sr-p2mp-policy

### Authors:

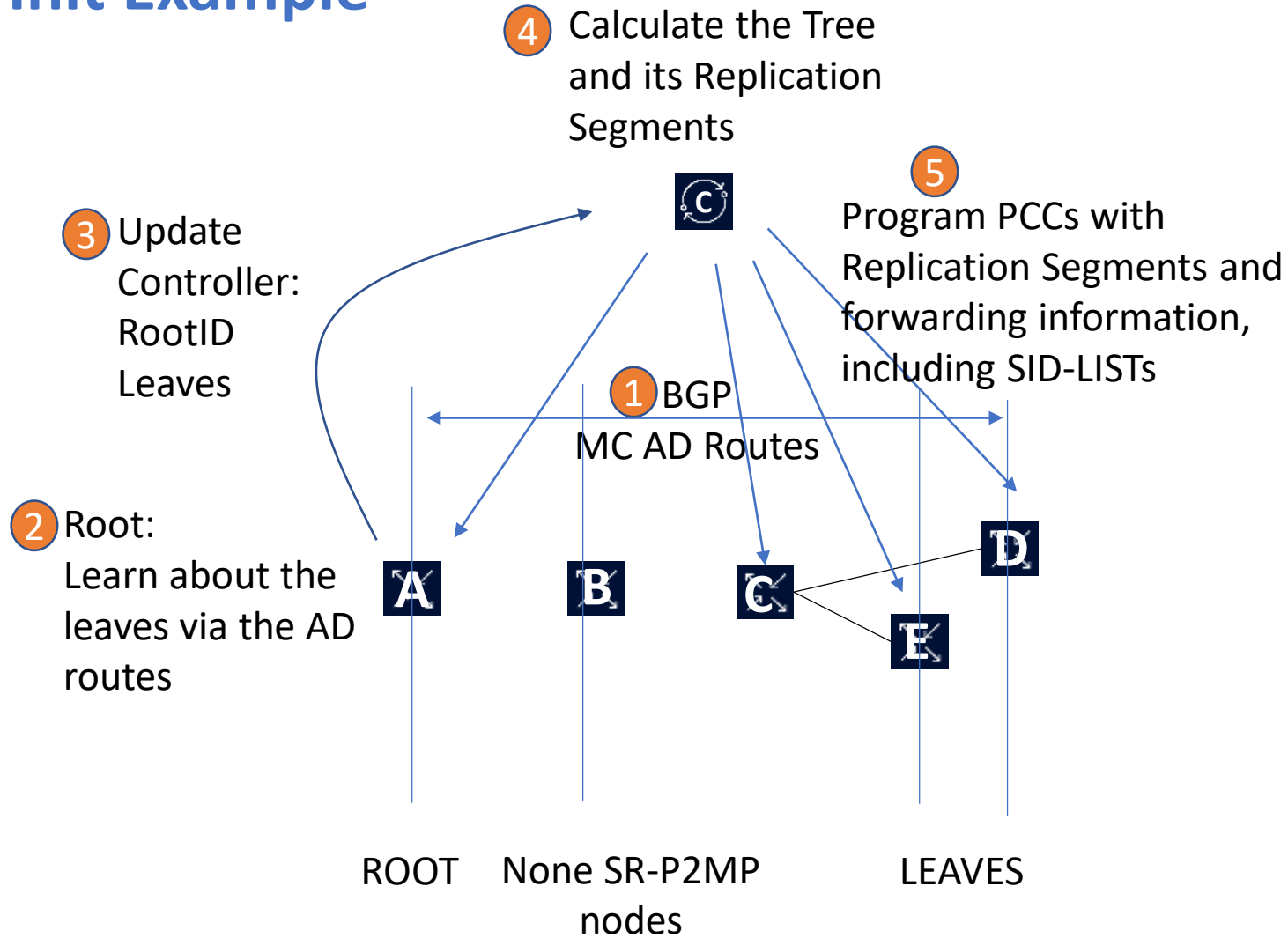
Hooman Bidgoli, Nokia  
Daniel Voyer, Bell Canada  
Anuj Budhiraja, Cisco  
Saranya Rajarathinam, Nokia  
Tarek Saad, Juniper  
Siva Sivabalan, Ciena

### Contributor:

Andrew Stone



# PCC Init Example





# SR P2MP Objects

Non-SR-P2MP  
nodes



Head-end policy  
= PMSI

## SR P2MP Policy

- ROOT Node, key
- Leaf Node
- Tree-ID, key

SR P2MP Policy

P2MP LSP Redundancy

- Candidate path 1
- Preference
  - PLSP-ID = 1
  - TE-Info

- Candidate path N
- Preference
  - PLSP-ID = N
  - TE-Info

Path-Instance-1  
LSP-ID (tree-1)

Path-Instance-1  
LDP-ID

Path-Instance-2  
LSP-ID (tree-2)

Path-Instance-2  
LDP-ID

End to End  
Optimization

## Replication segment

- Node-ID???
- Tree-ID
- Root
- Instance ID
- Inc Rep SID
- Rep SID Action

## Replication segment

- Node-ID
- Tree-ID
- Root
- Instance ID
- Inc Rep SID
- Rep SID Action

## Replication segment

- Node-ID
- Tree-ID
- Root
- Instance ID
- Inc Rep SID
- Rep SID Action

Forwarding info  
Sid-List

Fast Reroute

## Forwarding Info

- Next-hop-group-id [nh-id] //array of nh
  - Next-hop-id <id>
  - Next-hop-add
  - Next-hop-int
  - Protect-nh <id>
  - Sid-list [list of outgoing labels]

## Forwarding Info

- Next-hop-group-id [nh-id] //array of n
  - Next-hop-id <id>
  - Next-hop-add
  - Next-hop-int
  - Protect-nh <id>
  - Sid-list [list of outgoing labels]

## Forwarding Info

- Next-hop-group-id [nh-id] //array of nh
  - Next-hop-id <id>
  - Next-hop-add
  - Next-hop-int
  - Protect-nh <id>
  - Sid-list [list of outgoing labels]

# PCC Init Example

P2MP Policy objects:

```
<P2mp Policy> ::= <Common Header>  
    <SRP>  
    <P2MP LSP>  
    <association-list>
```

optionally a list of end-point can be added. This is true whether it is PCC initiated or PCE initiated

```
[<end-point-list>]
```

Replication Segment objects:

```
<Replication Segment> ::= <Common Header>  
    <SRP>  
    <P2MP LSP>  
    (<cci-list> |  
     (<CCI><intended-path>))  
    <cci-list> ::= <CCI>  
                  [<cci-list>]  
    <intended-path> ::=  
        ((<PATH-ATTRIB><ERO>)  
         [<intended-path>])
```

- P2MP LSP is identified via the root-id, tree-id and instance-id
  - Instance-id is unique per P2MP Policy
- On the root the Policy and Replication Segment can be downloaded via Single PCUpdate message
- CCI object Identifies the multicast state on the central controller and the incoming replication SID
- The outgoing interfaces of the multicast state are identified with Multipath and ERO objects.

## Next Steps

- Comments, suggestions are welcome

**Thank You!**