

PCEP extensions for updating Open Message content

draft-stone-pce-update-open

IETF 121 - Dublin

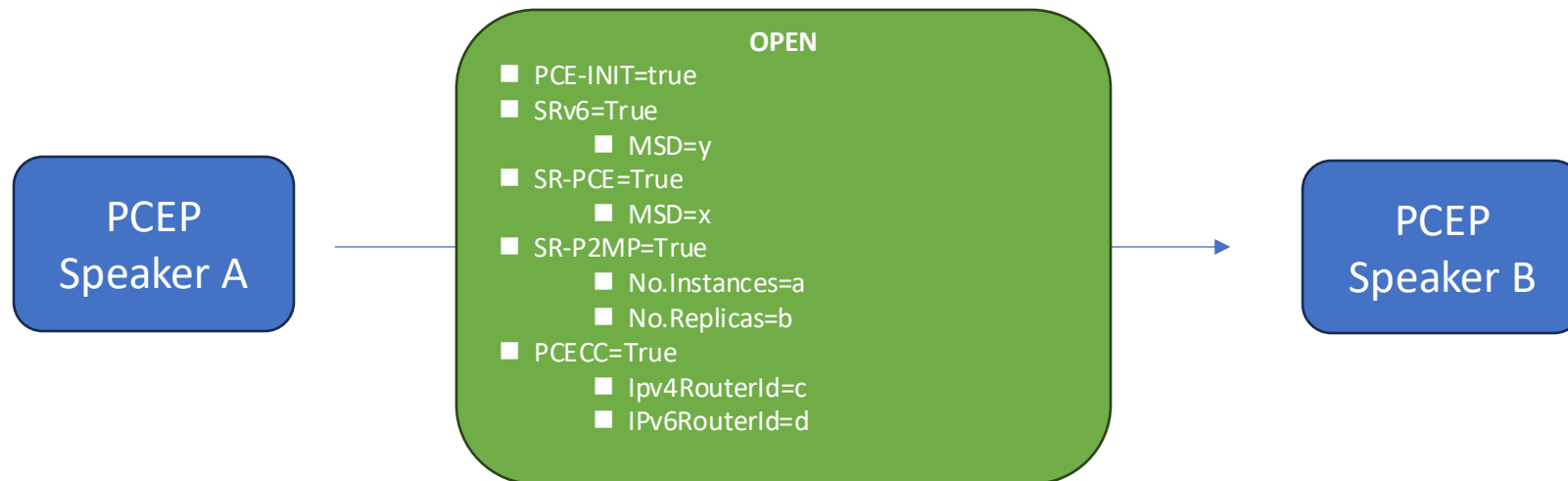
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Open message – RFC5440

- Exchanged between PCEP speakers to establish PCEP session
 - PCC<->PCE
 - PCE<->PCE
- Carries exactly one open object, with extendable TLVs such as:
 - PCEP Extension capabilities and implementation support
 - Device entity system-wide configurations, knobs, settings
- Implementation
 - Some information is static / source code / platform dependent
 - Some information user defined or configurable



Backstory

What to do about device-level information

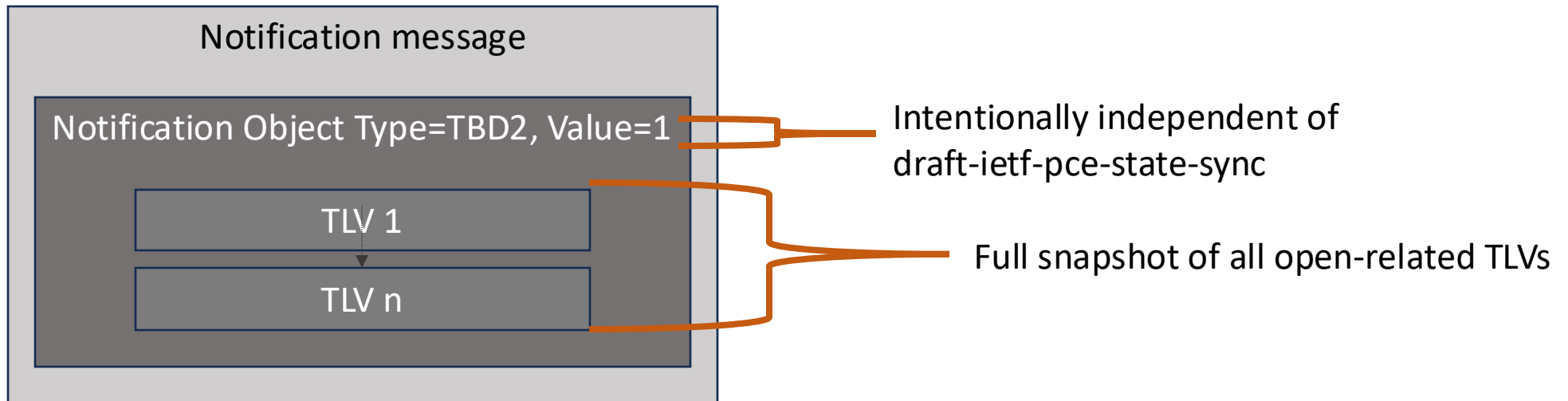
- ‘Device’ information in PCEP traditionally in Open message
- Changing any PCEP open message content requires a PCEP session bounce
- IETF 120 related discussion took place with draft-ietf-pce-controlled-id-space in scope
- WG consensus was to keep using Open message with new generic extensions to permit modification

Slightly related

- WG discussions for draft-ietf-pce-state-sync was to use Notify for PCE->PCE to exchange connected PCC Open information

Proposal

- New 'Open Refresh' Capability exchanged upon PCEP Open
- Use notify message (PCNtf) with a new notification type 'Open Refresh'
- PCNtf message contains notification object which carries all open related TLVs
- Allows a speaker to refresh TLVs previously sent upon connection



Scope and handling

- Intentional 'all or nothing' Open Refresh TLV snapshot
 - No support for differential add/remove TLVs
 - No support for changing specific values
- Speaker receiving Open Refresh runs differential with last known to determine how to handle update
- How to handle state changes is not specified as it's capability dependent
 - Ex: A speaker may need to flush out all state if a capability is removed (for example), or deploy deletes to the network etc.
 - Network dataplane may be impacted (*but could be with present day config change + session bounce too*)
- If a speaker cannot handle the Open Refresh -> throw error and reset PCEP session
 - Intent being to bounce the session to ensure Open content is in sync

Next step

1. Requesting working group feedback on this initial direction
2. Comments, feedback, contributors are welcome

Thank you