

Signaling route origin and path validation state

draft-sidrops-bgpsec-validation-signaling

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Update since last presentation

- Successful WG adoption call for BGPsec Validation state signaling but with suggestions...
 - Add BGPsec path validation state signaling to existing signal specified in RFC 8097
 - BGPsec validation state “unverified == 0” assures backwards compatibility to RFC 8097 implementations.
 - This means no additional and new attribute is needed
- ➔ we update RFC 8097 and use a portion of the “reserved” field for BGPsec validation state.



Additional Proposal on List

- Merge this draft with draft
draft-ietf-sidrops-validating-bgp-speaker-03
- Main Reason:
 - The mentioned draft has a strong overlap with RFC 8097
- The draft has two main focal points
 - Allow validation signaling on EBGP
 - RFC 8097 does allow signaling on EBGP where warranted
 - Proposes three operational modes to be configured within a router.

Solution

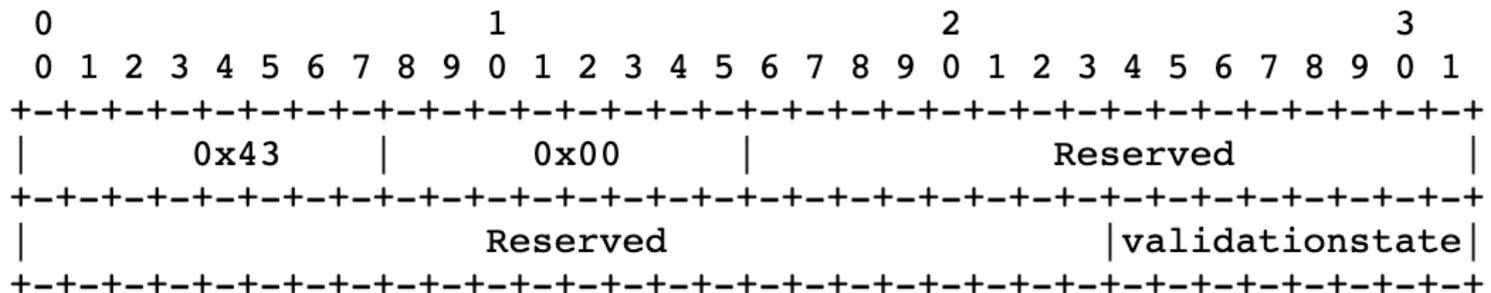
- We spoke to Daniel Kopp of DE-CIX and found the following solution:
 1. Merge draft-ietf-sidrops-validating-bgp-speaker and this draft-ietf-sidrops-bgpsec-validation-signaling where warranted
 - Signaling validation state via EBGP peering sessions.
 - Add section for Error Handling.
 2. Reduce draft-ietf-sidrops-validating-bgp-speaker to operational modes only
 - Remove the community string specification.
 - Change draft it into a BCP or informational draft containing only the operational modes discussed.

What does this mean for draft-sidrops-bgpsec-validation-signaling

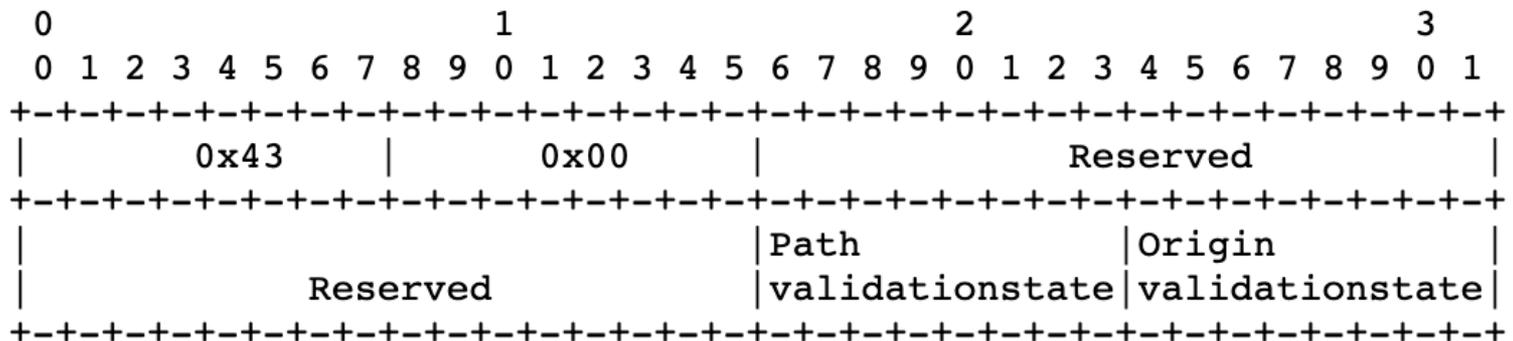
- Add additional language for EBGP usage
- Clarify Error Handling

Extended Community Specification: “Add Path Validationstate”

From RFC 8097:



To: draft-sidrops-bgpsec-validation-signaling



Validation State Values

Origin Validation State:

Value	Meaning
0	Validation state = "valid"
1	Validation state = "not found"
2	Validation state = "invalid"

Path Validation State:

Value	Meaning
0	Validation state = "Unverified"
1	Validation state = "Valid"
2	Validation state = "Not Valid"

Note: We renamed labeling "Lookup result" (RFC8097) into "Validation state"

Usage for EBGP signaling

- RFC 8097 Allows EBGP signaling for warranted situations:

However, it **SHOULD be possible to configure** an implementation to send or accept the community when warranted. An example of a case where the community would reasonably be received from, or sent to, an EBGP peer is when **two adjacent ASes are under control of the same administration**. A second example is documented in **[SIDR-RPKI]**.

- The wording of draft-ietf-sidrops-bgpsec-validation-signaling is more direct:

Implementations **MUST provide a configuration mechanism** to allow the use of this community (both sending and receiving) to be disabled on a per peer basis. By default, routers performing route origin validation or path validation **SHOULD enable** use of this community on all **IBGP** sessions.

By default, routers **SHOULD disable** the use of this community on all **EBGP** sessions.

Error Handling

- Currently RFC 8097 reads:

... if more than one instance is received, an implementation **MUST disregard all instances other than the one with the numerically greatest validation state value**. If the value received is greater than the largest specified value (2), the implementation **MUST** apply a strategy similar to attribute discard [RFC7606] by discarding the erroneous community and logging the error for further analysis.

- Error handling will read:

If more than one instance of the extended community is received, or if the value received for either origin validation or path validation is greater than the largest specified value (Section 3.), **then the implementation MUST disregard all instances** and **MUST** apply a strategy similar to attribute discard [RFC7606] by discarding the erroneous community and logging the error for further analysis.

Thoughts (1)

- The current path is to update RFC 8097 but...
- Wouldn't it make more sense to Obsolete RFC 8097 rather than Update 8097
 - Path validation adds major addition to 8097
 - Stronger wording regarding EBGP configuration
 - Added clear error handling
- This will help facilitate adoption of the modifications for implementations going forward.

Thoughts (2)

- Renaming this draft from:

BGPsec Validation Signaling

- To:

Path Validation and Origin Validation Signaling



Questions?

