Dissemination of Flow Specification Rules for IPv6
draft-raszuk-idr-flow-spec-v6-00 & -01
NEW

IETF 80 - IDR WG - Prague

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Background

- **"Dissemination of Flow Specification Rules" – RFC 5575 defines the mechanism required to describe IPv4 flows.**

- **This document extends RFC 5575 and defines rules to describe IPv6 data flows. IPv4 flow descriptions do not change.**

New SAFI Definitions

- "SAFI 133 for IPv4 dissemination of flow specification rules" to now will be defined as "SAFI 133 for IP dissemination of flow specification rules„

- "SAFI 134 for VPNv4 dissemination of flow specification rules" to now be defined as "SAFI 134 for L3VPN dissemination of flow specification rules„

- Value of AFI = 1 will indicate IPv4 flow-specification

- Value of AFI = 2 will indicate IPv6 flow-specification

Flow spec validation

- **Flow specification received over AFI/SAFI=1/133 will be validated against routing reachability received over AFI/SAFI=1/1**

- **Flow specification received over AFI/SAFI=1/134 will be validated against routing reachability received over AFI/SAFI=1/128**

- **Flow specification received over AFI/SAFI=2/133 will be validated against routing reachability received over AFI/SAFI=2/1**

- **Flow specification received over AFI/SAFI=2/134 will be validated against routing reachability received over AFI/SAFI=2/128**

IPv6 specific type definition changes

- **Type 1 - Destination IPv6 Prefix**
  Encoding: <type (1 octet), prefix length (1 octet), prefix offset (1 octet), prefix>

- **Type 2 - Source IPv6 Prefix**
  Encoding: <type (1 octet), prefix length (1 octet), prefix offset (1 octet), prefix>

- **Type 3 – (Last) Next Header (RFC5575 – IP Protocol)**
  Encoding: <type (1 octet), [op, value]+>

- **Type 11 - Traffic Class (RFC5575 - DSCP (Diffserv Code Point))**
  Encoding: <type (1 octet), [op, value]+>

- **Type 12 - Fragment – Removed**

- **Type 13 - Flow Label - New type**
  Encoding: <type (1 octet), [op, value]+>

Question's and comments welcome

Authors would like to request this document to become IDR WG draft

BGP Diagnostic Message
draft-raszuk-bgp-diagnostic-message-01 & -02
UPDATE

IETF 80 - IDR WG - Prague

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Changes from -00 via -01 to -02

- Based on the operator's input added „BGP attribute based prefix query/reply message" (type 19/20) → Allows to query BGP speaker for a list of prefixes which contain full or partial match on the bgp attribute contained in the query message.

- Added in -01 and moved to separate document in -02 specific type to inform eBGP peer or iBGP connected management station about RPKI based Origin Validation NOT_FOUND or INVALID prefix detection. Current sidr draft: draft-retana-bgp-security-state-diagnostic-00

- Added informative reference:
  Operational Requirements for Enhanced Error Handling Behaviour in BGP-4, draft-shakir-idr-ops-reqs-for-bgp-error-Handling

Comparison with Advisory Draft

- Both drafts have the same over all goal - enable better BGP build-in error or warning communication between BGP speakers.

- Both are easily extendable via TLV based encoding and both use and can share the same BGP new Message Type.

- The Advisory draft is more on the informational/proactive side while the original idea for Diagnostic draft was to be more on the troubleshooting/reactive side.

- Discussion well in progress on merging both drafts into a single document. It will consists of common framework and application sections which can use such distribution framework.

Question's and comments welcome

Authors would like to request this document to become IDR WG draft before or after the merge with Advisory.

BGP Optimal Route Reflection (BGP-ORR)

draft-raszuk-bgp-optimal-route-reflection-01
UPDATE

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Changes from -00 to -01

- Added new subsection to allow for very easy/automated client grouping on the route reflectors considering their network location. Examples: co-located within the same IGP area or the same POP. Defined new BGP OPEN msg optional parameter Group_ID.

- While not part of this draft I presented during IDR session in Beijing an idea to use new NH SAFI to query RR clients for next hop's cost. This has been now documented in separate document: draft-varlashkin-bgp-nh-cost *BGP ORR proposal can benefit from this work without any changes to the specification.*

- BGP ORR can also benefit without any changes to the specification if the remote IGP areas share with the route reflector their topologies using: draft-gredler-bgp-te

Question's and comments welcome

Authors would like to request this document to become IDR WG draft

Wide BGP Communities Attribute

draft-raszuk-wide-bgp-communities-01/-02
UPDATE

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Version -01/-02

- Per Maastricht IDR WG and chairs recommendation document got splitted into encapsulation draft and actual proposed values draft.
- Moved from a fixed sized format to a variable length structure.
- TTL to accommodate transitivity requirements.
- Bit to distinguish locally assigned vs. well known formats
- Source AS field to denote AS which added the field.
- Format for parameters predefined as sub-TLVs

Version -01/-02

- Some discussions to merge/not merge with original flex comms draft happened. Majority consensus among authors reached.
- Encapsulation document is stable – no changes since Beijing IETF
- Current focus is to progress the encapsulation draft which has deployment value on it's own – it allows operators to construct parametrized and conditionally executed communities of variable size.
- Authors would like to request this document to become IDR WG item.