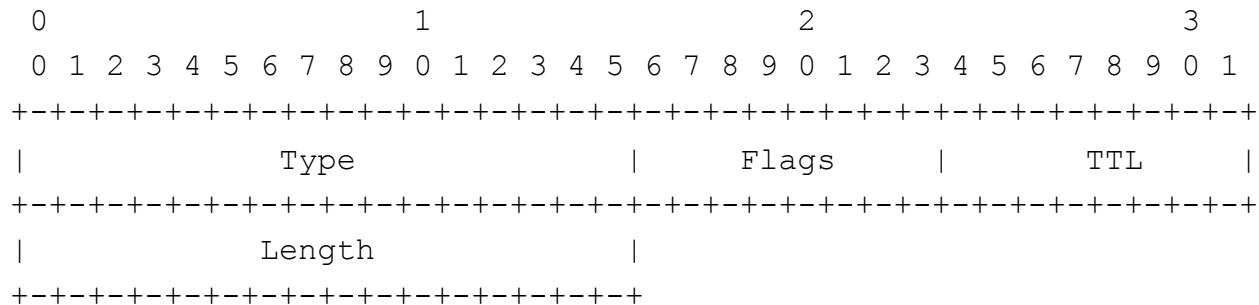# draft-raszuk-wide-bgp-communities
IETF 81

Robert Raszuk, **Jeffrey Haas**,

Shane Amante, Richard Steenbergen,

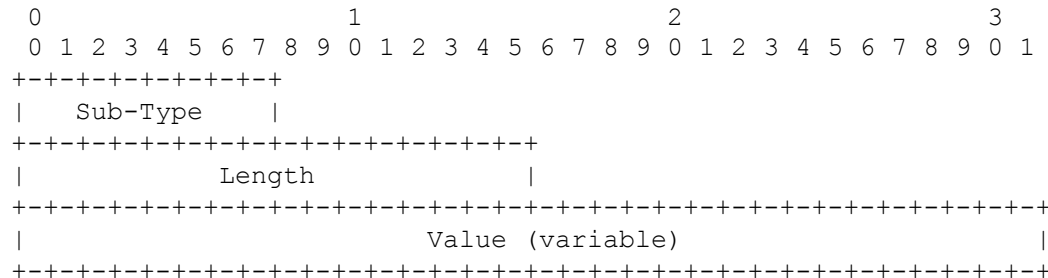Bruno Decraene, Paul Jakma

The story thus far

- Draft -02 continues the reconciliation of the ideas from the flexible communities draft and the wide communities draft.

- Format evolving as we understand the use cases better.

- Last open reconciliation issue is the class based targets from flexible communities.

Current packet format: Common Header

```
 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
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|              Type             |     Flags     |      TTL      |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|             Length            |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```
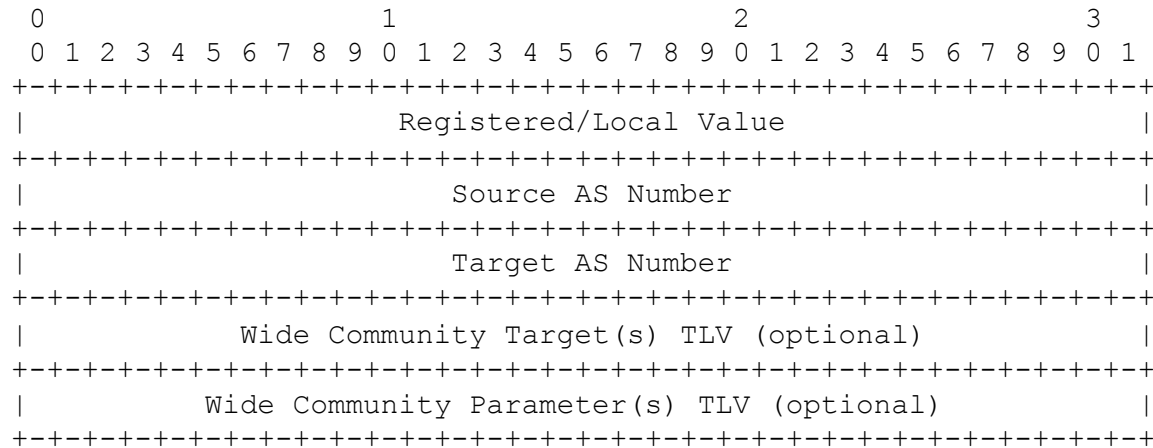
- Type expanded to two octets.
- TTL moved into the common header.
- Explicit length field in header.

Packet Format: Atoms

```
 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
+-+-+-+-+-+-+-+-+
|   Sub-Type    |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|              Length           |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                       Value (variable)                        |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

- Atoms are intended to be elements of a community. Include:
  - AS
  - IPv4/IPv6 Prefix
  - Integer
  - Floating Point Number
  - Grouping Container for boolean AND.
  - TODO: Add Flexible Community Classes?

Packet Format: Type 1

```
 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
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                     Registered/Local Value                    |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                       Source AS Number                        |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                       Target AS Number                        |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|            Wide Community Target(s) TLV (optional)            |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|           Wide Community Parameter(s) TLV (optional)          |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

- Added a Target AS number to define the context of Locally registered communities.
- Added grouping TLVs to clarify what is a target (thing the community is addressed to) vs. parameters for the community.

Next Steps

- One last integration pass with Flex comm authors.

- Ask for WG adoption of draft.

- Re-spin as new combined draft with contributors from both flexible and wide community drafts, potentially with a rename.
  - Perhaps agile communities?