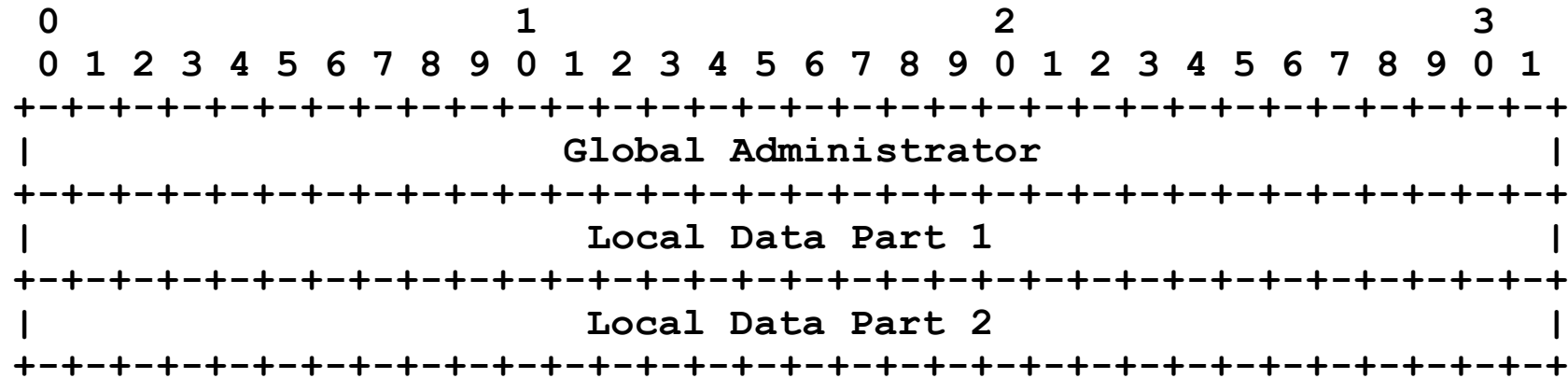# BGP Well Known LargeCommunity
draft-heitz-idr-wklc

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Large Community

```
 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
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                      Global Administrator                     |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                       Local Data Part 1                       |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                       Local Data Part 2                       |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```
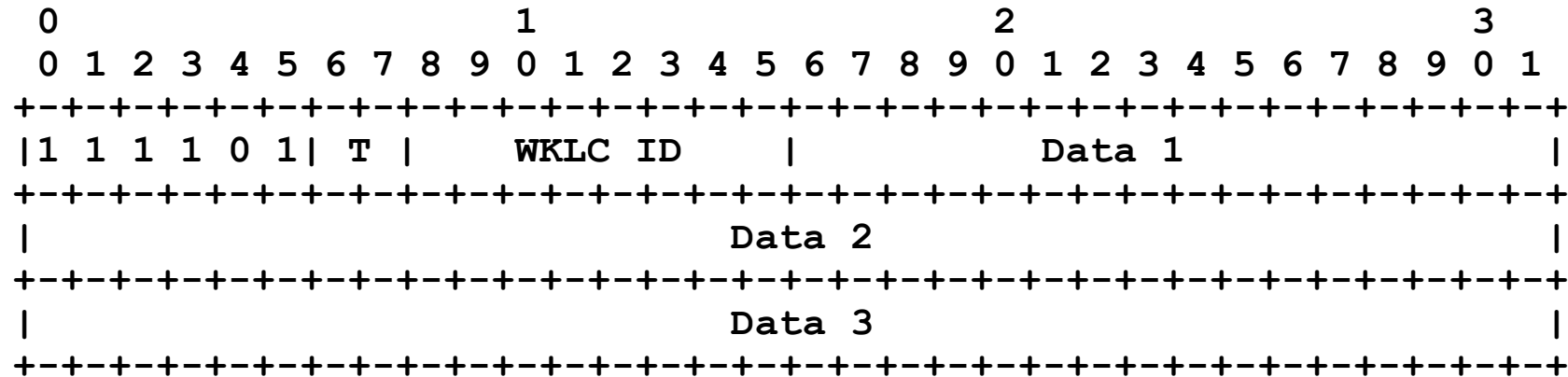
- Global Administrator is usually an ASN.

- The owner of the ASN defines the Local Data Part.

- Typical Usage
    1. Others tell the ASN owner how to treat the route.
    2. ASN owner tells others properties of the route.

Well Known Large Community

- https://tools.ietf.org/html/draft-heitz-idr-wklc-00
- Usage
  - Like a Well Known Community where extra data is required.
- Examples
  - No Export to a specific ASN
  - No Export from a specific ASN
  - Down Only indicator from a specific ASN for route leak detection

Encoding

```
 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
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|1 1 1 1 0 1| T |    WKLC ID    |            Data 1             |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                             Data 2                            |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                             Data 3                            |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

- Fixed 6 bits to indicate WKLC
  - Reserves a range of ASNs 4093640704 to 4160749567. A small range below the private ASNs.
- T – 2 bit Transitivity of the WKLC across ASes
  - Transitive, Non-transitive, Admin Transitive, One-time Transitive.
- 1 Octet ID
- 10 Octets WKLC specific data
- Data 1 can be used to extend the ID space for IDs that require 8 octets or less

New Transitivity

Coarse grained, to prevent accidental distribution to the entire Internet, but still covers major use cases. Use route-policy for fine grained distribution.

- ## Administration Transitive
  - Non-Transitive, except when session is configured as "Same-Admin"
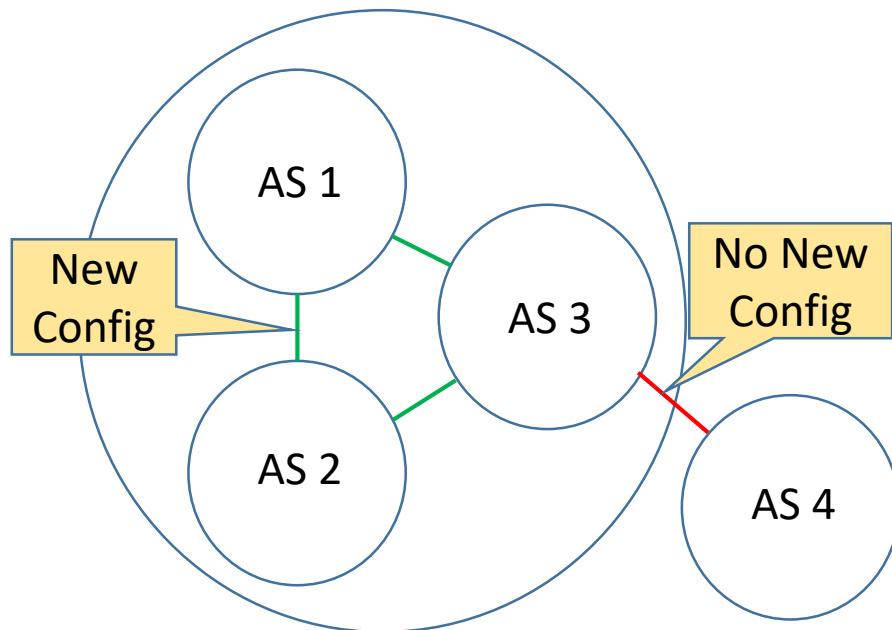
- ## One Time Transitive
  - For your neighbor only