SID Allocation

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From YANG Data Model to SIDs

Identity

Data (delta encoded)
From YANG Data Model to SIDs

YANG DM

Identity
Data (delta encoded)

-24≤δ<23: 1 byte
-256≤δ<255: 2 bytes

YANG DM augmentation

Identity
Data (delta encoded)
SID Management

• SCHC DM will be augmented
• SCHC WG ask for a SID space at IANA:
  – Hypothesis: 5000:500
  – Produce a SID allocation file for each WG YANG DM
  – Proposition:
    1. Regroup Identity and Data
    2. Minimize delta by inserting as much space (23) as possible between list SIDs
    3. Fill gap with leaf SIDs
Arithmetics

• Ietf-schc: 136
  – 92 for identity, 2 for features and 42 for data
  – 42->300 with max spreading
  – Identity starts at 5300
• OAM: 10 identity, 1 data
• Access-control: 0 Identity, 4 data
• Compound-ack: 3 identity, 1 data
• RFC8824 update: 9 identity, 0 data
Consideration

• -24/+23 area is limited, must be reserved to the most frequent values in a rule.

• SCHC DM is built to be augmented:
  – Small YANG DM
### tests

<table>
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<tr>
<th></th>
<th>million</th>
<th></th>
<th>IETF</th>
<th></th>
<th>IETF</th>
<th></th>
<th>IESG</th>
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<th>JSON</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>separate</td>
<td></td>
<td>grouped</td>
<td></td>
<td>(dream)</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>sor-9363</td>
<td>2194</td>
<td></td>
<td>1740 (-454)</td>
<td>1721 (-19)</td>
<td>1586 (-135)</td>
<td>15388</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sor-oam</td>
<td>2841</td>
<td></td>
<td>2265 (-576)</td>
<td>2243 (-22)</td>
<td>2064 (-179)</td>
<td>19871</td>
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<tr>
<td>sor-oam+ac</td>
<td>2925</td>
<td></td>
<td>2321 (-604)</td>
<td>2271 (-50)</td>
<td>2092 (-179)</td>
<td>20686</td>
<td></td>
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</tr>
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</table>
Process

- LPWAN/SCHC working group request IANA for a pool (up to 500)
- A GW RFC with YANG is issued:  
  - Publish a SID file with manual allocation.