GUE update

draft-ietf-intarea-gue-05
draft-ietf-intarea-gue-extensions-03

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draft-ietf-intarea-gue-05

- In WGLC (not many comments)
- Previously had several reviews
- Only major change to latest version is rename “GUE version” to “GUE variant”
Possible future updates

- Recategorize Ctype field to allow for alternate, non-IP protocol encapsulations
  - E.g. could have BIER/GUE, LISP/GUE, etc.
- Formatted private data
  - New flag that says private data is formatted
  - First byte of private data indicates type
  - Alternatively, extension field could do that
- Ethernet code point, IP protocol (like GRE)?
In WGLC (not many comments)
Some reviews
8 extensions, 11/16 flag bits allocate
Major addition to latest version is “Alternate checksum” extension
  Checksum over header and # of bytes of data
  CRC-32, CRC-16, and CRC-16-CCITT
  Pitfalls of making checksums optional is noted
Defining new flags/extensions

- **Philosophy**: GUE extensions are for general mechanisms of encapsulation, not specific use cases
- Estimate ~1 new flag bit allocated per year
- Five unallocated flags currently
- Solution: last flag bit (#31) indicates a “flag field extension” - provides 32 more flag bits
GUE with flag field extension

<table>
<thead>
<tr>
<th>Source port</th>
<th>Destination port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Checksum</td>
</tr>
</tbody>
</table>

Fields (optional)

Extended Flags

Extension Fields (optional)

Private data (optional)

UDP

0 | C | Hlen | Proto/ctype | Flags | E
---|---|------|-------------|-------|---
Possible new extensions

- Two bits for passive OAM measurement like in RFC8321
- One bit for group based policy field
- Aforementioned formatted private data
Thank you!