

IPv6 Universal Extension Header

(draft-gont-6man-rfc6564bis-01)

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IETF 94
Yokohama, Japan. November 1-6, 2015

Problem Statement

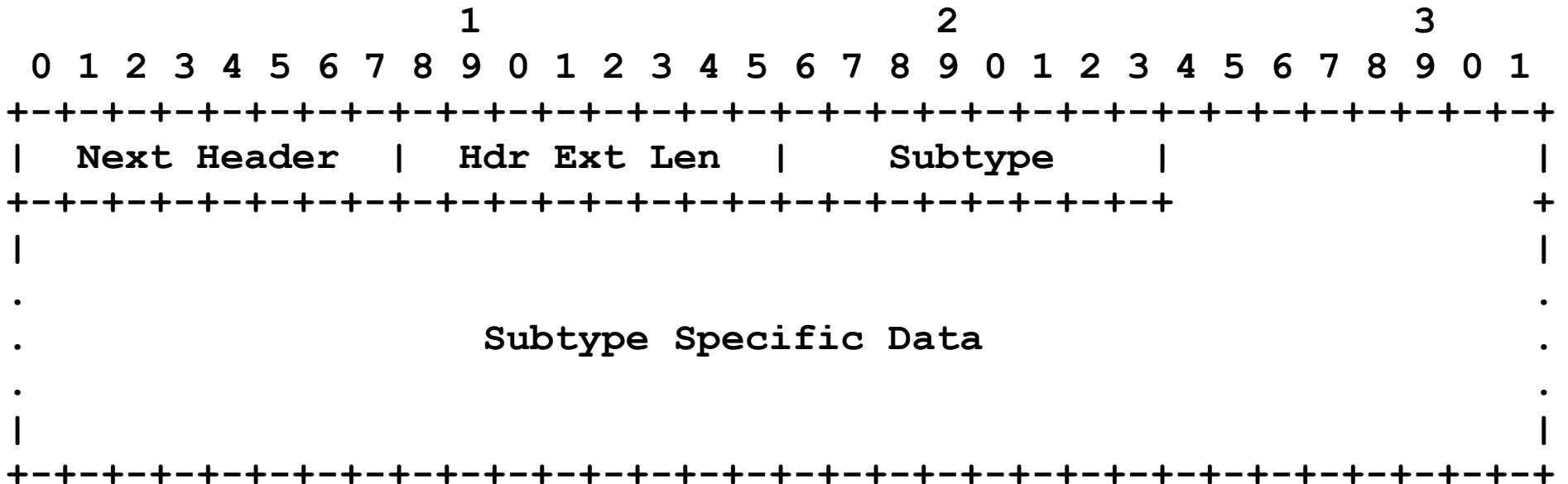
- It is impossible to tell whether an unknown Protocol number is an EH or an upper-layer protocol
- This affects:
 - intermediate systems that need to obtain upper-layer information
 - the deployment of new transport protocols and new IPv6 Extension Headers

What has been done so far

- RFC 7045
 - Clearly separates EHs vs. Upper-layer protocols (for known ones)
- RFC 6564
 - Recommends against specifying new EHs
 - Defines a Uniform format for EHs, but:
it is still impossible to tell whether an unknown Next Header is an EH or an ULP

Proposed solution

- IPv6 Universal Extension Header



- Uses a single (IANA-assigned) Protocol number
- Allows for up to 256 new “EHs” (“Subtype” namespace)

Other alternative solutions

- Reserve a range of Protocol Numbers for RFC 6564
 - Simple, but most likely wastes lots of protocol numbers
- Entirely ban new EHs
 - Solves the problem, but might prevent new developments
 - Hard to predict if new EHs will be needed

Moving forward

- Adopt as wg item?