

IPv6 Universal Extension Header (draft-gont-6man-ipv6-universal-extension- header-00)

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Problem Statement

- It is currently impossible to parse unknown IPv6 Extension Headers
- Given an unknown Next Header, it is impossible to tell whether it's an EH or an upper-layer protocol
- End-result, it becomes impossible to deploy:
 - New transport protocols, or,
 - New Extension Headers
- We should allow finer-grained policies

What has been done

- 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

Other alternative solutions

- Reserve a range of Protocol Numbers for RFC 6564
 - Simple, but potentially wastes lots of protocol numbers
- Entirely ban new EHs
 - Solves the problem, but might prevent new developments