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Reserved Type, Length and Value (TLV) Codepoints in Intermediate System to Intermediate System

Status of this Memo

This memo provides information for the Internet community. It does not specify an Internet standard of any kind. Distribution of this memo is unlimited.

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Abstract

This document describes implementation codepoints within Intermediate System to Intermediate System (IS-IS) used today by several ISPs for routing within their clouds. IS-IS is an interior gateway routing protocol developed originally by OSI and used with IP extensions as Interior Gateway Protocol (IGP). This document summarizes all Table, Length and Value (TLV) codepoints that are being used by the protocol and its pending extensions.

1. TLV Codepoints Reserved

| Name | Value | IIH | LSP | SNP | Status |
|---------------------|-------|-----|-----|-----|-----------------------|
| Area Addresses | 1 | y | y | n | ISO 10589 |
| IIS Neighbors | 2 | n | y | n | ISO 10589 |
| ES Neighbors | 3 | n | y | n | ISO 10589 |
| Part. DIS | 4 | n | y | n | ISO 10589 |
| Prefix Neighbors | 5 | n | y | n | ISO 10589 |
| IIS Neighbors | 6 | y | n | n | ISO 10589 |
| Padding | 8 | y | n | n | ISO 10589 |
| LSP Entries | 9 | n | n | y | ISO 10589 |
| Authentication | 10 | y | y | y | ISO 10589 |
| Opt. Checksum | 12 | y | n | y | IETF-draft |
| LSPBufferSize | 14 | n | y | n | ISO 10589 Rev 2 Draft |
| TE IIS Neigh. | 22 | n | y | n | IETF-draft |
| DECnet Phase IV | 42 | y | n | n | DEC (ancient) |
| Lucent Proprietary | 66 | n | y | n | |
| IP Int. Reach | 128 | n | y | n | RFC 1195 |
| Prot. Supported | 129 | y | y | n | RFC 1195 |
| IP Ext. Address | 130 | n | y | n | RFC 1195 |
| IDRPI | 131 | n | y | y | RFC 1195 |
| IP Intf. Address | 132 | y | y | n | RFC 1195 |
| Illegal | 133 | n | n | n | RFC 1195 (not used) |
| Router ID | 134 | n | y | n | IETF-draft |
| TE IP. Reach | 135 | n | y | n | IETF-draft |
| Dynamic Name | 137 | n | y | n | RFC 2763 |
| Nortel Proprietary | 176 | n | y | n | |
| Nortel Proprietary | 177 | n | y | n | |
| Restart TLV | 211 | y | n | n | IETF-draft |
| MT-ISN | 222 | n | y | n | IETF-draft |
| M-Topologies | 229 | y | y | n | IETF-draft |
| IPv6 Intf. Addr. | 232 | y | y | n | IETF-draft |
| MT IP. Reach | 235 | n | y | n | IETF-draft |
| IPv6 IP. Reach | 236 | n | y | n | IETF-draft |
| MT IPv6 IP. Reach | 237 | n | y | n | IETF-draft |
| P2P Adjacency State | 240 | y | n | n | IETF-draft |

2. Assignment Procedures

This document is provided to avoid possible future conflicts in the assignment of TLV numbers. It does not constitute or represent any standard or authority assigning TLV numbers. TLV assignment happens on a shared, informational basis between the ISO, SIF and the IETF working groups. The core ISIS protocol is being specified in the ISO standards body, IP extensions to it however are products of the ISIS working group in IETF. Since ISO does not provide a numbering authority and IANA is only responsible for IP related coding points, no plausible central authority to assign TLV numbers exists as of today.

This document will be periodically updated by newer versions in the fashion of [RP94] and successors. It may be replaced at any given point in time by some type of official registry.

This document will not indicate specific documents using the codepoints, nor will it resolve the sub-TLV codepoints.

3. Acknowledgments

Thanks to Les Ginsberg and others for pointing out details and improving this work.

4. Security Consideration

ISIS security applies to the work presented. No specific security issues are being introduced.

5. References

- [Cal90a] R. Callon. OSI ISIS Intradomain Routing Protocol. INTERNET-RFC, Internet Engineering Task Force, February 1990.
- [Cal90b] R. Callon. Use of OSI ISIS for Routing in TCP/IP and Dual Environments. INTERNET-RFC, Internet Engineering Task Force, December 1990.
- [ISO90] ISO. Information Technology - Telecommunications and Information Exchange between Systems - Intermediate System to Intermediate System Routing Exchange Protocol for Use in Conjunction with the Protocol for Providing the Connectionless-Mode Network Service. ISO, 1990.
- [RP94] Reynolds, J., "Assigned Numbers; RFC 1700 is Replaced by an On-line Database", RFC 3232, January, 2002.

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