IS-IS Multi-Instance
draft-ietf-isis-mi-bis-00

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Draft History

December 2015:  
draft-ginsberg-isis-mi-bis-00.txt submitted

No IS-IS WG meeting in Buenos Aires

May 2016 – became a WG document  
draft-ietf-isis-mi-bis-00.txt submitted
Motivation

RFC 6822 prohibited the use of RFC 5120 Multi-Topology (MT) support in a non-zero instance.

Deployment experience since the writing of RFC 6822 has revealed a desire to be able to support RFC 5120 style MT using multiple non-zero instances e.g. to utilize a link in multiple L1 areas yet also support incongruent IPv4 and IPv6 topologies.
IID-TLV Format

Type: 7
Length: 2 - 254
Value:

<table>
<thead>
<tr>
<th>No. of octets</th>
</tr>
</thead>
<tbody>
<tr>
<td>IID (0 - 65535)</td>
</tr>
<tr>
<td>Supported ITID</td>
</tr>
<tr>
<td>Supported ITID</td>
</tr>
</tbody>
</table>

96th IETF, Berlin, July 2016
Changes: Support RFC 5120 MT in non-zero instance: ITID #0 only

“ITID #0 is reserved for a specific use case as described later in this document. ITID #0 MUST NOT be supported in combination with any non-zero ITID. If multiple ITIDs are advertised in an IIH and one of the ITIDs is #0 then the PDU MUST be ignored.”

“When multiple ITIDs are supported by an instance ITID #0 MUST NOT be supported.”

“An MI-RTR MAY support [RFC5120] multi-topology within a non-zero instance when ITID #0 is supported. When ITID #0 is supported it MUST be the only ITID supported by that instance. In such cases if an MI-RTR uses the extensions in support of the BFD Enabled TLV [RFC6213], the [RFC5120] MTID MUST be used as specified in [RFC6213].”
Changes: Support RFC 5120 MT in non-zero instance: ITID #0 only (2)

RFC 6822 states MT TLVs in an LSP associated w non-zero instance MUST be ignored:

TLV 222 - MT IS Neighbors
TLV 235 - MT IP Reachability
TLV 237 - MT IPv6 Reachability

This is changed to state:

“An MI-RTR MUST NOT support [RFC5120] multi-topology within a non-zero instance when any non-zero ITID is supported. The following TLVs MUST NOT be sent in an LSP associated with a non-zero instance which supports a non-zero ITID and such an LSP MUST be ignored when received:”
Backwards Compatibility

This change is NOT backwards compatible with RFC 6822 which prohibited the use of RFC 5120 MTIDs in non-zero instances.

Are there existing implementations of RFC 6822 for which this would be a problem?

Two implementations known – both of these have implemented the changes and interoperability testing has been done successfully
Other Changes

A suggestion has been added to place the IID-TLV as the first TLV in a PDU to speed recognition of the correct instance when parsing a received PDU.

Clarification that the IID-TLV is only included in Pt-Pt IIHs associated with non-zero instances has been added. This addresses Errata ID #4519.

Clarification of the appropriate MAC multicast addresses to use when sending PDUs on a broadcast interface for both standard instance and non-zero instances has been provided. This addresses Errata ID #4520.
Clarification that following text does NOT apply to Pt-Pt operation on a LAN:

“In order for an MI-RTR to interoperate over a point-to-point circuit with a router that does NOT support this extension, the MI-RTR MUST NOT send IS-IS PDUs for instances other than IID #0 over the point-to-point circuit as these PDUs may affect the state of IID #0 in the neighbor.”

Authors feel that existing text in the draft is clear i.e. text in Section 2.6.1 covers Point-Point operation on a LAN.

No changes made.
Next Steps

Authors believe this is ready for WGLC