

Extensions to IS-IS for Layer-2 Systems

draft-ietf-isis-layer2-01.txt

*Dave Ward, Russ White,
Dino Farinacci, Radia Perlman,
Donald Eastlake, Peter Ashwood-Smith,
Don Fedyk, Ayan Banerjee*

Outline

- Current Status
- Changes from version 00 to 01
- Packet Format Details
- Next Steps

Current Status

- Captures requirements from
 - TRILL WG
 - IEEE 802.1aq
 - Homogenizes the requirements to have a common set of TLVs and sub-TLVs where possible
- Merged
 - draft-ward-l2isis-04.txt
 - draft-eastlake-trill-isis-01.txt
 - draft-ieee-isis-spb-00.txt

Changes between versions

- Introduces MT-aware (Router) Capability TLV
- Modifies Port Capability TLV to be MT-aware
- Sub-TLV Modifications
 - Conforms to requirements from different technologies
 - Introduces a few new sub-TLVs to support IEEE 802.1aq requirements
 - Details next

Details

- MAC-RI TLV (141) (TRILL/IEEE)
- MT-Port-Cap-TLV (143)
 - sub-tlv 1 PortCap.VLAN and Flags (TRILL/-)
 - sub-tlv 2 PortCap.Enabled-VLANs (TRILL/-)
 - sub-tlv 3 PortCap.AppointedFwrdrs (TRILL/-)
 - sub-tlv 4 PortCap.HopbyHopOptions (TRILL/-)
 - sub-tlv 5 PortCap.BaseVLANID (-/IEEE)

Details

- Capability-TLV (242)
 - sub-tlv 5 CAPABILITY.Trill-Version (TRILL/-)
 - sub-tlv 6 CAPABILITY.Nickname (TRILL/-)
 - sub-tlv 7 CAPABILITY.Tree (TRILL/-)
 - sub-tlv 8 CAPABILITY.Tree Roots Id (TRILL/-)
 - sub-tlv 9 CAPABILITY.TreeUseRootId (TRILL/-)
 - sub-tlv 10 CAPABILITY.Int-VLANs (TRILL/-)
 - sub-tlv 11 CAPABILITY.VLAN-Groups (TRILL/-)
 - sub-tlv 12 CAPABILITY.ITEOPT (TRILL/-)

Details

- MT-Capability-TLV (144) (-/IEEE)
 - sub-tlv 1 MT-Cap.SPB Instance (-/IEEE)
 - sub-tlv 2 MT-Cap.Service Id. (-/IEEE)
- EXT-IS TLV (22)
 - sub-tlv 5 EXT-IS.SPB Link Metric (-/IEEE)
- MT-EXT-IS TLV (222)
 - sub-tlv 5 MT-EXT-IS.SPB LinkMetric (-/IEEE)

Details

- MGROUP-PDU
- MGROUP-CSNP-PDU
- MGROUP-PSNP-PDU
- GADDR TLV (144) (TRILL/IEEE)
 - sub-tlv 1 Gaddr.Gmac (TRILL/IEEE)
 - sub-tlv 2 Gaddr.Gip (TRILL/IEEE)
 - sub-tlv 3 Gaddr.Gipv6 (TRILL/IEEE)

Conclusion and Next Steps

- Document extends IS-IS to carry L2 unicast and multicast routing information across multiple technologies
- Capture few last requirements from the TRILL WG