

Advertising Encapsulation Capability Using IS-IS

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Motivation

■ Use Cases:

□ Incremental Deployment of new technologies

- ❖ To facilitate the incremental deployment of the MPLS-SPRING technology, a MPLS-SPRING-enabled router is allowed to transport the MPLS packet through an IP-based tunnel towards the next node segment so as to traverse non-MPLS routers.
- ❖ To facilitate the incremental deployment of the Bit Index Explicit Replication (BIER) technology, a BFR is allowed to send a BIER packet or the payload of the BIER (e.g., an MPLS packet in the BIER-MVPN case) over a unicast IP-based tunnel towards each BFER if the next-hop is a non-BFR.

□ Non-MPLS based use case for RLFA

- ❖ To advertise the RLFA PQ node tunneling capability and associated parameters for all remote nodes

It enables..

- **The ingress of the IP-based tunnel to know which encapsulation type is supported by the egress of the IP-based tunnel. This document describes how to advertise the encapsulation capability and the associated parameters for that encapsulation (if any) using IS-IS.**

Proposed Solution

- **IS-IS routers advertise the encapsulation type(s) they support by using a new sub-TLV in the IS-IS Router CAPABILITY TLV [[RFC4971](#)], referred to as Encapsulation Capability sub-TLV.**
 - **The Value field of the Encapsulation Capability sub-TLV contains one or more Encapsulation Type sub-TLVs with each indicating a particular encapsulation format and the associated parameters (if any) for that encapsulation, that the advertising router supports.**
- **This document currently defines the following Encapsulation Types:**
 - **MPLS-in-IP tunnel [[RFC4023](#)]**
 - **MPLS-in-GRE tunnel [[RFC4023](#)]**
 - **MPLS-in-L2TPv3 tunnel [[RFC4817](#)]**
 - **MPLS-in-UDP tunnel [[I-D.ietf-mpls-in-udp](#)]**
 - **MPLS-in-IP tunnel with IPsec Transport Mode [[RFC5566](#)]**
 - **IP-in-IP tunnel [[RFC2003](#)]**

Next Steps

- **Authors Acknowledge Bruno D., France Telecom**
 - for the detailed review
 - Proposing a new uses case and suggestions.
- **Document Updates (TBD)**
 - Describe Remote Loop-Free Alternates (RLFA) use case.
 - Review and Extend the list of Encapsulation Types.
 - Define a sub-TLV of the Encapsulation Type sub-TLV to indicate parameters of certain Encapsulation Types (e.g., IP Address, GRE key).
- **Looking for more inputs/reviews from WG**

Thank You!