

Networking Working Group
Internet-Draft
Intended status: Standards Track
Expires: September 3, 2015

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March 2, 2015

Advertising S-BFD Discriminators in IS-IS
draft-ietf-isis-sbfd-discriminator-02.txt

Abstract

This document defines a means of advertising one or more S-BFD Discriminators using the IS-IS Router Capability TLV.

Requirements Language

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [RFC2119].

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1. Introduction

[S-BFD] defines a simplified mechanism to use Bidirectional Forwarding Detection (BFD)[RFC5880]. This mechanism depends on network nodes knowing the BFD discriminators which each node in the network has reserved for this purpose. Use of the Intermediate System to Intermediate System (IS-IS)[IS-IS] protocol is one possible means of advertising these discriminators.

2. Encoding Format

The IS-IS Router CAPABILITY TLV as defined in [RFC4971] will be used to advertise S-BFD discriminators. A new sub-TLV is defined as described below. S-BFD Discriminators sub-TLVs are formatted as specified in [RFC5305].

	No. of octets
+-----+	
Type (to be assigned by	1
IANA - suggested value 20)	
+-----+	
Length (multiple of 4)	1
+-----+	
Discriminator Value(s)	4/Discriminator
:	:
+-----+	

Inclusion of the S-BFD Discriminators sub-TLV in a Router Capability TLV is optional. Multiple S-BFD Discriminators sub-TLVs MAY be advertised by an IS. When multiple S-BFD discriminators are advertised how a given discriminator is mapped to a specific use case is out of scope for this document.

S-BFD discriminator advertisements MAY be flooded within an area or throughout the domain using the procedures specified in [RFC4971]. The appropriate flooding scope depends on the intended use of S-BFD. If S-BFD use will be exclusively within a Level-1 area then area scope is appropriate. If S-BFD usage will span different L1 areas then domain scope is appropriate.

3. IANA Considerations

This document requires the definition of a new sub-TLV in the Sub-TLVs for TLV 242 registry. The value written below is a suggested value subject to assignment by IANA.

Value	Description
-----	-----
20	S-BFD Discriminators

4. Security Considerations

Security concerns for IS-IS are addressed in [IS-IS], [RFC5304], and [RFC5310]. Introduction of the S-BFD Discriminators sub-TLV introduces no new security risks for IS-IS.

Advertisement of the S-BFD discriminators does make it possible for attackers to initiate S-BFD sessions using the advertised information. The vulnerabilities this poses and how to mitigate them are discussed in the Security Considerations section of [S-BFD].

5. Acknowledgements

The authors wish to thank Sam Aldrin, Manav Bhatia, and Carlos Pignataro for input essential to defining the needed functionality.

6. Normative References

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