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L. Ginsberg
N. Akiya
Cisco Systems
M. Chen
Huawei

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Advertising S-BFD Discriminators in IS-IS
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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].

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

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This Internet-Draft will expire on March 27, 2015.

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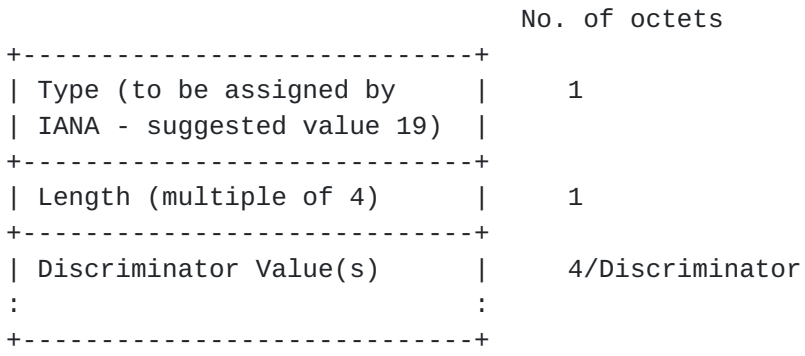
1. Introduction

[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].



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].

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
19	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

[IS-IS] "Intermediate system to Intermediate system intra-domain routeing information exchange protocol for use in conjunction with the protocol for providing the connectionless-mode Network Service (ISO 8473), ISO/IEC 10589:2002, Second Edition.", Nov 2002.

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[RFC4971] Vasseur, JP., Shen, N., and R. Aggarwal, "Intermediate System to Intermediate System (IS-IS) Extensions for Advertising Router Information", RFC 4971, July 2007.

[RFC5304] Li, T. and R. Atkinson, "IS-IS Cryptographic Authentication", RFC 5304, October 2008.

[RFC5305] Li, T. and H. Smit, "IS-IS Extensions for Traffic Engineering", RFC 5305, October 2008.

[RFC5310] Bhatia, M., Manral, V., Li, T., Atkinson, R., White, R., and M. Fanto, "IS-IS Generic Cryptographic Authentication", RFC 5310, February 2009.

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[S-BFD] "Seamless Bidirectional Forwarding Detection (S-BFD), draft-ietf-bfd-seamless-base-03(work in progress)", August 2014.

Authors' Addresses

Les Ginsberg
Cisco Systems
510 McCarthy Blvd.
Milpitas, CA 95035
USA

Email: ginsberg@cisco.com

Nobo Akiya
Cisco Systems

Email: nobo@cisco.com

Mach(Guoyi) Chen
Huawei

Email: mach.chen@huawei.com