

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

L. Ginsberg
N. Akiya
Cisco Systems
M. Chen
Huawei
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](#)].

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of [BCP 78](#) and [BCP 79](#).

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <http://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on September 3, 2015.

Copyright Notice

Copyright (c) 2015 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to [BCP 78](#) and the IETF Trust's Legal Provisions Relating to IETF Documents (<http://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents

carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

This document may contain material from IETF Documents or IETF Contributions published or made publicly available before November 10, 2008. The person(s) controlling the copyright in some of this material may not have granted the IETF Trust the right to allow modifications of such material outside the IETF Standards Process. Without obtaining an adequate license from the person(s) controlling the copyright in such materials, this document may not be modified outside the IETF Standards Process, and derivative works of it may not be created outside the IETF Standards Process, except to format it for publication as an RFC or to translate it into languages other than English.

Table of Contents

1.	Introduction	2
2.	Encoding Format	2
3.	IANA Considerations	3
4.	Security Considerations	3
5.	Acknowledgements	4
6.	Normative References	4
	Authors' Addresses	4

[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 IANA - suggested value 20)	1
+-----+	
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

- [IS-IS] "Intermediate system to Intermediate system intra-domain routing 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.
- [RFC5880] Katz, D. and D. Ward, "Bidirectional Forwarding Detection (BFD)", [RFC 5880](#), June 2010.
- [S-BFD] "Seamless Bidirectional Forwarding Detection (S-BFD), [draft-ietf-bfd-seamless-base-04](#)(work in progress)", January 2015.

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