Advertising S-BFD Discriminators in L2TPv3
draft-ietf-l2tpext-sbfd-discriminator-00.txt

Abstract

   This document defines a new AVP for advertising one or more S-BFD
   Discriminators using the L2TPv3 Control Protocol AVP.

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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   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 January 24, 2016.

Table of Contents

1. Introduction

   [I-D.ietf-bfd-seamless-base] 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 Layer2
   Tunneling protocol Version 3 (L2TPv3) [RFC3931] is one possible means
   of advertising these discriminators. S-BFD requires the usage of
   unique discriminators within an administrative domain.

   This document specifies the encoding to be used when S-BFD
   discriminators are advertised using L2TPv3.

2. S-BFD Target Discriminator ID AVP

   This AVP is exchanged during session negotiation (ICRQ, ICRP, OCRQ,
   OCRP).

2.1. Encoding Format

   The S-BFD Target Discriminator ID AVP, Attribute Type TBD, is an
   identifier used to advertise the S-BFD target discriminators
   supported by an LCCE for S-BFD Reflector operation. This AVP
   indicates that the advertiser implements a S-BFD reflector supporting
   the specified target discriminators and is ready for S-BFD Reflector
   operation. The receiving LCCE MAY use this AVP if it wants to
   monitor connectivity to the advertising LCCE using S-BFD or BFD.

   The Attribute Value field for this AVP has the following format:

   S-BFD Discriminator Advertisement (ICRQ, ICRP, ICCN, OCRQ, OCRP,
   OCCN):

```
                                              No. of octets
                +------------------------------+
                | Discriminator Value(s)       |     4/Discriminator
                :                              :
                +------------------------------+
```

   An LCCE MAY include the S-BFD Discriminator Advertisement AVP in a
   L2TP Control Protocol message (ICRQ, ICRP, OCRQ, OCRP) [RFC3931].
   Multiple S-BFD Discriminators AVPs MAY be advertised by a LCCE. If
   the other LCCE does not wish to monitor connectivity using S-BFD, it
   MAY safely discard this AVP without affecting the rest of session
   negotiation. While current use-cases
   [I-D.ietf-bfd-seamless-use-case] of S-BFD require advertisement of
   only one discriminator, the AVP encoding allows specification an
   arbitrary number of discrminators for extensibility. When multiple
   S-BFD discriminators are advertised, the mechanism to choose a subset
   of specific discriminator(s) is out of scope for this document.

   The M bit of the L2TP Control Protocol Message (ICRQ, ICRP, OCRQ,
   OCRP) [RFC3931] MUST NOT be set inside the S-BFD Target Discriminator
   ID AVP advertisement.

3. IANA Considerations

   This number space is managed by IANA as per [RFC3438].

   A summary of the new AVPs requested for Attribute Type 0 follows:

   Control Message Attribute Value Pairs

```
        Attribute
        Type          Description
        ---------     ------------------
        TBD           S-BFD Discriminators
```

4. Security Considerations

Security concerns for L2TP are addressed in [RFC3931]. Introduction
of the S-BFD Discriminator Advertisement AVP introduces no new
security risks for L2TP.

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
[I-D.ietf-bfd-seamless-base].

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7. References

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7.2. Informative References

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