BMP Peer Up Message Namespace
draft-scudder-grow-bmp-peer-up-00.txt

Abstract

   RFC 7854, BMP, uses different message types for different purposes.
   Most of these are Type, Length, Value (TLV) structured. One message
   type, the Peer Up message, lacks a set of TLVs defined for its use,
   instead sharing a namespace with the Initiation message. Subsequent
   experience has shown that this namespace sharing was a mistake, as it
   hampers the extension of the protocol.

   This document updates RFC 7854 by creating an independent namespace
   for the Peer Up message. The changes in this document are formal
   only, compliant implementations of RFC 7854 also comply with this
   specification.

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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   material or to cite them other than as "work in progress."

   This Internet-Draft will expire on June 17, 2019.

Table of Contents

1. Introduction

[RFC7854] defines a number of different BMP message types. With the
exception of the Route Monitoring message type, these messages are
TLV-structured. Most message types have distinct namespaces and IANA
registries. However, the namespace of the Peer Up message overlaps
that of the Initiation message. As the BMP protocol has been
extended, this oversight has become problematic. In this document,
we create a distinct namespace for the Peer Up message to eliminate
this overlap, and create the corresponding missing registry.

The changes in this document are formal only, compliant
implementations of [RFC7854] also comply with this specification.

1.1. Requirements Language

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",
"SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and
"OPTIONAL" in this document are to be interpreted as described in BCP
14 [RFC2119] [RFC8174] when, and only when, they appear in all
capitals, as shown here.

2. String Definition

A string TLV is a free-form sequence of UTF-8 characters whose length
is given by the TLV's Length field. There is no requirement to
terminate the string with a null (or any other particular) character
-- the Length field gives its termination.

3. Changes to RFC 7854

We update [RFC7854] as follows:

o The "Information TLV" of section 4.4, that was shared between the
   Initiation and Peer Up message types, is renamed as the
   "Initiation Information TLV", and is only relevant to the
   Initiation message type.

o A "Peer Up Information TLV" is defined, and is relevant to the
   Peer Up message type.

o A "Peer Up TLVs" registry is created, seeded with the Peer Up
   Information TLV.

Other than as summarized above, and detailed below, there are no
other changes.

3.1. Revision to Information TLV, Renamed as Initiation Information TLV

The Information TLV defined in section 4.4 of [RFC7854] is renamed
"Initiation Information TLV". It is used only by the Initiation
message, not by the Peer Up message.

The definition of Type = 0 is revised to be:

o Type = 0: String. The Information field contains a string
   (Section 2). The value is administratively assigned. If multiple
   strings are included, their ordering MUST be preserved when they
   are reported.

3.2. Revision to Peer Up Notification

The final paragraph of section 4.10 of [RFC7854] references the
Information TLV (which is revised above (Section 3.1)). That
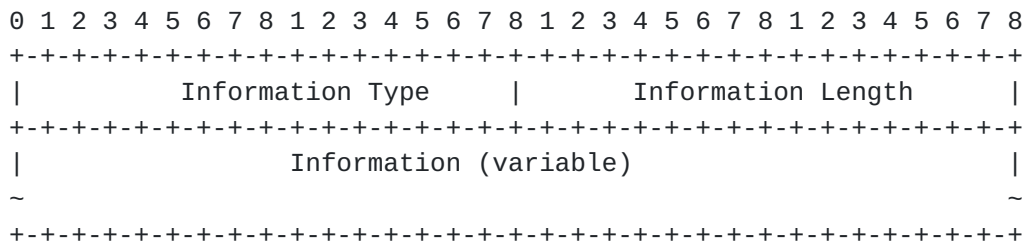paragraph is replaced by the following:

o Information: Information about the peer, using the Peer Up
   Information TLV format defined below (Section 3.3). The String
   type may be repeated. Inclusion of the Information field is

OPTIONAL. Its presence or absence can be inferred by inspection
of the Message Length in the common header.

3.3. Definition of Peer Up Information TLV

The Peer Up Information TLV is used by the Peer Up message.

```
 0 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|          Information Type     |          Information Length     |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                   Information (variable)                       |
~                                                                ~
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

o Information Type (2 bytes): Type of information provided. Defined
   types are:

   * Type = 0: String. The Information field contains a string
      (Section 2). The value is administratively assigned. If
      multiple strings are included, their ordering MUST be preserved
      when they are reported.

o Information Length (2 bytes): The length of the following
   Information field, in bytes.

o Information (variable): Information about the monitored router,
   according to the type.

4. IANA Considerations

IANA is requested to create a registry within the BMP group, named
"BMP Peer Up Message TLVs", reference this document.

Registration procedures for this registry are:

```
        +-------------+--------------------------+
        |    Range    | Registration Procedures  |
        +-------------+--------------------------+
        |   0-32767   |     Standards Action     |
        | 32768-65530 | First Come, First Served |
        | 65531-65534 |       Experimental       |
        |    65535    |         Reserved         |
        +-------------+--------------------------+
```

Initial values for this registry are:

```
            +-------+------------+---------------+
            | Type  | Description |  Reference    |
            +-------+------------+---------------+
            |   0   |    String  | this document |
            | 65535 |   Reserved | this document |
            +-------+------------+---------------+
```

5. Security Considerations

This rearrangement of deck chairs does not change the underlying
security issues inherent in the existing [RFC7854].

6. Acknowledgements

TBD

7. Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate
           Requirement Levels", BCP 14, RFC 2119,
           DOI 10.17487/RFC2119, March 1997,
           <https://www.rfc-editor.org/info/rfc2119>.

[RFC7854] Scudder, J., Ed., Fernando, R., and S. Stuart, "BGP
           Monitoring Protocol (BMP)", RFC 7854,
           DOI 10.17487/RFC7854, June 2016,
           <https://www.rfc-editor.org/info/rfc7854>.

[RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in RFC
           2119 Key Words", BCP 14, RFC 8174, DOI 10.17487/RFC8174,
           May 2017, <https://www.rfc-editor.org/info/rfc8174>.

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