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BMP Peer Up Message Namespace

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. It also updates RFC 8671 and RFC 9069 by moving the defined codepoints in the newly introduced registry. The changes in this document are formal only, compliant implementations of RFC 7854, RFC 8671 and RFC 9069 also comply with this specification.

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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](#)], [[RFC8671](#)] and [[RFC9069](#)] 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 in bytes 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 existing RFCs

We update [[RFC7854](#)] as follows:

*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.

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

*A "BMP Peer Up Information 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:

*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.

*Type = 1: sysDescr. The Information field contains an ASCII string whose value MUST be set to be equal to the value of the sysDescr MIB-II [[RFC1213](#)] object.

*Type = 2: sysName. The Information field contains an ASCII string whose value MUST be set to be equal to the value of the sysName MIB-II [[RFC1213](#)] object.

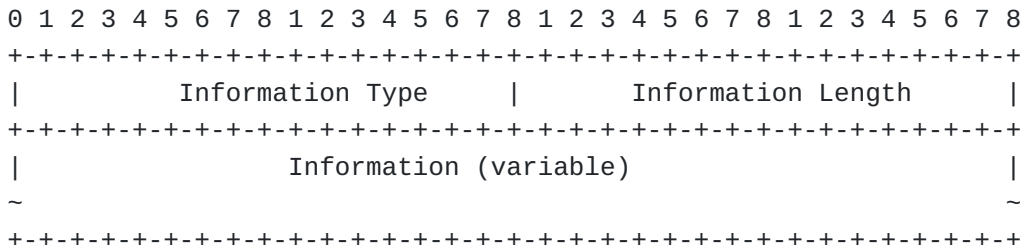
3.2. Revision to Peer Up Notification

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:

*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.



*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.
- Type = 3: VRF/Table Name. The Information field contains a UTF-8 string whose value MUST be equal to the value of the VRF or table name (e.g., RD instance name) being conveyed. The string size MUST be within the range of 1 to 255 bytes.
- Type = 4: Admin Label. The Information field contains a free-form UTF-8 string whose byte length is given by the Information Length field. The value is administratively assigned. There is no requirement to terminate the string with null or any other character.

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

*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, 3-32767	Standards Action
32768-65530	First Come, First Served
65531-65534	Experimental
1-2, 65535	Reserved

Table 1

Initial values for this registry are:

Type	Description	Reference
0	String	this document
1	Reserved	this document
2	Reserved	this document
3	VRF/Table Name	this document
4	Admin Label	this document
65535	Reserved	this document

Table 2

IANA is also requested to rename the existing "BMP Initiation and Peer Up Information TLVs" registry to "BMP Initiation Information TLVs" and seed it with the following values:

Type	Description	Reference
0	String	this document
1	sysDescr	this document
2	sysName	this document
3	Reserved	this document
4	Reserved	this document
65535	Reserved	this document

Table 3

5. Security Considerations

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

6. Acknowledgements

The authors would like to thank Maxence Younsi for his review.

7. Normative References

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