

Internet Engineering Task Force (IETF)  
Request for Comments: 9736  
Updates: 7854, 8671, 9069  
Category: Standards Track  
ISSN: 2070-1721

J. Scudder  
Juniper Networks  
P. Lucente  
NTT  
March 2025

## The BGP Monitoring Protocol (BMP) Peer Up Message Namespace

### Abstract

RFC 7854, the BGP Monitoring Protocol (BMP), uses different message types for different purposes. Most of these are structured as Type, Length, Value (TLV). One message type, the Peer Up message, lacks a set of TLVs defined for its use, instead sharing a namespace with the Initiation message. 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 RFCs 8671 and 9069 by moving defined codepoints into the newly introduced registry. Compliant implementations of RFCs 7854, 8671, and 9069 also comply with this specification.

### Status of This Memo

This is an Internet Standards Track document.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Further information on Internet Standards is available in Section 2 of RFC 7841.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at <https://www.rfc-editor.org/info/rfc9736>.

### Copyright Notice

Copyright (c) 2025 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 (<https://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 Revised BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Revised BSD License.

### Table of Contents

1. Introduction
  - 1.1. Requirements Language
2. String Definition
3. Changes to Existing RFCs
  - 3.1. Revision to the Information TLV
  - 3.2. Revision to the Peer Up Notification
  - 3.3. Definition of Peer Up Information TLV

4. IANA Considerations  
5. Security Considerations  
6. Normative References  
Acknowledgements  
Authors' Addresses

## 1. Introduction

[RFC7854] defines a number of different BGP Monitoring Protocol (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 BMP has been extended, this overlap has become problematic. In this document, we create distinct namespaces for the Peer Up and Initiation messages to eliminate the overlap.

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

[RFC7854] is updated as detailed in the following subsections.

### 3.1. Revision to the 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 as shown below. Type = 1 and Type = 2 are unchanged; they are provided for completeness.

- \* Type = 0: String. The Information field contains a string (Section 2). The value is administratively assigned. If multiple string TLVs 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.

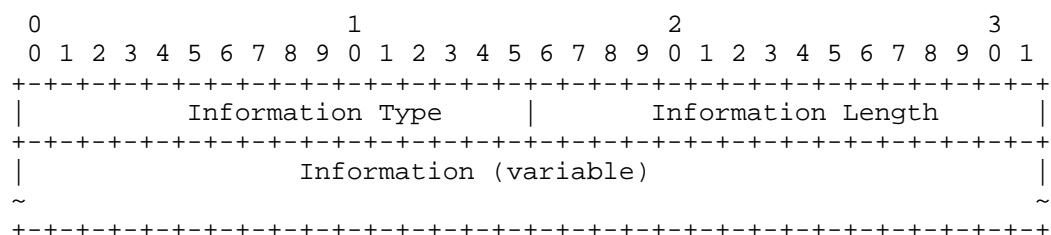
### 3.2. Revision to the Peer Up Notification

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 in Section 3.3 of RFC 9736. 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): types are as defined in the "BMP Peer Up Message TLVs" registry:
  - 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 a 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 has created the "BMP Peer Up Message TLVs" within the "BGP Monitoring Protocol (BMP) Parameters" registry group and listed this document as the reference.

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

The initial values for this registry are:

| Type  | Description    | Reference |
|-------|----------------|-----------|
| 0     | String         | RFC 9736  |
| 1     | Reserved       | RFC 9736  |
| 2     | Reserved       | RFC 9736  |
| 3     | VRF/Table Name | RFC 9736  |
| 4     | Admin Label    | RFC 9736  |
| 65535 | Reserved       | RFC 9736  |

Table 2

IANA has also renamed the "BMP Initiation and Peer Up Information TLVs" registry to "BMP Initiation Information TLVs" and populated it with the following values:

| Type  | Description | Reference |
|-------|-------------|-----------|
| 0     | String      | RFC 9736  |
| 1     | sysDescr    | RFC 9736  |
| 2     | sysName     | RFC 9736  |
| 3     | Reserved    | RFC 9736  |
| 4     | Reserved    | RFC 9736  |
| 65535 | Reserved    | RFC 9736  |

Table 3

## 5. Security Considerations

This document does not alter the security considerations of [RFC7854] that continue to apply.

## 6. Normative References

- [RFC1213] McCloghrie, K. and M. Rose, "Management Information Base for Network Management of TCP/IP-based internets: MIB-II", STD 17, RFC 1213, DOI 10.17487/RFC1213, March 1991, <<https://www.rfc-editor.org/info/rfc1213>>.
- [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>>.

[RFC8671] Evens, T., Bayraktar, S., Lucente, P., Mi, P., and S. Zhuang, "Support for Adj-RIB-Out in the BGP Monitoring Protocol (BMP)", RFC 8671, DOI 10.17487/RFC8671, November 2019, <<https://www.rfc-editor.org/info/rfc8671>>.

[RFC9069] Evens, T., Bayraktar, S., Bhardwaj, M., and P. Lucente, "Support for Local RIB in the BGP Monitoring Protocol (BMP)", RFC 9069, DOI 10.17487/RFC9069, February 2022, <<https://www.rfc-editor.org/info/rfc9069>>.

#### Acknowledgements

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

#### Authors' Addresses

John Scudder  
Juniper Networks  
1194 N. Mathilda Ave  
Sunnyvale, CA 94089  
United States of America  
Email: [jgs@juniper.net](mailto:jgs@juniper.net)

Paolo Lucente  
NTT  
Veemweg 23  
3771 MT Barneveld  
Netherlands  
Email: [paolo@ntt.net](mailto:paolo@ntt.net)