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Extension for BMP Peer Interface
draft-lin-grow-bmp-peer-interface-01

Abstract

This document introduces an option to allow BMP messages with the per-peer header to carry interface information for the established peer session, especially in order to distinguish BGP peers established based on interfaces.

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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This Internet-Draft will expire on 2 October 2026.

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1. Introduction

When BGP establishes a peer relationship using a Link-Local address or unnumbered address, the local outgoing interface must be specified for the relationship to be established successfully. In other words, BGP Link-Local or unnumbered peers may only be distinguished by interface information.

However, the per-peer information in a BMP message does not include interface information, making it impossible to distinguish which BGP Link-Local peer or unnumbered peer the reported BMP message originated from.

This document introduces a new BMPv4 [I-D.ietf-grow-bmp-tlv] TLV that enables BMP messages with the per-peer header to carry interface information for the established peer session.

2. Terminology

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.

3. New BMPv4 TLV

This section defines a new BMPv4 TLV for reporting the BMP messages that need to be distinguished through peer interface intormation. This BMPv4 TLV is designed to convey peer interface information and is therefore named the "Peer-Interface TLV".

The TLV structure is illustrated in Figure 1.

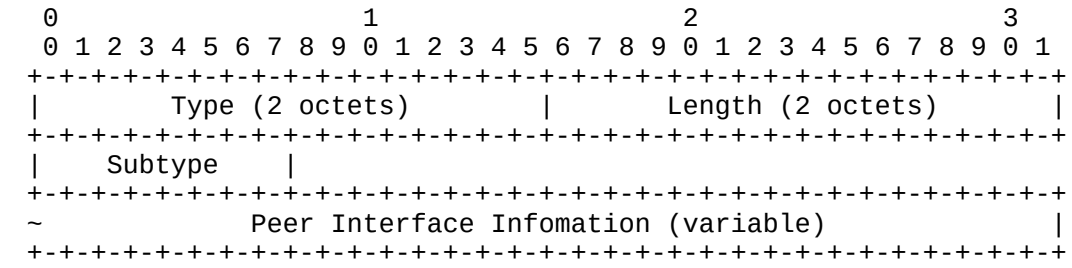

Figure 1: Peer-Interface TLV

The "Peer-Interface TLV" TLV type is TBD1. The value of the TLV is the "Subtype" code (1 octet) followed by the interface information used to establish the related peer session. The length field is one (for the "Subtype" field) plus the length of the "Peer Interface Infomation" field.

The subtype is defined, as shown below:

* Subtype = 1: Interface Index. The "Peer Interface Infomation" is a 32-bit interface index.

* Subtype = 2: Interface Name. The "Peer Interface Infomation" is a variable interface name, encoded in UTF-8.

The subtype MUST use type 1 or 2 defined in this document.

4. Operational Considerations

When a BMP monitoring station needs to distinguish between parallel BGP sessions established over different interfaces (e.g., using link-local or unnumbered addresses), the "Peer-Interface TLV" SHOULD be included in the relevant BMP messages.

When a BMP sender generates a BMP message that requires distinguishing peers by interface, it SHOULD include this TLV in the BMP message. The BMP receiver needs to be able to resolve this TLV to correctly associate the BMP message with the BGP peer on a specific interface.

BMP receivers with older versions that do not support this TLV MAY ignore unknown TLVs, but this MAY prevent them from correctly identifying parallel interface-based peers.

5. Security Considerations

TBD

6. IANA Considerations

TBD

7. References

7.1. Normative References

[I-D.ietf-grow-bmp-tlv]
Lucente, P., Gu, Y., Younsi, M., and P. Francois, "BMP v4: Extended TLV Support for BGP Monitoring Protocol (BMP)", Work in Progress, Internet-Draft, draft-ietf-grow-bmp-tlv-20, 2 March 2026, <https://datatracker.ietf.org/doc/html/draft-ietf-grow-bmp-tlv-20>.

[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>.

[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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