                    Storing BMP messages in MRT Format
                       draft-petrie-grow-mrt-bmp-00

Abstract

   This document extends the Multi-threaded Routing Toolkit (MRT) export
   format to support the storage of BMP messages.

Status of This Memo

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1. Introduction

   The MRT record format [RFC6396] was developed to provide researchers
   and engineers a means to encapsulate, export, and archive routing
   protocol transactions and routing information base snapshots.

   BMP [RFC7854] was developed to monitor BGP sessions, and also
   includes messages containing routing protocol transactions and
   Routing Information Base contents and changes. BMP [RFC7854] does
   not define a mechanism for exporting and archiving BMP messages. MRT
   can be a suitable format for this.

   This document contains an optional extension to the MRT format
   [RFC6396] and defines additional MRT types to permit storage of BMP
   messages.

2. BMP Type

   This document defines the following new MRT Types:

   o BMP

   o BMP_ET

   These MRT types support the BMP protocol. They are used to encode
   the exchange of BMP messages. The _ET variant is for use with the
   Extended Timestamp MRT Header.

The format of the MRT Message field for the BMP types is as follows:

```
 0                   1                   2                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|          Address Family       |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                    Remote IP Address (variable)               |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                    Local IP Address (variable)                |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                  BMP Message Contents (variable)              |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```
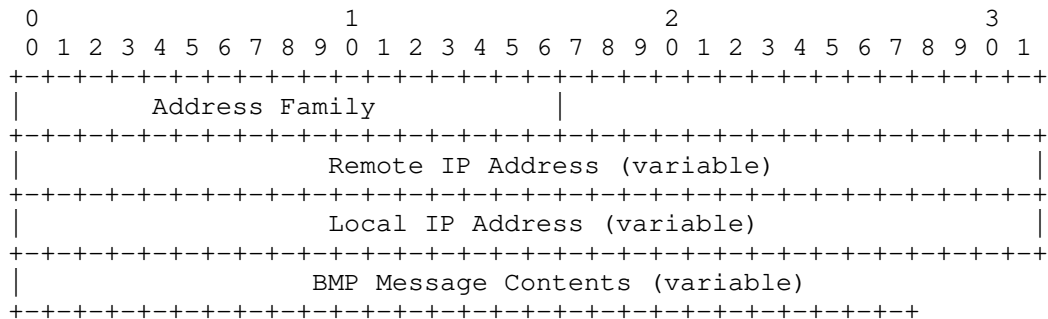
Figure 1

The Address Family indicates what types of addresses are in the
subsequent address fields. At present, the following AFI Types are
supported:

   1 - AFI_IPv4

   2 - AFI_IPv6

The Address Family value only applies to the IP addresses contained
in the MRT header. The BMP type is otherwise transparent to the
contents of the actual message that may contain any valid AFI/SAFI
values.

Remote and Local IP addresses refer to the endpoints of the TCP
connection carrying the BMP session, from the perspective of the BMP
monitoring station that is recording these messages

3. IANA Considerations

This document requests that IANA assign Type codes to the MRT name
space [1]:

   BMP = TBD1 (Section 2)

   BMP_ET = TBD2 (Section 2)

In this draft document this is requested from the Specification
Required range, this may be changed to the IETF Review range by a
later version of this document.

4. Security Considerations

   It is not believed that this document adds any additional security
   considerations.

   However, the security considerations of [RFC6396] and [RFC7854] are
   equally applicable to this document.

5. References

5.1. Normative References

   [RFC6396] Blunk, L., Karir, M., and C. Labovitz, "Multi-Threaded
              Routing Toolkit (MRT) Routing Information Export Format",
              RFC 6396, DOI 10.17487/RFC6396, October 2011,
              <https://www.rfc-editor.org/info/rfc6396>.

   [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>.

5.2. URIs

   [1] https://www.iana.org/assignments/mrt/mrt.xhtml

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