

Monitoring BGP Parameters Using BMP

[draft-zhuang-grow-monitoring-bgp-parameters-00](#)

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2018-07-18

Motivation

❑ BGP optional parameters

- The BGP Open Message reported to BMS contains only the currently enabled capabilities at the monitored device.
- If all the supported capabilities of the monitored devices, both **the enabled and not yet enabled** ones, are informed to the BMS, the BMS can use the more comprehensive and valid inputs to make decisions about the whole network optimization.

❑ BGP default behaviors

- As one of the concerns from the operators, that in multi-vendor environment, **some default configurations or behaviors of devices are vendor-specific, and may cause various issues during the interoperation test** or any time after.
- Take the protocol preferences (distance) of different BGP routes for example:
 - Vendor A assigns value 255 to eBGP, iBGP and BGP local routes by default,
 - Vendor B assigns 20 to eBGP, 200 to iBGP and 200 to BGP local routes by default.
 - In addition, value 255 is not recognized by vendor B, and routes assigned such distance would be ignored.

Extension of BMP Initiation Message

- ❑ The initiation message provides a means for the monitored router to inform the monitoring station of its vendor, software version, and so on.
- ❑ The initiation message consists of the common BMP header followed by two or more Information TLVs containing information about the monitored router. Currently defined types are:
 - Type = 0: String.
 - Type = 1: sysDescr.
 - Type = 2: sysName.
- ❑ This document defines two new categories of TLV types:
 - Type = TBD1: BGP Optional Parameters.
 - Type = TBD2: Default Behavior Parameters.

BGP Optional Parameters TLV

- ❑ The Information field is used to specify **all the BGP Optional Parameters that have been enabled or not yet enabled** at the monitored device.
- ❑ Each optional parameter is encoded as a <Parameter Type, Parameter Length, Parameter Value> triplet, as defined in RFC 4271 [RFC4271] .

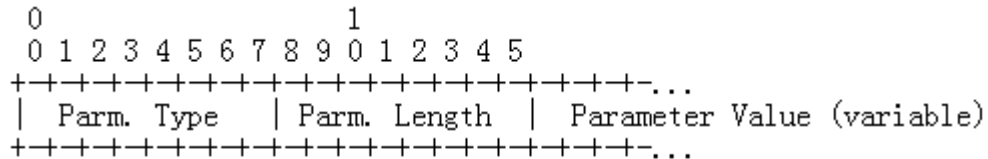


Figure 1 BGP Optional Parameters Information TLV

BGP Default Behavior Parameters TLV

- The Information field contains **a list of default behavior parameters**, in which each parameter is encoded as a Default Behavior sub TLV <Default Behavior Type, Default Behavior Length, Default Behavior Value>, which is defined as follows:

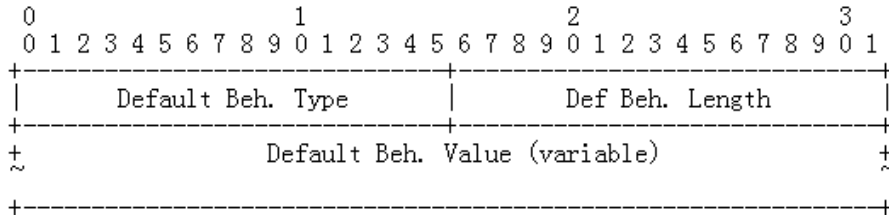


Figure 2 Default Behavior sub TLV

- o Type = TBD3, (32-bit integer) Value of default Protocol Preference for Local route
- o Type = TBD4, (32-bit integer) Value of default Protocol Preference for EBGP route
- o Type = TBD5, (32-bit integer) Value of default Protocol Preference for IBGP route
- o Type = TBD6, (32-bit integer) Value of default BGP connect-retry timer time
- o Type = TBD7, (32-bit integer) Value of default BGP Keepalive time
- o Type = TBD8, (32-bit integer) Value of default BGP hold time
- o Type = TBD9, (32-bit integer) Value of EBGP route-update-interval
- o Type = TBD10, (32-bit integer) Value of IBGP route-update-interval
- o Type = TBD11, (32-bit integer) Value of Default local-preference
- o Type = TBD12, (32-bit integer) Value of Default MED

Next Steps

- ❑ Close the existing comments
- ❑ Solicit more comments, feedback from WG

Thank you !