Yang Data Model for BGP

draft-zhdankin-idr-bgp-cfg-00

Alexsandr Zhdankin, Keyur Patel, Alexander Clemm, Sue Hares, Mahesh Jethanandani, Xu Feng

IETF 92, March 2015, Dallas, US

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Update

- Draft Name changed from *draft-zhdankin-netmod-bgp-cfg-01 to draft-zhdankin-idr-bgp-cfg-00*
  - Work for the Protocol Yang models to be done in the protocol WG
- Added Co-authors
  - Sue Hares (Huawei)
  - Mahesh Jethanandani (Ciena)
  - Xu Feng (Ericsson)
- Incorporated Comments from Adam Simpson (ALU) & Gunter Vandevelde

Update

- Update to BGP Model
  - Added BGP Protocol version
  - Added BGP Neighbor Groups (Peer Groups)
  - Added Neighbor based Transport Parameters
  - Added BGP Route Flap Dampening Support

BGP Yang Model

- module: bgp

```
+--rw bgp-routing
|  +--rw bgp-router
|  |  +--rw bgp-version?           string
|  |  +--rw local-as-number?       uint32
|  |  +--rw local-as-identifier?   inet:ip-address
|  |  +--rw rpki-config
|  |  |  .....
|  |  +--rw af-configuration
|  |     .....
|  +--rw bgp-neighbors
|     +--rw bgp-neighbor-af
|     |  ....
|  +--rw bgp-neighbors-groups
|     |  ....
```

Major Differences

- Neighbor list is a list inside a container in bgp-yang versus a list in oc-bgp model
- Neighbor group is a container with Nbrs having leaf reference in bgp-yang versus having an individual nbr for inheritance in oc-bgp
- Global Address-familes are containers in bgp-yang versus lists in oc-bgp model
- Import/export (partial L3VPN semantics) present in oc-bgp model

Major Differences

- Important to get these resolved to come to a single model at a high level
  - Versioning should help navigate the differences
- Worked with oc-bgp draft authors: Rob & Aneesh to resolve these differences
  - **New oc-bgp model has incorporated the comments and resolved most of the differences**

Moving Forward – Next Revision

- Plan on replacing enums with identities
  - Identities help avoid model revisions
- Use of deviations to harmonize command parameters across vendor implementations
- Use of if-feature for:
  - Vendor specific features
  - BGP extensions
- Oper State Model

Suggest towards a common draft and model to progress work forward

Major Differences

- RFCs supported by bgp-yang and oc-bgp

  RFC4271 BGP Protocol Specification **[bgp-yang & oc-bgp]**

  RFC1997 BGP Community Attribute **[bgp-yang & oc-bgp]**

  RFC4456 BGP Route Reflection **[bgp-yang & oc-bgp]**

  RFC4760 BGP Multiprotocol Specification **[bgp-yang & oc-bgp]**

  RFC3065 Autonomous System Confederations for BGP **[bgp-yang & oc-bgp]**

  RFC2439 BGP Route Flap Dampening **[bgp-yang & oc-bgp]**

  RFC 4724 BGP Graceful Restart **[bgp-yang & oc-bgp]**

  RFC 6811 BGP Origin Validation **[bgp-yang]**

Questions?