Babel YANG Model

draft-mahesh-babel-yang-model-00

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Motivation

• IETF wants a YANG model for any new protocol
• Based on draft-ietf-babel-information-model
  • 02
  • 03 was published after this draft was posted
• YANG 1.1 model
• Network Management Datastore Architecture (NMDA) compatible
Tree Diagram

```yaml
+-rw babel!
  |   +--rw version?   string
  |   +--rw enable?    boolean
  |   +--rw router-id  binary
  |   |   +--rw link-type* identityref
  |   +--ro sequence-number? yang:counter32
  |   +--rw cost-compute-algorithm* identityref
  |   +--rw security-supported* identityref
  |   +--rw transport
  |       |   ... 
  |   +--rw interfaces* [reference]
  |       |   ... 
  |   +--rw routes* [prefix]
  |       |   ... 
  |   +--rw security* [mechanism]
  |       ... 
```
Issue #1 Interfaces

• Leaf ‘reference’ under list ‘interfaces’
  • Refers to an interface type defined in RFC 8343
  • Does it need to be restricted to a particular interface type?

• Outgoing interface is “leaf neighbor” in the model
Issue #2

• supported-babel-link-types
  • Defined as ‘list of link types supported by the implementation’
  • Is read-only

• babel-link-type
  • Indicates link type on an interface
  • Is read-write

• Are the following assertions true
  • Management system reads supported-link-types and sets babel-link-type per interface
  • babel-link-type has to be the same across the two ends of the link

• Same for babel-metric-comp-algorithm?
• Same for babel-security-supported?
Issue #3

• Routes, RIB, VRF and Routing Policy
• Does Babel need to support RFC8349?
  • RFC8349 provides for common building blocks such as routes, RIB etc.
• Does Babel need to support VRF [I-D. ietf-rtgw-model]?
• Does Babal need to support Routing Policy [I-D. ietf-rtgw-policy-mode]?
  • Provides generic policy framework.
Basic Routing Protocol YANG model

```yang
+--rw routing
    +--ro interfaces
    |    +--ro interface*  if:interface-ref
    +--rw control-plane-protocols
    |    +--rw control-plane-protocol*  [type name]
    |    |    +--rw type  identityref
    |    |    +--rw name  string
    |    |    +--rw description?  string
    |    +--rw static-routes
    |    |    +--rw v4ur:ipv4
    |    |    |    ...  
    |    |    +--rw v6ur:ipv6
    |    |    ...  
```
RIB support

+-rw routing
  +--rw ribs
    +--rw rib* [name]
      +--rw name string
      +--rw address-family? identityref
    +--ro default-rib? boolean {multiple-ribs}?
    +--ro routes
      |  +--ro route*
      |  ...
    +--x active-route
      |  +--w input
      |  |  +--w v4ur:destination-address? inet:ipv4-address
      |  |  +--w v6ur:destination-address? inet:ipv6-address
      |  +--ro output
      |  ...
    +--rw description? string
Routing Policy

```plaintext
---rw routing-policy
  ---rw policy-definitions
    ---rw policy-definition* [name]
    ---rw name  string
  ---rw statements
    ---rw statement* [name]
    ---rw name  string
    ---rw conditions
      | ... 
    ---rw actions
      ... 
```
WG Adoption

• Is this work useful?
• If so, can we have the work adopted?