Comparison of Yang Modules from I2RS

Draft-hares-i2rs-ospf-compare-yang-00
Draft-hares-i2rs-isis-compare-yang-00
Draft-hares-i2rs-bgp-compare-yang-00

Sue Hares
Huawei

What are comparisons

- What: Comparison of Yang documents OSPF, ISIS, BGP Config and I2RS ephemeral status

- Tentative I2RS Plan as of Sept 30th:

  Running = Config + I2RS-ephemeral

- The challenge: Align typedefs, groupings, and definitions I2RS ephemeral to allow this to occur

Summary of Comparison

- **draft-yeung-netmod-ospf-02 –**
  - Contains: multi-topology view (write/read)
  - protocol state and ospf-lsa-database (read only)
  - notification on events (read-only)

  Conclusion: This draft provides enough defining clauses (typedef, grouping, etc.) to support 90% definitions needed by both Config + I2RS

- **draft-wang-i2rs-ospf-dm-00**
  - Contains additional status and read/write configuration to satisfy the requirements in I2RS use cases (in-charter and beyond charter)
  - Changes some configurations variables will go from read to read/write

- **Recommendation:** merge the definition clauses, keep the drafts separate

Details on what I2RS OSPF adds

- Makes read/write
  - ospf-ls-database and ospf-neighbor.
- Adds
  - ospf-rib (logical local rib to OSPF),
  - Total number of routers (router-number) in Area,
  - route-info-list with router-id - allows for I2RS client to check for router-id conflicts
  - state in ospf routes (metric, last state, reason for change),
  - state in ospf neighbors list

Summary of ISIS Comparison

- **draft-litkowski-isis-yang-isis-cfg-01 contains:**
  - Configuration
  - Operational protocol status information per ISIS protocol instance (read-only)
  - RPC operations to clear adjacencies and isis LSDB (action)
  - notification on events (read-only)

  Conclusion: This draft provides enough defining clauses (typedef, grouping, etc.) to support 90% definitions needed by both Config + I2RS.

- **draft-wang-i2rs-isis-dm-00**
  - Contains additional status and read/write configuration to satisfy the requirements in I2RS use cases (in-charter and beyond charter)
  - Changes some configurations variables that are read/write instead of just read

- **Recommendation:** merge the definition clauses, keep the drafts separate

Details on what I2RS OSPF adds

- Makes read/write
  - isis mt-ipv4-rib and mt-ipv6-rib
  - Isis nbr-list
- Adds
  - ospf-rib (logical local rib to OSPF),
  - state in isis routes (metric, last state, reason for change),
  - state in isis neighbors list

Comparison

- **Config/Status:** draft-zhdanking-netmod-bgp-cfg-01
- **I2RS:** draft-wang-i2rs-bgp-dm
- **Conclusion**: Little overlap (~5%) except definitions and route status - so authors have navigated I2RS/Config split

- **draft-wang-i2rs-bgp-dm-00**
  - Satisfies all I2RS Requirements except BGP-REQ-18 that requests recomputation of local BGP tables.
  - Contains additional status and read/write configuration to satisfy the requirements in I2RS use cases (in-charter and beyond charter)
  - Changes some configurations variables will go from read to read/write

- **Recommendation:** merge the definition clauses, keep the drafts separate

- Operator Input:

Next Steps

- Authors of I2RS/Config should harmonize their definitions/configurations for OSPF, ISIS, and BGP drafts

- Implementation experience:
  - ISIS or OSPF is a good place to start implementation trials for I2RS yang modules,
  - BGP trials should start with basic BGP modules in Vendors
  - Yang modules should be uploaded to common repository;