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BFD YANG Data Model

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Goals

- * Define a BFD data model that works for multiple vendors
- * Support all BFD session types in one data model
- * Support for optional features

Challenges

- * BFD is used for failure detection on various types of paths, e.g. IP single-hop, IP multi-hop and MPLS LSPs, we do not have 1 key for the various BFD session types
- * In existing BFD implementations we have different configuration models:
 - Some implementations have BFD timers in the application which uses BFD (e.g. IGP, OSPF)
 - Other implementations have centralized BFD configuration

What's addressed in rev-00

- * Single-hop IP
- * Multi-hop IP
- * Configuration model
- * Operational model
- * Notifications

What is not addressed in rev-00

- * BFD over MPLS LSPs
- * BFD over LAG
- * S-BFD
- * RPCs

Centralized Configuration

- * Optional via *if-feature*
- * *bfd-session-cfg* container which has lists of BFD sessions (1 list per session type), can be augmented if there are new session types in the future
- * IP single-hop index is interface and destination address
- * IP multi-hop index is VRF, source address and destination address
- * We use a grouping to share common data

Configuration in BFD clients?

- * Groupings provided for BFD clients to use if desired
- * Grouping *bfd-client-base-cfg-parms* has the basic configuration: enabling BFD and desired-min-tx and required –min-rx intervals
- * Grouping *bfd-client-full-cfg-parms* also contains demand mode, echo and authentication parameters
- * Adoption is outside scope of BFD WG

Operational Model

- * *bfd-session-lists* container which has 1 list per session type
- * Key for IP single-hop and multi-hop lists are the same as for configuration model
- * Use of groupings to share data between the lists
- * *bfd-session-statistics* has counters for total number of sessions, number of sessions which are up etc

Notifications

- * Used when BFD session changes state
- * Grouping used to share data between the various session types
- * Local and remote discriminators, new state etc are part of notification data

Next Steps

- * Get comments on rev-00
- * Add MPLS LSPs, LAG, S-BFD and RPCs
- * Eventual BFD WG adoption