Simple vs. Complex I2RS

Dean Bogdanovic (mail list)

Sue Hares

Questions

- Will i2rs agent manage only simple objects or also complex object?
- What is a primitive or complex objects?
- Primitive objects are network constructs that are property of single daemon
- example
  - route
  - routing table
  - routing instance
  - interface
  - filter
  - policer scheduler
- Using above primitive objects, a complex object can be created.

L2 Example

- routing instance, interface, route, has to be configured in a specific way.
- The logic on how the configuration is read by the daemons is already present in the device and by editing configuration, device state is changed.
- When editing configuration, everything what is supported by the device can be managed.
- If we agree that I2RS agents want to manage all supported features, then going through configuration is the best way to go.

- If we decide that I2RS agent will be able to change the state of primitive objects only and that can be done by by-passing configuration and talking directly to the daemons, then we can look into other mechanisms how to communicate between I2RS agent and other device daemons.

BGP example

- Or take another example: If somebody wants to run BGP as external process and change the device state via I2RS agent, can they do correct device changes using only primitive objects?

Don Fedyk

- I think the distinction you are making is based on an override capability and ownership.
- Primitive objects owned by configuration can be overridden by I2RS agents.
  - [Dan's response] Just to be clear, I2RS agent could insert another object that would take priority over the object created by the configuration. I don't want to modify objects owned by configuration in any way.
- Complex objects owned by configuration would typically not be overridden by I2RS agents.
- So there is an implied ownership aspect.

Don Fedyk

- In your BGP case
  - the I2RS agent could own both primitive and complex objects to allow the computation of BGP to be performed elsewhere. In this case there is no override because configuration is unaware of the objects and has no ownership.
- In all cases the I2RS modifications
  - are ephemeral and there is no configuration store or save just modification of running .

Discussion continues

- Is I2RS override absolute or is configuration allowed to undo the override with a force option?
- Configuration is allowed to undo the override with a force option.

Feedback from Netconf

- Recursive nexthop – is complex beyond net
- Requires RFC 6095