Conditional Enablement

draft-kwatsen-conditional-enablement-00
Disclosure

This preso now goes past **enablement**

It’s now includes **assignment** and **triggers** too...
Motivation

• Ad-hoc nodes defined in various drafts
  – Static Disablement
    • enabled, use-ntp, enable-nacm, etc.

• Use in JUNOS and Tail-F’s products
  – Static Disablement
    • XML Attribute “inactive”
  – Temporal Configuration
    • “when” conditions in Configuration Group definitions

• I2RS Requirements
  – Temporal Configuration
    • Enabled at start-time with optional expiration-time or duration
  – Triggered Configuration
    • Enabled based on asynchronous events with optional duration
Use Cases

• End-user wants to *manually* disable a part of the configuration without losing it forever

• End-user wants a part of the configuration to automatically become *active* based on time or an async event

• End-user wants a part of the configuration to automatically become *inactive* based on time or duration
Strategies Discussed on List

• **Concern for XML attributes**
  – YANG doesn’t model (but XSD or RelaxNG could be used)
  – Not referenceable via must/when statements (really?)

• **Standardize an “enable” or “disable” leaf**
  – e.g. 6021bis (ietf-yang-types)

• **Use Xpath just for complex expressions**
  – Can’t do time-of-day
  – Not easy for a NMS to import

• **Use a rulebase like NACM**

• **Implement conditional config like a 1st-class “patch” object**
Other Considerations

• Client discretion vs. modeler’s selection

• Flags need to be available to must/when statements and XPath select in get operations

• Access to the rule-base that controls the enable property for object X is different than access to object X directly

• Validation should conceptually after disabled nodes have been filtered out

• Should running config include conditional policy or just its evaluation?
Updated Proposal

• Use XML attributes for static/const “disable” flag
  – Simple
  – We allow XML attributes for metadata
  – Client can disable any arbitrary subtree
  – No impact to must/when statements
  – Assume disabled node are removed prior to validation

• Introduce a mechanism for temporal/triggered
  – Modeled within config or external (e.g. cron)???
  – JUNOS has temporal setting within the config
    • Like a template – a complete tree
    • Next slide illustrates idea
Temporal/Triggered Configuration

Running/Candidate Configuration

- Condition-1 Configuration
- Condition-N Configuration
- Unconditional Configuration

Root

- If recv(Interface-down event)
- If (M-F 9-5)

Top-Level Tag

Operational Configuration

strip out disabled nodes and validate against YANG
Next Steps

Take on as a chartered working group item?