Andy Bierman
andyb@iw1.com

Martin Bjorklund
mbj@tail-f.com

Juergen Schoenwaelder
j.schoenwaelder@jacobs-university.de
Agenda

- base:1.1 capability
- open issues on wiki:
The base capability associated with the updated specification needs to change:

- Clearly identify versions in each RFC
- Allows bugs to be fixed for new-client/new-server, without breaking old-client/new-server behavior
- Client and server advertise both 1.0 and 1.1
  - Highest version in common is used
- Server MAY use 1.1 clarifications in 1.0
- Continue using base:1.0 for XML namespace
capability extension

- Issue: cannot advertise base:1.1 as XML namespace, need to add a capability instead
- Proposal: add nc:capability extension

namespace "urn:ietf:params:xml:ns:netconf:base:1.0";
nc:capability "urn:ietf:params:netconf:base:1.1";
extension capability {
    argument uri;
    description "Used as capability identifier instead of the namespace";
}
<hello xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <capability>
    urn:ietf:params:netconf:base:1.0
  </capability>

  <capability>
  </capability>

</hello>
004: error-severity

- Issue: warnings do not work
- Resolution:
  - leave error-severity intact in case rpc-warning added in the future
  - do not add support for warnings until some standard protocol warnings are needed
  - Do not add any text saying warnings do not work
006: multiple namespaces

- Issue: Text in 7.1 says multiple formats may be available
- Resolution:
  - Remove this text
  - All NETCONF messages are encoded in XML
  - A vendor can define a data model with or without nested elements
  - Not a protocol decision, but rather a data modeling decision
008 - subtree filtering

• Issue: subtree filtering needs clarifications

• Resolution:
  – Rewrite namespace selection node text so that xmlns attributes are not relevant to the filter; just the effective namespace
  – Clarify content match node for multiple instances
    • at least 1 instance match; not all instances must match
009: partial-operation error

- **Issue:** partial-operation not implemented or useful
- **Resolution:**
  - The 'partial-operation' error-tag will be removed in the base:1.1 spec
  - Does not really impact 1.0 servers; they can still generate this error-tag in 1.0 session
010: filter namespace wildcard

- **Issue:** Selecting all nodes with the same local-name is cumbersome
- **Resolution:**
  - In base:1.1, it will be OK for the NULL namespace to be used, to indicate "match all namespaces with this local-name"
012: format of copy-config

• Issue: copy config to/from `<url>` parameter is not standardized

• Resolution:
  – The top-level element MUST be the `<nc:config>` element.
013: confirmed-commit

- Issue: procedures need improvement
- Resolution:
  - Adopt confirmed-commit:1.1 capability
    - adds new parameters to allow the confirming commit to be issued by a different session
    - allows config changes to disrupt the NETCONF session without destroying the confirmed-commit utility
    - [new issue: what about a notification?]
014: capability change

- Issue: dynamic capability changes ignored
- Resolution:
  - Add new error-tag in base:1.1 for capability-changed
  - Add resynch <hello> command by Juergen
  - Any cap-change, even module upgrade, requires resynch procedure
  - No error added to base:1.0; stays the same
019: clarify copy-config

- **Issue:** some corner-cases not clear
- **Resolution:**
  - copy from running to candidate
    - same as discard-changes
  - copy from candidate to running
    - not the same as commit
      - top-level replace vs. specific node replace
  - need to resolve access control details for copy-config vs. commit
020: changes during commit

- **Issue:** Are changes to the running config allowed during a confirmed-commit?
- **Resolution:**
  - Yes: they will get clobbered if the commit times out, or they will get added if the confirming commit is received
  - **Issue:** Access control problem in the candidate; must prevent confirming commit by superuser from applying unauthorized changes
021: default data

- **Issue:** handling of default data not clear
- **Resolution:**
  - This is handled in the with-defaults spec.
  - The protocol does not say how a server needs to return default data in `<rpc-reply>` or `<notification>` messages
  - A copy-config from running to startup SHOULD be done in the server 'basic' mode.
022: capabilities text

- **Issue:** Some clarifying text for capabilities
- **Resolution**
  - Text from netconf-monitoring draft will not be added.
  - New capability-changed error and resynch will be added instead
New Issue: YANG features

- Issue: YANG features should be used for ietf-netconf.yang instead of capabilities for optional protocol behavior
- Resolution:
  - Will examine converting capabilities to YANG features in base:1.1 only
  - Not likely because this requires many edits
  - Not sure how the capability template would need to change for features