RESTCONF Update to Support the NMDA

draft-dsdt-netconf-restconf-nmda-00

NETCONF WG
IETF 99 (Prague)
Introduction

The solution presented is backwards compatible for existing RESTCONF servers

Backwards compatibility is achieved by only adding new top-level resources.

– thereby leaving the semantics of all existing resources alone...
Summary of Updates to RFC 8040

• Adds new top-level resource "/ds".

• Adds new query parameter 'with-origin'.

• States that Section 3.5.4, Paragraph 3 doesn't apply for all the /ds/<datastore> resources
  – i.e. in-use values are always returned...
  – Note: draft incorrectly states that this doesn't apply only for <operational>.

• Note: this draft does NOT deprecate the /data resource
  – but maybe it should...
The `{+restconf}/ds/<datastore>` Resource

`<datastore>` is encoded as an 'identity'

Examples:

- `{+restconf}/ds/ietf-datastores:running`
- `{+restconf}/ds/ietf-datastores:intended`
- `{+restconf}/ds/ietf-datastores:operational`
- `{+restconf}/ds/example-ds-ephemeral:ds-ephemeral`
Conformance Verification

Clients can test either if:

- <operational> exists:
  - HEAD {+restconf}/ds/operational

- or if the “yang-library” container exists:
  - HEAD/GET {+restconf}/ds/operational/ietf-yang-library:yang-library
  - HEAD/GET {+restconf}/data/ietf-yang-library:yang-library

Note: NMDA-aware clients are discouraged from using /data, so that resource may be deprecated more easily some day.
Protocol Operations

For the most part:

- all existing protocol operations defined in [RFC8040] for the {+restconf}/data resource are apply to the new datastores

With some exceptions... (next slide)
RESTCONF Protocol Exceptions

• Dynamic datastores are excluded
  – as each dynamic datastore definition needs to be reviewed for what protocol operations it supports.

• Some datastores are read-only by nature (e.g., <intended>)
  – hence any attempt to modify these datastores will fail.

• RFC 8040, Section 3.5.4, Paragraph 3 does not apply when interacting any of the /ds/<datastore> resources
  – use standard “basic-mode” default-handling

• New query parameter 'with-origin' (default: false)
  – to request the 'origin' attributes when querying <operational>.
Questions, comments, concerns?