NMDA drafts Intro

Introduction to:
YANG library -bis (draft-nmdsdt-netconf-rfc7895bis-01)
NETCONF NMDA extensions (draft-dsdt-nmda-netconf-00)
RESTCONF NMDA extensions (draft-dsdt-netconf-restconf-nmda-00)

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1 slide reminder of NMDA:

• Operator requirement for devices to clearly differentiate between:
  • What it is being *asked to do* – i.e. the *intended configuration*
  • What it is *actually doing* – i.e. *operational state*, including the *applied configuration*.

• Different solutions to this problem has been evaluated by IETF.

• The IETF solution defines a *new datastore for operational state*:
  • This has implications on the structure of YANG models to be simplified and optimized for use with NMDA.
  • Also replaces the existing ‘broken’ NETCONF GET operation.
  • NETCONF/RESTCONF additions to support the operational datastore.
Canonical datastores picture:

- **<candidate> (ct, rw)**
- **<running> (ct, rw)**
- **<startup> (ct, rw)**
- **<intended> (ct, ro)**
- **<operational> (ct + cf, ro)**

// configuration transformations,
// e.g., removal of "inactive"
// nodes, expansion of templates

// changes applied, subject to
// local factors, e.g., missing
// resources, delays

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learned configuration

system configuration

default configuration

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system state
NMDA impact on NETCONF WG

• The NETCONF protocol needs extensions to support NMDA
• The RESTCONF protocol needs extensions to support NMDA
• The scope of protocol extension drafts is limited to just adding the necessary support for NMDA.
• YANG library (common to both protocols) is also updated to provide information about which modules are available in which datastores.

• Details to follow in Kent and Phil’s presentations ...