Comparison of NMDA datastores

draft-ietf-netmod-nmda-diff-00

Alexander Clemm, Yingzhen Qu, Jeff Tantsura, Andy Bierman
Updates from IETF 102

• This draft defines an RPC that allows to compare NMDA datastores
  • Report only discrepancies without needing to upload entire datastores
  • Use to troubleshoot conditions due to unexpected failures or time lags of change propagation

• Now adopted as a WG item – thank you!

• Draft-ietf-netmod-nmda-diff-00 posted
  (replacing draft-clemm-netmode-nmda-diff)

• Next revision will add support for different encoding schemes
  • Leaf will allow to specify which encoding
Module ietf-nmda-compare

rpcs:
  +--x compare
  |  +--w input
  |  |  |  +--w source identityref
  |  |  |  +--w target identityref
  |  |  |  +--w all? empty
  |  |  |  +---w (filter-spec)?
  |  |  |  |  +--:(subtree-filter)
  |  |  |  |  |  +--w subtree-filter? <anydata>
  |  |  |  |  +--:(xpath-filter)
  |  |  |  |  |  +--w xpath-filter? yang:xpath1.0 {nc:xpath}?
  |  |  |  +--w format? string
  |  |  +--ro output
  |  |  |  +--ro (compare-response)?
  |  |  |  |  +--:(no-matches)
  |  |  |  |  |  +--ro no-matches? empty
  |  |  |  |  +--:(differences)
  |  |  |  |  |  +--ro differences
  |  |  |  |  |  |  +--ro yang-patch?
  |  |  |  |  |  |  |  +--ro patch-id string
  |  |  |  |  |  |  +--ro comment? string
  |  |  |  |  |  +--ro edit* [edit-id]
  |  |  |  |  |  |  +--ro edit-id string
  |  |  |  |  |  +--ro operation enumeration
  |  |  |  |  |  +--ro target target-resource-offset
  |  |  |  |  |  +--ro point? target-resource-offset
  |  |  |  |  |  +--ro where? enumeration
  |  |  |  |  |  +--ro value? <anydata>

Proposed new format specifier
Allow for other output formats
Open issue

• Current YANG-Patch format does not include the values from both datastores but may sometimes be useful

• Suggestion 1: define an additional format not based on YANG-Patch
  • If such format is defined, additional questions arise:
    • Which format should be the default (if any)
    • Is there a format that is mandatory to implement
      • Pro: facilitates interoperability
      • Con: raises cost of implementation, reduces flexibility
    • Should the format definition be part of this draft

• Suggestion 2: augment yang-patch "edit" list with an "old-value" anydata node and use that as the one format that is defined in this draft
  • This one appears to be the preferable solution
Thank you!