List Pagination for YANG-driven protocols

draft-ietf-netconf-list-pagination-04
draft-ietf-netconf-list-pagination-nc-04
draft-ietf-netconf-list-pagination-rc-04

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On behalf of NETCONF List Pagination Authors
Kent Watsen <kent+ietf@watsen.net>, Qin Wu <bill.wu@huawei.com>,
Per Andersson <per.ietf@ionio.se>, Olof Hagsand <olof@hagsand.se>,
Hongwei Li <flycoolman@gmail.com>
List Pagination Suite Overview

- List Pagination for YANG-driven Protocols (LP)
  - draft-ietf-netconf-list-pagination-04
  - Standard mechanism to control filtering, and retrieval of entries of list or leaf-list.

- NETCONF Extensions to support List Pagination (LP-NC)
  - draft-ietf-netconf-list-pagination-nc-04

- RESTCONF Extensions to support List Pagination (LP-RC)
  - draft-ietf-netconf-list-pagination-04
Current status

- Implementation status
- YANG Doctor review: Clarified text, applied corrections
- Define limit=0
- Updating text, examples etc
- Locale for ordered-by lists
- Validate examples
- Editorial changes
Implementation status

- Olof Hagsand made an almost full implementation
  - Clixon open-source project
  - NETCONF and RESTCONF
  - Missing “cursor”, “locale”, and “sublist-limit”

- Other implementations are more spotty
  - Not both NETCONF and RESTCONF
  - Not all functionality
YANG Doctor review

• XPath default context
  - Follows RFC 7950 Section 6.4.1
  - NETCONF uses prefixes
  - RESTCONF uses module names
YANG Doctor review

• Seems to cater mostly for SQL databases?
  − Leverage underlying database system capabilities
  − Standardize broadly available functionality
  − Shortly discuss the variety of database systems
limit=0

- Allow limit=0
- Should quickly return the empty result set
- Good for validating query validity
- Is it really necessary, since “limit” is evaluated last?
Other changes

- Editorial changes, mostly typos etc
- Fix incorrect examples
- Add missing error identity examples
- Update “sort-by” string pattern
  - Correct “descendant-schema-nodeid” ABNF
Locale for ordered-by lists

• MUST ordered-by user/system lists report locale used without “sort-by”?  
  • ordered-by user, probably not  
    – User has defined an arbitrary order  
  • ordered-by system could!  
    – If system lexically stored items according to system’s locale
Validate yang-data+xml-list

- Added to RESTCONF XML encoding
  - Consistent access of list resource
- Example currently not validated
- Need modeling?
Next steps

- Get some more reviews
- Decide on open questions
  - limit=0
  - Locale for ordered-by lists
  - How to validate yang-data+xml-list?
- Make the documents are ready for publication
  - Validate examples
  - Correct any ambiguity in text
Thank you!

Questions?