Transaction ID & Trace

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Transaction ID

draft-ietf-netconf-transaction-id-02
draft-ietf-netconf-transaction-id-02 changes vs. -01

• Txid History concept, optional to implement. Clients can now:
  • Get all config changes since given point in time/prior txid
  • Conditionally edit config if no changes have happened in selected areas (independently of where edits are made)

• Optional to use YANG extension statement to mark versioned-nodes

• Renamed couple of YANG features slightly
Initial GET-CONFIG
SERVER-SIDE
CLIENT-SIDE

GET-CONFIG ALL
Subsequent GET-CONFIG

SERVER-SIDE

CLIENT-SIDE

GET-CONFIG SINCE

\( t \)

\( t_2 \)

\( t_3 \)
Subsequent GET-CONFIG after OOB Change

SERVER-SIDE

CLIENT-SIDE

GET-CONFIG SINCE
EDIT-CONFIG with YANG-PUSH

SERVER-SIDE

CLIENT-SIDE

OK, NEW TXID

YANG-PUSH
EDIT-CONFIG after OOB Change

SERVER-SIDE

CLIENT-SIDE

OOB CHANGE

EDIT-CONFIG IF-LATEST

EDIT-CONFIG REJECTED
Next Steps

• ✅ Implementation experience
• ✅ Add "Etag+Seq", optional If-(un)modified-since functionality
• ✅ Add YANG extension to allow marking versioned nodes in YANG tree
• Further Implementation experience
Trace Context Extension

draft-rogaglia-netconf-trace-ctx-extension-03
draft-rogaglia-netconf-restconf-trace-ctx-headers-00
Adopted. No updates: "it's done"

W3C defined REST headers → trivial NETCONF XML attribute mapping

draft-rogaglia-netconf-restconf-trace-ctx-headers-00

Adopted. No updates: "it's done"

W3C defined REST headers → carbon copy RESTCONF headers
The end goal is to tap into OTLP ecosystem

Example with ServiceNow/LightStep backend

Orchestrator

Controller

OTLP Backend

<edit-config>

trace-context

Orchestrator trace spans

Controller trace spans

Same trace-id
Next Steps

• ✅ More details around error handling
• ✅ Publish RESTCONF document “should” implement W3C headers
• ✅ Figure out process for W3C protocol registration
• ✅ WG adoption of both trace drafts
• Implementation experience
• Monitor W3C “baggage headers” development (still W3C draft state)
Thank you
Catalog of Related Drafts

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