NETCONF
Transaction ID

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IETF 112
Jan Lindblad <jlinblad@cisco.com>
Past Work

Presented -00 at IETF 109

Calculation based on "real world" trace data
- 91% of traffic: YANG 1.0 <hello/>
- 569 => 378 roundtrips, down 34%
- 1002 kB => 547 kB, down 45%

Real value: Reliability

Changes from -00 to -01
- Clarified text on numerous points based on mailing list feedback
- Restructured into general/etag specific
- Some name changes
- Harmonized slightly with RFC 7232 and RFC 8040
- Removed all text discussing etag values provided by the client
- Added substitute mechanism for server to return chosen etag
- Added discard-changes, commit, etc.
- Added IANA Considerations
Open Questions, 1/2

Etag Assignment
- RFC 8040/ RFC 7232 sec 2.3
  - Increasing integer
  - Up to server

Etag Format (length, ...?)
- Mostly unspecified

Timestamps (RESTCONF has this)
- Only by proprietary extension
  - Optional for server, optional for client
  - Mandatory for server, optional for client

Allow Client to Assign Etag
- Only by proprietary extension
  - Optional for server, optional for client
  - Mandatory for server, optional for client

Allow Client to Label Transaction
- Only by proprietary extension
  - Optional for server, optional for client
  - Mandatory for server, optional for client
Open Questions, 2/2

Granularity
- Datastore top-level only
- Datastore plus server picks some containers and list elements
- Datastore plus server picks any elements
- Client decides in run-time

Further Development
- Indicate versioned elements using system capabilities?
- Develop for config false?
- Eliminate need for locking, i.e. Etag for commit operation?
Allow Client to Assign Etag: Low Cost

Server Assigned Etag

Client

Compute next Transaction

Server

<edit-config>
  <target><candidate/></target>
  <config>
    <blah/><blah/><blah/>
  </config>
</edit-config>

<ok txid:etag="ab56-3689-49ac"/>

"Random" value assigned by server

Client Assigned Etag

Client

Compute next Transaction

Server

<edit-config>
  <target><candidate/></target>
  <itxid:etag>47-390</itxid:etag>
  <config>
    <blah/><blah/><blah/>
  </config>
</edit-config>

<ok txid:etag="47-390"/>

"Whatever" value assigned by client
Allow Client to Assign Etag: High Value

Server Assigned Etag

Client
- Compute next Transaction
- Wait for Slowest Server
- Compute next Transaction
- Wait for Slowest Server

Servers
- Compute next Transaction
- Compute next Transaction
- Compute next Transaction
- Compute next Transaction

Client Assigned Etag

Client
- Compute next Transaction
- Compute next Transaction
- Compute next Transaction

Servers
- Compute next Transaction
- Compute next Transaction
- Compute next Transaction
- Compute next Transaction
Future Work

Would an interim be helpful?