

draft-lindblad-netconf-transaction-id-00

NETCONF WG

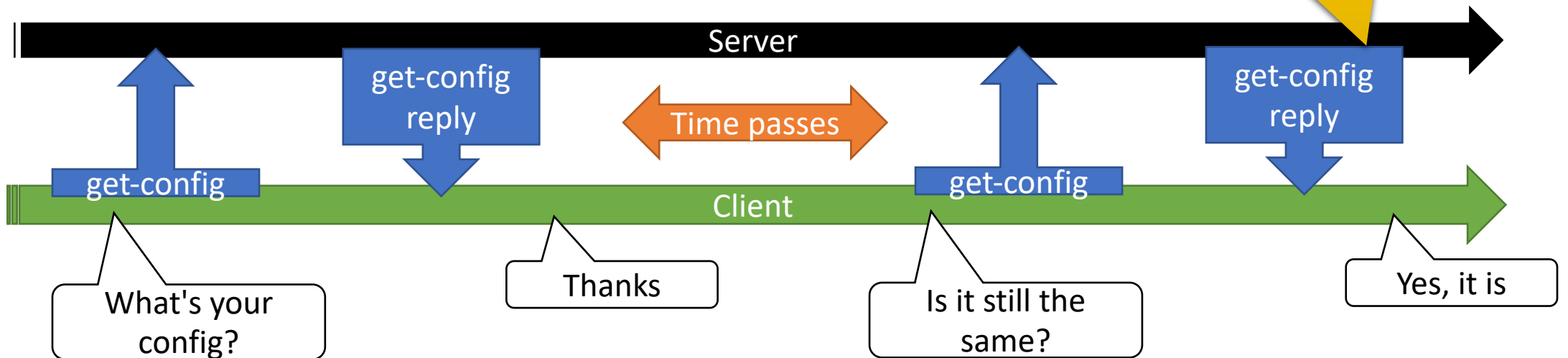
November 2020

Author: Jan Lindblad

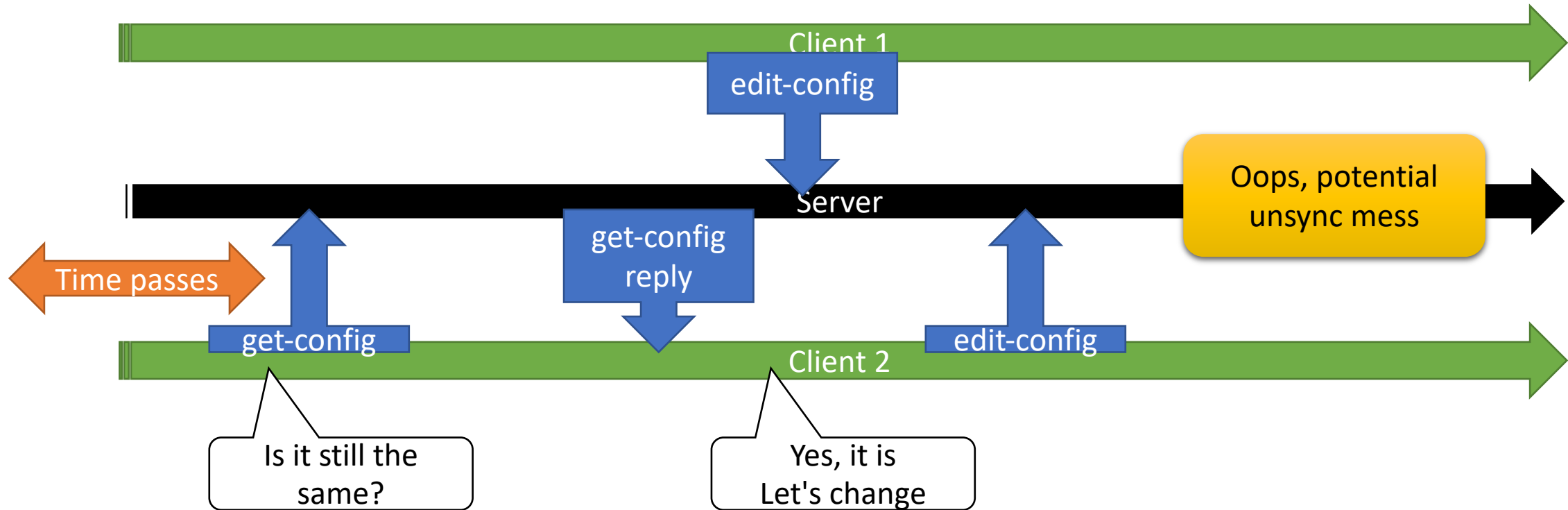
The Problem

Expensive Check-sync

Expensive in terms of communications and computation.
Most of the data in the get-config is the same as earlier.



Unreliable Check-sync



The Proposed Solution

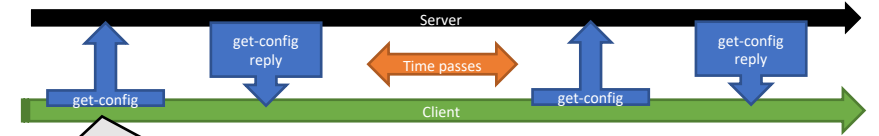
Server

- get-config: Server MAY report a "transaction-id" XML attribute for every container and list element
- edit-config: Server updates "transaction-id" value for every container and list element touched by transaction

Client

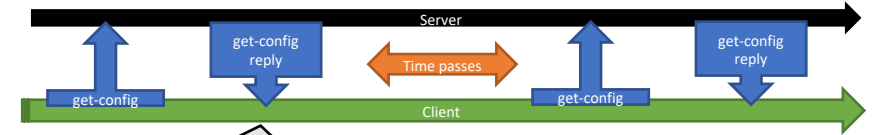
- get-config: Client MAY specify a "transaction-id" XML attribute on any container and list element in filter
- edit-config: Client MAY specify a "transaction-id" value for server to apply to touched elements

Initial Sync



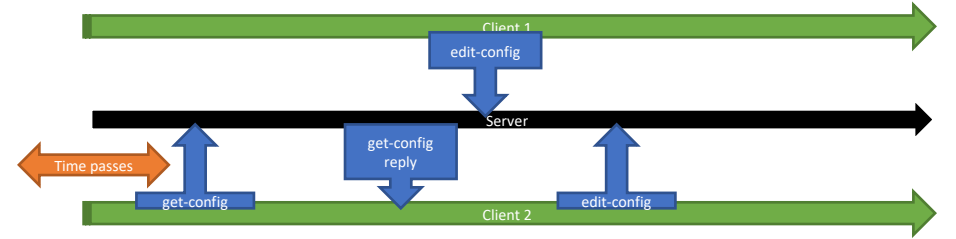
```
<rpc xmlns="..." message-id="1"
  xmlns:transid="...">
  <get-config>
    <source>
      <running/>
    </source>
    <filter>
      <interfaces xmlns="..." transid:entag="?"/>
      <nacm xmlns="..." />
    </filter>
  </get-config>
</rpc>
```

Initial Sync



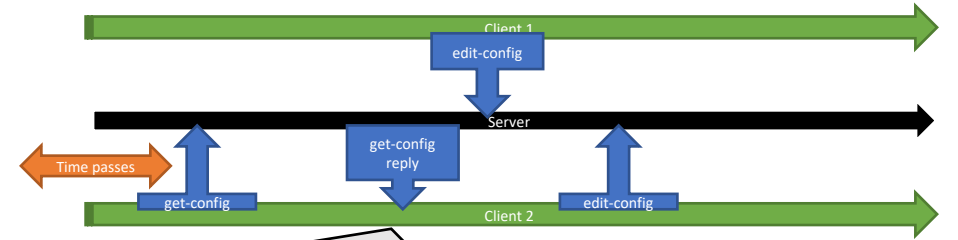
```
<rpc-reply message-id="1" xmlns="..." xmlns:transid="...">
  <data transid:entag="def88884321">
    <interfaces xmlns="..." transid:entag="def88884321">
      <interface transid:entag="def88884321">
        <name>GigabitEthernet-0/0</name>
        <description>Management Interface</description>
        <type>ianaift:ethernetCsmacd</type>
        <enabled>>true</enabled>
      </interface>
      <interface transid:entag="abc12345678">
        <name>GigabitEthernet-0/1</name>
        <description>Upward Interface</description>
        <type>ianaift:ethernetCsmacd</type>
        <enabled>>true</enabled>
      </interface>
    </interfaces>
  </data>
</rpc>
```


Check-sync



```
<rpc xmlns="..." message-id="1" xmlns:transid="...">
  <get-config>
    <source>
      <running/>
    </source>
    <filter>
      <interfaces xmlns="..." transid:entag="abc12345678" />
      <nacm xmlns="..." />
    </filter>
  </get-config>
</rpc>
```

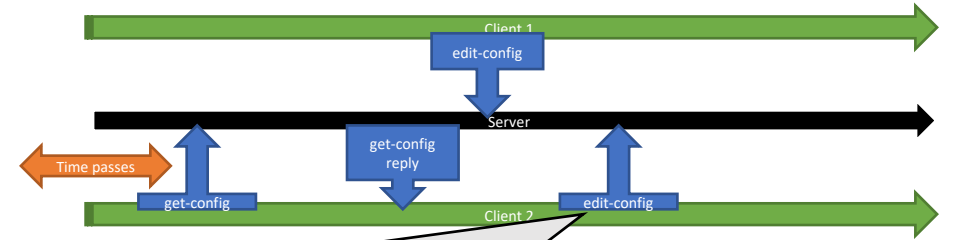
Check-sync



```
<rpc-reply message-id="1" xmlns="..." xmlns:transid="...">
  <data transid:entag="def88884321">
    <interfaces xmlns="..." transid:entag="def88884321">
      <interface transaid:entag="def88884321">
        <name>GigabitEthernet-0/0</name>
        <description>Management Interface</d...
        <type>ianaift:ethernetCsmacd</type>
        <enabled>>true</enabled>
      </interface>
      <interface transid:entag="">
        <name>GigabitEthernet-0/1</name>
      </interface>
    </interfaces>
  </data>
</rpc>
```

In sync, skip known details

Safe edit-config



```
<rpc xmlns="..." message-id="1" xmlns:nc="..." xmlns:transid="...">
  <edit-config>
    <target>
      <candidate/>
    </target>
    <test-option>test-then-set</test-option>
    <config>
      <interfaces xmlns="...">
        <interface nc:operation="delete"
          transid:entag="ghi55550101">
          <name>GigabitEthernet-0/1</name>
        </interface>
      </interfaces>
    </config>
  </edit-config>
</rpc>
```

If tags don't match, abort

Continued Discussion

<mailto:netconf@ietf.org>

<https://datatracker.ietf.org/doc/draft-lindblad-netconf-transaction-id/>