Time Capability in NETCONF

draft-mm-netconf-time-capability-03


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Overview

- This draft defines the **time** capability.
- Allows time-triggered RPCs.
- Client can attach a scheduled time of execution to RPCs.
- Server can attach timestamp to RPC reply.
- Very powerful tool for various network configuration scenarios.
- We defined a similar extension to the OpenFlow protocol. It is now in OpenFlow 1.5.0 and in the OpenFlow 1.3.x extension package.
Example: Network-wide Commit

All-or-none commit:
- Client sends ‘commit at time $T$’ to $n$ servers
- A client that receives an error message from some server sends cancellation messages to all
- In the absence of cancellation, the $n$ switches commit at time $T$

Client

Server 1

Server 2

... Server n

- Client sends <commit>, scheduled to time $T$
- All servers commit at $T \pm \delta$
- $\delta$ is the scheduling accuracy
History of this Draft

• July 2013 – draft 00
• July 2013 – presented in IETF 87, Berlin
• Jan 2014 – draft 01
  – Incorporated a lot of feedback from the WG
• Dec 2015 – draft 03 (current draft)
  – We believe we addressed all the issues raised on the mailing list.

• Next step: consider WG adoption
THANKS !
References

http://tx.technion.ac.il/~dew/TimeFlipINFOCOM.pdf

http://tx.technion.ac.il/~dew/TimeSDN.pdf

http://tx.technion.ac.il/~dew/ONS-Time.pdf

