IETF Hackathon: CoMI/YANG

IETF 102

14-15 July, 2018

Montreal

What is CoMI?

- Bringing YANG to constrained environment
  - NETCONF(SSH-XML)/RESTCONF(HTTP-JSON)
  - A set of technologies (CORECONF)
    - YANG<->CBOR
    - CoMI
      - CoAP methods / bindings
    - Use of compressed IDs (SID)

What exists?

- Specs (stable for several months)
  - draft-ietf-core-sid
  - draft-ietf-core-yang-cbor
  - draft-ietf-core-comi

- Example SID Registry
  - http://comi.space

- Example implementation (client+server) accessible for everyone
  - F-Interop

What we want to achieve?

- Open-source Python-based examples
  - Help people boot-strap implementations
- Full open-source Python implementation
  - Client
- Document our work

Hackathon Plan

- Plan
  - Starting with F-Interop
    - Baseline hardcoded interactions with the example implementation
  - Automated code generation (YDK-based)
    - Client
    - Open way to Server implementation

What got done

- Developed base examples working on various OS (Lin/Mac)
- Clearly identified development process for CoMI
  - Independent development of YANG-CBOR & CoAP
  - Compatible with commercial / open-source NETCONF/ RESTCONF servers
  - Identified next steps for a C implementation
- Started YDK-based CoMI client implementation

What we learned

- Productivity may suffer in case of sport events' finals
- A good source of randomness : Python v? + Mac + IPv6
- Virtualize your Hackathon environment
  - Docker containers (or other virtualization software if you wish)
- YDK is user-friendly for users…
  - Less so for people trying to extend it
    - We would love to see more introspection there

Wrap Up

Team members:

- Quy Nguyen (remote - France)
- Ivaylo Petrov
- Yousef Alowayed (first timer)
- Alexander Pelov

Special thanks to:

- Vladimir Vassilev (YANG/ Netconf)

Docs:

https://etherpad.tools.ietf.org/p/comi

Code:

https://github.com/Acklio/pycomi