IETF Hackathon

IETF 122
15–16 March 2025
Bangkok, Thailand

I E T F

Hackathon Plan

- HTTPS-Notif-Draft - **Kafka integration** and **Bandwidth Analysis** for **different encodings.**

What drafts were involved?

- **draft-ietf-netconf-https-notif-15 -** An HTTPS-based Transport for YANG Notifications - Mahesh Jethanandani and Kent Watsen
- **draft-chittapragada-netconf-https-notif-cbor-00 -** CBOR Encoding for HTTPS-based Transport for YANG Notifications (Our team has written this draft!)

What got done

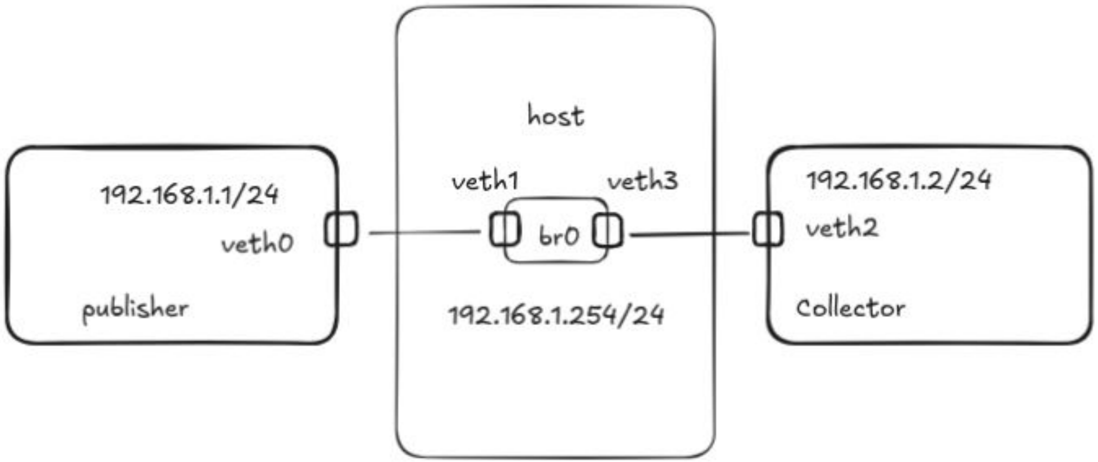
- Added CBOR encoding support to **An HTTPS-based Transport for YANG Notifications**
- Performed bandwidth analysis for different encoding types
- Code! - https://github.com/MeherRushi/https-notif-draft-impl

```
module: ietf-interfaces
  +--rw interfaces
     +--rw interface* [name]
        +--rw name                        string
        +--rw description?                string
        +--rw type                        identityref
        +--rw enabled?                    boolean
        +--rw link-up-down-trap-enable?   enumeration {if-mib}?
        +--ro admin-status                enumeration {if-mib}?
        +--ro oper-status                 enumeration
        +--ro last-change?                yang:date-and-time
        +--ro if-index                    int32 {if-mib}?
        +--ro phys-address?               yang:phys-address
        +--ro higher-layer-if*            interface-ref
        +--ro lower-layer-if*             interface-ref
        +--ro speed?                      yang:gauge64
        +--ro statistics
           +--ro discontinuity-time    yang:date-and-time
           +--ro in-octets?            yang:counter64
           +--ro in-unicast-pkts?      yang:counter64
           +--ro in-broadcast-pkts?    yang:counter64
           +--ro in-multicast-pkts?    yang:counter64
           +--ro in-discards?          yang:counter32
           +--ro in-errors?            yang:counter32
           +--ro in-unknown-protos?    yang:counter32
           +--ro out-octets?           yang:counter64
           +--ro out-unicast-pkts?     yang:counter64
           +--ro out-broadcast-pkts?   yang:counter64
           +--ro out-multicast-pkts?   yang:counter64
           +--ro out-discards?         yang:counter32
           +--ro out-errors?           yang:counter32
```

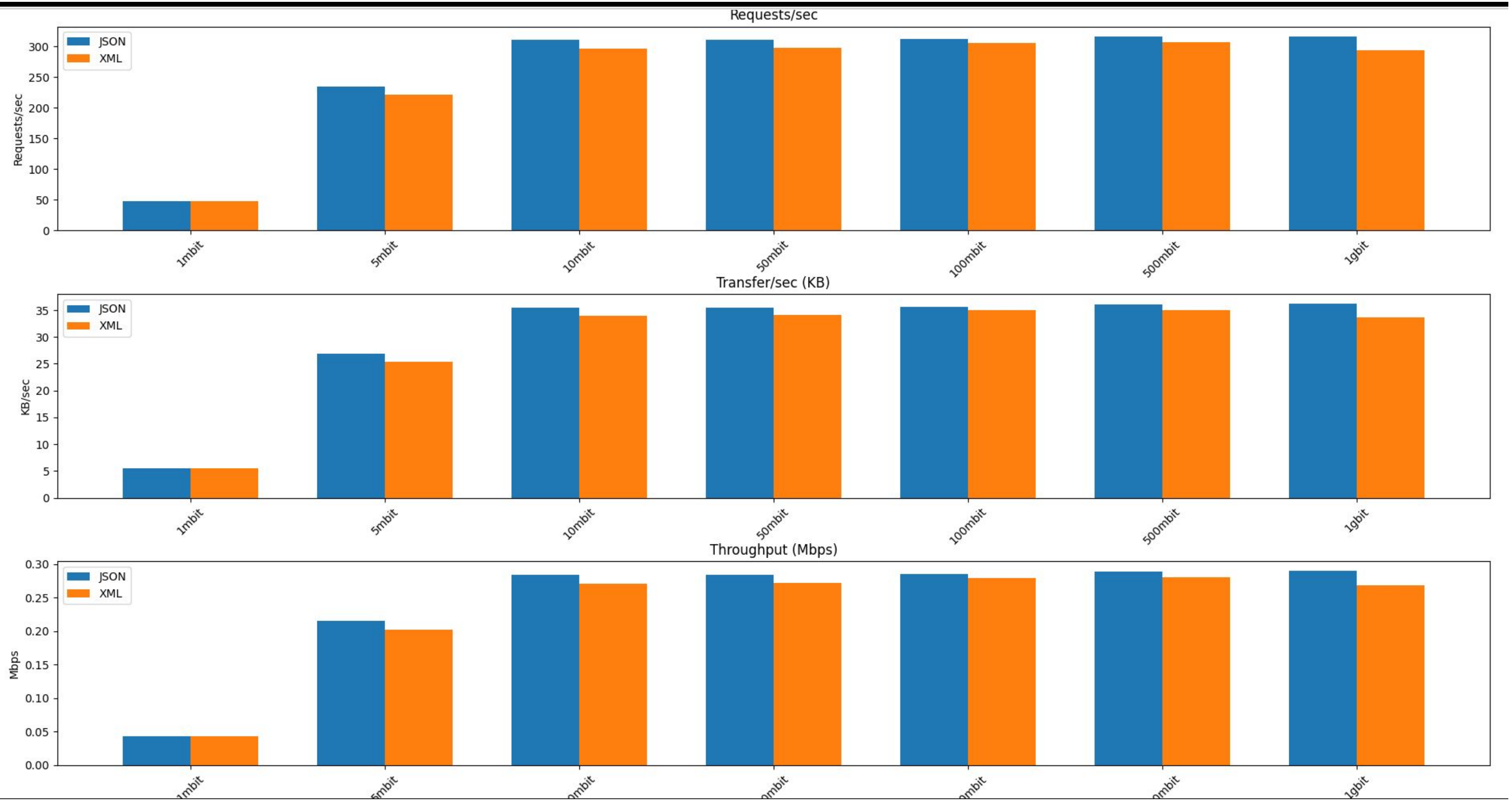
What got done

Bandwidth Analysis

Setup:

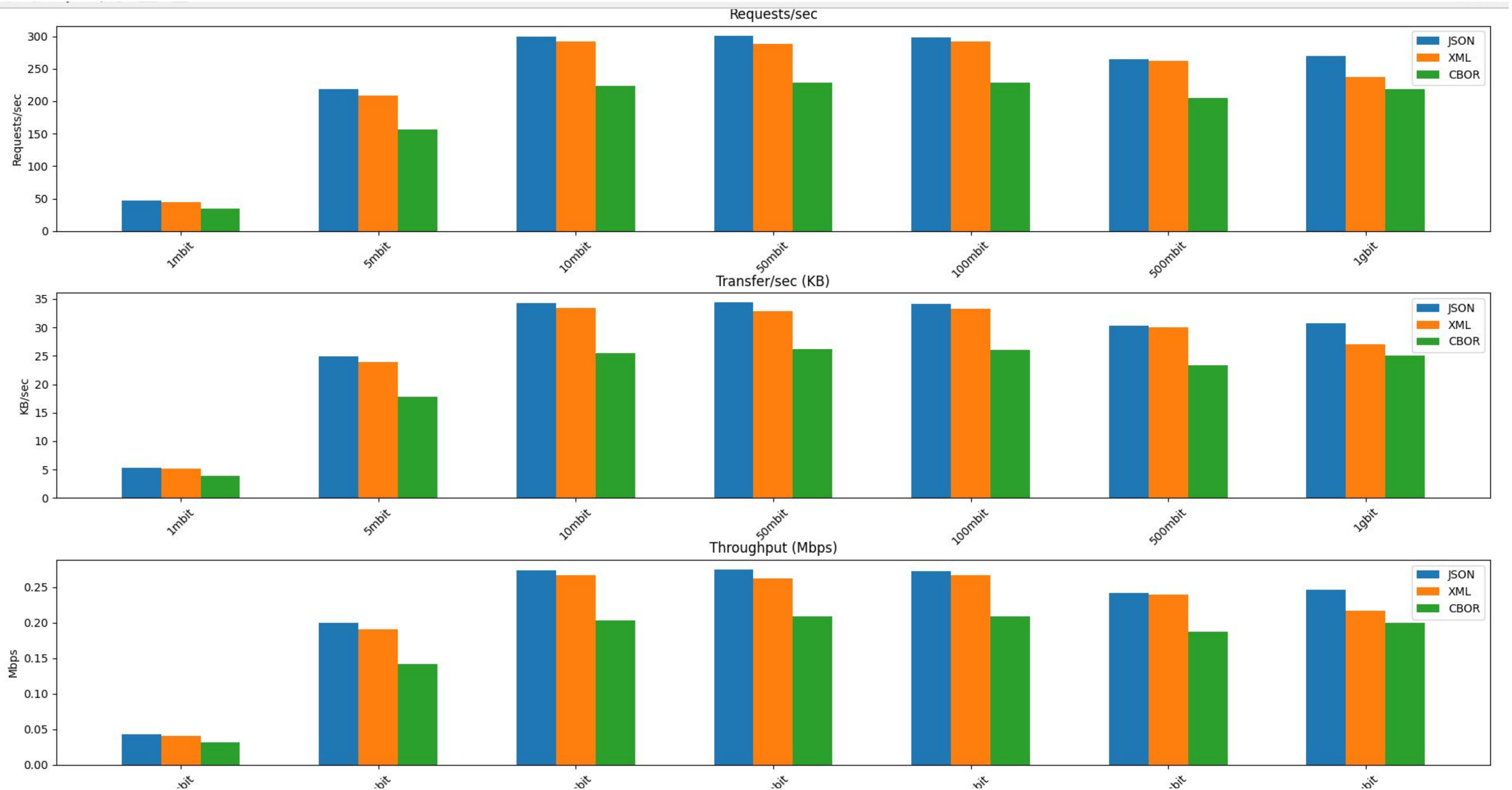


Results

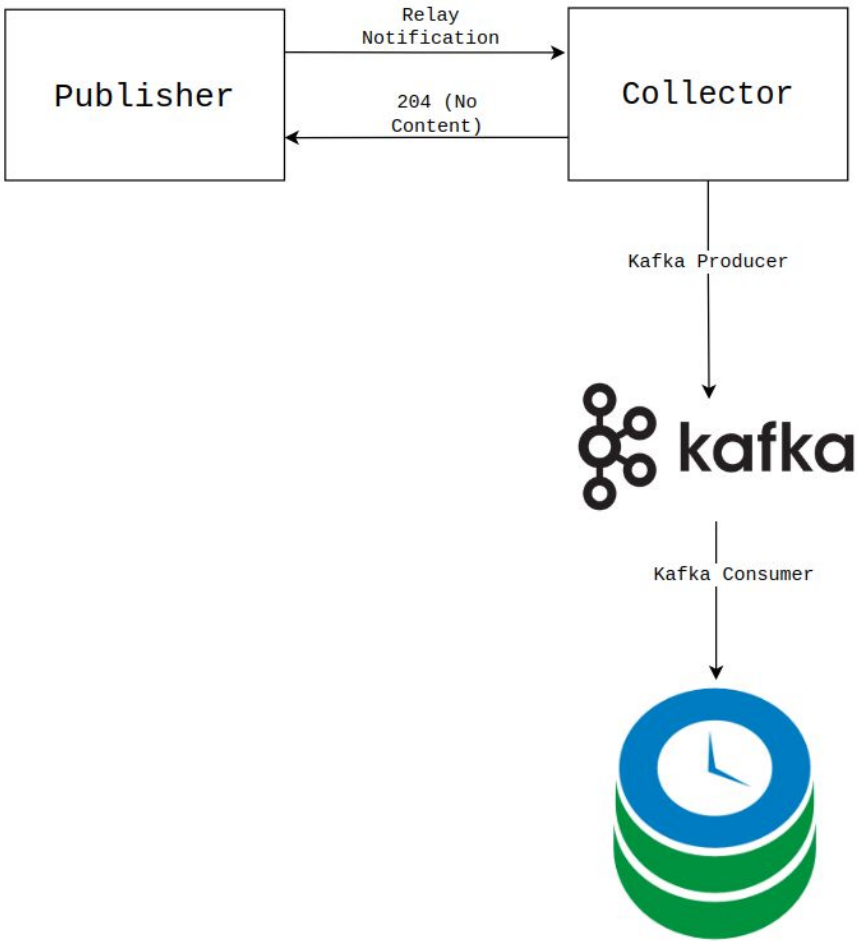


Requests/sec
JSON
XML
Requests/sec
0
50
100
150
200
250
300
1mbit
5mbit
10mbit
50mbit
100mbit
500mbit
1gbit
Transfer/sec (KB)
KB/sec
0
5
10
15
20
25
30
35
Throughput (Mbps)
Mbps
0.00
0.05
0.10
0.15
0.20
0.25
0.30

Work In Progress



Storing the Relay Notifications



Wrap Up

Team members - All of us are first timers @ IETF/Hackathon :)

Bharadwaja Meherrushi C
Hayyan Arshad
Siddharth Bhat
Vartika T Rao

Under the guidance of
Mohit P. Tahiliani
Mahesh J
Kent Watsen

Contact:

meher.211cs216@nitk.edu.in,

meherrushi2@gmail.com

hayyanarshad.211cs222@nitk.edu.in,
hayyanhammah@gmail.com

sidbhat.211ee151@nitk.edu.in,

siddharth.bhat10@gmail.com

vartikatrao.211it077@nitk.edu.in,

vartikatrao@gmail.com