



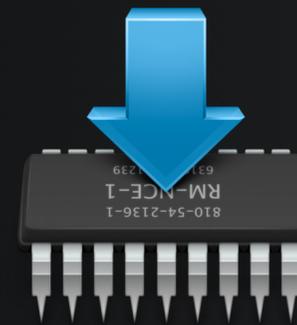
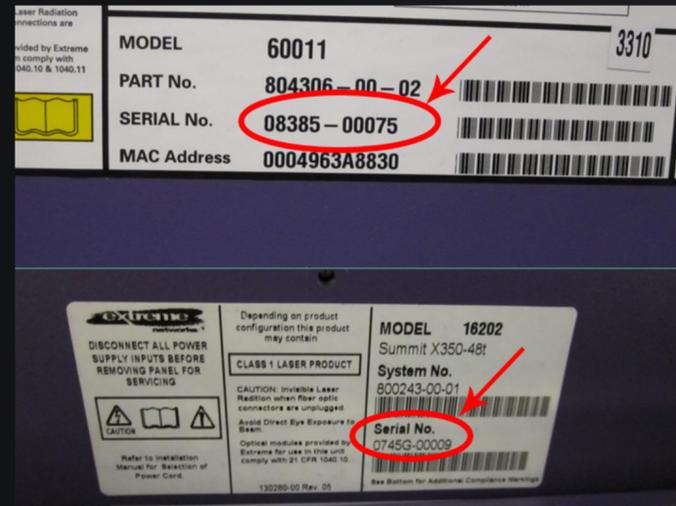
**facebook**  
INFRASTRUCTURE

# Unified OpenBMC - Facebook

Sai Dasari,  
Software Engineer

# System Management @Scale

- Inventory Identification
- Continuous Monitoring
  - Voltage, Current, Power, Temp.
  - Critical CPU signals
  - Event Logs
  - Fan Speed Control
- Firmware Versioning/Update
  - BIOS, VR, CPLD, BridgeIC..
- Remote Access
  - Power/Reset Control
  - Console via SoL



# Background

## Network

- Data Plane
- Control Plane
- Process - Control Plane

## Storage

- Enclosure Management
- SAS Controllers
- PCIe Expander

## Compute

- System Management
- IPMI Spec '98
- BMC
- Intel, HP, NEC, Dell

# BMC @ FB



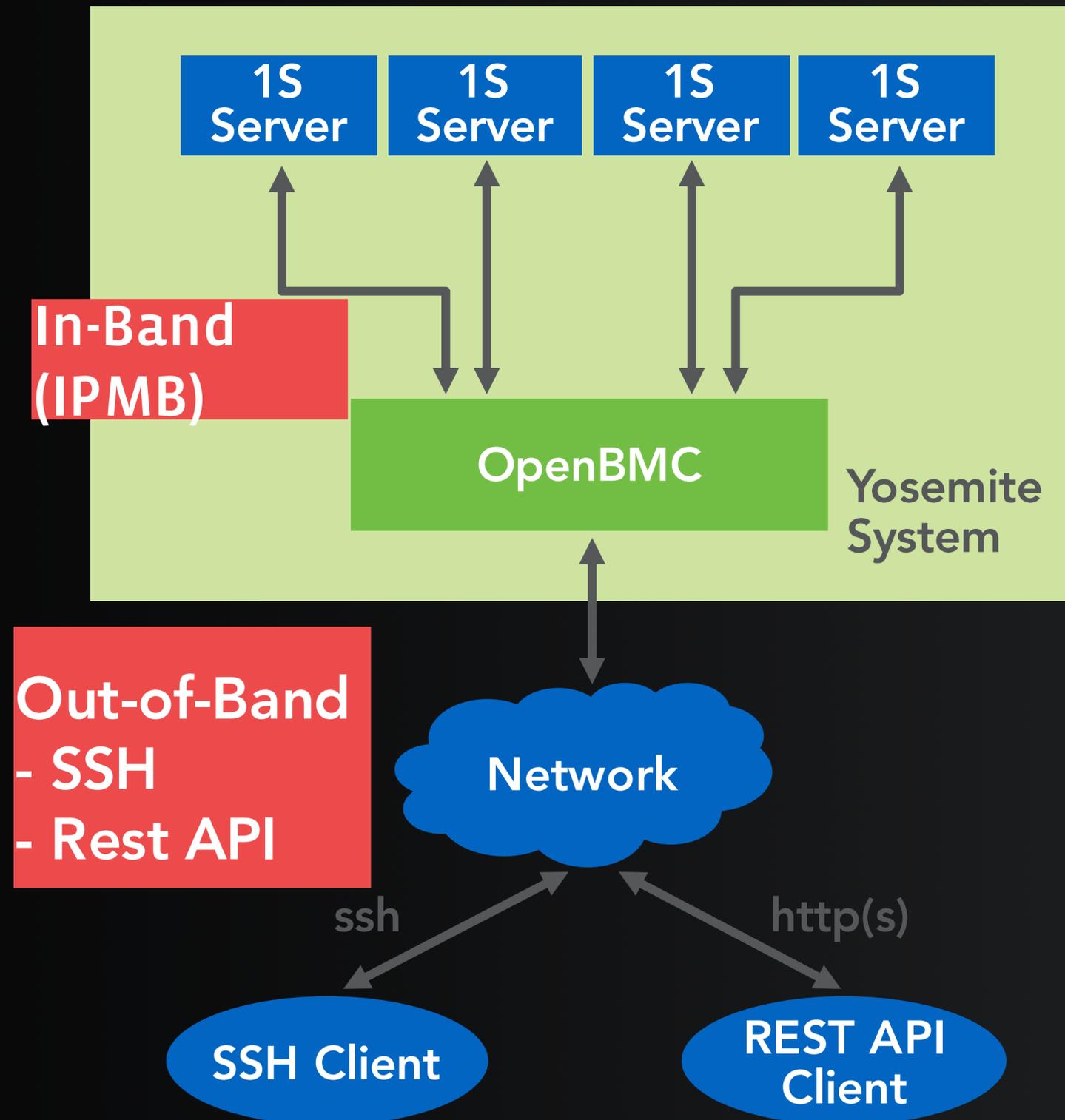
NO BMC

3<sup>rd</sup> Party BMC

OpenBMC



# OpenBMC User Interface



UI

Utils

REST-API

Apps

KV Store  
(volatile)

Sensord

ipmid

fscd

KV Store  
(Non-  
volatile)

Scripts

ipmbd

kcsd

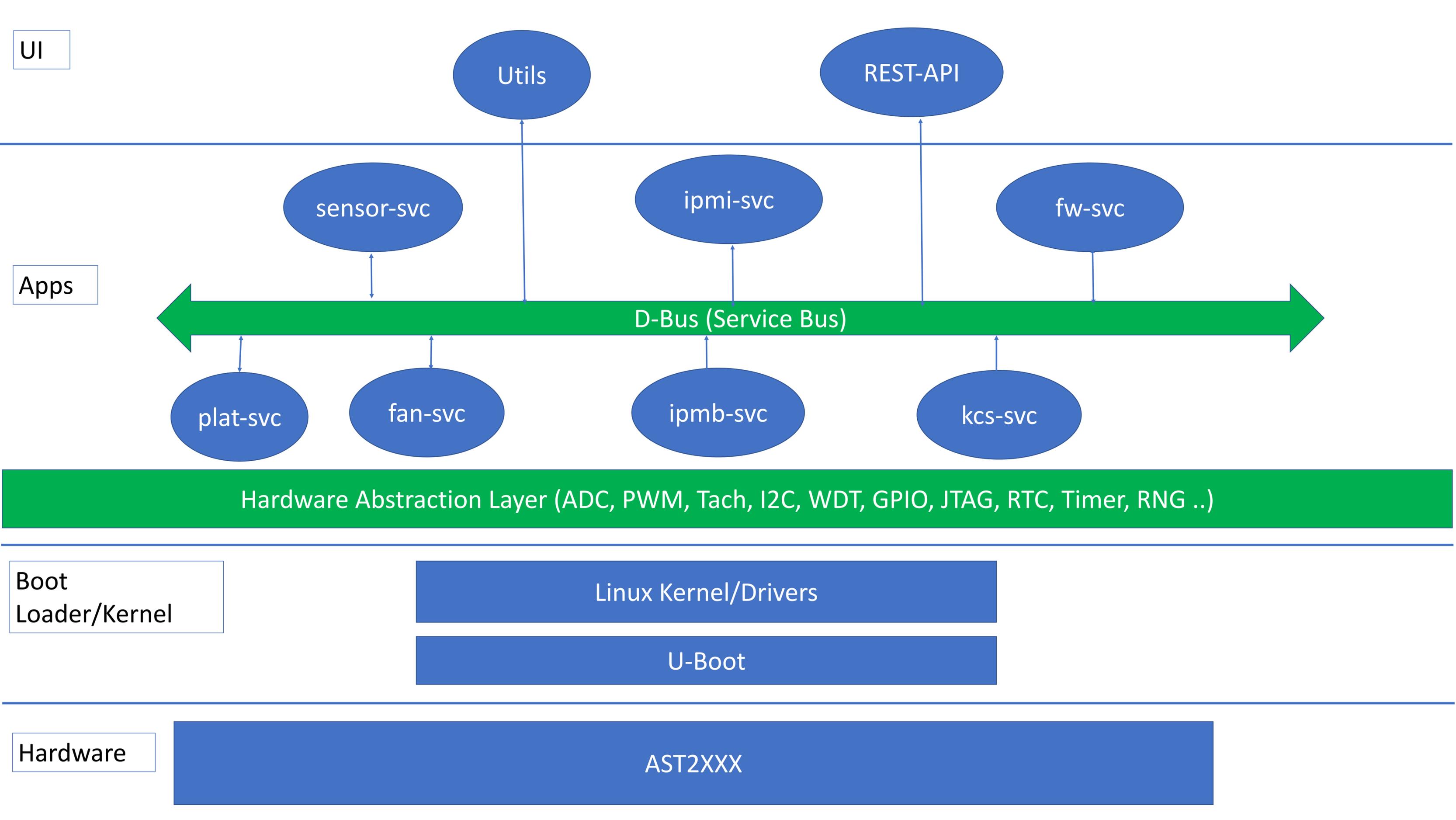
Linux Kernel/Drivers

Boot  
Loader/Kernel

U-Boot

Hardware

AST2XXX



# Unified OpenBMC Thoughts

- User/Admin
  - UI: Configuration, Tools, Rest-API
  - External S/W integration
- Developer
  - More features
  - Extensible Design
  - Secure Code
- Challenges
  - Documentation?
  - Efficient workflow?
  - Reference platform?
  - Validation test suite(s)?

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Thank you