OCP SUMMIT

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San Jose, CA
Facebook OpenBMC Updates

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Facebook
OCP Summit Recap

- **OCP Summit’15**
  - Proof-Of-Concept - Wedge

- **OCP Summit’16**
  - Server Management - Yosemite
  - Storage Management - Lightning

- **OCP Summit’17**
  - New Platforms - Wedge100, Backpack, YosemiteV2, TiogaPass, Bryce Canyon
  - Updates - AST25xx, U-Boot/2016.07, Linux/4.1.15
  - Security Feature - Verified Boot POC
OCP ‘18 Agenda
Since Last Summit

• Updates
  • Python2->Python3 Migration
  • Yocto: Krogoth->Rocko
  • Verified Boot

• Features:
  • YosemiteV2 Hot Service
  • OCP LCD Debug Card
  • At-Scale Debug
OCP LCD Debug Card

- LCD
  - System Information
  - POST Code
  - GPIO Status
  - SEL
  - Critical Sensors
- Control
  - Power
  - Reset
  - Console Selection
  - Hot Service
Host System->Debug Card Interface
Example Debug Pictures#1

POST Code Status

GPIO Status
Example Debug Pictures#2

Critical Sensor Info

System Information
At-Scale Debug

*Image courtesy of ASSET InterTech*
OpenBMC@FB

Network
- 6-Pack
- Backpack FC/LC
- Backpack CMM
- Wedge
- Wedge100
- Wedge100S

Storage
- Knox
- Mater
- Honey Badger
- Lightning
- Bryce Canyon

Compute
- Freedom
- Wind Mill
- Leopard
- Yosemite
- Tioga Pass
- YosemiteV2

No BMC
- 3rd Party BMC
- OpenBMC
Monitoring, Updates, and Configuration

- Growing number and variety of deployed
- Trending away from host-based/in-band implementations
- Leverage OpenBMC as a capable Linux system
Monitoring OpenBMC

- Periodic fleet-wide polling of REST APIs
  - Beringei time-series database
  - Base image version, memory usage
- Syslog pipelines logs
  - Host serial console
  - OpenBMC system logs
Updating OpenBMC

• Improved resilience and speed
• Improved unit test coverage
• More prerequisite checks
• More nohup
• Less back-and-forth over SSH
• Default to HTTP (with checksum validation) instead of SCP
• Queue of out-of-date systems computed from version data from monitoring
Configuring OpenBMC

• Host-based Chef and simple tarball solutions in use on different portions of fleet
• Experimented with Ansible
• Working default configurations now included in base images at Yocto build time
Configuring OpenBMC

- SLAAC provides initial IPv6 address
- DHCPv6 provides assigned IPv6 address, DNS servers, DNS search path
- NTP and rsyslog use DNS short names
Developer Community

• OpenBMC Distributions
  • https://github.com/openbmc
  • https://github.com/facebook/openbmc
  • Multiple private derivative distros!!

• Goal
  • Shared Development
  • Industry standard Interfaces
  • Unified OpenBMC Distribution

• Community Project
  • Major Partners
  • Linux Foundation Project