Hardware Management
Project Update

Hemal Shah, Distinguished Engineer and Architect, Broadcom Inc.
Bob Stevens, Distinguished Member of Technical Staff, Dell Technologies Inc.

OPEN POSSIBILITIES.
Agenda

- OCP Hardware Management Goals
- Project Overview
- Sub-Projects
- Call to Action
OCP Hardware Management Goals

- Cover hardware management of OCP platforms
- Enable interoperable manageability for OCP platforms
- Provide a common foundation for manageability for OCP projects
Project Scope

- Standard manageability interfaces
- Baseboard management controller (BMC) requirements
- Interoperability and conformance to manageability specifications
- Provide guidance and feedback to other Open Compute projects
- Oversee the OCP’s OCP-Profiles repository
- Rack Management Controller (RMC)
- Hardware fault management
- Hardware Management Module
- Device Manager
Platform Manageability - Redfish based OCP Profiles

- The HW Management Project created a baseline hardware management profile
- Baseline profile includes a set of manageability common across OCP platforms
- Other OCP projects may extend and create platform specific profiles

Baseline Profile: [http://files.opencompute.org/oc/public.php?service=files&t=1c8c2ee9d04ef0eed7a683291c9e3506](http://files.opencompute.org/oc/public.php?service=files&t=1c8c2ee9d04ef0eed7a683291c9e3506)
Conformance Test Suite: [https://drive.google.com/file/d/1R05H0LaqG9DmTDJdMGhKkLckpwIfeONT/view?usp=sharing](https://drive.google.com/file/d/1R05H0LaqG9DmTDJdMGhKkLckpwIfeONT/view?usp=sharing)
Project Specifications Published

- OCP Redfish Profile: baseline and server
- OpenRMC Northbound API Specification
- OpenRMC Northbound API Profile
- OpenRMC Design Requirements Specification
- RunBMC Specification
OpenRMC

- Open-source firmware on the platform is enabled by the Open System Firmware project and the platform profiles
- OCP wants a path for open-source firmware for the rack management controller
- The OpenRMC subproject is specifying the northbound interface and profile
Hardware Fault Management

- Sub-project in incubation
- Focuses on standardizing system behavior under hardware failures
- Defines key baseline requirements of managing HW errors
- Provides reference/guidance on system HW failure management
Hardware Management Module

- Sub-project in incubation
- Covers RunBMC (server mgmt.) and DC-SCM (data center) specs

- RunBMC standardizes connector definition for server management
  1. Separates management controller module from the common platform management hardware
  2. The module is specified by its connector pin-out
  3. The module covers one or more form-factors

- Datacenter Secure Control Module (DC-SCM) specification provides a standard secure control interface for data center management
Device Manager

• Sub-project in incubation
• Provides a unified asset management, monitoring, and control
• Redfish-based device manager architecture

Use Cases
• Asset Management: identify and query devices
• Monitoring: Help with fault Isolation, and take preventive actions
• Manage SW and FW including updates
MegaRAC OpenEdition Contribution

- Fork from OpenBMC to support BMC functionality on OCP platforms
- Includes platform specific features and out-of-band management
- Source tree based on openbmc-LF
- Source tree maintained by AMI and contributed to OCP
Call to Action

- Hardware Management Project – Manageability interop focused
- Contribute to OCP hardware management specifications
- Submit proposals for specification considerations
- Submit reference architectures/products compliant to specifications
- Join hardware management project and sub-projects calls
- Attend other hardware management track presentations

OCP Hardware Management Project: https://www.opencompute.org/projects/hardware-management

OCP Hardware Management Project wiki: https://www.opencompute.org/wiki/Hardware_Management

OCP Hardware Management Specifications: https://www.opencompute.org/wiki/Hardware_Management/SpecsAndDesigns
Thank you!