

Hardware Management Project Overview

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Project Mission

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



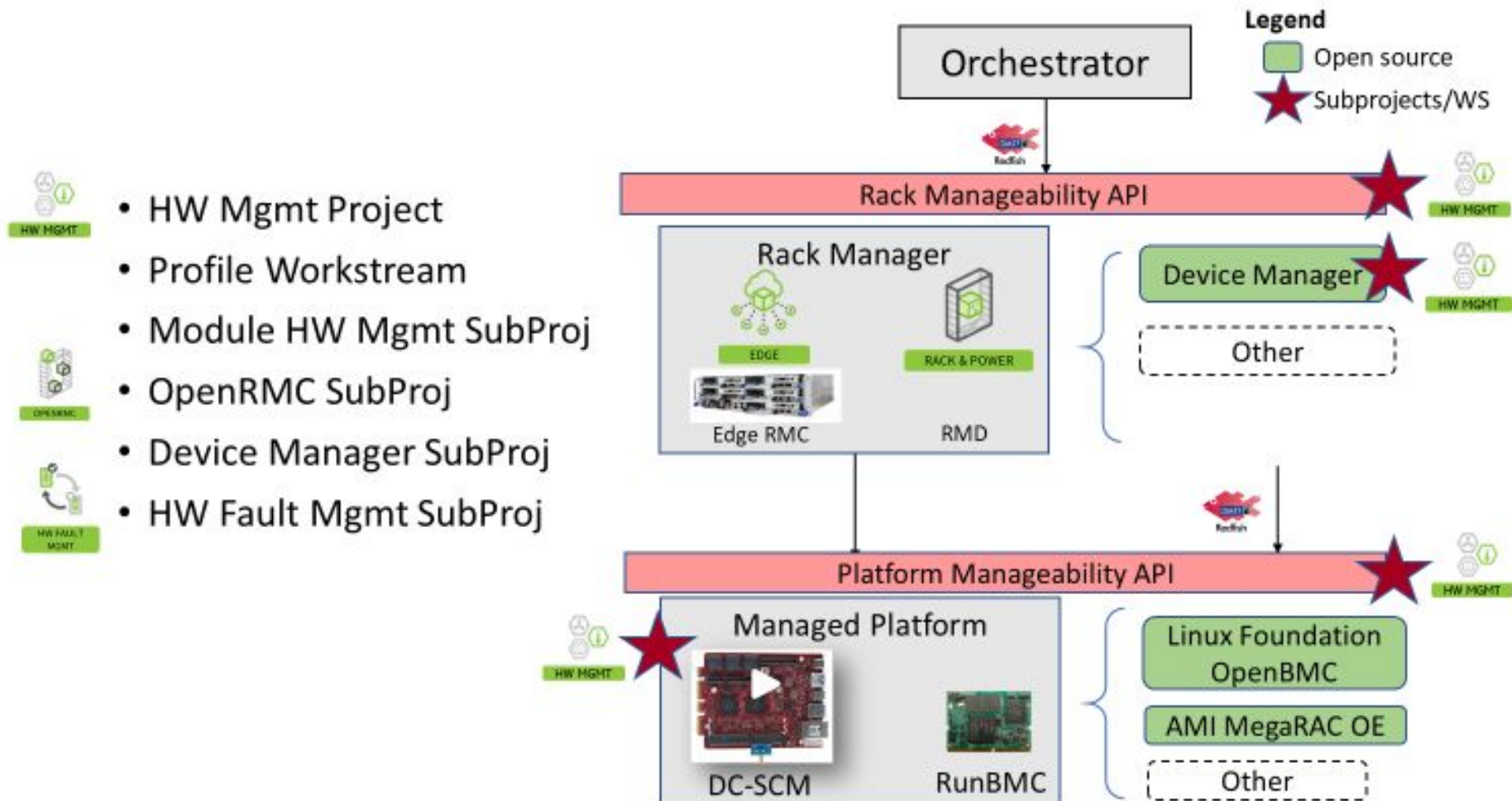
Importance to OCP

- OCP is focused on compute infrastructure scale
- Scale computing requires a stable set of tools for management
- The hardware management project enables infrastructure and tools for remote machine management of OCP platforms

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) Sub-Project
- Device Manager Sub-Project
- Hardware Management Module Sub-Project
- Hardware fault management Sub-Project

Hardware Mgmt Project Structure



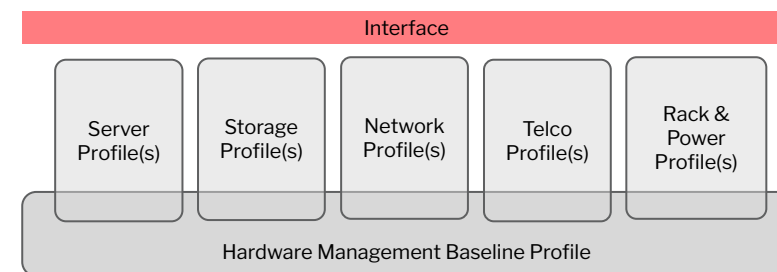


Published Specifications

- OCP Redfish Profiles: baseline and server v1.0.0
- Usage Guide for OCP Baseline Profile v1.0.0
- Usage Guide for OCP Server Profile v1.0.0
- Usage Guide for OpenRMC Northbound Profile v1.0.0
- OpenRMC Northbound API Specification v1.0.0
- OpenRMC Northbound API Profile v1.0.0
- OpenRMC Design Specification v1.0.0
- RunBMC BMC daughter board I/O specification v1.4.1
- DataCenter Secure Control Module (DC-SCM) Specification v1.0.0

OCP Manageability Profiles

- Baseline HW management profile created
- Baseline includes common manageability features across OCP platforms
- Other OCP projects may extend and create platform specific profiles



Baseline Profile: <https://github.com/opencomputeproject/HWMgmt-OCP-Profiles>

Server Profile: <https://github.com/opencomputeproject/HWMgmt-OCP-Profiles>

Conformance Test Suite: <https://drive.google.com/file/d/1R05H0LaqG9DmTDJdMGhKkLckpwIfeONT/view?usp=sharing>



OpenRMC Overview

- Approved Sub-Project
- Creates designs and specifications to enable interoperable manageability for Open Compute rack managers
 - Specification for the interface exposed by the rack manager to the rest of the datacenter
 - Requirements on the interface between the rack manager and the on-platform components
 - An open-source implementation of the rack manager controller software

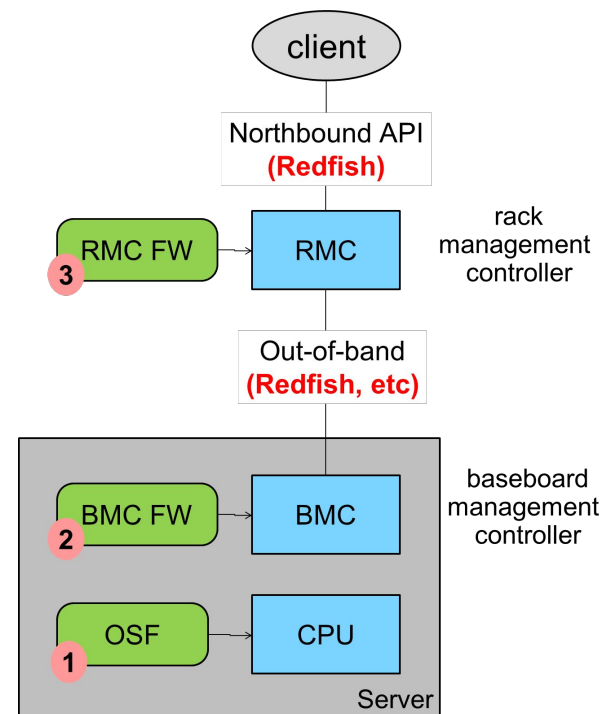
OpenRMC Scope

Rack Manager API

- Northbound interface for the RMC
- Southbound interface requirements for the RMC
- OCP's Rack-Manager source repository

Rack Manager HW

- Edge RMC
- Rack & Power RMD (Meta, Google, MSFT)



RACK & POWER



EDGE

Unified RMD proposal



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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

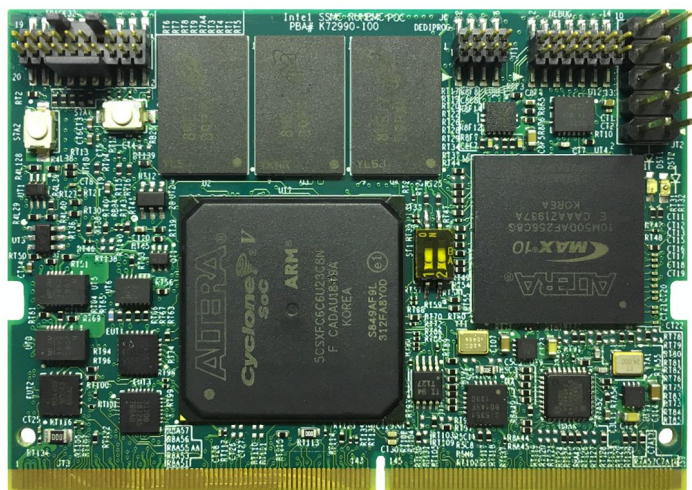
Hardware Management Module

Charter:

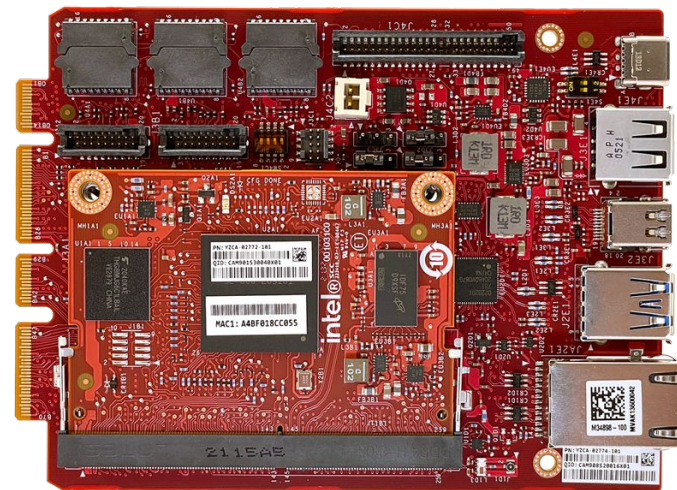
- Specification for the interface between the management subsystem (i.e., BMC and ROT) and the underlying platform
- Design guides for platform designers wanting to use the module
- Designs for reference modules and carrier cards

Hardware Management Module

- Currently two specifications: DC-SCM and RunBMC
 - Both standardize the connector definition for management subsystem
 - Allows designers to separate the subsystem and future-proof



Run-BMC



DC-SCM

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