INSPUR OPENRMC OVERVIEW

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Inspur OpenRMC Status Overview

Inspur Participation Since Kick-off at Oct. 2018

Leadership:
• Currently co-chairing at OpenRMC subproject

Implementation Contribution:
• Inspur Rack Manager Infrastructure Overview and Planning
• Inspur OpenRMC source code contribution (July 2019)
• Demo video of Inspur OpenRMC (March & July & Sept 2019)
• HW implementation contribution preparations

Specs/Code/Architecture:
• North Bound API spec major owner
• Peer-reviewing on other specs/code/architecture

Project Supervising
• Drive major milestones
• Future planning
• Public review collection and consolidation
Rack Level Overview

Upper Node Area

Lower Node Area

Network Area

Power Supply Area (Integrated RMC)
1. OpenBMC has already supported AST2500 SoC BSP
2. High Performance Processor with 800M Hz
3. OpenBMC has supported IPMI, Redfish and WebUI, which can be used for OpenRMC
Connections Between RMC&BMC （Current Design）
Connections Between RMC&BMC (Next Generation Rack Design)

- RMC have two networks for remote management & connection to BMC. BMC have two networks in node for remote management & connection to RMC.
Key Modules & Software Architecture

- **RMC Web Server**
  - Rack Manager Controller Service on top of OpenBMC
  - Evolved from limited nodes to whole rack
- **RMC Web UI**
  - RMC Client (To DC manager)
  - Along with remote access tool
  - Resource collections and service profiles displayed with Redfish schema in JSON format
- **South Bound**
  - Change from D-Bus to support Redfish RESTful API
- **North Bound**
  - Redfish RESTful API Support
  - Enriched service profiles

**Diagram:**
- RMC WEBUI
- USER TOOLS
- RMC WEB SERVER
- BMC
- Redfish

**Flow:**
- RMC WEB UI ➔ USER TOOLS ➔ RMC WEB SERVER ➔ BMC ➔ Redfish

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**Open. Together.**
Inspur OpenRMC based on OpenBMC implementation, code fork from OpenBMC

https://github.com/opencomputeproject/Rack-Manager/tree/master/Contrib-Inspur

Inspur implements two applications:

✓ RMC Web Server

https://github.com/opencomputeproject/Rack-Manager/tree/master/Contrib-Inspur/rmcweb

✓ RMC Web UI

https://github.com/opencomputeproject/Rack-Manager/tree/master/Contrib-Inspur/OR-web
RMC Web Server

- Support redfish v1.6 or later
- Easy to implement
  - Using modern C++ http library, the code is simple and efficient
    - The library: https://github.com/whoshuu/cpr
  - Save a lot of work filling data, obtained data from BMC via Redfish, and
    forwarded directly
How to build OpenRMC Image

1. `git clone https://github.com/inspur-bmc/openrmc`
2. `cd openrmc`
3. `export TEMPLATECONF=./meta-inspur/meta-openrmc/conf`
4. `./openbmc-env`
5. `bitbake obmc-phosphor-image`
WEBUI

- Modern WebUI design
- Easy to extend multi-language support
- Integrated a redfish tree display tool
Redfish Tool

This tool can visually display the Redfish interface related data, which is part of the WebUI interface, and convenient for programmers to debug code and end user to perform script development work.
Inspur’s Open System Firmware Roadmap

- **2017 Aug**: Built OpenBMC for Inspur 2-socket Server
- **2018 Aug**: Inspur released OpenBMC V1.0 for OCP Compute Node and contribute to community
- **2018 July**: Inspur becomes the first the manufacture to pass the DMTF redfish plugfest for OCP Baseline Profile
- **2019 Sep**: Inspur releases and contributes OpenRMC NB API 1.0 to the community
- **2019 May**: Inspur released and contributed OpenRMC V1.0 software stack to community
- **2020 March**: Inspur will release OpenBMC V2.0 and OpenRMC V2.0 with a complete Rack reference solution
Call to Action

• Access our code from Github
• Try & evaluate
• Feedback to Inspur
• Extra profile is welcomed to add if applicable
Open. Together.

OCP Regional Summit
26–27, September, 2019