

INSPUR OPENRMC OVERVIEW

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OSF-OpenRMC





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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







RMC Diagram



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)





Remote Access



Connections Between RMC&BMC (Next Generation Rack Design)

remote management & connection to RMC





• RMC: Rack Management Controller. BMC: Baseboard Management Controller. PCB: Power Supply Control Board. • RMC have two networks for remote management & connection to BMC. BMC have two networks in node for





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







Code

- Inspur OpenRMC based on OpenBMC implementation, code fork from OpenBMC <u>https://github.com/opencomputeproject/Rack-Manager/tree/master/Contrib-Inspur</u>
- Inspur implements two applications:

✓ RMC Web Server

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

✓ RMC Web UI

<u>https://github.com/opencomputeproject/Rack-Manager/tree/master/Contrib-Inspur/OR-web</u>











RMC Web Server

- Support redfish v1.6 or later
- Easy to implement
 - - The library: <u>https://github.com/whoshuu/cpr</u>

forwarded directly

Example: <u>https://github.com/inspur-bmc/rmcweb/blob/master/redfish-</u>

<u>core/lib/rmc-thermal.hpp#L110-#L116</u>





✓ Using modern C++ http library, the code is simple and efficient

Save a lot of work filling data, obtained data from BMC via Redfish, and





How to build OpenRMC Image

- 1. #git clone <u>https://github.com/inspur-bmc/openrmc</u>
- 2. #cd openrmc
- 4. # . openbmc-env
- 5. #bitbake obmc-phosphor-image





3. #export TEMPLATECONF=./meta-inspur/meta-openrmc/conf



WEBUI

- Modern WebUI design
- Easy to extend multi-language support

• Integrated a redfish tree display tool









Redfish Tool

development work. 🚯 RMC Management System 🗙 🕂





CP

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





Inspur's Open System Firmware Roadmap





Inspur becomes the first the manufacture to pass the DMTF redfish plugfest for OCP Baseline Profile





Inspur released OpenBMC V1.0 for OCP Compute Node and contribute to

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

