

A large, abstract graphic on the left side of the image consists of numerous thin, yellowish-gold lines that curve and overlap, creating a sense of depth and motion. These lines form a shape that tapers towards the bottom right.

Open. Together.

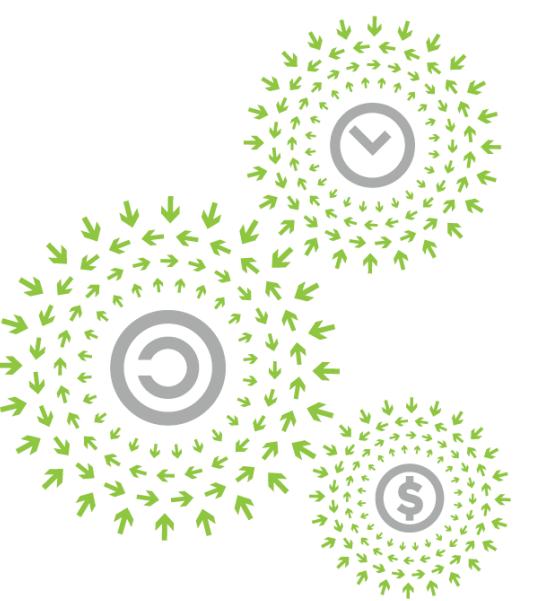


OCP
REGIONAL
SUMMIT

TELCO/Open edge

Open edge RMC

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OPEN
PLATINUM™

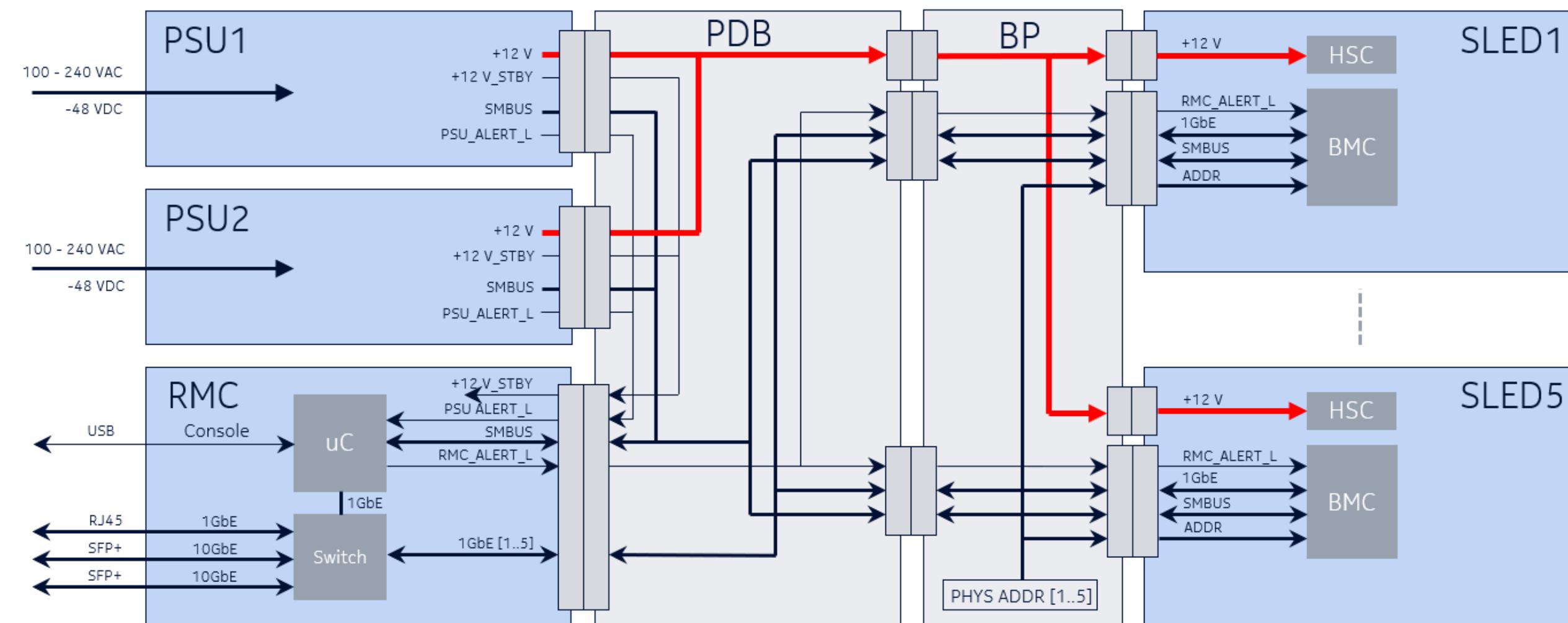


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Open edge chassis overview

Key specifications

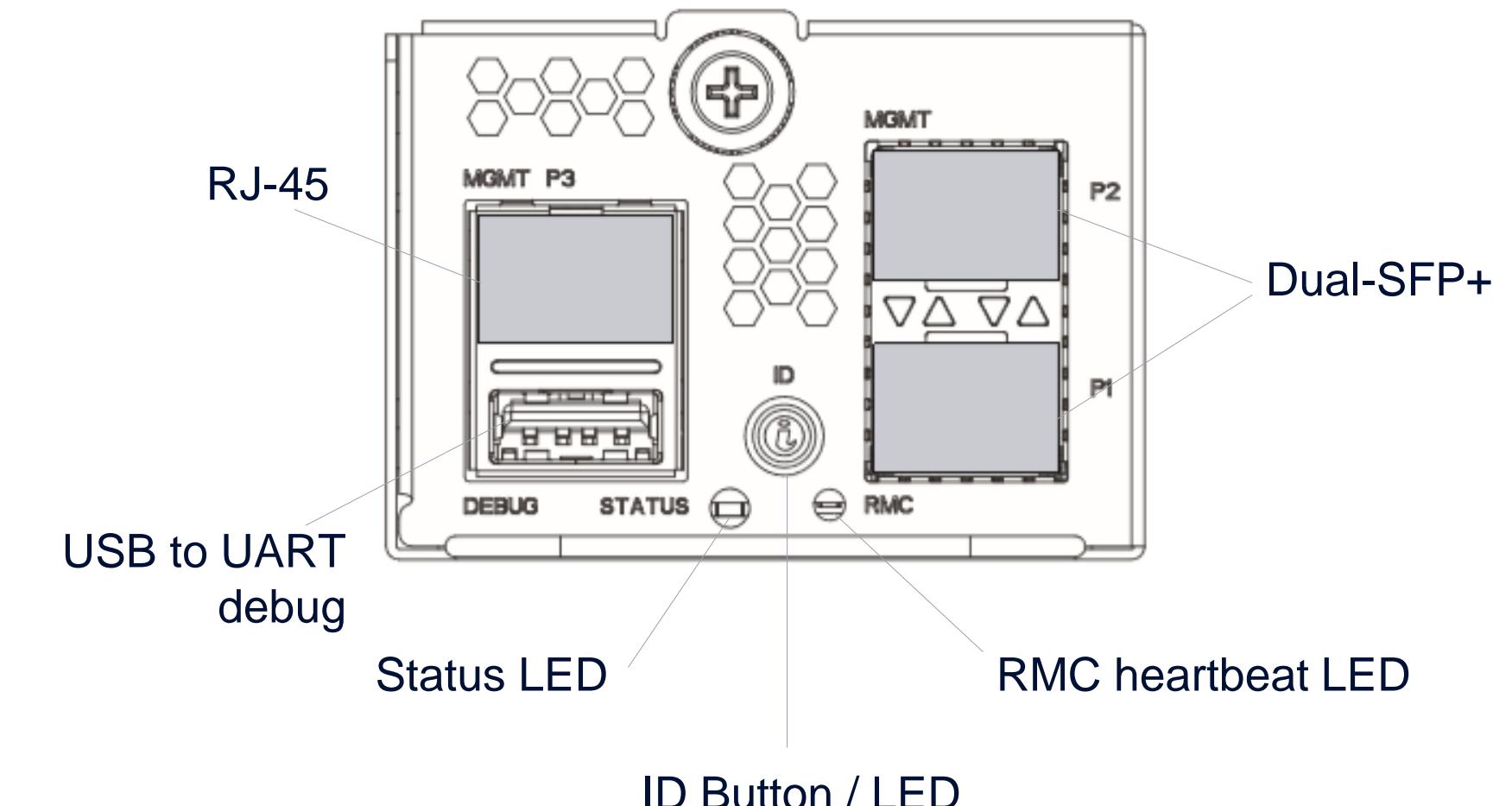
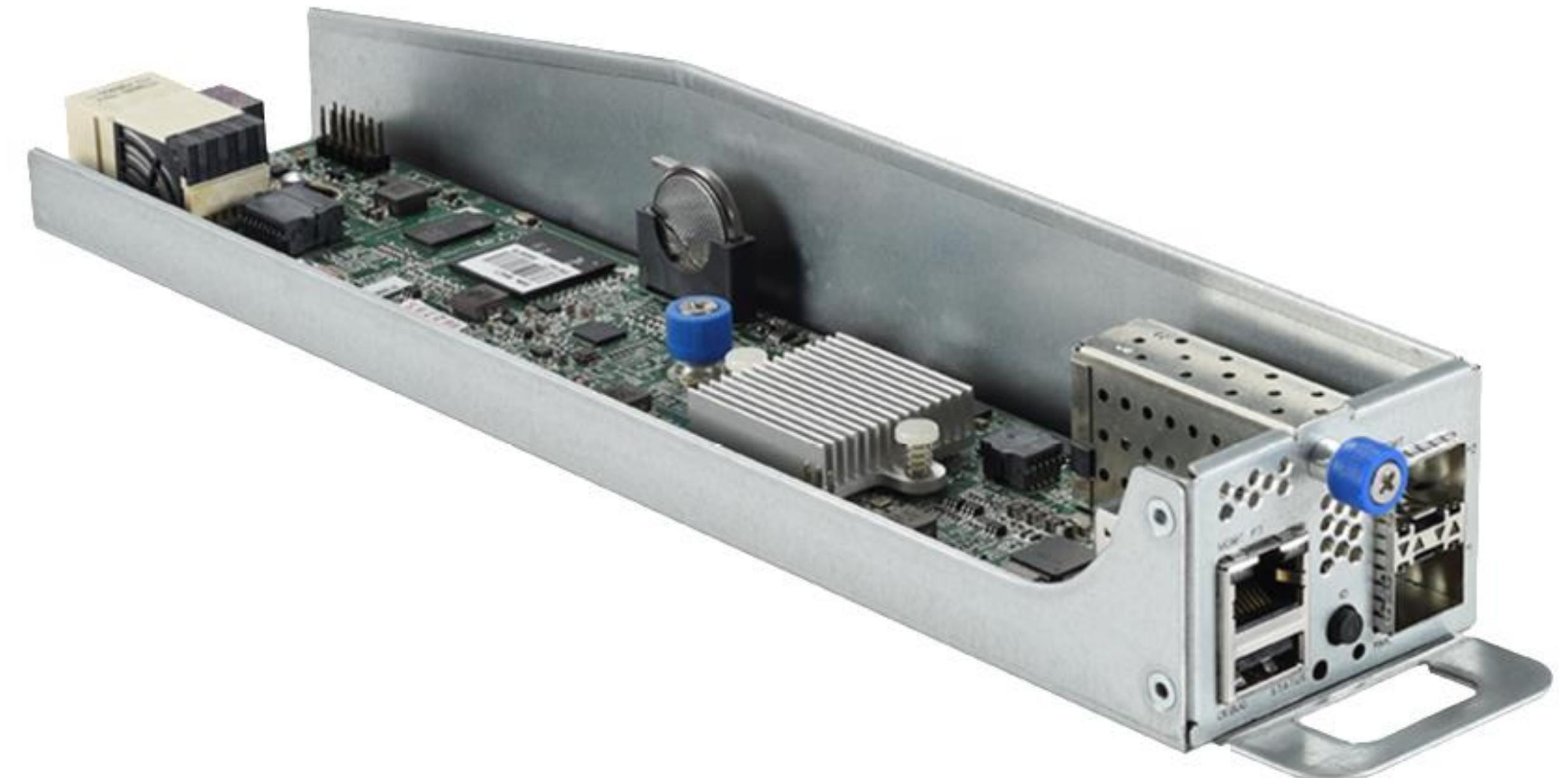
- 3U, 19" (EIA-310 compatible)
- 130.6 x 440 x 430 mm (H x W x D)
- 1U and 2U, half width sleds are supported
- Redundant, centralized power supply
 - 2000 W, AC and DC inputs supported
 - Sled power feed capacity 400 W (1U sled), 700 W (2U sled), 12 VDC
- Chassis management controller (RMC)
 - PSU management (control, sensors, ..)
 - Management Ethernet interface to sleds
 - 1 GE to all sleds via backplane
 - 1x 1 GE (RJ45) + 2x 10 GE (SFP+) front panel interface for external connectivity and chaining of multiple chassis
- Power distribution board and chassis backplane provide connectivity between RMC, sleds and PDUs



Open edge RMC

Main functions

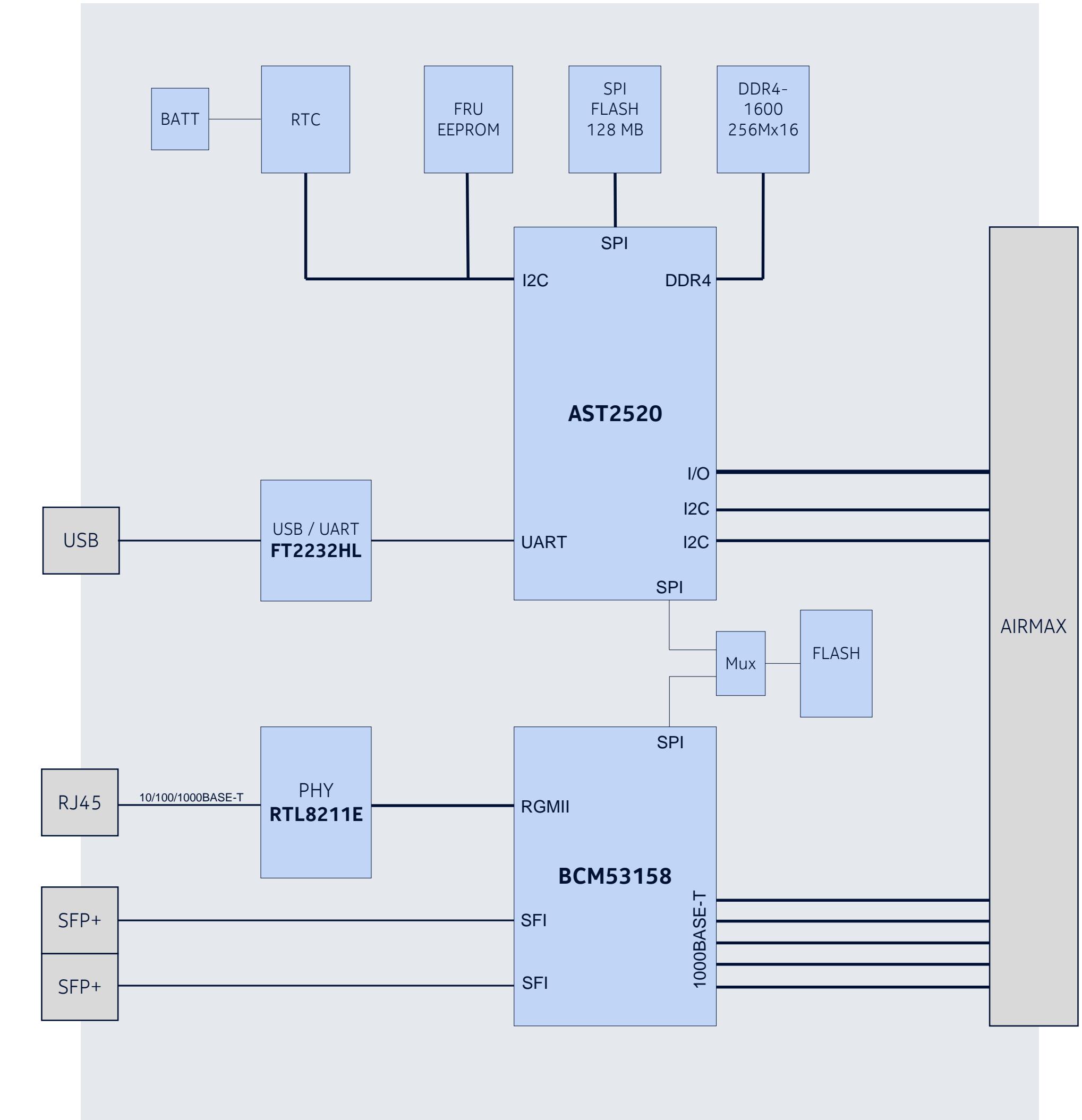
- PSU management
 - PSU HW health and status information
 - PSU control
- Firmware updates
 - RMC firmware
 - PSU firmware
 - Switch firmware (configuration flash)
- HW management interface
 - Ethernet for management connectivity to sled BMC / RMC
 - 1 x 1000BASE-T, RJ45
 - 2 x SFP+
 - ID button (unit identification to datacenter management)



Open edge RMC

Key specifications

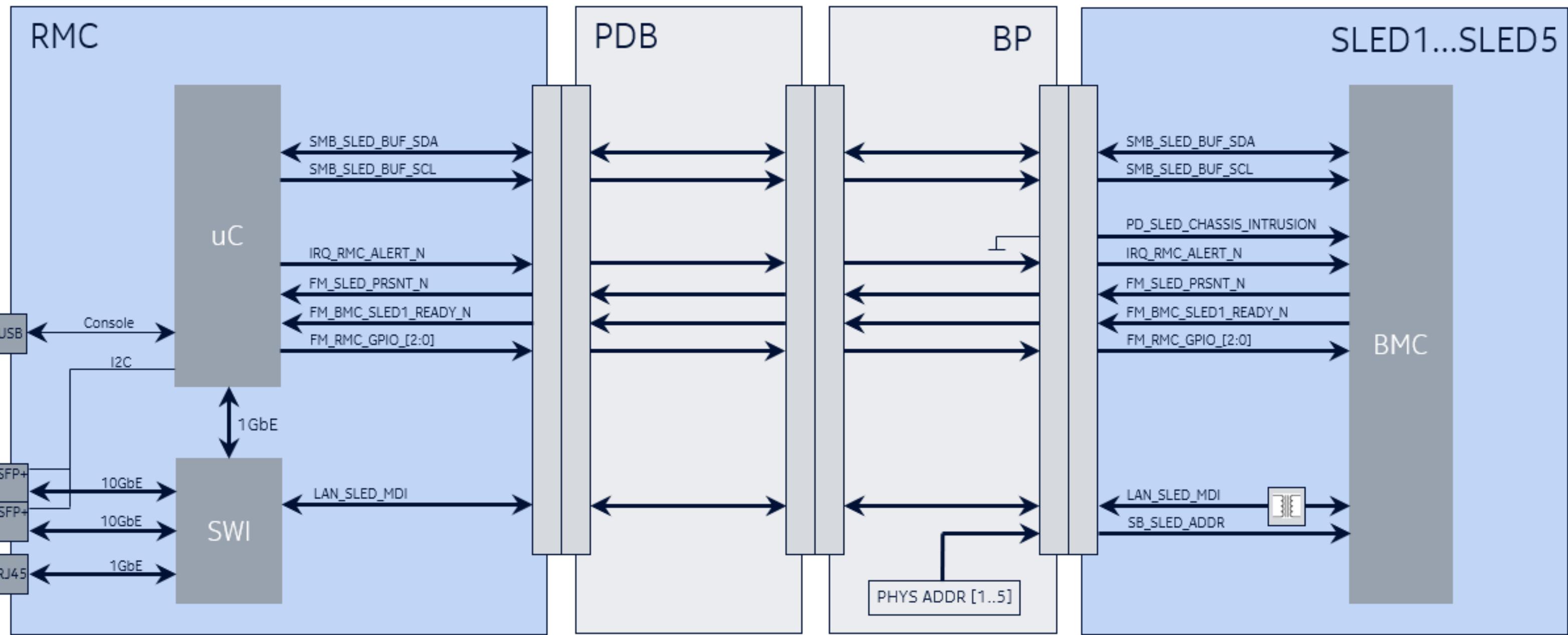
- AST2520 processor
 - 128 MB (SPI)
 - DDR4-1600, 256M x 16 bit
- BCM53158 unmanaged L2 Ethernet switch for remote management
- External interfaces
 - Ethernet for management connectivity to sled BMC / RMC
 - 1 x 1000BASE-T, RJ45
 - 2 x SFP+
 - USB to UART debug interface
 - Status LEDs (status, RMC heartbeat, ID)
 - ID button (unit identification to datacenter management)
 - Power consumption 5-10 W, fanless



Open edge RMC

Interfaces to Open edge sleds

- Management Ethernet, 1000BASE-T
- GPIO[2:0]: indicate PSU presence and air flow direction to sleds
- SMBUS for RMC to BMC communication
- RMC_ALERT: indicates of PSU problem to sleds, e.g. fault, low voltage + high temp
- SLED_PRESENT info to RMC
- BMC_READY info to RMC

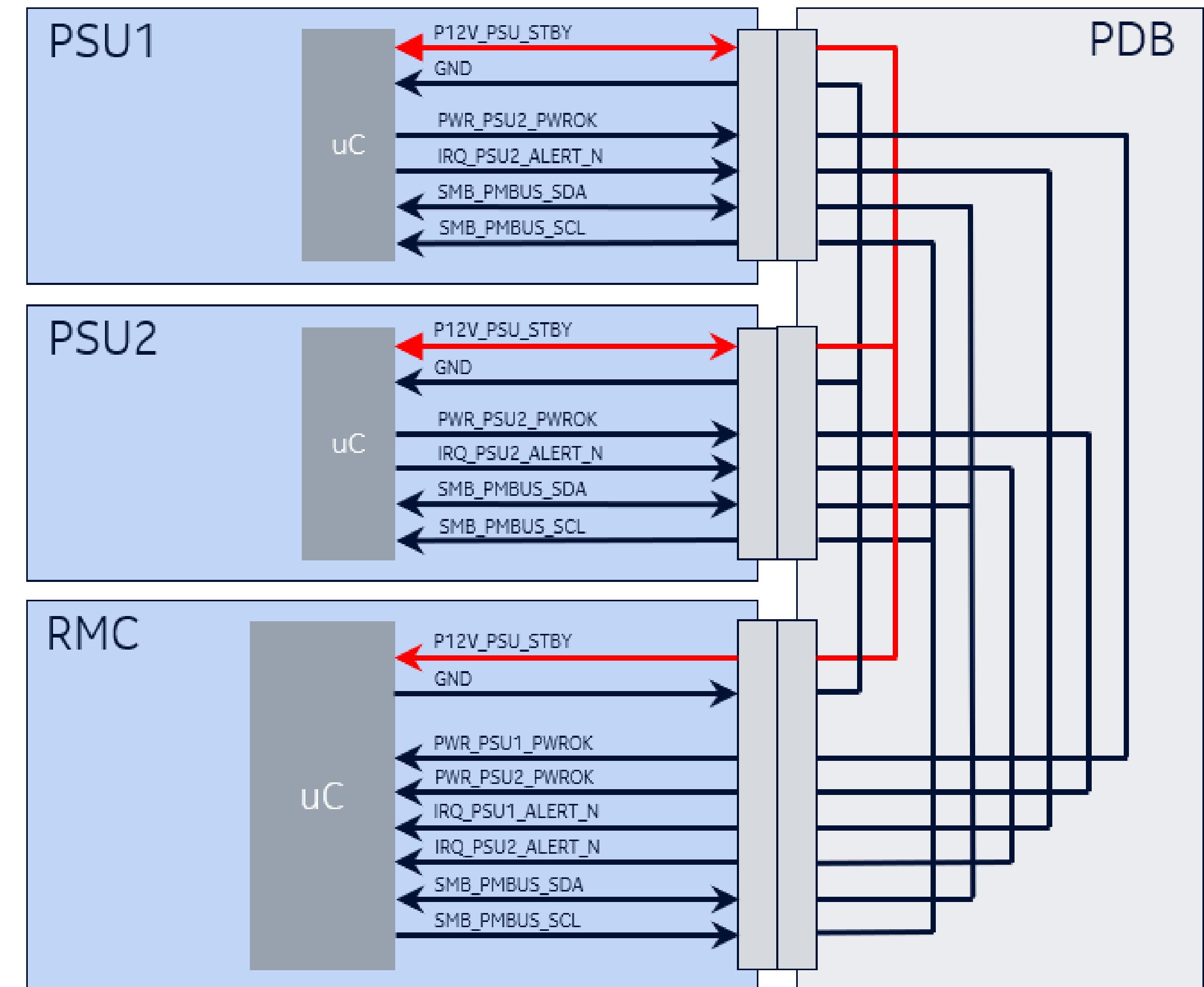


PSU: Power Supply Unit
RMC: Rack Management Controller
PDB: Power Distribution Board
BP: Backplane

Open edge RMC

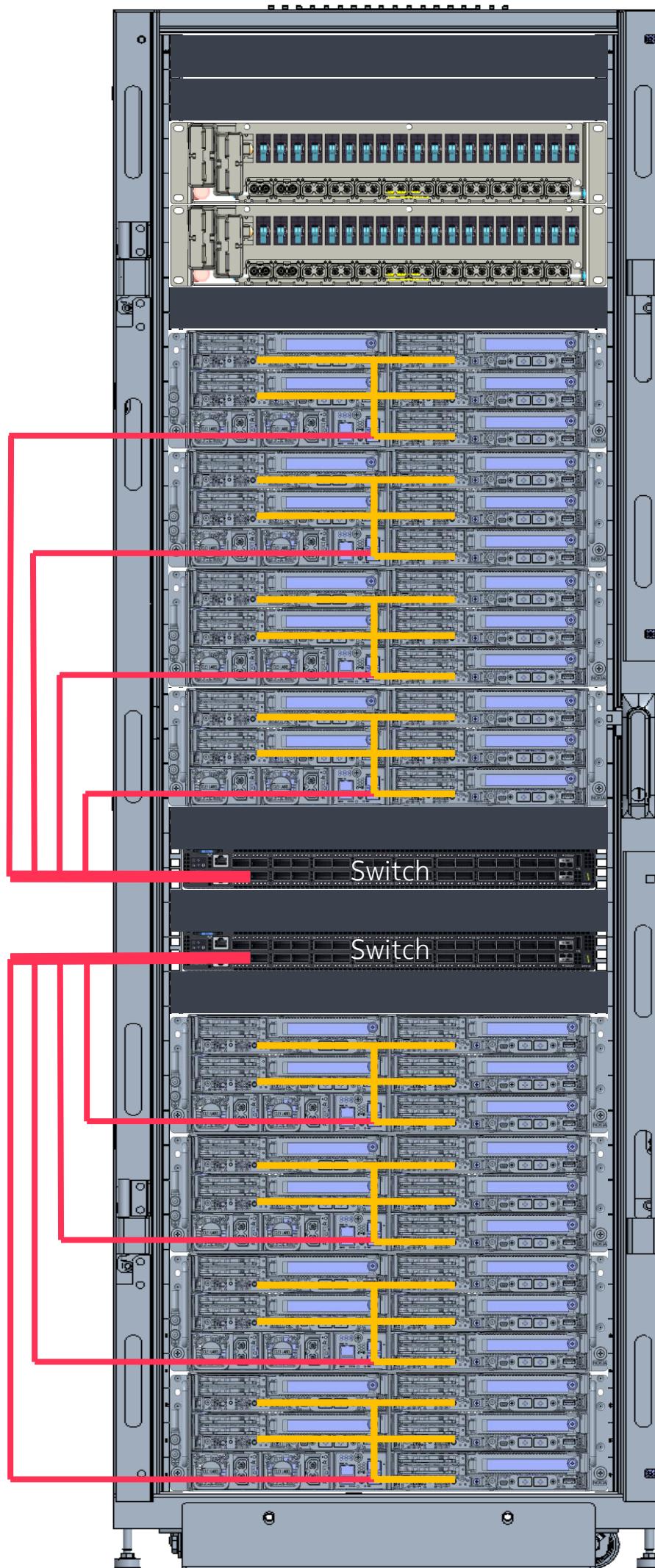
Interfaces to Power supplies

- +12V_standby: Standby output of PSUs, used to power RMC
- PWROK: Power OK from PSUs to RMC
- SMBUS for RMC to PSU communication
 - Sensors: Input/output voltage, power, temperature, fan speed
 - Control: PSU
- ALERT: PSU interrupt to RMC

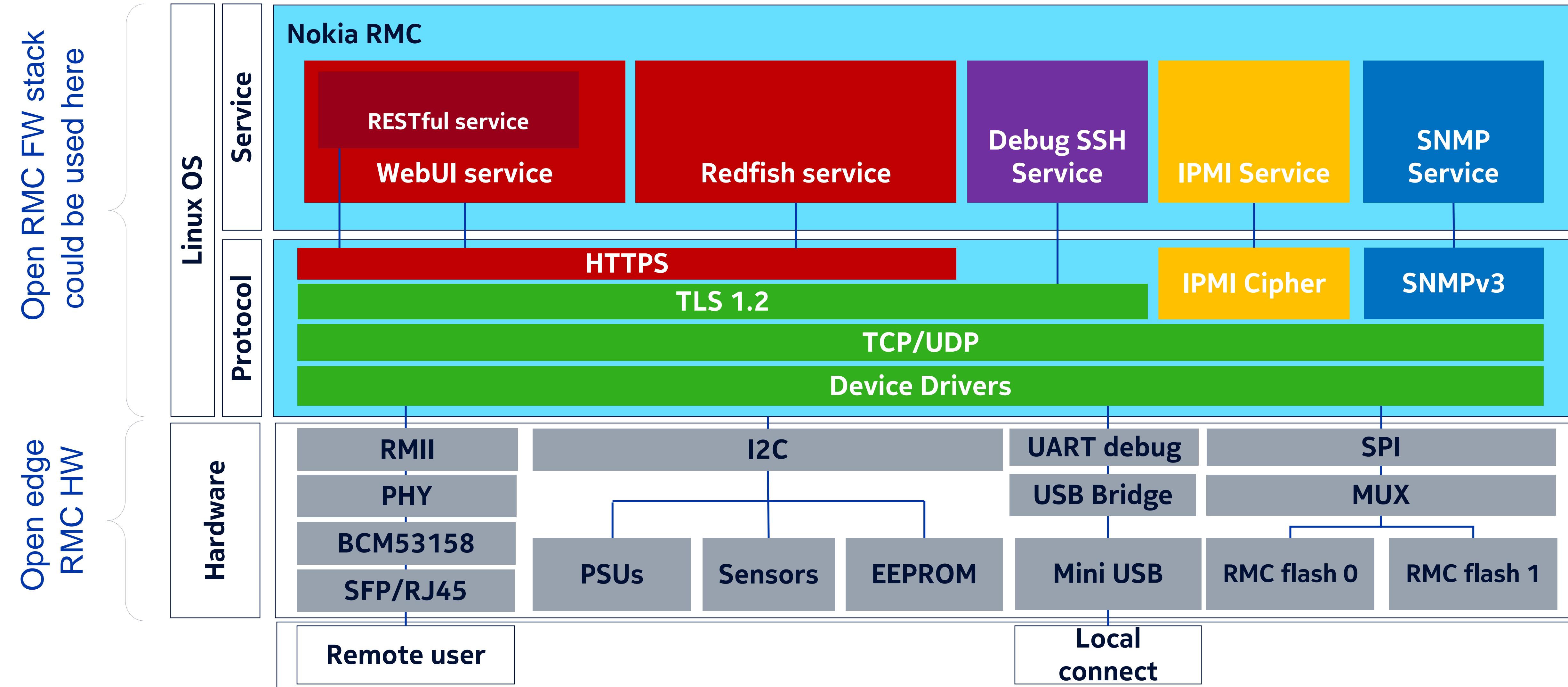


HW management connectivity

- Single interface for chassis management
 - 2 x PSUs, 5 x sleds
- HW management cabling within a rack is simplified considerably
- Reduced number of management interfaces can help save a dedicated HW management switch in a system



HW/ SW stack of Open edge RMC



Key environmental and regulatory compliancy

Operating conditions

- Operating temperature range: -5 C ...+45 C [ETSI EN300 019-1-3 Class 3.2]
- Short term operating temperature: -5 C to +55 C [GR-63-CORE]
- Operating humidity: 5 % to 95 %

EMC

- EN300386 (v1.6.1)
- FCC CFR47 15 (class A), CISPR 22/32 (class A) CISPR 24
- TEC/EMI/TEL-001/01/FEB-09 and TEC/IR/SWN-2MB/07/MAR-10
- GR-1089-CORE, and more

Safety

- IEC 62368-1:2014
- GR-1089-CORE (electrical safety, grounding and bonding)

Seismic tolerance

- GR-63-CORE (Zone 4)

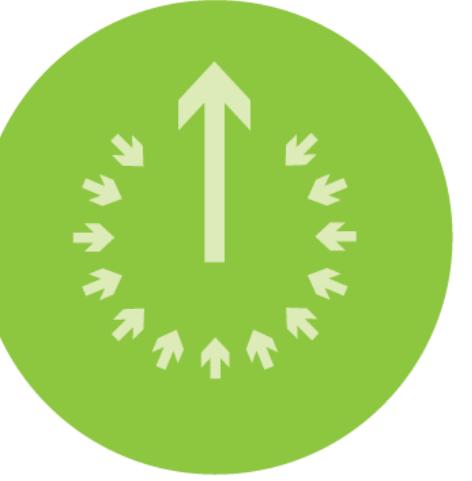
Acoustic noise

- GR-63-CORE (equipment room criteria)

Fire resistance

- GR-63-CORE (shelf level criteria)

Product Info



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<https://www.nokia.com/networks/products/airframe-open-edge-server/>



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Compute Project

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Call to Action

- Nokia plan is to contribute Open edge RMC specification and design files and apply for OCP accepted™ product recognition.
- Target timeline for contribution is end of 2019. The product is already available on OCP marketplace.
- Open edge RMC is a proposed development platform for Open RMC. For more information on Open edge HW and Open RMC project, please refer to the links below.



TELCO

Open Edge:

Project Wiki with latest Open edge specifications : <https://www.opencompute.org/wiki/Telcos/openEDGE>

Mailing list: <https://ocp-all.groups.io/g/OCP-Open-Edge>

Where to buy: <https://www.opencompute.org/products/324/nokia-openedge-chassis>

Open RMC:

Project wiki: [https://www.opencompute.org/wiki/Hardware Management/Open RMC](https://www.opencompute.org/wiki/Hardware_Management/Open_RMC)

Mailing list: <https://ocp-all.groups.io/g/OpenRMC>



Specifications



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OCP Regional Summit
26–27, September, 2019

