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Compute Summit

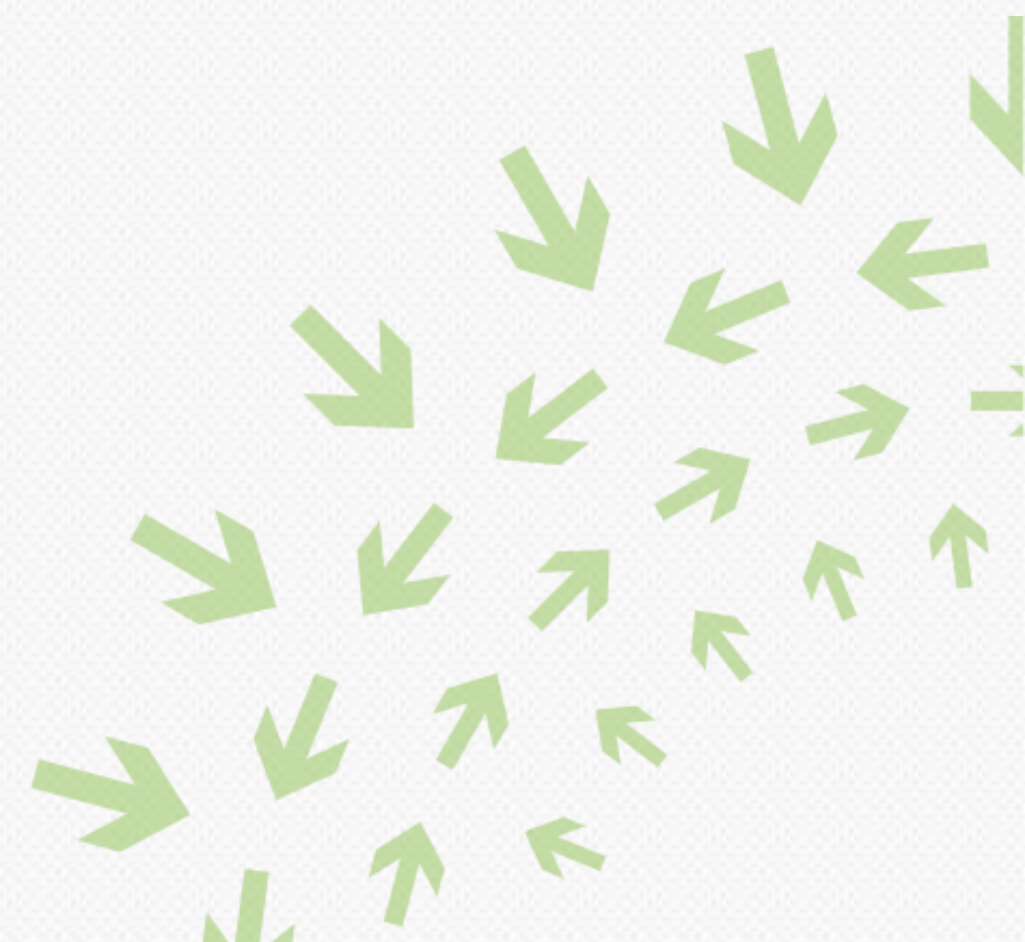
March 10–11, 2015

San Jose



1S Server

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1S Server Definition

- Single socket high performance SoC
- DIMM
- SSD as boot drive and local storage, M.2 preferred
- Modular design with rich IO interfaces
- SoC agnostic architecture with Bridge IC
- 1S Server spec contributed to OCP Server Committee



1 1S Server Architecture

2 Bridge IC

3 Server Management

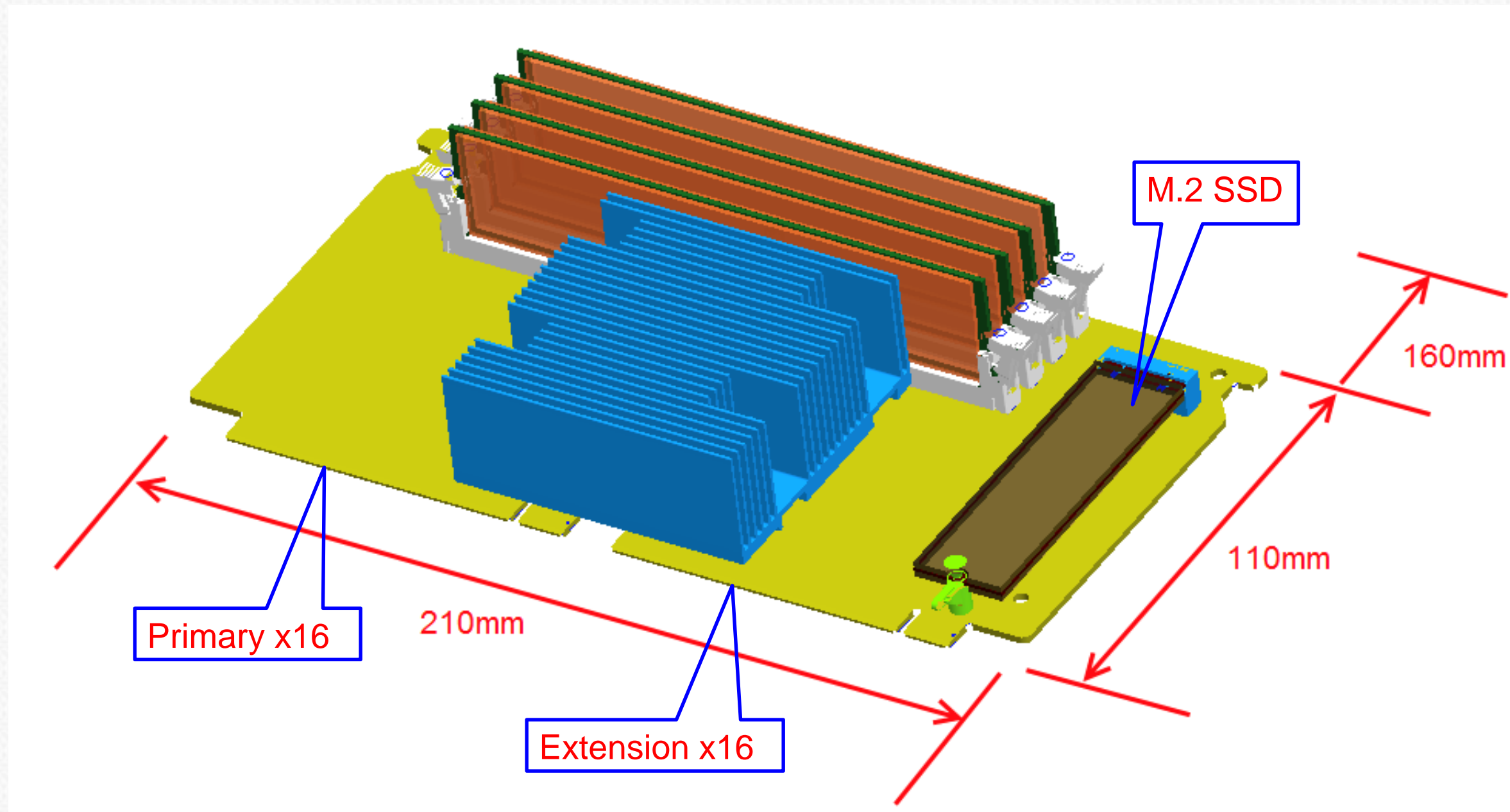
4 Intel 1S Server

5 Q&A



1S Server Architecture

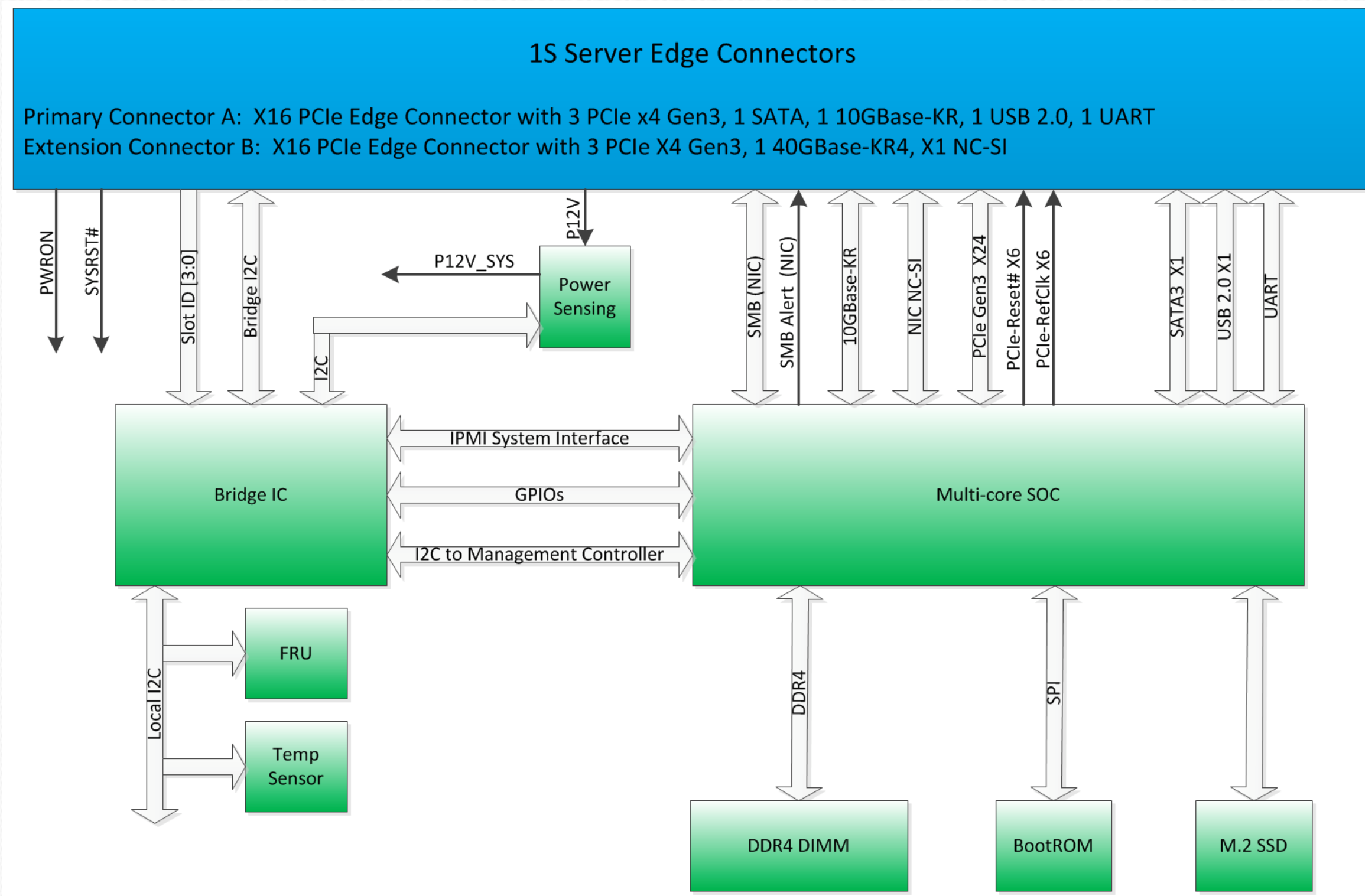
1S Server Design Reference



- Primary connector is compatible with OCP Micro-Server spec
- Form factors: 210mm x 110mm and 210mm x 160mm

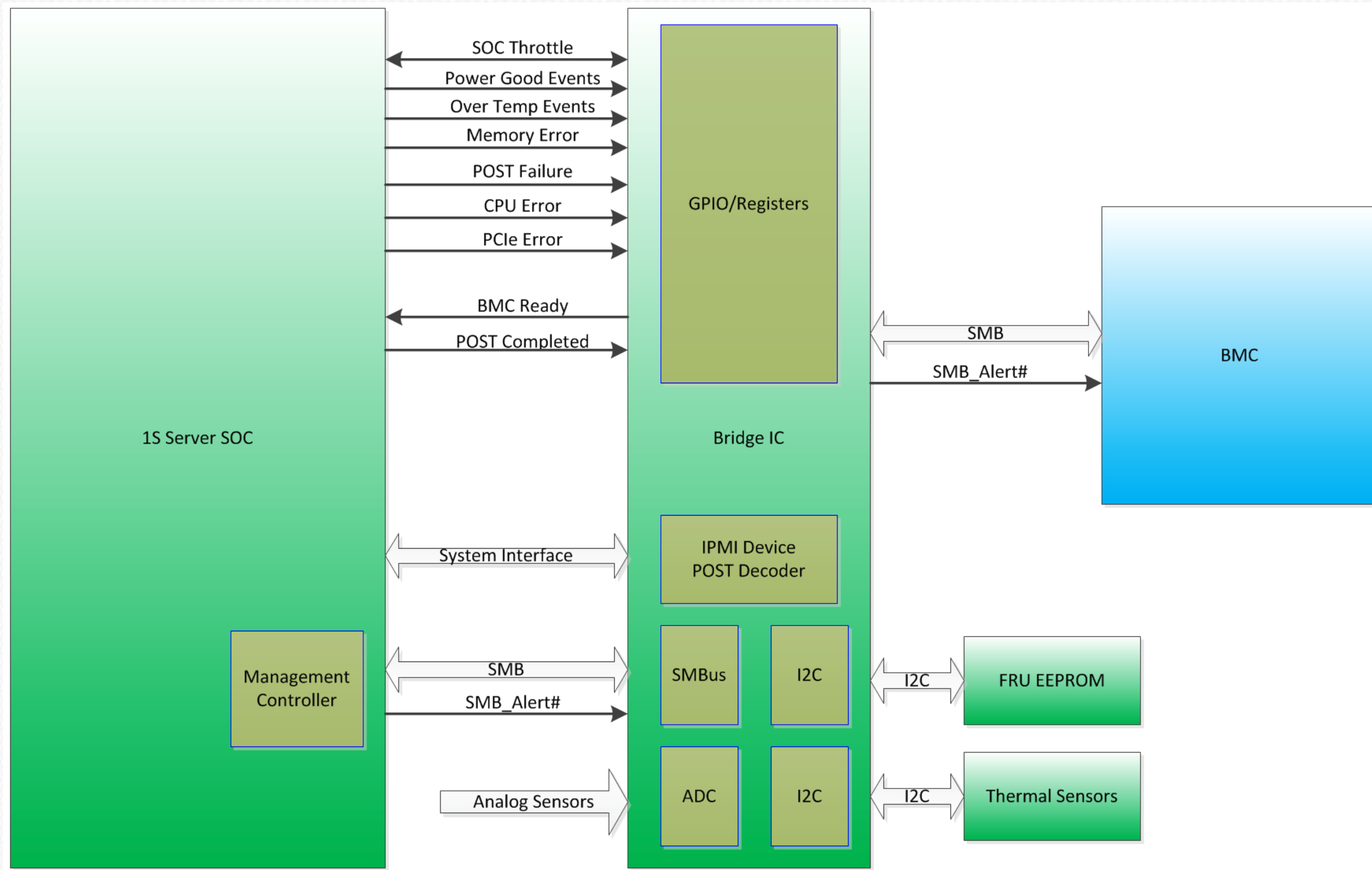


Architecture



Bridge IC

Bridge IC Block Diagram



Server Management

Server Management

- Power Management
 - Power Reading
 - Power Capping
 - FAST_THROTTLE_N
 - POWER_FAIL_N
- In-Band and Out-of-Band server management
- Remote upgrade all programmable devices
- Event logging at Bridge IC and/or BMC



Intel 1S Server

Intel 1S Server – Mono Lake (210mm x 110mm)



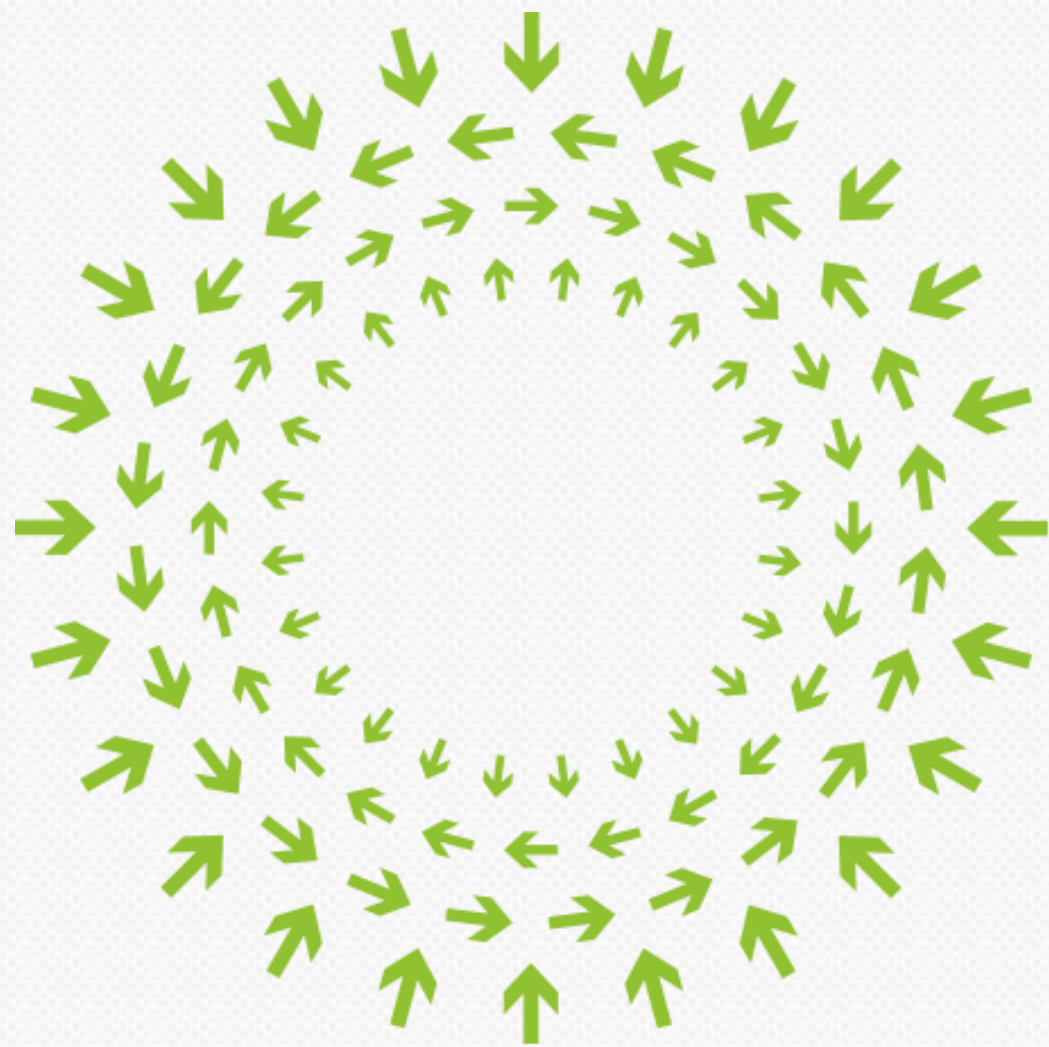
Intel 1S Server Mono Lake's Specification

- 14 nm Intel Xeon D-1500 SoC
- 4 DDR4 RDIMM in 2 channels, 128GB Maximum
- 6 x4 PCIe Gen3 links to edge connectors
- 1 SATA3 to edge connector
- On board M.2 SSD (SATA or PCIe)
- On board TPM support
- 10GbE network to edge connector
- Bridge IC -- TI's Tiva uC





Q&A



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Electrical Interface

□ Primary

- X16 PCIe Edge Connector
- 12.5V power input, 96W maximum
- x12 PCIe Gen3 lanes, x1 SATA, 10GBase-KR, USB, Serial Port
- 4 GPIO/Board-ID
- SMBus to BMC, Integrated NIC SMBus side band
- PWRON, SYSRST_N, FAST_THROTTLE_N

□ Extension

- X16 PCIe Edge Connector
- 12.5V power input, 96W maximum
- x12 PCIe Gen3 lanes
- x1 40GBase-KR4
- Integrated NIC NC-SI side band
- POWER_FAIL_N

