



OPEN
Compute Project



OCP U.S. SUMMIT 2017

Santa Clara, CA



Project Olympus Flash Expansion FX-16

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OPEN HARDWARE. OPEN SOFTWARE. OPEN FUTURE.



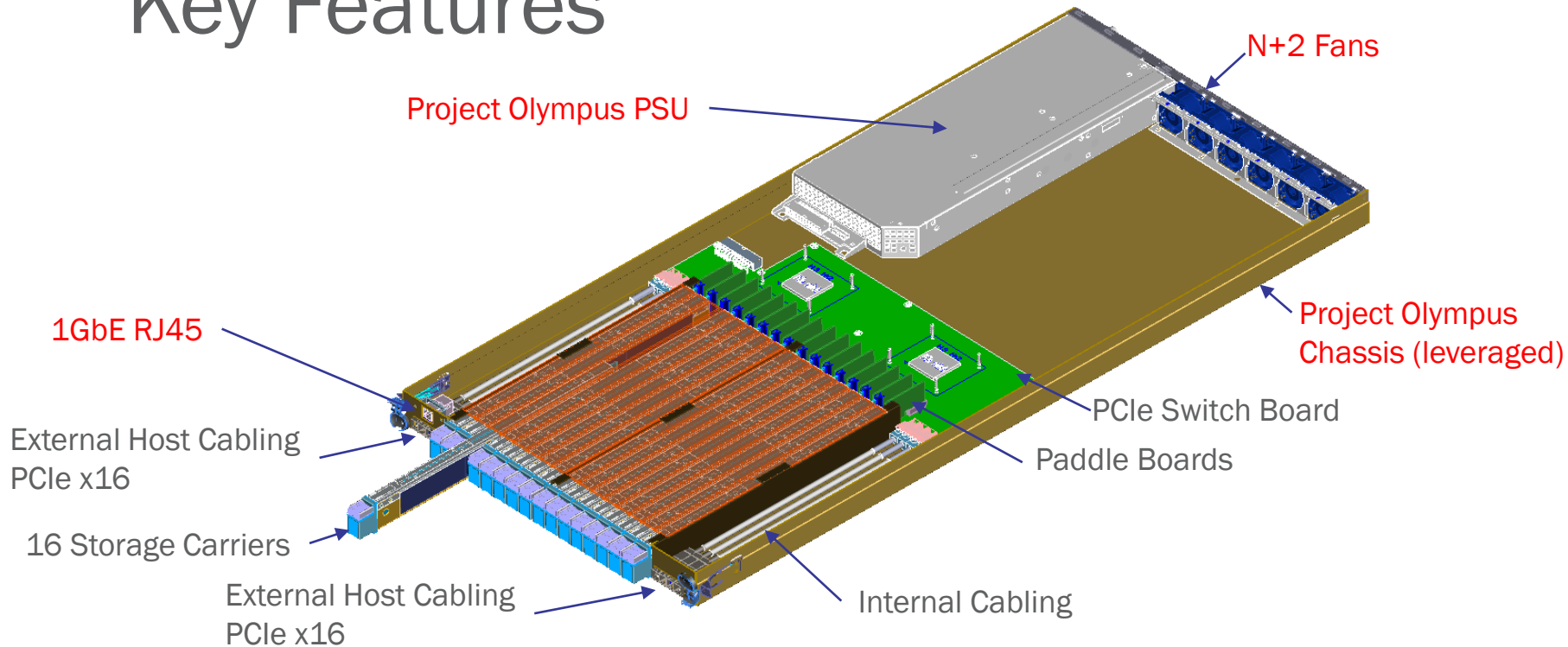
Goals

- Modular 1U PCIe expansion chassis
 - Hot plug PCIe Cards
 - Cold aisle accessible
 - Support for M.2 NVME SSD (128TB)
- Project Olympus compatible
 - Project Olympus Chassis, PSU, Fans, Cables
 - Universal PDU
- OCP support
 - Open BMC
 - Readily Adaptable to Open Rack and other standard chassis

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Key Features



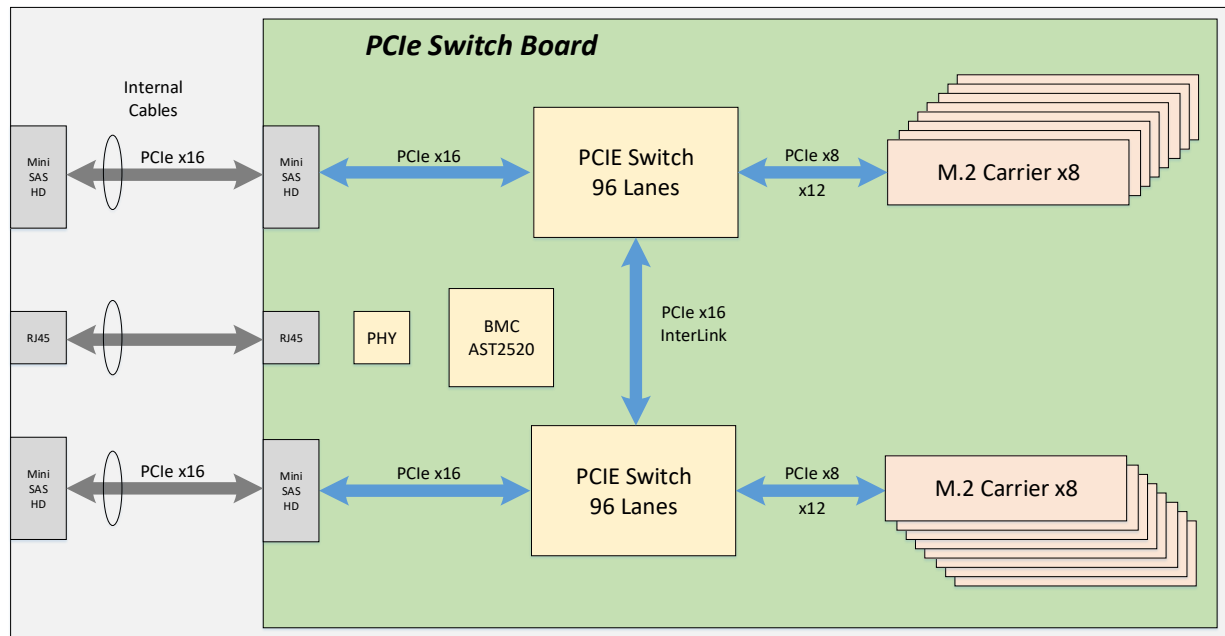
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- Supports 2 PCIe x16 Hosts
- External PCIe Cabling
- Two 80 Lane Switches
- Supports 16 Storage Carriers
- Managed by BMC (AST2520)



Interlink Option

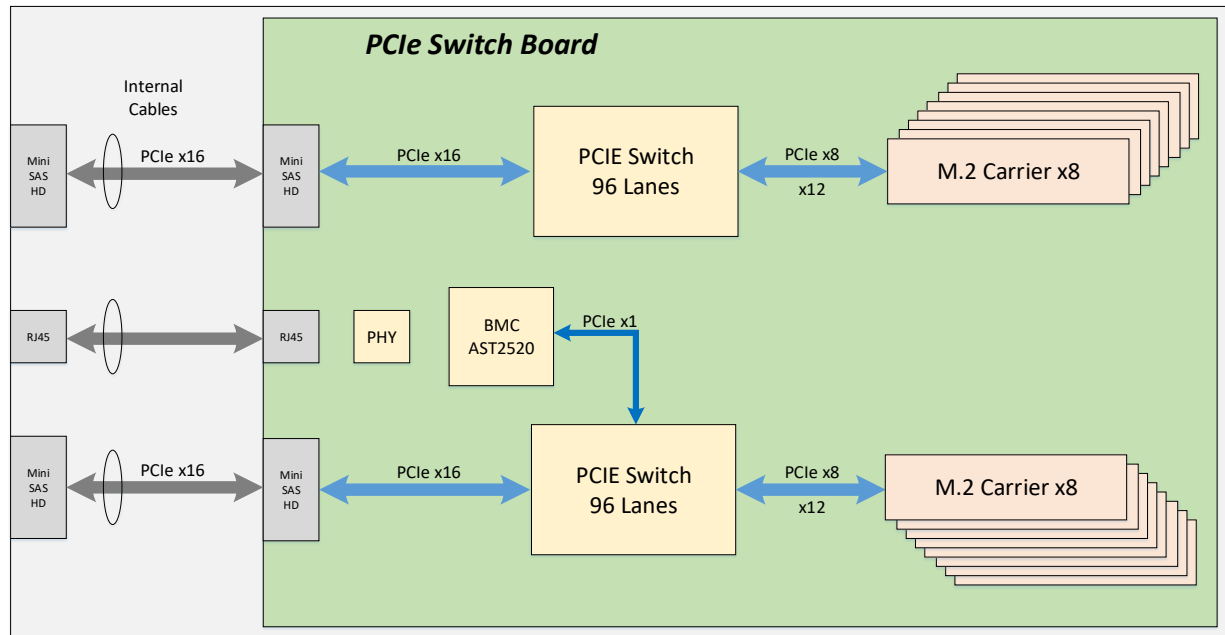
- Enabled pooled storage
- Host failover
- 96 Lane Switches
- 16 Lane Interlink



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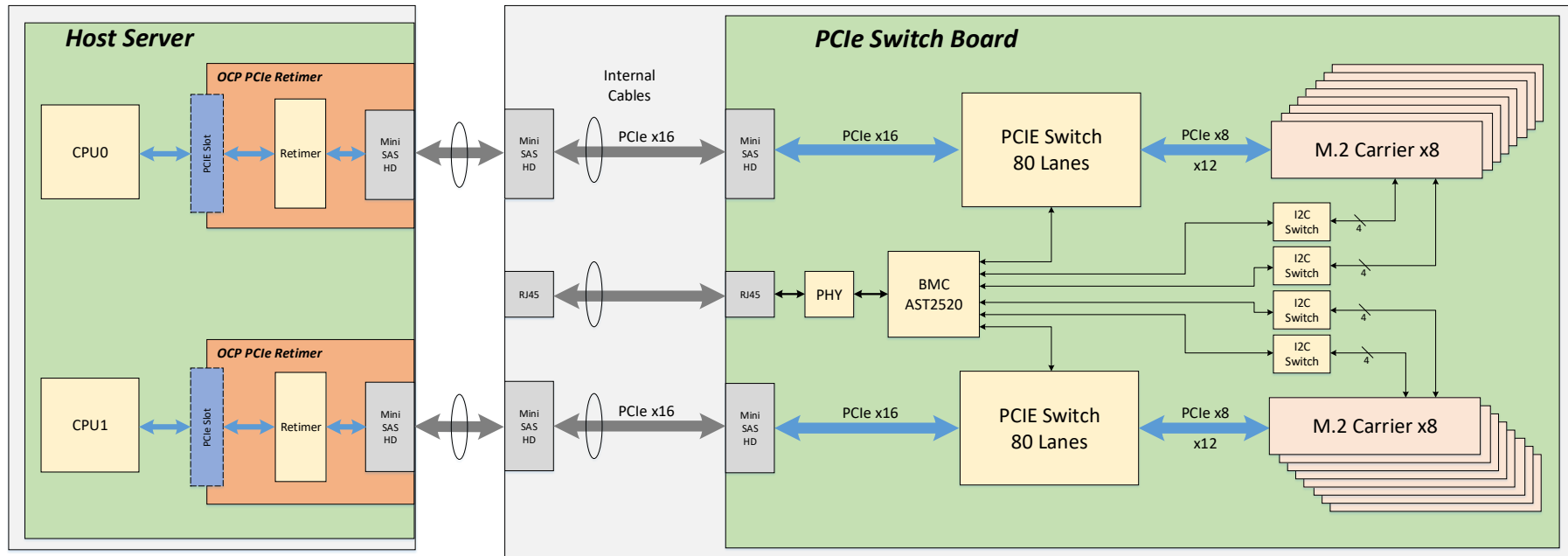
BMC Option

- 96 Lane Switches
- PCIe x1 to BMC



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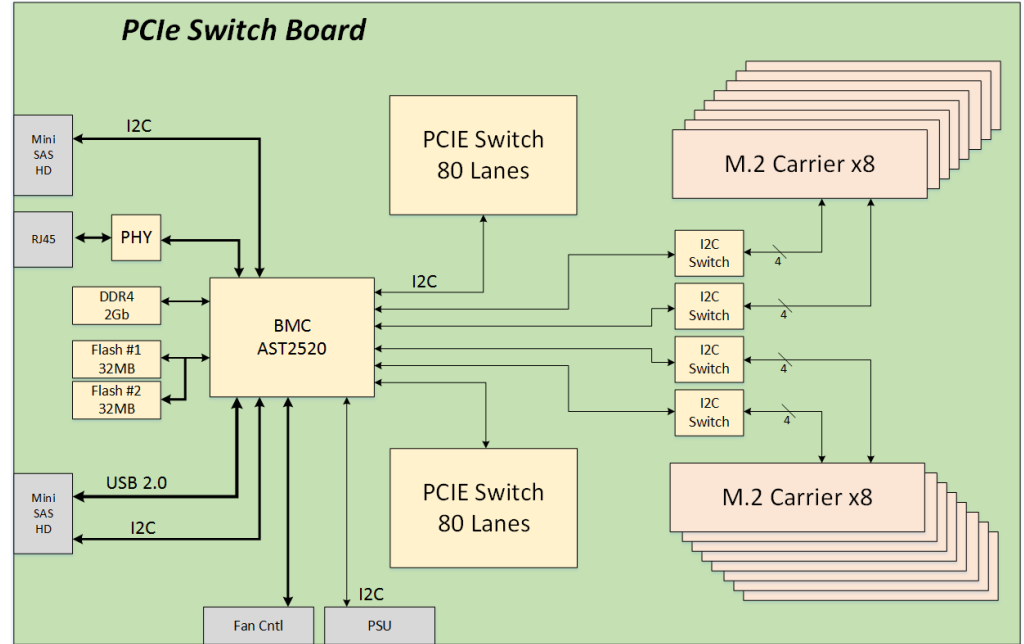
Host Connection



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Management

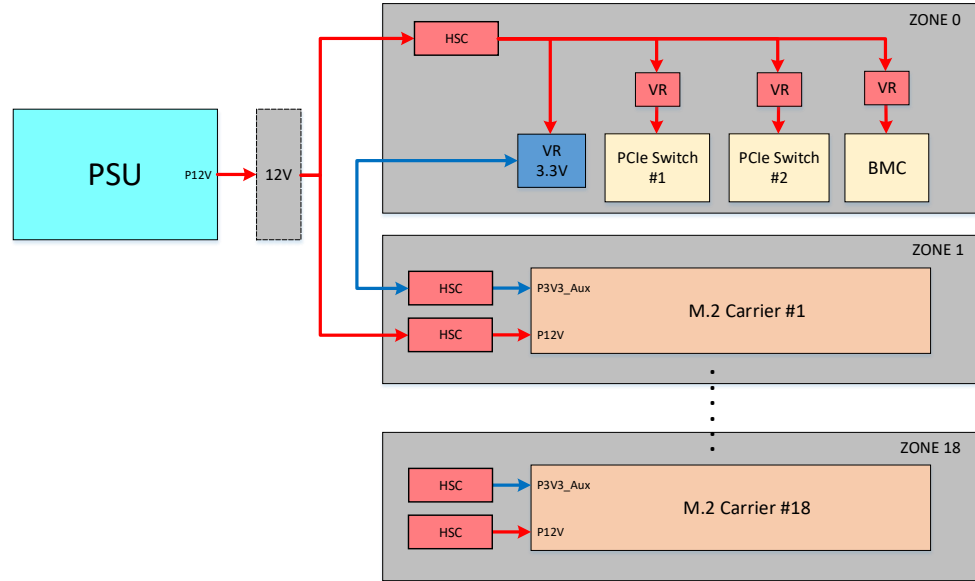
- Telemetry Monitoring
- Fan Control
- GbE Management
- Redundant Flash



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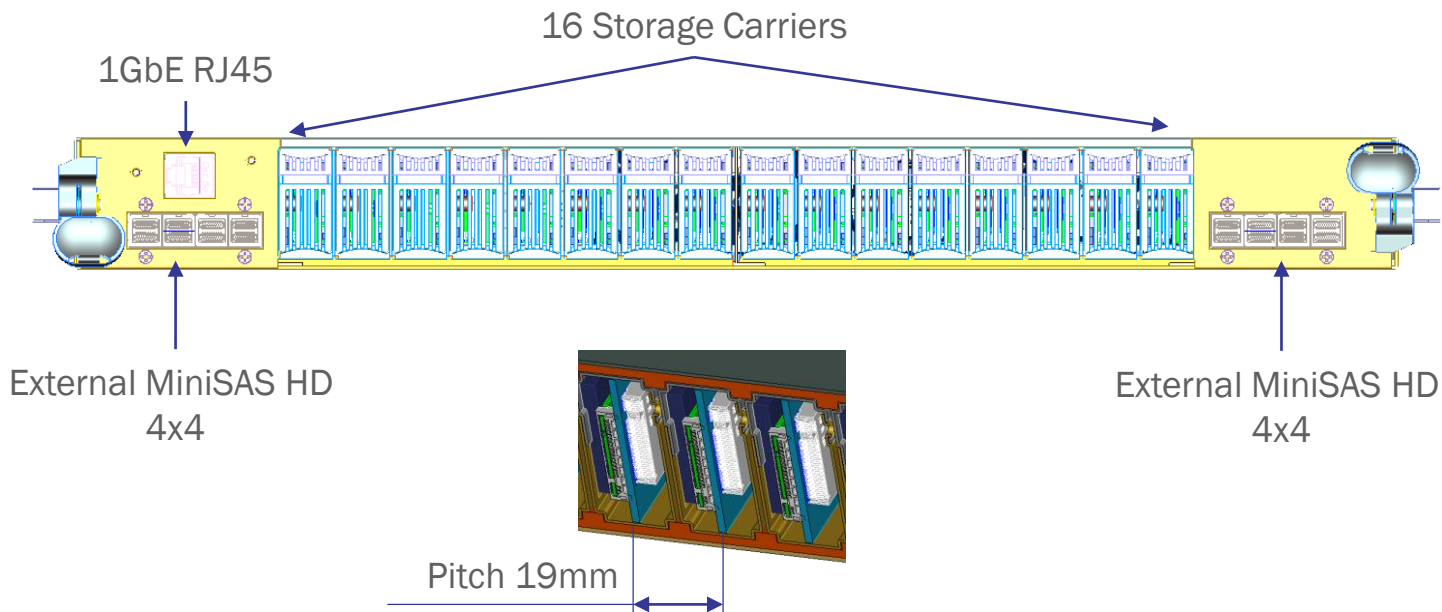
Power

- Project Olympus PSU
 - 680W (n)
 - Est Power 625W (max)
- HSC Isolation zones
 - PCIe Switches / BMC
 - M.2 Carriers
- Fault isolation between Carriers and Management



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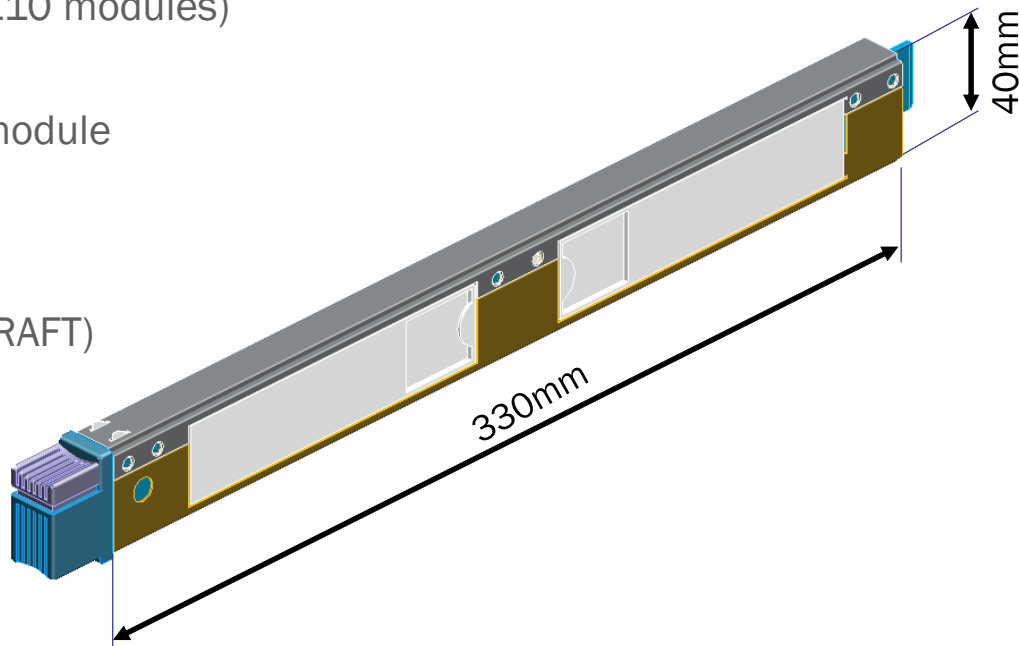
Front Panel



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Carrier Key Features

- Supports up to four M.2 (22110 modules)
- PCIe x8 edge card interface
 - PCIe x2 interface to each module
- Maximum power 50W
- Tool-less latch
- PCB ~ 320mm x 38.6mm (DRAFT)

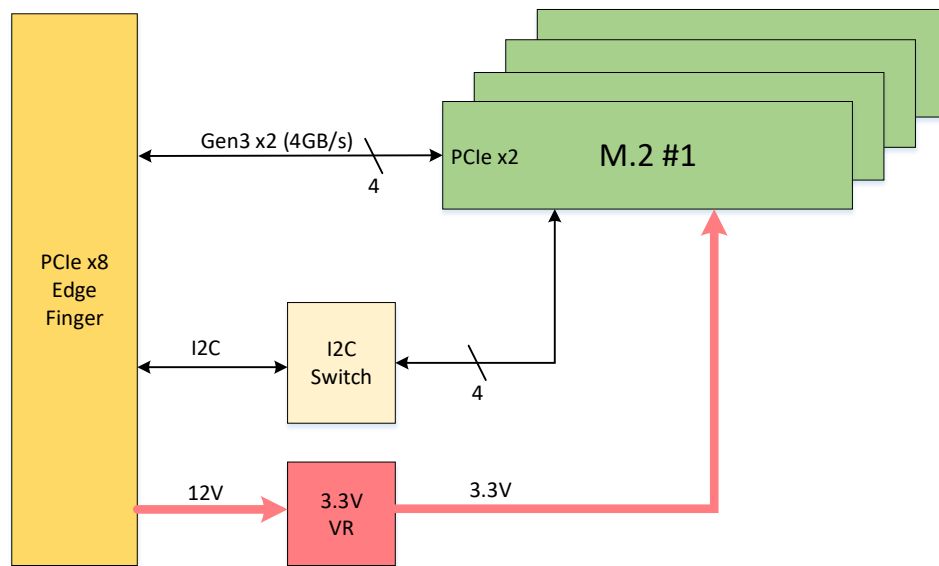


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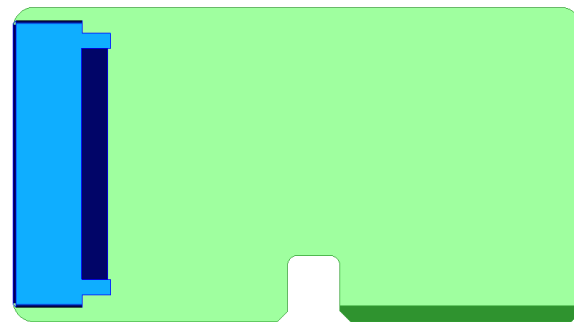
Block Diagram



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Paddle Board

- Translates power and signals from Switch Board to Carrier
- Non-air blocking
- Enables support for alternative solutions
- Requires external mechanical alignment
- Connector selections < 1U



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OCP Support

- OCP Reuse
 - Retimer Card
 - External MiniSAS HD Cabling to Host
- AST2520 with Open BMC
- Adaptable to Open Rack Chassis
 - Power
 - Fan Control
 - Mechanical



OCP Retimer Card

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