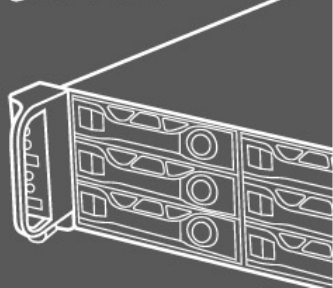
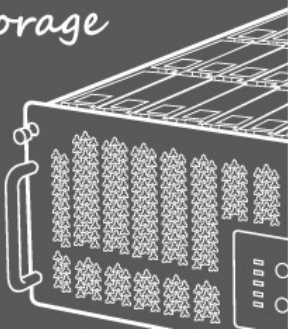


Design Files Contribution For OCP Zion System

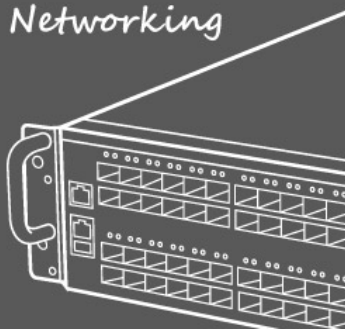
Servers



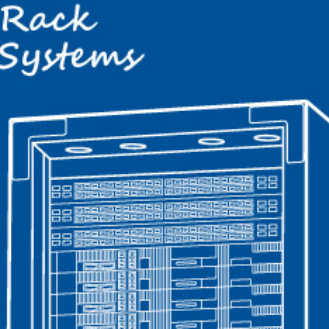
Storage



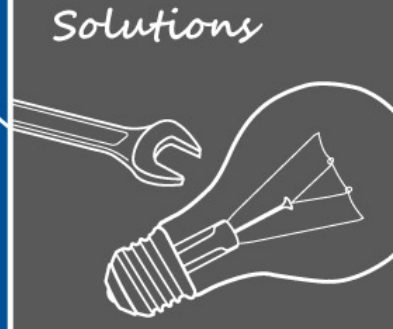
Networking



Rack
Systems



Solutions



Agenda

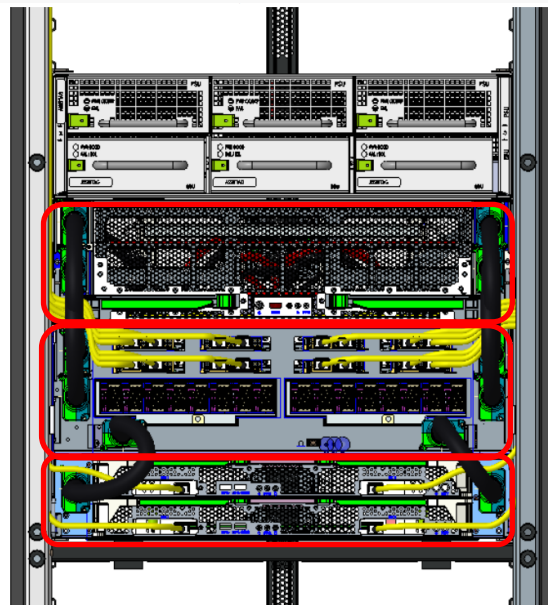
- Zion System Overview
- Angels Landing(Server)
- Clear Creek(Interconnect Box)
- Emerald Pools(Accelerator Box)

Zion System Overview

Zion System Overview

OCP Zion Spec(V1.0)

<https://www.opencompute.org/documents/facebook-zion-system-spec-1-0-pdf>

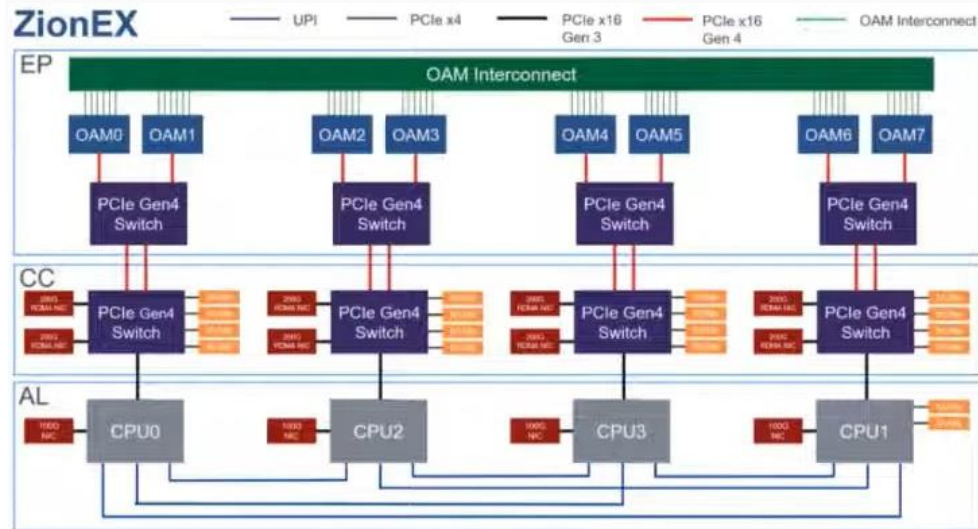


Emerald Pools
(30U Accelerator Box)

Clear Creek
(30U Interconnect Box)

Angels Landing
(20U Server)

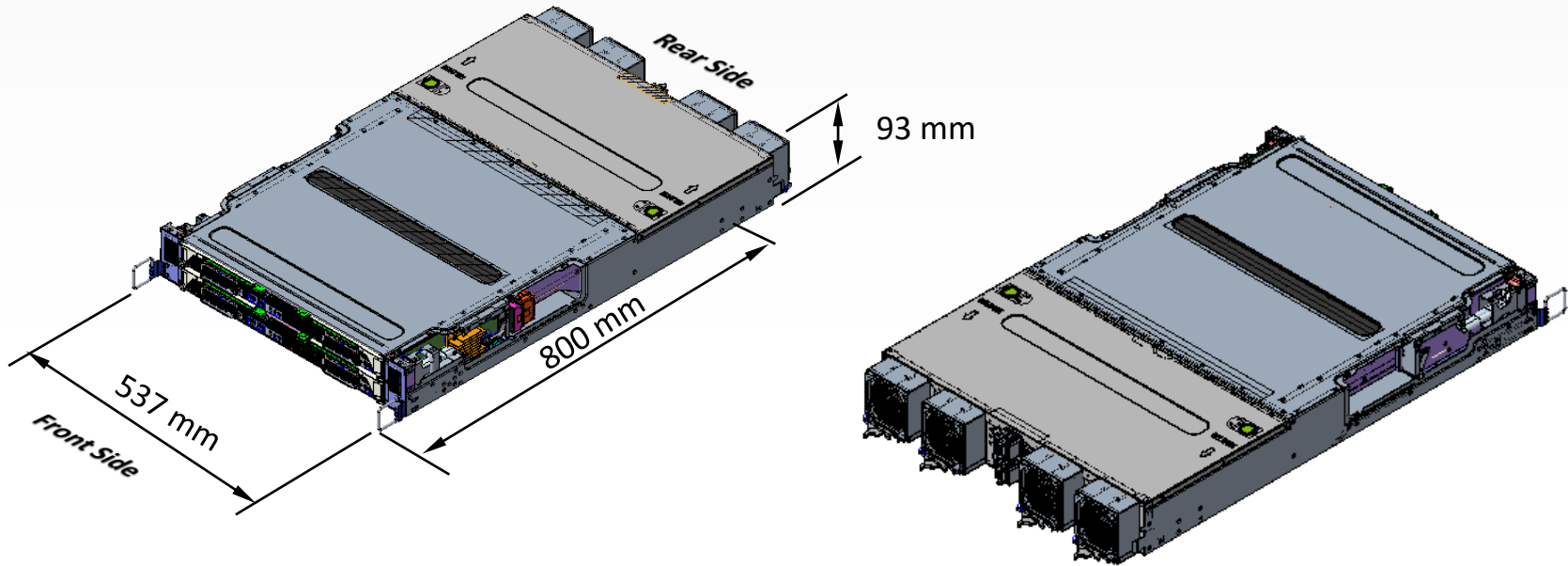
Zion System View



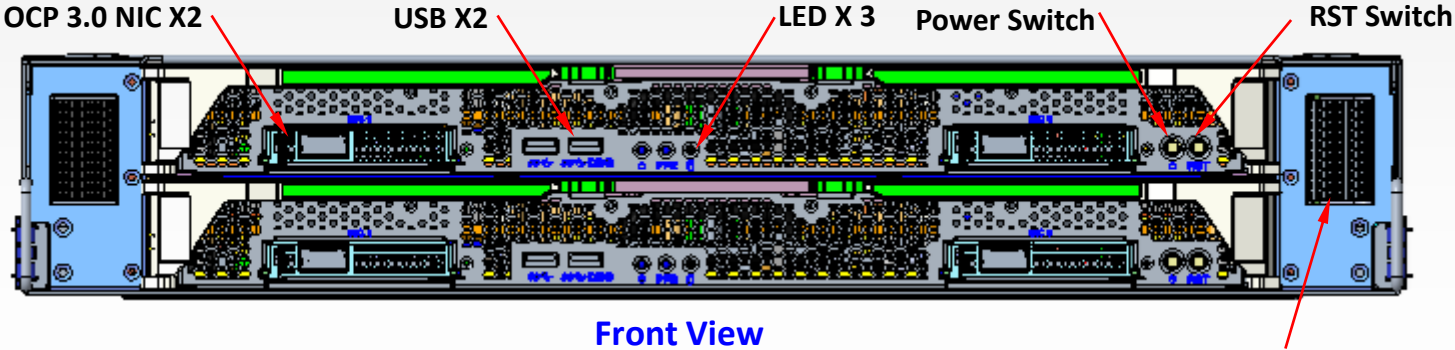
Angels Landing Introduction

Angels Landing – System Overview

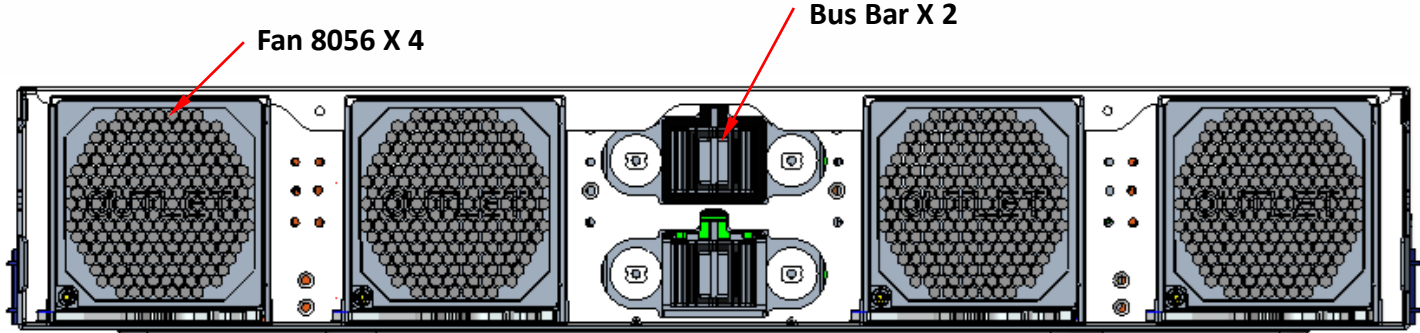
20U Chassis Dimension: 537mm (W) x 93mm (H) x 800mm(D)



Angels Landing – Front & Rear view

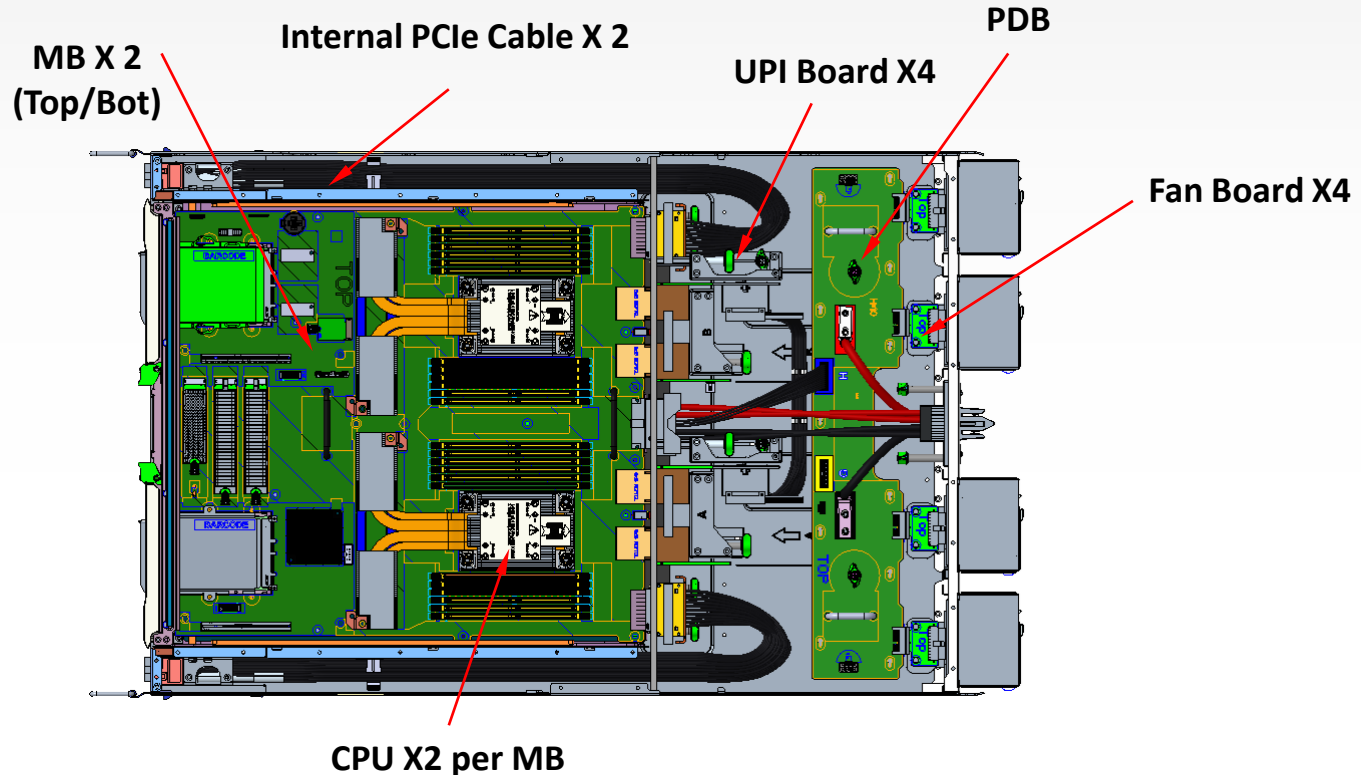


Whisper Cable X 2

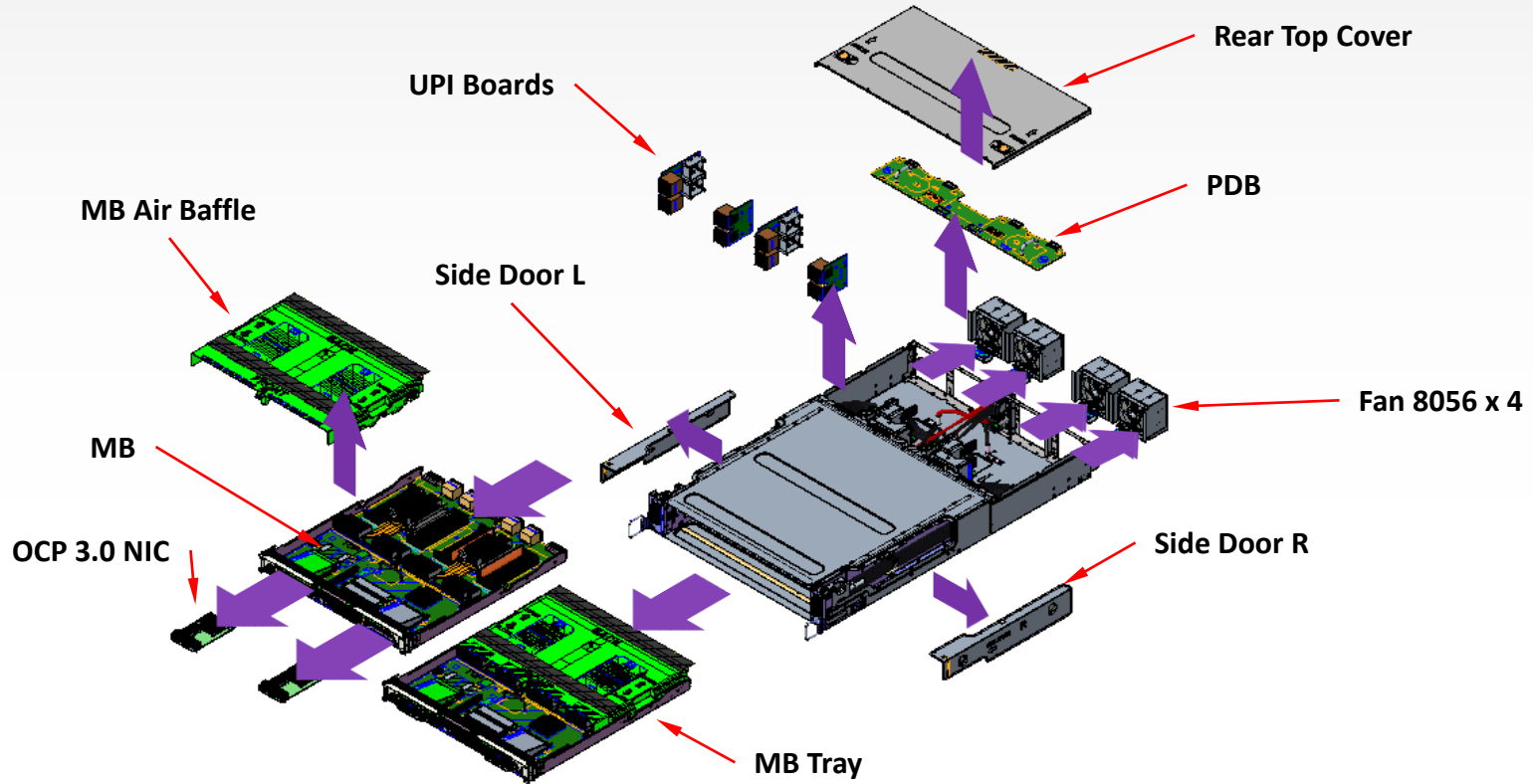


Rear View

Angels Landing – Top View



Angels Landing – Exploded view



Angels Landing – System Spec.

Item	Description
2S-MB	2* 2-socket module MBs. Each module sits in a tray which contains: 1. 2* CPX-6 CPUs 2. 24* DDR4 DIMM slots 3. 2* OCP NIC3.0 slots up to 100G NICs 4. 1* M.2 nvme ssd as boot drive 5. 2* M.2 nvme for storage
UPI Backplanes	4*UPI backplanes are used for 4 * CPUs UPI connectivity
ExaMax Cables	2* Internal ExaMax cables are used to connect UPI ports of CPU0&CPU3, CPU1&CPU2 to be a 4S fully connected topology.
Whisper Cables	2* Internal Whisper cables are used to connect 2* 2S MB to External systems such as Clear Creek and Emerald Pools.
Power cable	1* Connect power from busbar to MBs 1* Connect power from busbar to PDB
PDB	1* Power Distribution Board
Fan boards	4* Fan boards with gold finger connection to PDB
Power Supply	Open Rack V2 Central PSU
Chassis	20U Chassis for Open Rack v2

Design package:

- 01_Electricals
- 02_Mechanicals
- 03_Firmwares

Board list:

- MB
- PDB
- UPI_BP_1
- UPI_BP_2
- UPI_BP_3
- UPI_BP_4

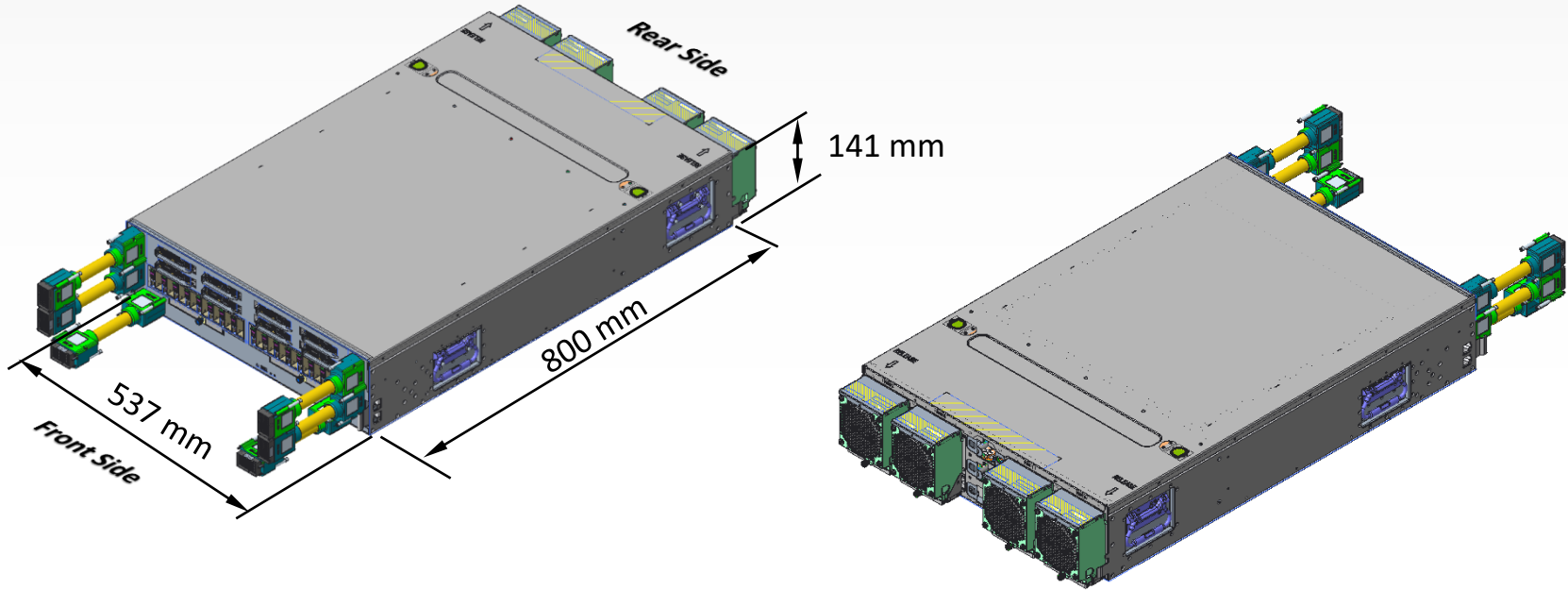
Design files:

- 01_Full System Board Layout
- 02_Full System Schematic CAD
- 03_Full System Component BOM
- 04_Manufacturing Files

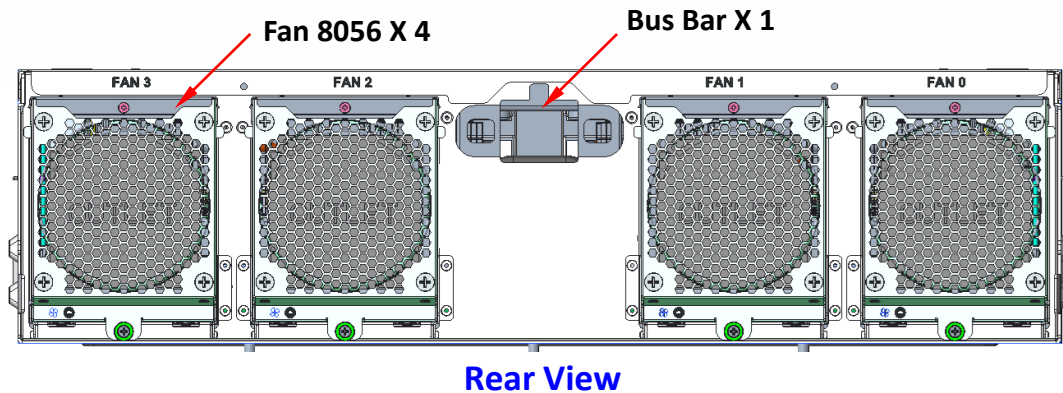
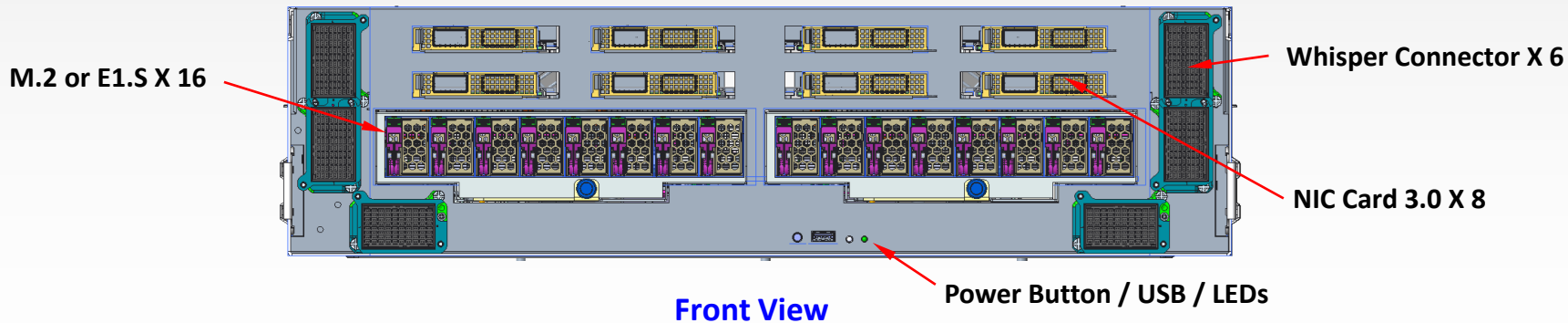
Clear Creek Introduction

Clear Creek – System Overview

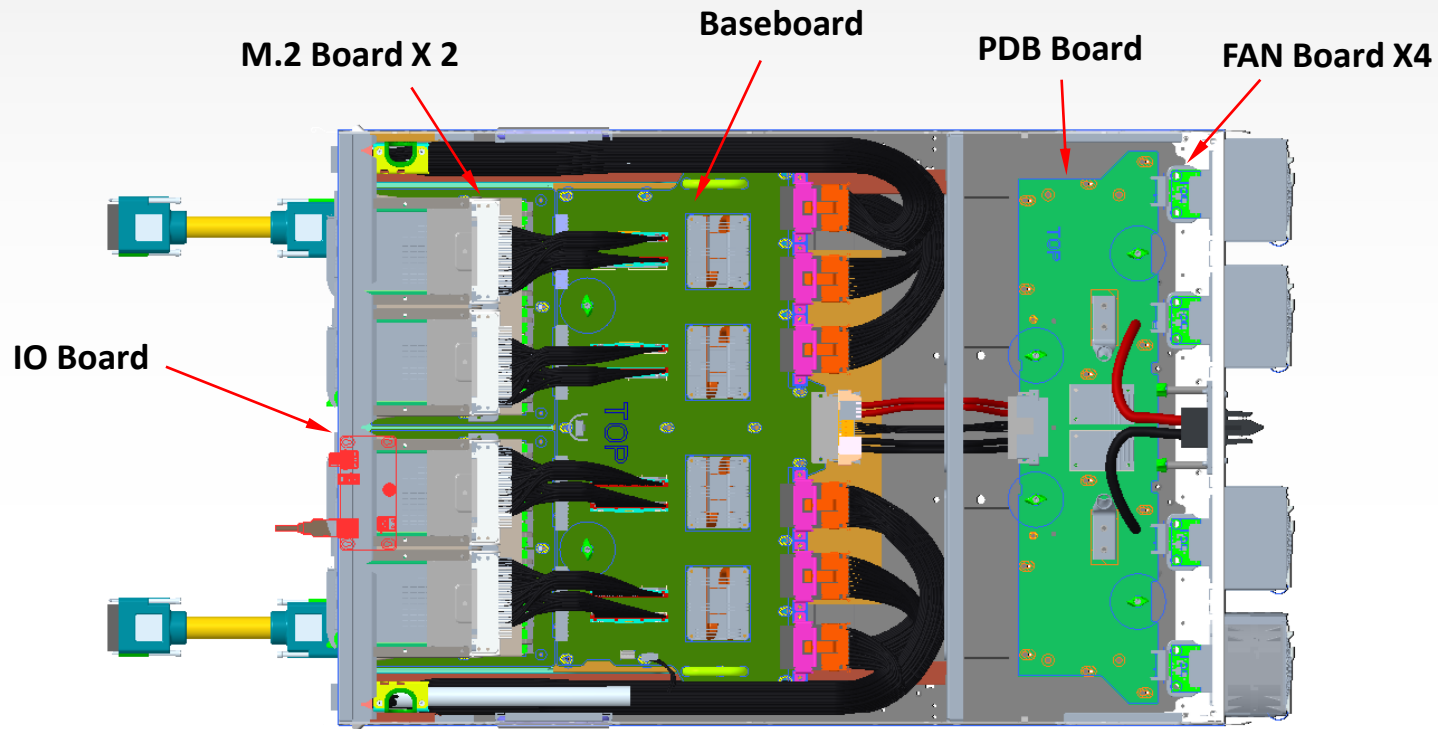
30U Chassis Dimension: 537mm (W) x 141mm (H) x 800mm(D)



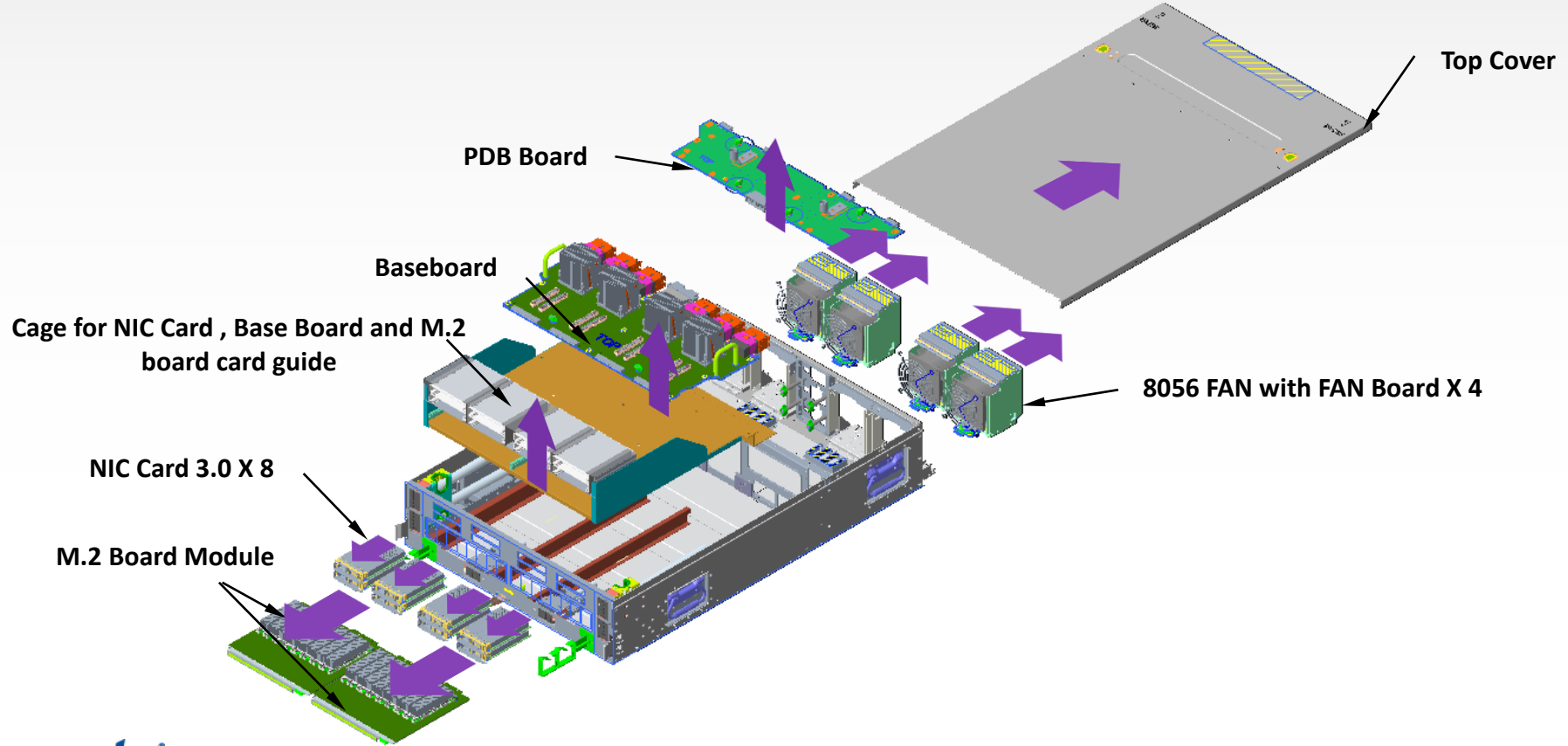
Clear Creek – System Overview



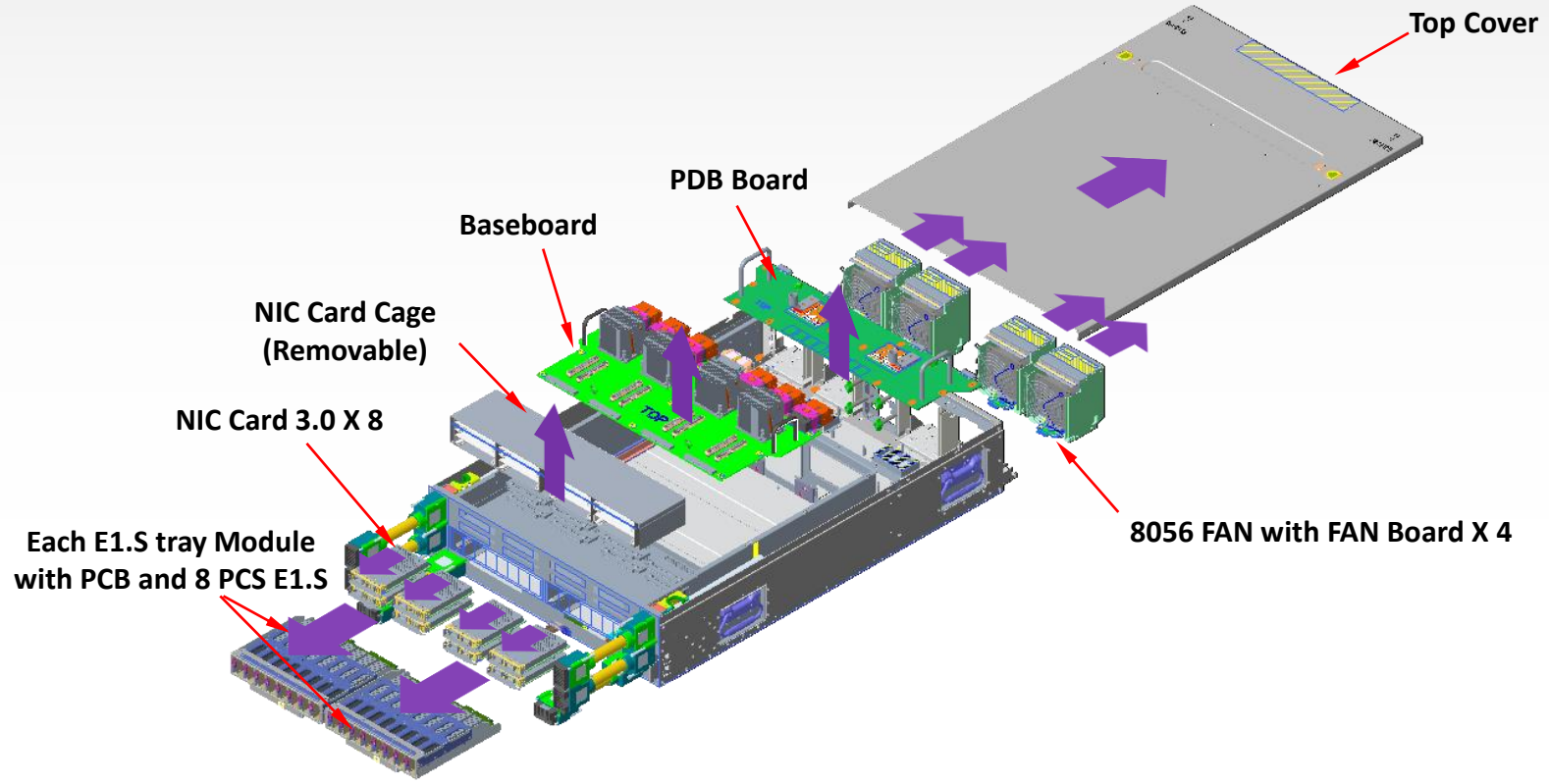
Clear Creek – Top View



Clear Creek – Exploded View (M.2)



Clear Creek – Exploded View (E1.S)



Clear Creek – System Spec.

Item	Description
Baseboard	4* PAX PCIe Switch 8* RDMA NIC 200Gb OCP3.0 16* Flash Drive M.2 2TB (initial deployment) / E1.S (later)
Whisper Cables	2* Whisper for PCIe uplink connection to Angels Landing 4* Whisper for PCIe downlink connection to Emerald Pools
Power cable	1* Connect power from busbar to PDB 1* Connect power from PDB to MB
PDB	1* Power Distribution Board
Fan boards	4* Fan boards with gold finger connection to PDB
Power Supply	Open Rack V2 Central PSU
Chassis	3OU Chassis for Open Rack v2

Design package:

- 01_Electricals
- 02_Mechanicals
- 03_Firmwares

Board list:

- Baseboard
- E1.S
- FIO
- M.2
- PDB

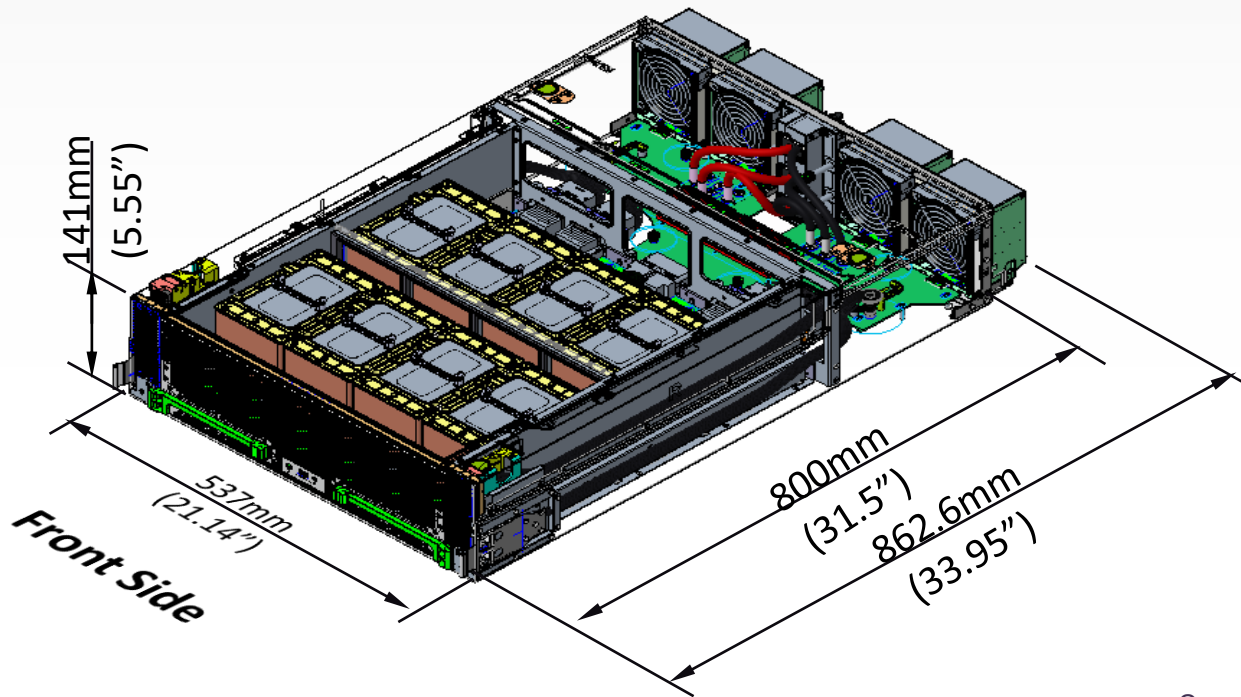
Design files:

- 01_Full System Board Layout
- 02_Full System Schematic CAD
- 03_Full System Component BOM
- 04_Manufacturing Files

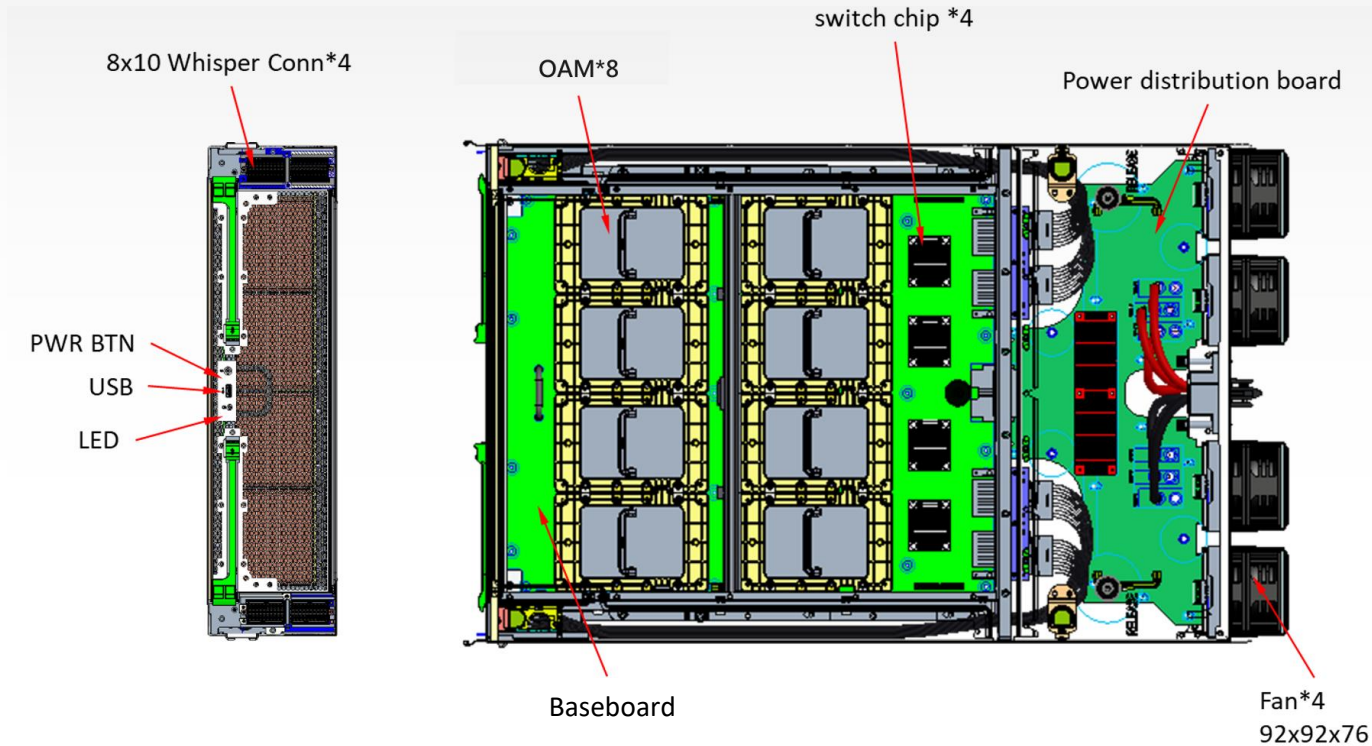
Emerald Pools Introduction

Emerald Pools – System Overview

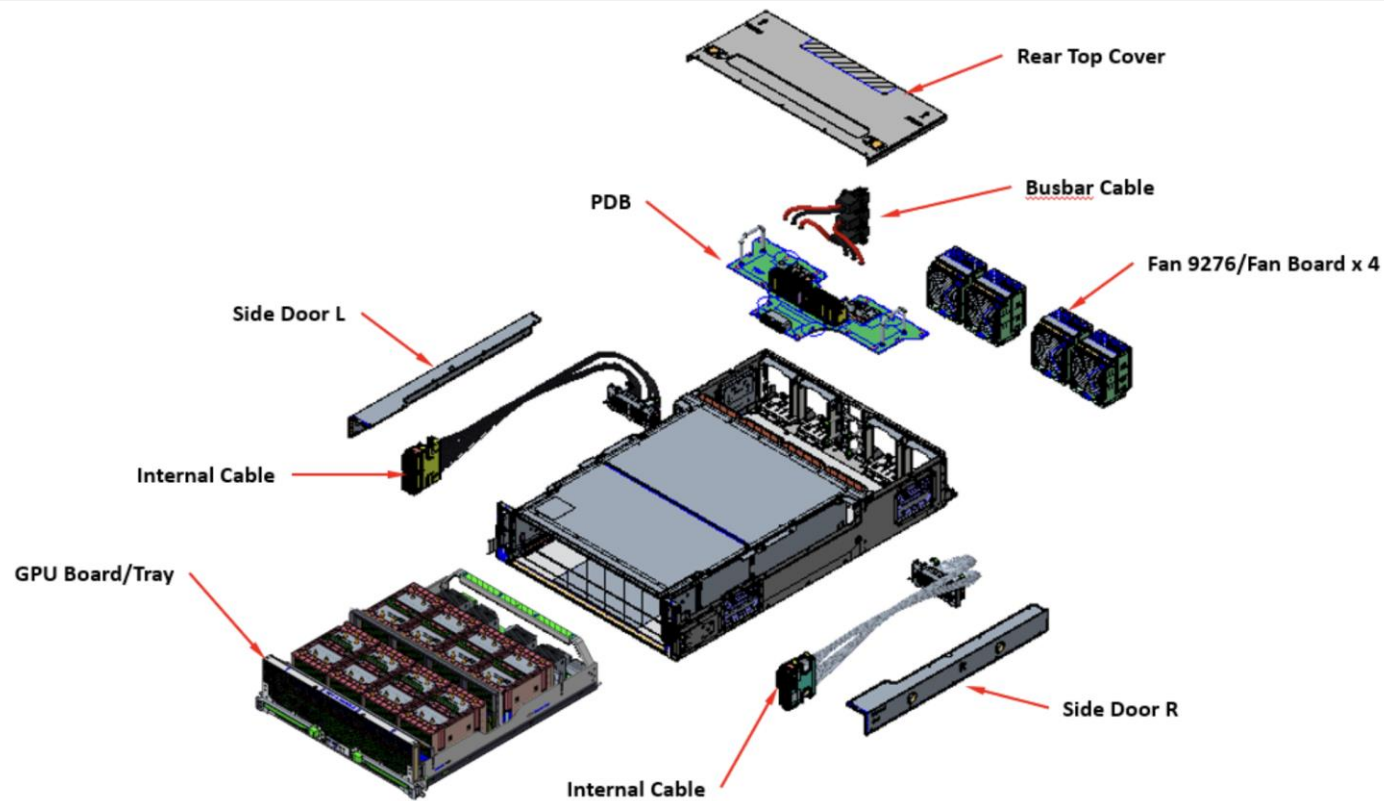
30U Chassis Dimension: 537mm (W) x 141mm (H) x 800mm(D)



Emerald Pools – Front & Top view



Emerald Pools – Exploded View



Emerald Pools – System Spec.

Spec	Description
Accelerator	Eight Open Accelerator Modules (OAM)
PCIe Switch Chipset	Four PCIe Gen4 Switches
Accelerator Connector Type	Mirror Mezzanine
Whisper Cables	4*Whisper for PCIe uplink connection
PDB	1*Power Distribution Board
BMC	ASPEED AST2500
Power Supply	Open Rack v2 Central PSU
Chassis	3OU chassis for Open Rack v2

Design package:

- 01_Electricals
- 02_Mechanicals
- 03_Firmwares

Board list:

- 01. Baseboard
- 02. PDB
- 03. Fan Board

Design files:

- 01_Full System Board Layout
- 02_Full System Schematic CAD
- 03_Full System Component BOM
- 04_Manufacturing Files

Thank You!