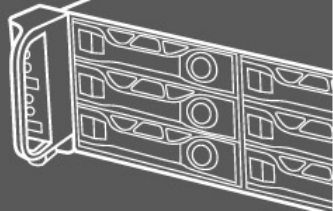
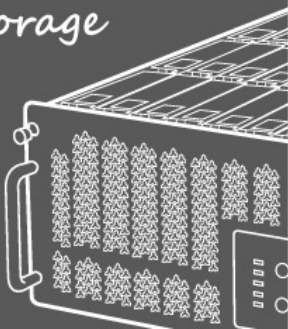


Design Files Contribution For Meta North Dome 1S Server

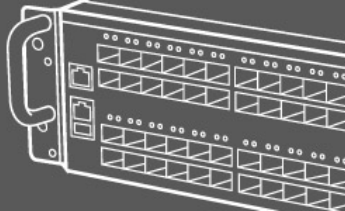
Servers



Storage



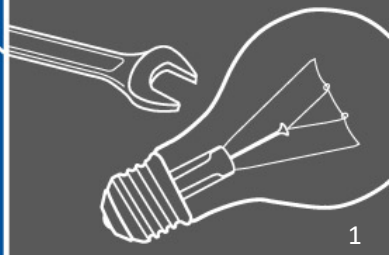
Networking



Rack
Systems



Solutions



Agenda

- North Dome 1S Server OCP Specification
- North Dome Card in Yosemite V2
- North Dome Card Overview
- North Dome Card Exploded View
- North Dome Card Block Diagram
- North Dome Card specification
- List of Design files
- OCP Tenets Compliance

North Dome 1S Server OCP Specification

North Dome 1S Server (Version 1.01)

<https://www.opencompute.org/documents/north-dome-1s-server-design-specification-1v01-pdf>

SPEC, North Dome 1S Server, Meta

Meta North Dome 1S Server Specification

Contributor: Meta

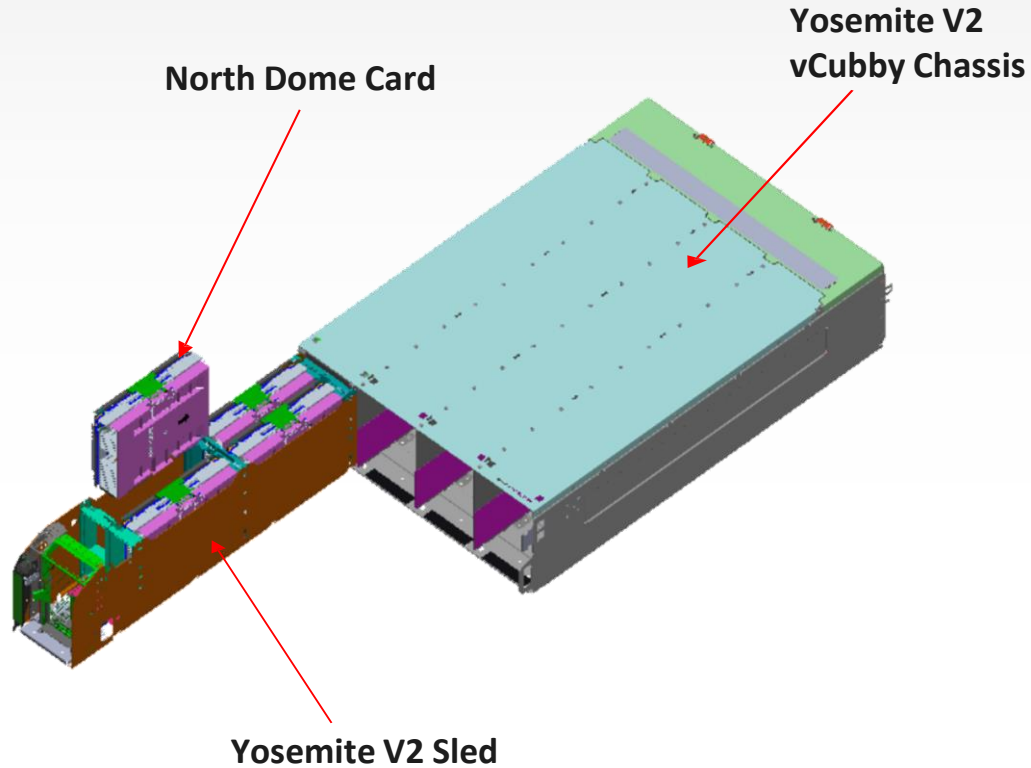
Family: Server

Project: Server

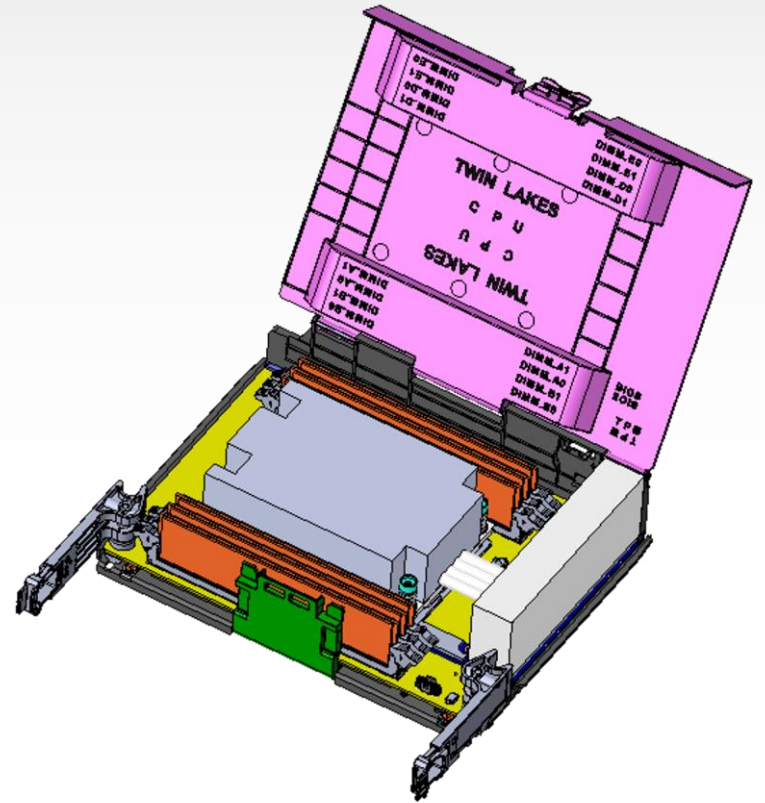
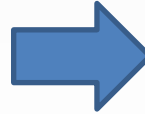
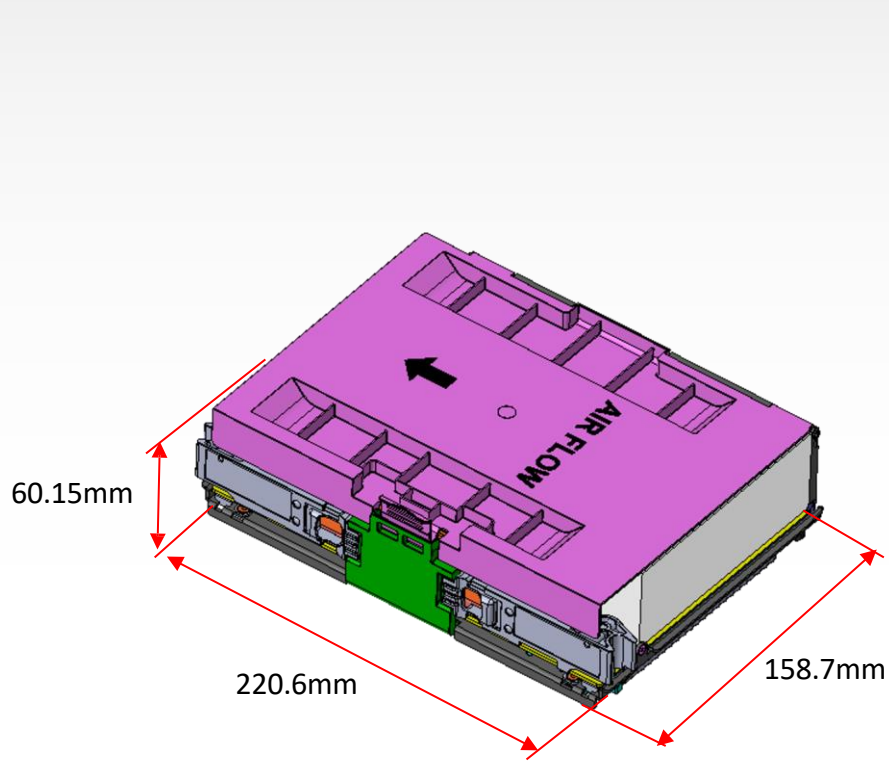
Accept Year: 2022



North Dome Card in Yosemite V2

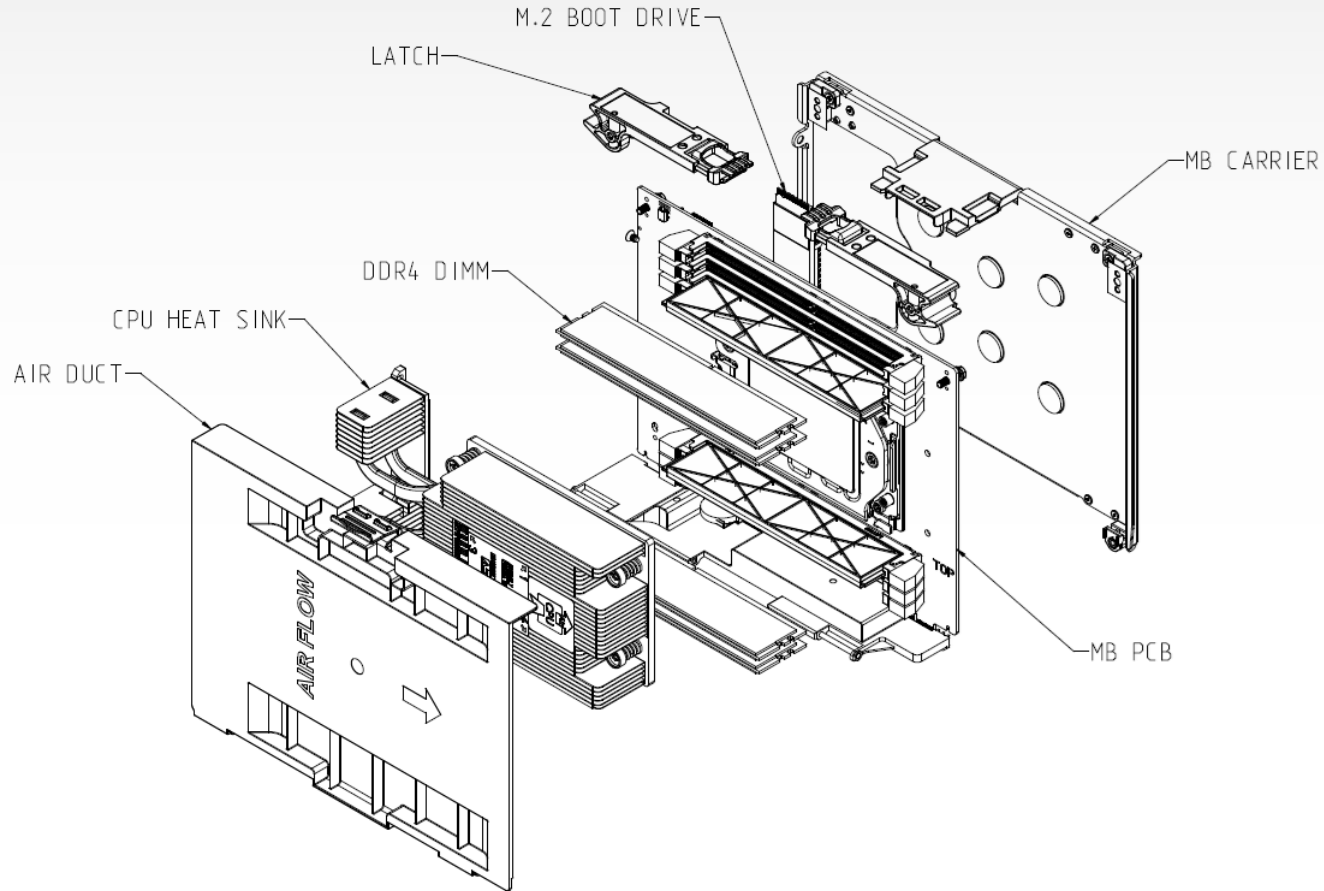


North Dome Card Overview



Rotated air duct to open and do services

North Dome Card Exploded View



North Dome Card Block Diagram

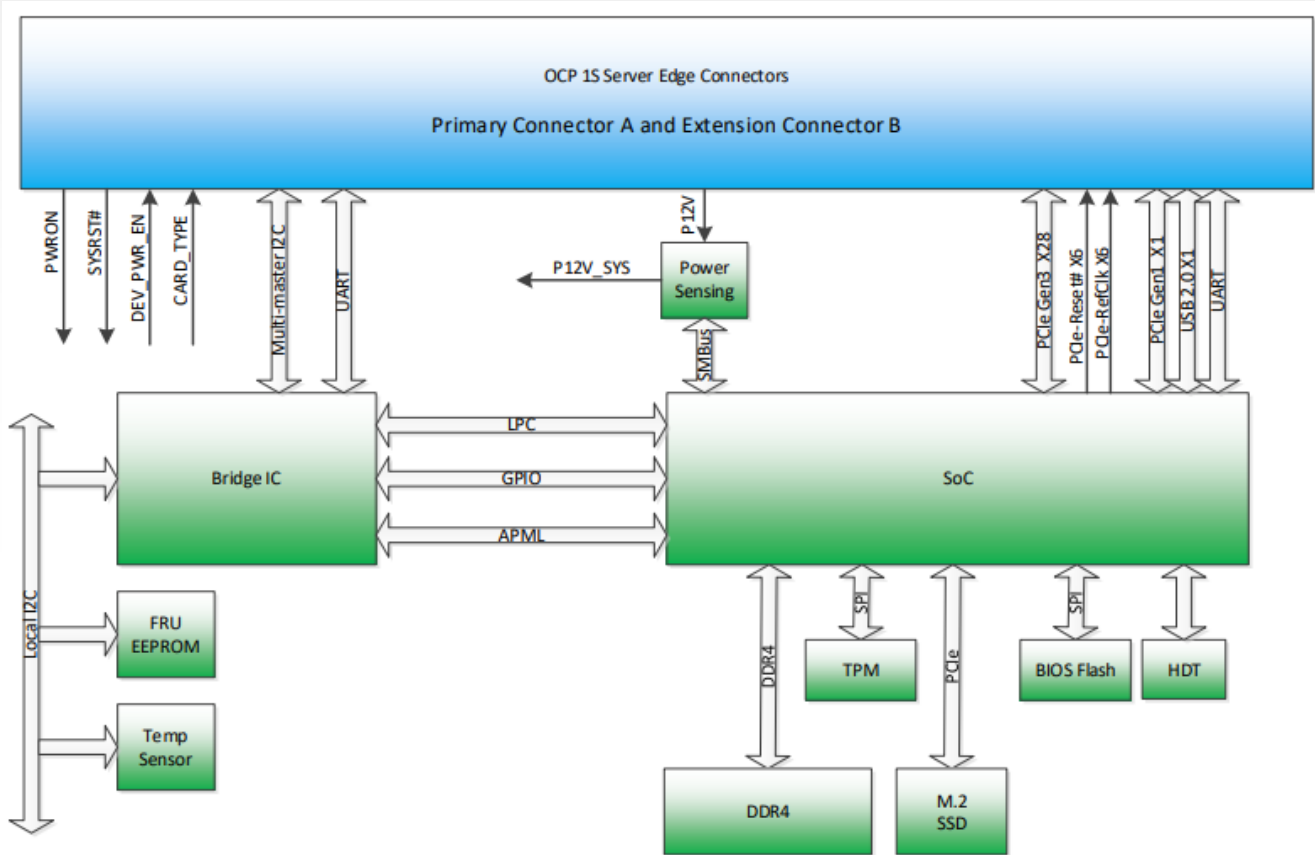


Figure 6-1: North Dome 1S Server Block Diagram

North Dome Card specification

Function	Description
Processor	AMD Family 17h Models 30h-3Fh Socket SP3 Processors (Milan) ● 32 AMD Zen x86 cores (64 threads) ● 512 KB L2 cache per core (16 MB total L2 cache) ● 128 MB total L3 cache ● Platform Processor ■ Secure Boot ■ Crypto Coprocessor North Dome will only support 85W.
Memory	● 6 channel DDR4 with ECC up to 3200 MT/s, one DIMMs per channel ● DDR4 RDIMM ● Memory capacity 256 GB/channel
Integrated I/O Connections	● 48 lanes of PCI Express Gen 3 (CPU) ● 6 * X4 to gold finger. ● X4 to high-speed storage drive M.2 connector on North Dome. ● 1* X2 PCIe for Mellanox CX-4 LX mezzine. ● One USB 2.0 to baseboard ● 2 Serial Port (Tx/Rx only) ● I2C Management ● Power On/Off, Reset
Storage	● 1 * M.2 connectors on North Dome for boot drive(PCI-e).

List of Design files

Design package:

- 01_Electricals
- 02_Mechanicals
- 03_Firmwares

Design files:

- 01_Full System Board Layout
- 02_Full System Schematic CAD
- 03_Full System Component BOM
- 04_Manufacturing Files
- 01_3D CAD File Format
- 01_BIOS
- 02_BMC
- 03_CPLD
- 04_VR FW
- 05_BIC

OCF Tenets Compliance

➤ Openness

- The North Dome Design Specification exemplifies openness by providing a design for a server CPU card which can be used to support numerous use cases range from webserver to storage to accelerators. This server design can be used as a standalone device in the Yosemite V2 platform or can be accompanied with use case specific expansion cards to help customize for other solutions.

➤ Efficiency

- North Dome features AMD CPU when paired with efficient low power sku of AMD CPU such as from AMD EPYC 7003 Series Processor operating at 95W TDP, achieve significant performance and performance/watt gain compared to Twin Lakes which helps to drive lower number of servers needed to fulfill capacity. This saves cost and nature resources.

➤ Impact

- North Dome is another addition to the Yosemite V2 server card family which already has its sets of expansion capabilities. North Dome bring alternative CPU vendor option to a stable platform and demonstrate superior performance and performance/watt capabilities

Thank You !