Multi-Node 1S Server Platform

Yosemite V2

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System Overview

- Flexible Multi-Node 1S platform
- Twin Lakes 1S server with Next Generation Intel® Xeon® Processor D
- Open Rack V2 compatible with new 40U vCubby design
- Support 4x 1S server cards or 2x 1S server + 2x Device cards
- Single smart baseboard to handle different configurations
- 100G/50G Multi-Host Network options
Yosemite V2

OPEN HARDWARE. OPEN SOFTWARE. OPEN FUTURE.
4x 1S Servers

OCP V2 Mezz Card
50G or 100G Multi-Host

Slot 4
Slot 3
Slot 2
Slot 1

1S Server

BMC

HSC

OSFP28 DAC
PCIe Gen3 X4

SideBand

12V_STBY

12V_RACK

OPEN HARDWARE. OPEN SOFTWARE. OPEN FUTURE.
2x 1S Servers + 2x SSD cards
2x 1S Servers + 2x PCIe Cards

OCP V2 Mezz Card
50G or 100G Multi Host

Slot2
1S Server

Slot1
Crane Flat
X16 PCIe Card

Slot4
1S Server

Slot3
Crane Flat
X16 PCIe Card

BMC

HSC

OPEN HARDWARE. OPEN SOFTWARE. OPEN FUTURE.
Hot Service

- PowerBar PCB provides uninterrupted power to sled as it is pulled out
  - PowerBar is part of the vCubby assembly
  - Electrical brushes on the sled baseboard makes contact with the PowerBar PCB
- Fans need to be run at full speed to mitigate thermals while sled is out
GPIO definition

• GPIO0 --- CARD_TYPE
  - 0V: 1S server
  - 1.2V: PCIe device carrier card
  - 1.7V: Customized PCIe PCIe Card

• GPIO1 – POWER_EN
  - Output from 1S server to its paired device cards. Input to devices.

• GPIO2 – EJECTOR_LATCH_DETECT_N
  - Active low when ejector on 1S server or device card is closed.

• GPIO3 – RESET_BMC
  - Output from 1S server to reset BMC on the baseboard. Active high.
VGA support

BMC AST2500 (VGA Controller)

MUX

For

PCle/RefClk/PCle_RST#

VGA Connector

Slot1
1S Server

Slot2
1S Server

Slot3
1S Server

Slot4
1S Server
Twin Lakes

- Based on Next Generation Intel® Xeon® Processor D
- 210mm x 160mm
- DDR4 DIMMs
- 1x 2280 256GB SSD boot drive
- 2x 22110 high-perf NVMe SSDs
- Bridge IC design
- Liquid cooling
Glacier Point Flash Card
Glacier Point Flash Card Block Diagram
Crane Flat Device Carrier Card
Crane Flat Device Carrier Card Block Diagram
ORV2 — Rack View