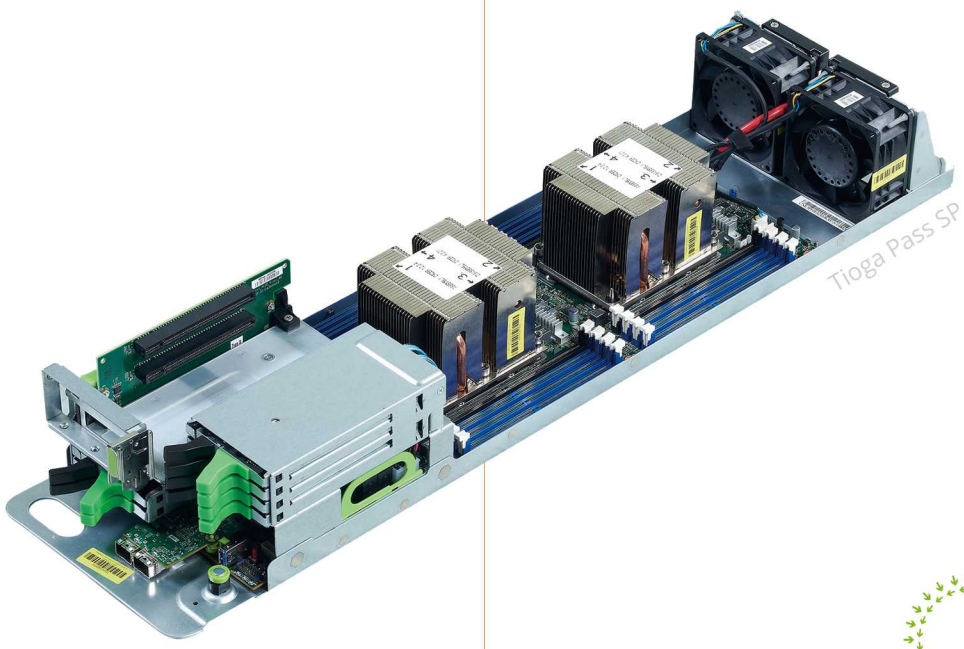
2crsi

Open Plus

OCP Solutions by 2CRSi

Edge to Cloud
Hyperscale infrastructure solutions

- ✓ 2 OpenU 3 nodes: Multi-node server
- ✓ JBOD - High Density Storage
- ✓ JBOF - High Density Storage
- ✓ Rack for 21" servers



OPEN COMMUNITY®

www.2crsi.com

2CRSi & OCP (Open Compute Project)

The Open Compute Project (OCP) is an open source initiative launched in 2011 by Facebook with the purpose to design and share innovative specifications for better datacenters. It was **38% more energy efficient** to build and **24% less expensive** to run than the company's previous facilities.

Today this redesigned hardware architecture technology provides efficiently support to growing demands on compute infrastructure.

2CRSi, member of Open Compute Project community since 2018 is matching perfectly with the openess, innovation and sustainability.

OPEN COMMUNITY®

Key advantages of the OCP

HIGH DENSITY COMPUTING AND FLEXIBILITY

- 21" form factor allows more flexibility compared to 19".
- More server, storage and network capacity in less space save costs.
- Modular solutions.

OPTIMIZED POWER

- Centralized powershelf instead of individual PSU in 19" permits higher power per rack.
- More efficient on power consumption.

MAINTENANCE

- Hot-pluggable power supply unit and servers.
- Tool-less.
- Easy access design with serviceability from the front.
- Power modules are redundant and hot-swappable.
- Improved MTBF thanks to less PSU and robust fans.

OPTIMIZED COOLING

- Better temperature flow allows efficient cooling.
- Optimization of cold/hot aisle.

Design principles

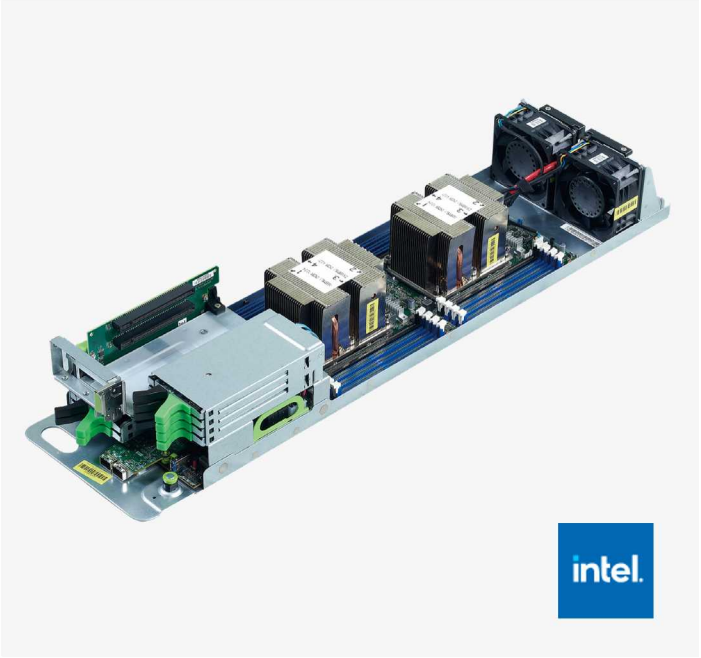
- **2 OpenU 21"**
- **Drawer concept**
- **Up to 2 processors**
- **Open Rack centralized 12V DC single Busbar**

SOFTWARE COMPATIBILITY

DMTF Redfish · SUSE · vmware READY vSAN · Red Hat OpenShift · OpenBMC · openstack. · CentOS · RANCHER

Tioga Pass SP

Multi-node server



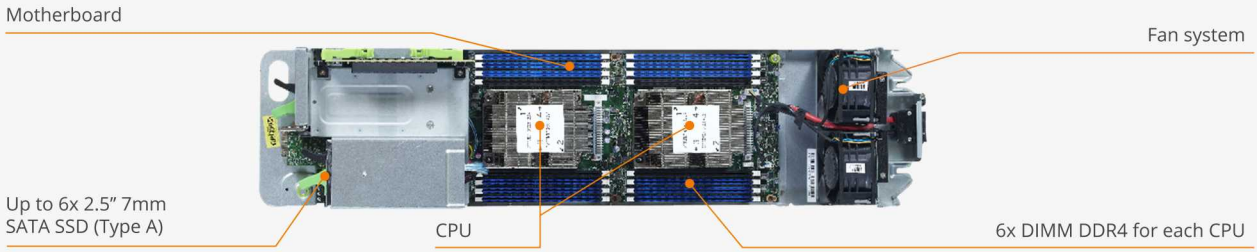
Tioga Pass SP is a 2 OpenU / 3N OCP server supporting Intel® Xeon® Scalable Processors.
The latest server to provide pervasive performance enhancement including higher performance per-core and higher CPU frequency.

Key features

Unique solution which supports:

- Up to 2x Intel® Xeon® Scalable Processors
- High power efficiency
- High memory availability up to 12 DIMM slots
- Compatible with OCtoRack 42SL+ or V2 and above
- DMTF Redfish
- Tool-less design
- VMware ESXi 7.0 / FishOS
- Red Hat® Open Stack® / Virtualization

Overview



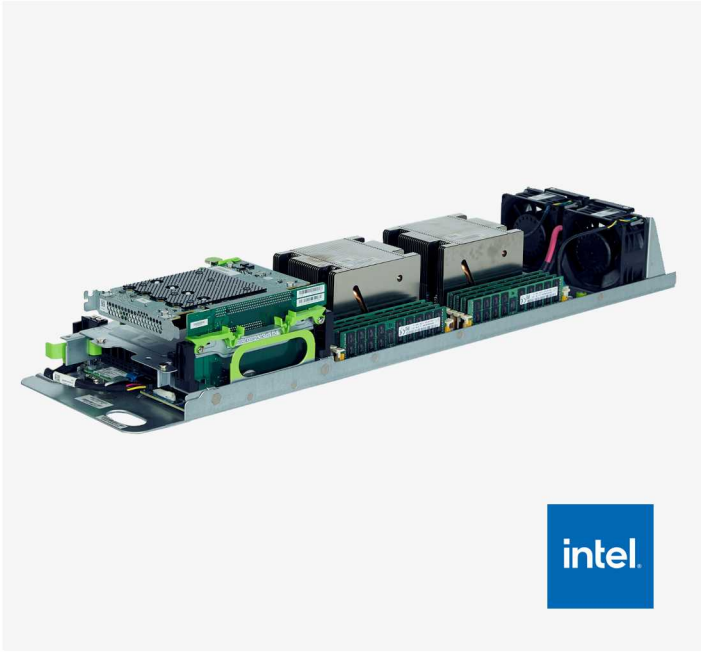
Specifications

System	
Form Factor	2 OpenU / 3N
Dimension	723 x 174.5 x 89mm 28.46" x 6.87" x 3.5" (D x W x H)
Sled	3 per shelf
Weight	6kg to 8.5kg 13lbs to 18lbs
Storage	
Front type	6x 2.5" 7mm SATA SSD (Type A) or 1x 3.5" SATA HDD (Type S) or 4x 2.5" U.2 SSD Hot Plug (Type U)
Rear type	n/a
Motherboard	
Chipset	Intel® C621
Expansion slots	2x PCIe 3.0 x16 slots HHHL 1x OCP NIC 2.0
Network	1x 1GbE LAN (Intel® i210)

Processor	
Supported CPU	Intel® Xeon® Scalable Processors
TDP	Max up to 165W
Memory	
Quantity	12x DIMM slots
Speed	Up to 768 GB R-DIMM, DDR4 2933MT/s
Channels	6 channels per CPU

Leopard B-R

Multi-node server



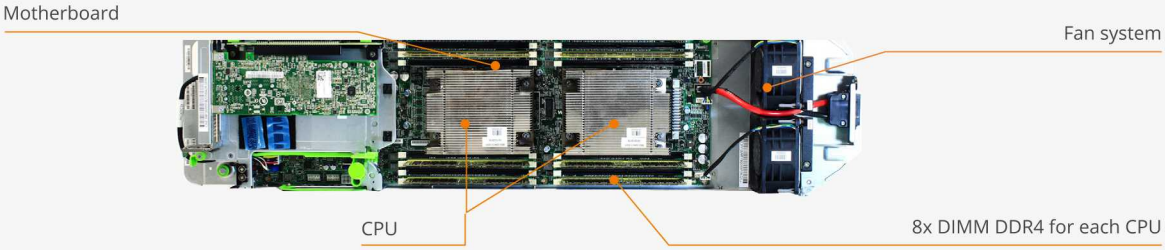
Leopard B-R is a 2 OpenU / 3N OCP server supporting Intel® Broadwell-EP processors.
It provides pervasive performance enhancement including higher performance per-core and higher CPU frequency.

Key features

Unique solution which supports:

- Up to 2x Intel® Dual 2680v4 (14 cores) Processors
- High power efficiency
- High memory availability up to 16 DIMM slots
- Compatible with OCtoRack 42SL+ or V2 and above
- Tool-less design
- Vmware ESXi 6.7 U2/U3 Certified
- Vmware ESXi 7.0 U1

Overview



Specifications

System	
Form Factor	2 OpenU / 3N
Dimension	723 x 174.5 x 89mm 28.46" x 6.87" x 3.5" (D x W x H)
Sled	3 per shelf
Weight	6kg to 8.5kg 13lbs to 18lbs
Storage	
Front type	6x M.2 NVMe 3,84TB (total 23TB)
Rear type	n/a
Motherboard	
Chipset	Intel® C612 socket R
Expansion slots	1x PCIe 3.0 x16 slot 1x PCIe 3.0 x8 slot OCP 2.0 x8 mezz (conn A)
Network	2x 25 GbE or 4x25 GbE

Processor	
Supported CPU	Intel® E5-2680 v4 Processors
TDP	Max up to 165W
Memory	
Quantity	16x DIMM DDR4 ECC slots
Speed	Up to 1024 GB @ 2133MT/s
Channels	8 channels per CPU

Capri E

Multi-node server

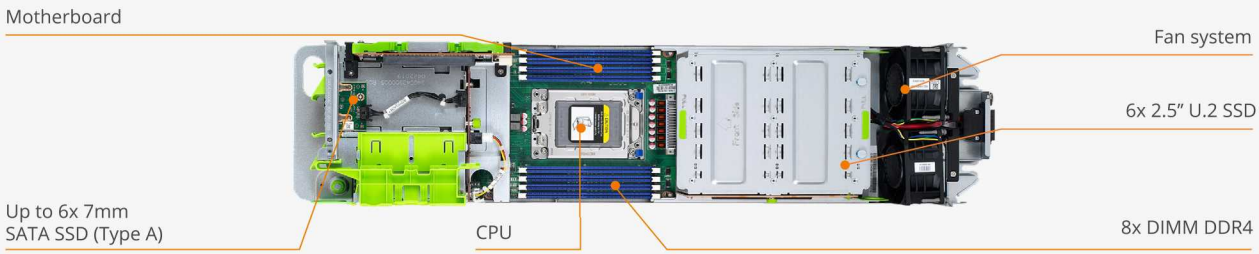
Capri E is a 2 OpenU/ 3N OCP server supporting AMD EPYC™ 7002 and 7003 series Processors.
The latest server to provide pervasive performance enhancement including higher performance per-core and higher CPU frequency.

Key features

Unique solution which supports:

- AMD EPYC™ 7002 and 7003 series density up to 64 cores
- Optimized for data center softwares
- High density storage
- Compatible with OCtoRack 42SL+, V2 and above
- DMTF Redfish
- Tool-less design
- VMware ESXi 7.0 ; Red Hat® 8.2.2 ; CentOS 8.1

Overview



Specifications

System	
Form Factor	2 OpenU / 3N
Dimension	723 x 174.5 x 89mm 28.46" x 6.87" x 3.5" (D x W x H)
Sled	3 per shelf
Weight	5.6kg to 8kg 11lbs to 18lbs
Storage	
Front type	6x SATA (Type A) or 4x 2.5" U.2 SSD Hot Plug (Type U)
Rear type	6x 2.5" U.2 SSD PCIe
Motherboard	
Chipset	AMD
Expansion slots	2x PCIe 4.0 x16 slots HHHL (Type A) 1x PCIe 4.0 x16 slots FHHL (Type U)
Network	1x 1GbE LAN (Intel® i210)

Processor	
Supported CPU	AMD EPYC™ 7002 (ROME) / 7003 (MILAN)
TDP	Max up to 225W
Memory	
Quantity	8x DIMM slots
Speed	Up to 1,024 GB R-DIMM, DDR4 3200MT/s
Channels	8 channels per CPU

Bryce Canyon

High Density Storage

Bryce Canyon is an OCP JBOD.
Innovative storage solution with high capacity, availability and scalability.

Key features

Bryce Canyon is designed to offer :

- High density data storage with 2 distinct storage nodes with 36 drives each.
- High density storage, up to 72x 3.5" hot-plug drive bay in 4 OpenU shelf.
- Redundant cooling for high availability with hot-pluggable fans.

Overview

Specifications

System	
Form Factor	4 OpenU
Dimension	941 x 538 x 190mm 34.60" x 21.18" x 7.48" (D x W x H)
Sled	n/a
Weight	Up to 90kg
Storage	
Front type	n/a
Internal type	72x 3.5" hot-plug drive bay
Motherboard	
Chipset	n/a
Expansion slots	n/a
Network	n/a

Processor	
Supported CPU	n/a
TDP	n/a
Memory	
Quantity	n/a
Speed	n/a
Channels	n/a

Crystal Lake

High Density Storage

Crystal Lake is an OCP JBOF, high density storage, with PCIe Gen.3 to maximize data storage.

Key features

OCP JBOF is designed to offer:

- High density storage, up to 48 SSDs with 3 sleds (U.2) NVMe.
- Scalable sled form factor in 2 OpenU shelf.
- High density storage with PCIe Gen.3 JBOF.
- Maximized data storage (up to 48 SSD in 21" shelf).

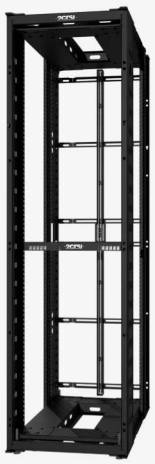
Overview

Specifications

System	
Form Factor	2 OpenU
Dimension	800 x 537 x 93mm 31.49" x 21.22" x 3.66' (D x W x H)
Sled	3 per shelf
Weight	n/a
Storage	
Front type	4x Mini-SAS HD connectors, 16 lanes
Internal type	Up to 16x U2 SSDs (Totally 48 SSDs in 21" shelf)
Motherboard	
Chipset	n/a
Expansion slots	16x PCIe 3.0 1x PCIe switch PM8535 for Gen.3
Network	n/a

Processor	
Supported CPU	n/a
TDP	n/a
Memory	
Quantity	n/a
Speed	n/a
Channels	n/a

Rack for 21” servers



All servers and storages are compatible with Open Rack v2 and above.

In order to reach highest solution flexibility, 2CRSI has created its own rack: **OctoRack 42SL+**.
With its modular and robust design it can be proposed from 12 OpenU up to 49 OpenU, with single busbar and centralized power shelves.

Key features

- Efficient use of space for 24” column width.
- Footprint similar to 19”.
- Serviceability from the front.
- Cable-less power distribution system by busbars.

Overview

FRONT & REAR VIEW
Example of a converged solution with 54 compute nodes

Specifications

Model	OctoRack 42SL+
Form Factor	Open Rack
Number of OpenU	42 OpenU
Dimension	2100 x 600 x 1067 mm (H x W x D)
Dynamic Load	1400kg
Power Shelf	14.4kW +3kW redundancy each
Electrical Input	32A 3-Phase
Electrical Output	12V with OCP technology busbars

2CRSi
DESIGNER AND MANUFACTURER
OF INNOVATIVE AND ENERGY-EFFICIENT
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