

MCC4XD

Micro Cluster



The MCC4XD Micro Cluster is a fully integrated, low power, modular and compact computer cluster which delivers incredible versatility at an attractive price. Its scalable nature, small footprint and ease of use make it the perfect development tool, sales aid or even training instrument, while its reliable design, portable size and computational prowess make it an ideal standalone appliance for bespoke HPC applications.

● Multi-node structure

Chassis structure incorporates a Intel NUC, low power management node alongside 4, Xeon-D powered computational nodes.

● Redundant internal inter-connectivity

2 ethernet gigabit connections /node managed by a smart Layer3 switch.

● External scalability

2 external gigabit ethernet connections allow external units to join the cluster environment and/or enable the creation of a daisy-chain configuration.

● Easy and intuitive serviceability and management

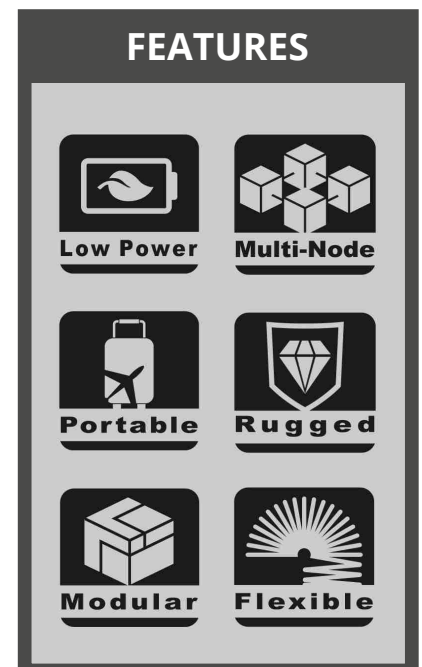
- Multiple I/O options available /node (behind service panel)
- Modular structure

● Integrated, compact design

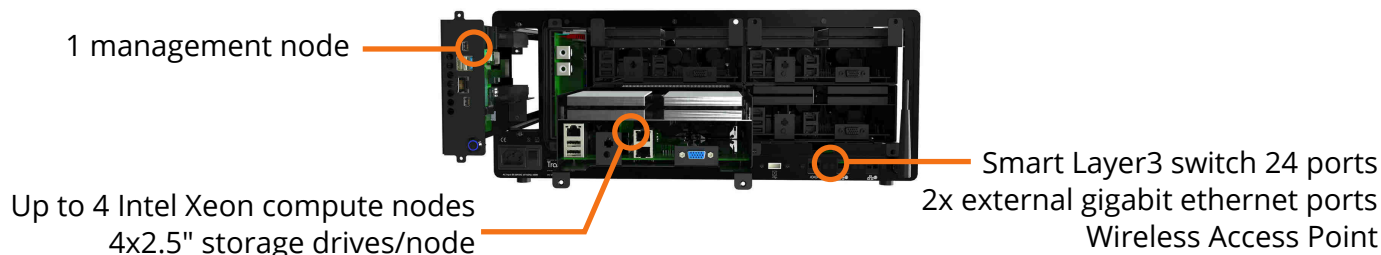
Within 15kg the unit incorporates: ● one management node
● 4 compute nodes ● 750W power supply ● 24port switch

● Highly customizable

With multiple hardware configurations and colour options as well as personalized laser engraving, the MCC4XD will meet even the most specific technical needs while easily morphing into any company's visual identity.



PRODUCT VIEW



HARDWARE SPECIFICATIONS

Node Configuration - Compute Nodes

- **Motherboard** ASRock Rack D1541D4I

Mini-ITX / 4xDDR4 DIMM slots (Quad Channel) / Rear I/O: 1xD-Sub, 2xUSB 3.0, 2xRJ45, 1xUID Button/LED

- **CPU** Intel Xeon D1541

8cores (16 threads) / 2.1 GHz (2.7 GHz MAX) / 12M cache / 45W TDP / Hyper-Threading / VT-d / VT-x / TSX-NI / 64 bit

- **RAM** up to 128GB DDR4 ECC

Available configurations: 32 - 64 - 128 GB

- **LAN** 2 X Intel i210

10/100/1000 Mb/s / VLAN support / Jumbo Frame Support / PCIe v2.1 / iNVN / IEEE 802.3az
> IPMI management is provided by 3rd adapter and also via first i210 interface<

- **Storage** All solid state provided via 2 interfaces: M.2, SATA

Each node can have up to 5 storage drives (one /interface) of the following capacity:

	64GB	128GB	250GB	500GB	1TB	2TB
M.2 NVMe	•	•	•	•	•	•
SATA 2.5" #1	•	•	•	•	•	•
SATA 2.5" #2	•	•	•	•	•	•
SATA 2.5" #3	•	•	•	•	•	•
SATA 2.5" #4	•	•	•	•	•	•

All 2.5" drives can have a maximum height of 9mm.

- **I/O** Front: Power LED / Storage Activity LED / LAN #1 activity LED / LAN #2 activity LED / Power/Reset Switch

Rear: 2xRJ45 Ethernet Ports / 1xRJ45 Dedicated IPMI management / 2xUSB 3.0 / 1xVGA / 1x USB 2.0 / 1x 12V DC IN

Node Configuration - Management Node

- **CPU** Intel 5300U (Broadwell)

2cores (4 threads) / 2.3 GHz (2.9 GHz MAX) / 3M cache / 15W TDP / Hyper-Threading / vPRO / VT-d / VT-x / 64 bit

- **RAM** up to 32GB DDR3L -1333/1600 1.35 V SO-DIMM

- **GPU** Intel HD Graphics 5500

Base Freq. 300 MHz / MAX Freq. 900 MHz / 64 bit / Intel Quick Sync Video / OpenGL 4.3

- **LAN** Intel I218-V (embedded) & ASIX AX88179 (via USB 3.0)

10/100/1000 Mb/s / VLAN support (Intel 802.3q, ASIX 802.1) / Jumbo Frame Support (Intel 9KB ASIX 4KB)
> Node0 is equipped with a 3rd LAN (AX88179) adapter <

- **Storage** All solid state provided via 3 interfaces: M.2, SATA, USB 3.0

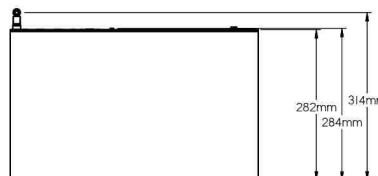
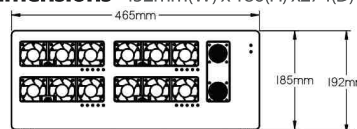
Each node can have up to 3 storage drives (one /interface) of the following capacity:

	64GB	128GB	250GB	500GB	1TB	2TB
M.2	•	•	•	•	•	•
SATA 2.5"	•	•	•	•	•	•
USB 3.0	•					

- **I/O** 1x mDP ● 2x USB 3.0 ● 1x RJ45 ● Power & Drive activity LED ● MIC/Headphone jack

Chassis

- **Dimensions** 452mm(W) x 186(H) x 274(D) mm



*If WiFi antennas are fitted the depth of the unit extends to 313.8 mm

- **Colour** Customizable shell colour (default white)

Aluminium components, rear, front and internal steel always black.

- **Network Switch** Mikrotik CRS125-24G-1S-2HnD-IN

24 + 1 (SFP) gigabit ports / Layer 3 / 2.4GHz Wireless AP

- **Power Supply Unit** Enclosed 750W

85-264VAC 50/60Hz / Active PFC / High efficiency (89.5%) / High Reliability

- **I/O**

Front: Power status LED / Storage Activity LED / LAN #1 activity LED / LAN #2 activity LED / Power/Reset Switch (for each node)

Rear: 1 x Fused IEC Connector with switch / 2 x WiFi aerial connectors / 2 x RJ45 ethernet ports / 1 x USB / 1 x Serial

> WiFi aerial connectors are routed to internal network switch<

> RJ45 ports are routed to internal switch <

> USB 2.0 port is routed to internal switch <

> I/O for nodes 1-4 is visible after removing the rear service panel <

Overall

- **Power consumption** up to 500W

* Power consumption will vary due to internal configuration and load

- **Storage Temperature** -10°C ~60°C

- **Warranty** 3 years

- **Acoustics** up to 25dBA

* Acoustics will vary due to internal configuration and load

- **Operating Temperature** 5°C ~25°C

- **Mass** up to 15Kg

* Weight may vary due to various internal configuration options