Nexalus Endeavor DX-820

DELL Technologies

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ARROW

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As processors become smaller and more powerful, they are generating higher levels of heat, jeopardizing performance, durability and efficiency, while also increasing their carbon footprint. Traditional air-cooling methods can no longer adequately meet the needs of these next generation processors. This inefficiency leads to higher energy consumption, compute limitations and serious environmental impacts. Liquid cooling is the answer and there is a science and engineering company who are leading the charge in this space.

Nexalus, Arrow Intelligent Solutions and Dell Technologies bring to market an innovative edge compute solution that offers patented liquid cooling technology, superior performance and energy efficiency. The **Endeavor DX-820** is a Nexalus Nano Edge Data Center (EDC) solution which is powered by the Dell PowerEdge XR8000 series. It seamlessly integrates patented jet impingement liquid cooling technology with a sealed enclosure architecture resulting in improved system stability, longevity, significantly reduced energy consumption and makes this solution extremely robust, even in the harshest edge environments. This system provides a cost-efficient, ruggedized, edge compute offering that can support diverse workloads spanning from RAN operations to AI/ML applications on factory floors, while offering unparalleled thermal performance and sustainability.

Benefits

- Sealed Server
- Zero Air, Dust or Salt Corrosion
- 20-25% Reduced Power Consumption
- Silent Operation
- Superior CPU/GPU Cooling
- -40°C to +65°C Environments
- Secure Unit
- Reduced Noise & Vibration
- Low Maintenance, Longer Life
- Lower Emissions

€ No Capex Beyond the Nexalus Solution

Applications

- Telecommunication/5G
- Retail
- Logistics/Transportation
- Medical/Pharma
- Manufacturing

Key Features

Advanced Edge Liquid Cooled Design:

The **Endeavor DX-820** solution introduces cutting-edge patented cold plate **jet impingement liquid cooling** technology, tailored for superior thermal management and edge computing environments. This solution comes in two form factors; **Cabinet** and **Pole mounted (IP66)**. These patented sealed enclosures eliminate concerns often associated with harsh environments, conditions such as salt, dust, dirt, humidity and other foreign bodies.

Extended Operating Temperature Range:

Engineered for reliability and resilience, this Nexalus solution excels in both moderate and extreme weather conditions from **-40°C (-40°F) to 65°C (149°F)** , making it an ideal choice for demanding applications.

Enhanced System Stability:

This liquid cooled server maintains consistently lower core temperatures compared to its closest air-cooled equivalent, improving system stability and longevity (**up to 40 °C lower CPU temperature**). It mitigates the risk of overheating and thermal throttling, ensuring reliable operation even under heavy workloads.

Optimized Energy Efficiency:

As important to Nexalus as performance, is the planet. The Endeavor DX-820 therefore was engineered to facilitate energy-efficient and environmentally conscious computing practices, reducing operational costs and carbon footprint. The cabinet application achieves a remarkable reduction in **power consumption, up to 25% lower** compared to the air-cooled configuration, while you can reduce your energy by a remarkable 21% with the pole mounted system, compared to a standard Dell PowerEdge XR8260t.

Cabinet

Pole

Specifications

Processor	1 × Intel® Xeon® Gold 6433N 2G, 32C/64T, 16GT/s, 60M Cache, Turbo, HT (205W) DDR5-4400
Memory	8 × 32 GB RDIMM, 4800MT/s Dual Rank
Storage	2 × M.2 2280 or 22110 direct connect NVMe drives with dual M.2 NVMe direct riser module (non-RAID)
Integrated Sled	Dell PowerEdge XR8620t
Operating Temperature	From -40°C to 65°C (-40°F to 149°F) with optional Heater Manager in required configurations
Embedded NIC	2 × 25 GbE SFP 28 LOM connectors
NIC Card	1 × Intel E810-XXVDA4 Quad Port 10/25 GbE SFP28 Adapter NIC
Internal Fans	4 × Standard (STD) cabled cooling fans with reverse air-flow
External Fans (Heat Rejection)	2 × IP68 DC axial fans

	Pole	**Cabinet**
Cooling Fluid Volume	1200 ml (One time fill)	800 ml (One time fill)
Dimensions	– Width — 330 mm (13.0 inches) – Height — 790 mm (31.1 inches) – Depth (no pole mount) — 135 mm (5.3 inches) – Depth (with pole mount) — 165 mm (6.5 inches)	– Width — 447 mm (17.6 inches) – Height — 85 mm (3.4 inches) – Depth — 520 mm (20.5 inches)
Weight	26 kg (57.3 pounds) - including fluid	15 kg (33.1 pounds) - including fluid
IP Rating	IP66	N/A
dB(A) Based on 1 Meter Distance and PWM % of External Fans at 30%	56 dB(A)	62 dB(A)
External Ports	– 4 × 10/25 GbE SFP28 – 1 × 230-120 V power connector	– 1 × 230-120 V power connector – Up to 7 × optional ports (10/25 GbE SFP28, iDRAC Direct (Micro-AB USB), USB 3.0, Micro USB serial port, Mini-DisplayPort, RJ45 iDRAC9 ethernet port, RJ45 Alert/Dry contact input connector)
Hot Swap Redundant Power Supplies	2 x 1800 W Titanium 200—240 VAC or 240 HVDC	1800 W Titanium 200—240 VAC or 240 HVDC

Order/Contact Information

Email: IntelligentSolutions@arrow.com
Online: arrow.com/AIS

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