

# Innovation Roundup

Cluster-in-a-box : ULYS S24-HA

**2crsi**

# Summary

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# How can it help a trading organization ?

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Higher performance  
for price calculations



Price/Capacity/Performance



No interruption in service  
No SPOF



High-speed  
packet capture



No vendor-lock in

# The 2CRSi Group

## Let's Make IT Happen



Design and manufacture  
Innovative and energy-efficient  
IT solutions



Integration and  
value-added distribution



Design and manufacture edge  
computing systems  
rugged and energy-efficient



Green Computing-power Rental  
And Housing

# ULYS S24-HA : Cluster in a box concept

## Cluster Evolution

*NVMe replaces SAS for appliance storage*

FROM

### Traditional Cluster

Dual 1U Head Nodes w. 12Gb **SAS** JBOD



SAS



### NVMe Cluster

Dual 1U Head Nodes w. **NVMe** JBOD



PCIe



TO

### NVMe Cluster in a Box

Dual 1U Head Nodes w. 24 **NVMe** SSDs



Dual-Port  
NVMe SSDs

Two 1U servers  
(Canisters)

# NVMe Storage Server

## ULYS S24-HA

“Cluster in a Box” Storage Server



# 184TB

Raw Storage in 2U Server

## Dual Processors

With a choice of Intel Xeon CPUs

## 24 X 2.5" Dual-port NVMe™ SSDs

Max. Drives

# 184TB – 23TB

Capacity

# Key Features of ULYS S24-HA

- Dual high-performance Intel Xeon Scalable Processor-based server canisters
- Each compute canister includes Dual processors with a choice of Intel® Xeon® Scalable Processors
- 2 M.2 SSD boot drives
- 24 DDR4 R-DIMM Slots
- 4 10GbE ports
- 1GbE for IPMI system management
- 3 Gen 3 PCIe x16 slots
- Enterprise-grade redundant and hot-swappable PSUs, SSDs, server canisters
- **Up to 24 NVMe dual-port SSDs with a range of capacity and endurance options**
- Up to 184TB in 2U
- Optional battery backup unit
- The entire chassis, including server enclosures, is covered by a 5-year limited warranty

## Elevating NVMe to storage appliances



## NVMe Cluster in a box : 2 Hosts in 1 Server ULYS S24-HA



# Specifications

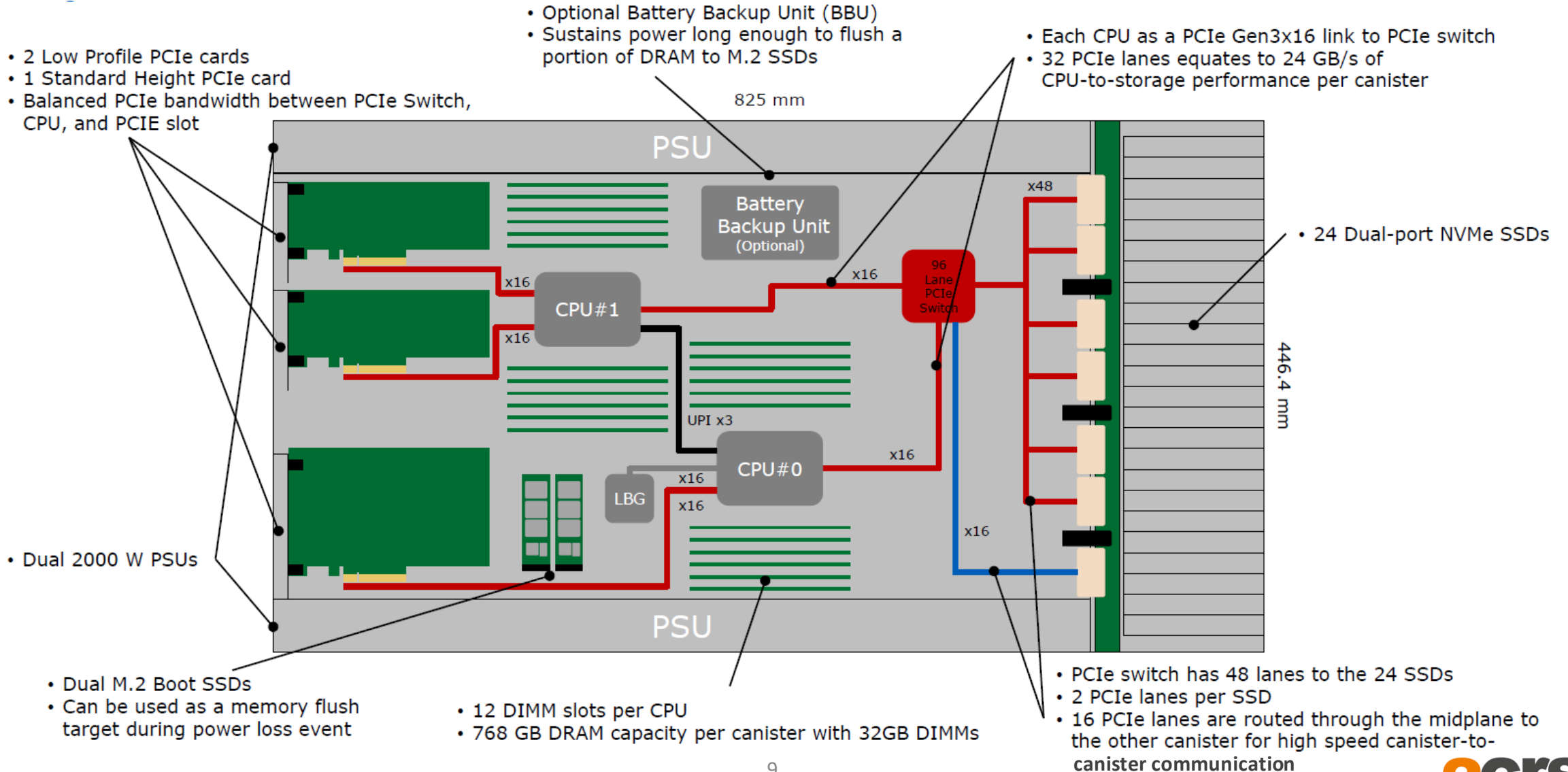
RED= Per Canister

<b>Max. Drives</b>	24 x 2.5" Dual Port NVMe SSDs
<b>SSD Capacities</b>	<ul style="list-style-type: none"> <li>7.68TB 1 DW/D, HGST SN200</li> <li>3.84TB 1 DW/D, HGST SN200</li> <li>1.92TB 1 DW/D, HGST SN200</li> </ul>
<b>CPU, Chipset</b>	<ul style="list-style-type: none"> <li>Entry-Level: Xeon 5118, 2.3GHz, 12C, 105W</li> <li>Mid-Range: Xeon 6140, 2.3GHz, 18C, 140W</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>128GB DDR4-2400 (8x 16GB DIMMs)</li> <li>24 DRAM DIMM Slots</li> </ul>
<b>Expansion</b>	<ul style="list-style-type: none"> <li>2 PCIe Gen3 x16 Low Profile</li> <li>1 PCIe Gen3 x16 Standard Height</li> </ul>
<b>Networking</b>	<ul style="list-style-type: none"> <li>2 Mellanox-CX5 (100Gb Ethernet &amp; Infiniband)</li> </ul>
<b>I/O</b>	<ul style="list-style-type: none"> <li>4 10Gb Ethernet (RJ45)</li> <li>2 USB 3.0</li> <li>1 VGA, DB15</li> <li>1 RJ45 BMC / Management</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>1 IPMI 2.0 system management</li> </ul>

<b>Physical Dimensions</b>	<ul style="list-style-type: none"> <li>Height: 87.6 mm (3.45")</li> <li>Width: 446.4 mm (17.58")</li> <li>Depth: 836.4 mm (32.93")</li> </ul>
<b>Max. Weight</b>	<ul style="list-style-type: none"> <li>Product w/o SSDs: ~39 kg (86.0 lbs)</li> <li>Product w/ 24 SSDs: ~42 kg (92.6 lbs)</li> </ul>
<b>Power</b>	<ul style="list-style-type: none"> <li>1+1 1800W, CRPS, 80+ Platinum</li> <li>200-240V AC input</li> <li>56.2 Wh Battery Backup Unit (BBU) per canister with 5 year expected life</li> </ul>
<b>Cooling</b>	<ul style="list-style-type: none"> <li>4+1 40mm fans, cold-swappable</li> </ul>
<b>LED Indicators</b>	<ul style="list-style-type: none"> <li>Front: Power, ID, Fault</li> <li>Drive: Activity, Fault</li> </ul>
<b>Serviceability</b>	Hot-swappable power supplies, compute canister, SSD modules
<b>Environmental</b>	<ul style="list-style-type: none"> <li>Operating Temperature: 5 to 35°C</li> <li>Non-op Temperature: -30 to 60°C</li> <li>Humidity: 8 to 80% relative humidity</li> </ul>



# Diagram



# System components



24 Dual Port NVMe SSDs

Dual 1800w PSU



Dual Compute Nodes (Hot Swappable)

1 Gb Management IPMI

3 Gen3x16 PCIe Slots

4x10Gb Ethernet (Lewisburg)

2 USB, 1 VGA

# Top Applications

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**Software Defined Storage/ SDS environment**

**IO-Intensive HPC/ High Performance Computing**

**Faster AI / Big Data Analytics**

**High Frequency Trading workloads**

**Databases/ DB Acceleration**

**Virtualization (Virtual Machine Host, Private Cloud)**

**Video Streaming**

For more information : <https://2crsi.com/ulyss24ha/>

Want to learn more?  
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