



DELL EMC DSS 8440

4U Machine Learning shared accelerator platform

The DSS 8440 is a 2 socket, 4U server designed to deliver exceptionally high performance for machine learning applications, with industry-leading accelerators, high speed PCIe fabric, and extensive local storage. It is ideal for machine learning training and inference applications, either for a single workload or to distribute resources among users and departments.

Tremendous machine learning horsepower

The DSS 8440 is specifically designed to reduce time to insight in both the training and inference phases of machine learning by providing substantially increased compute capacity. Analyze massive amounts of data, recognize patterns, and determine follow-on actions, by training machine learning models with up to 10 industry-leading NVIDIA® Tesla® V100S Tensor Core GPUs or up to 10 NVIDIA® Quadro RTX™ GPUs, and by using up to 16 NVIDIA Tesla T4 GPUs to perform inference on data using your pre-trained models.

The DSS 8440 in combination with the NVIDIA GPUs delivers competitive training performance at lower cost than competitors. It has 25% more accelerators in a single chassis enabling 10% more Tensor FLOPS using the same rack density and it provides higher training efficiency (performance/watt) than competitive offerings when using the most common frameworks and popular convolutional neural network models. The RTX GPUs offer a more cost-effective mid-range performance option for Training solutions or can be used for image and video rendering. When NVIDIA T4 GPUs are implemented, this server provides a high capacity inference solution enabling an efficient multi-tenant, multi-workload environment that can save on energy consumption and data center footprint.

Accelerate machine learning deployment and performance

Dell EMC understands that software is a critical component of any machine learning solution. The DSS 8440 is certified to work with the NVIDIA Graphics Cloud (NGC) registry where pre-defined and pre-tested machine learning software stacks can be downloaded in ready-to-run containers, immensely simplifying and accelerating deployments. And the NVIDIA RTensor runtime platform is also available to optimize inference performance by maximizing utilization of T4 GPUs and seamlessly integrating with the TensorFlow framework.

Open, flexible infrastructure

Empower your organization to efficiently allocate more machine learning resources where needed and in the optimum configuration with the DSS 8440's flexible infrastructure and best of breed components. Implement infrastructure for training or inference, single workload solutions or multi-tenant environments, depending on the highly specific nature of your deep learning efforts. And, with the specialized graphics capabilities of the RTX GPUs large-scale image and video rendering are a possible workload option.

Simplified management

Manage more easily with integrated Dell Remote Access Controller 9 (iDRAC9) with Lifecycle Controller embedded within the DSS 8440. It alerts admins to server issues, helps them perform remote server management, and reduces the need for physical access to the server – and it incorporates the Redfish open systems management APIs to facilitate wider data center management.

DSS 8440 Server

- Up to 10 V100S GPUs
10 RTX GPUs
or 16 T4 GPUs
- Training, Inference,
Rendering
- Switched PCIe fabric
- 10 high performance local
storage drives
- 10 x16 IO channels

* Comparisons are to the HPE Apollo 6500 server

Features	DSS 8440 Technical Specifications
Form Factor	4U rack mount (EIA standard 19" width)
Dimensions	434 mm (width) x 865 mm (depth) x 178 mm (height) & approx. 45kg/100lbs. (weight with 8 accelerators)
Processor	2 x Intel® Xeon® Processor Scalable Family, up to 26 cores per processor
Socket / Chipset	2, LGA3647 / Intel C620
TDP max.	TDP up to 205W @ 35°C
Accelerators	Up to 10 NVIDIA® Tesla® V100 16GB & V100 32GB GPUs or Up to 10 NVIDIA® Quadro™ RTX GPUs or Up to 16 NVIDIA® Tesla® T4 GPUs
Memory	24 x DIMMs per node: 16GB/32GB/64G DDR4 RDIMM (1.5TB max.) speeds up to 3200 MT/s
Drive bays	10 bays, 6 fully flexible (NVMe or SATA), +2 SATA, + 2 NVMe
Drive types	SATA and NVMe SSD
Storage Controller	PERC H730P+
PCIe Slots	Up to 10 Dual Width Full Length PCIe Slots (with 4 PCIe switching hubs) – accelerator slots Additionally, up to 8 full height and 1 low profile x16 PCIe slots in rear
Embedded Networking	4x Network Daughter Card – (cabled to PCIe switch board) Intel X550 10Gb Base-T, Intel X710 DP 10 Gb SFP+ 1x LP x16 PCIe attached to CPU 1
System Management	iDRAC9 with Lifecycle Controller, Enterprise enabled
Power Supply	(2+2) 2400W PSU Redundancy
Availability	Select countries

Dell EMC world class management, service and support

The DSS 8440 simplifies and automates server lifecycle management with the industry-leading capabilities of the embedded Dell Remote Access Controller (iDRAC) with Lifecycle Controller. Customers can also rely on Dell EMC ESI's global support infrastructure and unrivaled worldwide supply-chain competency for their ongoing operational and infrastructure requirements.



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