



Duet High Performance Server

Large Shared-Memory Many-Core Computing

The Duet™ high performance server is designed to provide enterprise computing capabilities at your office or lab. With 256 cores (512 threads) of compute power, 4 or 6TB of shared memory and 384TB of storage the Duet can handle your most demanding applications, especially those requiring large memory and storage such as database applications.

The Duet high performance server is a rack mountable system consisting of two 2U state-of-the-art server blades with a total of 4 AMD EPYC™ 7713 processors and 8 TB of DDR4 RAM. Our DSMP™ technology along with 200 Gb/s InfiniBand transforms these two server blades into a single interconnected server that allows all 256 cores to access a large global shared memory and global file system. The Trio includes a fast 4TB NVMe global filesystem and a distributed computing environment with Python servers on each compute node accessible from the head node.

The performance of our Duet competes with large SMP mainframe class computers. This makes it ideal for in-memory database applications such as SAP-HANA. The Duet can execute large in-memory applications for significantly less cost than a mainframe.

The Symmetric Computing Duet™ delivers mainframe class performance to business, industry, academia and governments at an unprecedented price point.

System Specifications

Processors:	4 AMD EPYC™ 7713 Processors (2.0/3.3GHz—64 core) 256 cores / 512 threads
Memory:	8TB 3200 MHz DDR4 ECC (4 or 6TB globally shared)
Storage:	4 TB on-board M.2 NVME SSD head node 1 TB on-board M.2 NVME SSD worker node 24x 3.5" SATA/SAS hot-swappable SSD/HDDs
Node Interconnect:	2x ConnectX-5 VPI 200Gb/s InfiniBand Dual Port PCIe Gen 4 Host Bus Adapters
I/O:	2x 1 GbE LAN ports 1 management LAN port 2x USB 3.0 Ports 1 VGA Port
Power:	2x 2000W redundant PSUs (each node) 4x 110/208 VAC, 15 Amp, 50-60Hz
Dimensions:	Standard 19 inch Rack Mountable (4U)
Gross Weight:	2x 19.5 Kg (43-lbs) server blades

Features	Benefits
• Affordable Mainframe Computing	√ <i>Faster projects. Dedicated power when your project needs it.</i>
• Large Single Shared Memory	√ <i>Ideal for large memory applications</i>
• Single Software Image	√ <i>Simple and scalable SMP multi-threaded programming. No complicated cluster tailoring.</i>
• Only 4U Rack Space	√ <i>Fits easily into your existing racks</i>

Software Specifications

- Linux OS (SUSE 15)
- DSMP™ Distributed Symmetric Multi-Processing
- RPYC Python Distributed Computing Environment
- OpenMP, Pthreads, MPI, POSIX
- Slurm Workload Manager

DSMP™ enables Symmetric Multi-Processing on the Duet™ — A single system image with 6TB shared memory and 256 processor cores.

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