SUPERMICRO RSD HIGH-PERFORMANCE COMPOSABLE NVME STORAGE SOLUTION

Fueling AI Platforms with "Big and Fast" Data

KEY ADVANTAGES

- Unprecedented compute power and storage capacity in just 3U, with 8 Intel® Xeon® Scalable processors, 56 NVMs SSDs, for close to 1.8PB of high performance storage with 32TB SSDs.

- Dynamically composable compute nodes and disaggregated NVMe storage to meet ever-changing workloads

- Balanced compute and storage designs that easily scale from one server building block to multiple racks managed by Supermicro RSD software

Supermicro® 1U 32 NVMe Storage Enclosure

Supermicro® 2U 4-Node All-Flash NVMe BigTwin™

To gain a competitive edge and greater business agility, enterprise customers, Cloud Service Providers (CSPs) and telcos are rapidly adopting Artificial Intelligence (AI), Machine Learning, Deep Learning, Big Data and Edge Computing in all aspects of their businesses. Due to the vast amount of data collected by various data sources from computing systems, sensors, and IoT devices, AI platforms need to sift through mountains of data in the least amount of time possible and leverage increasingly sophisticated and evolving machine learning algorithms to transform learned data into market insights and actionable business strategies. The era of waiting for days or even weeks for actionable data analytics is over.

With intelligent devices running AI applications ubiquitously such as autonomous driving, unmanned aerial vehicles and

financial fraud detection, businesses require information instantly in order to take actions in real time. To achieve these goals, more and more forward-looking organizations are implementing modular, high performance compute and storage infrastructures as backbones for their AI platforms at their data centers and intelligent edges.

Supermicro recently developed and validated a modular, high performance, high density, composable NVMe storage reference architecture consisting of Supermicro BigTwin™ systems and 1U 32 NVMe storage enclosures managed by Supermicro Rack Scale Design (RSD) software. This advanced architecture can scale for deployments ranging from a single 3U server building block at the intelligent edge to large scale, rack level deployments at the data center level.

Supermicro BigTwin (SYS-2029BT-HNR) is a 2U multi-node system that contains four independent high performance 2-socket compute nodes. Each node supports 24 DIMMs and up to 3TB of memory, 6 NVMe SSDs, and flexible networking options including 100G OPA or Ethernet. BigTwin features Supermicro's PowerStick fully redundant, high efficiency Titanium Level power supplies and shared cooling infrastructure.

At just 1U rack space, Supermicro disaggregated NVMe storage enclosure (SSG-136R-N32JBF) supports 32 hot-swap 2.5" NVMe SSDs and up to 1PB NVMe storage. With an innovative and elegant pull-out tray design for hot-swap and tool-less drive carrier, deploying and servicing the disaggregated NVMe storage in a Supermicro RSD deployment is extremely easy.

The combination of BigTwin and disaggregated NVMe storage provides high-performance and high-capacity NVMe storage in a 3U building block for easy scale-out linear expansion. This solution is being embraced by numerous enterprises across many industry verticals to tackle the most pressing storage challenges in machine learning/deep learning, high throughput ingest, real time analytics, media and video streaming.

To learn more about this composable, high performance NVMe storage solution, please visit https://www.supermicro.com/solutions/SRSD.cfm. A reference design whitepaper with more design and install details is also available on this webpage. For solution inquiries, please contact Supermicro at total_solutions@supermicro.com.

Node A   Node B   Node C   Node D

6 NVMe Drives per Node

CPU2

CPU1

Supermicro 100GbE PCI-E AOC

Supermicro 100GbE Onboard SIOM

1 of 4 Hot-swap BigTwin Nodes

PCI-E AOC

8 NVMe Drives per BigTwin Node