



Nitrado Delivers Exceptional Performance to Gamers Worldwide with the Latest Supermicro and Intel® Technology

Computing Infrastructure, Reducing Costs, and Increasing Engagement



INDUSTRY

Cloud Hosting for Gaming

CHALLENGES

- Increased Demand required innovative solutions to maintain.
- Server footprints were growing, requiring new technology to solve.

Introduction

Nitrado is a leading global game server and application hosting provider that focuses on DDoS-protected and low latency server hosting for all platforms. Nitrado provides the infrastructure and expertise that turns excellent games into amazing multiplayer experiences and is the first choice for game developers all across the industry.

Nitrado operates data centers worldwide, with new data centers recently coming online in Tokyo, Japan, and Sao Paulo, Brazil. Other existing data centers include Frankfurt, Germany, EU, London, United Kingdom, EU, New York, United States, NA, Miami, United States, NA, Los Angeles, United States, NA, Sydney, Australia, Singapore, Asia, and Moscow, Russia.

Nitrado uses the latest systems from Supermicro to deliver the highest performance at lower costs than many competitors. Their unique approach allows customers to set up game servers in 60 seconds and get gaming faster. In addition, Nitrado develops all of the applications used and can modify applications to take advantage of the latest

technologies. Nitrado's latest servers from Supermicro contain the 3rd Gen Intel® Xeon® Scalable processors.

Challenges

With the increased demand for high performance games increasing, Nitrado data center managers knew that they needed upgrades to the servers that run the games for thousands of users. Managing the game's logic with extremely low latency is a primary concern for high end games that involve simulations. As the number of users connected to the Nitrado data center increased, the engineers at Nitrado realized that a new generation of servers would be required to maintain strict Service Level Agreements for their customers. In addition, keeping costs low for the compute and storage infrastructure was critical. To deliver high end performance to its customers, Nitrado needed to get more work performed per watt of electricity, necessitating integrating systems with 3rd Gen Intel Xeon Scalable processors.

Solution

SOLUTION

- Supermicro BigTwin® Servers with 3rd Gen Intel Xeon Scalable processors
- Intel® Optane™ PMem
- Intel® P4610 NVMe Storage

BENEFITS

Reduced footprint as more data can be held in memory in a single server

Increased number of sessions concurrently

Nitrado is a long-time customer of Supermicro, using many generations of motherboards and systems. Nitrado found that Supermicro had several advantages over many other established server vendors. One key advantage is that Supermicro delivered servers with the latest technology faster than other vendors and had a robust early ship program. In addition, the competitive pricing on systems that included the newest CPU and related technologies was of high importance to Nitrado.



Image 1 - Supermicro BigTwin(R) Server - Front View

As part of the latest system upgrade, Nitrado chose the Supermicro BigTwin® Servers due to the ability to house eight CPUs in a 2U system

System	Processor	Intel® Optane™ Persistent Memory (PMem)	NVMe Storage
Supermicro 220BT-HNTR	2 x 3 rd Gen Intel® Xeon® Scalable processor 6348	8 x 128 GB Intel Optane PMem 200 Series Per Node	1.6 TB Intel® SSD DC P4610
Supermicro 2029BT-HNTR	2 x 2 nd Gen Intel Xeon Scalable processor 6240R	8 x 128 GB Intel Optane PMem 100 Series Per Node	1.6TB Intel® SSD DC P4610

Table 1 - Supermicro Systems Specifications

Four separate nodes can be housed in a Supermicro BigTwin, leading to an increased density of the CPUs (per RU). Each of the nodes can be hot-swapped, reducing overall

system downtime. In addition, the power consumption is reduced, compared to industry standard rackmount servers by sharing power supplies and cooling fans.

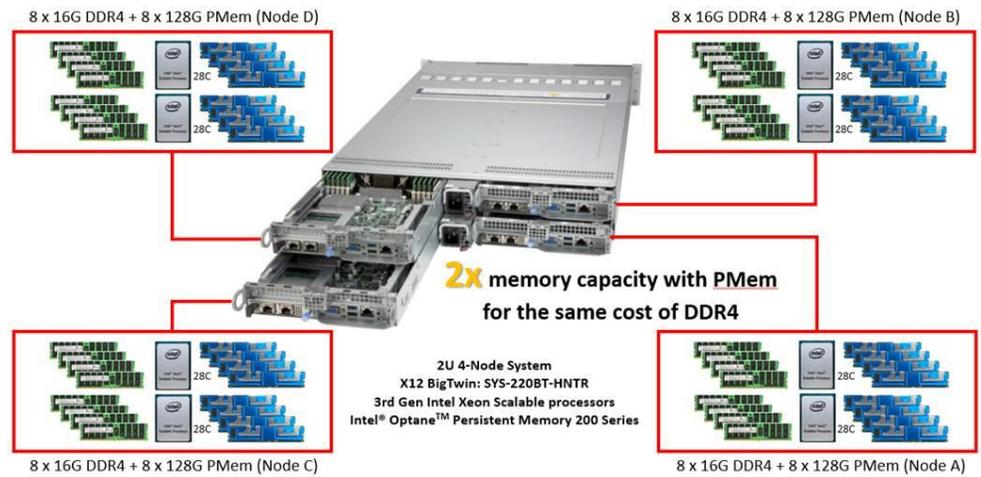


Image 2 - Supermicro BigTwin Capacities

Nitrado also uses several Supermicro's MicroCloud servers, specifically: MicroCloud 5039MC-H12TRF Intel E-2288G / 128GB RAM / 800GB M.2 NVMe.

The Supermicro BigTwin® systems provide superior performance and serviceability with dual 3rd Gen Intel Xeon Scalable processors per node and hot-swappable toolless design. The latest generation of these servers also houses PCI-E 4.0 Storage Controller Options. The Multi-node BigTwin systems share components that offer more cost-effective compute & storage arrays than entry-level 1U servers. In addition, the BigTwin systems are available with All-Flash/NVMe Arrays. With security in mind, each node has a dedicated BMC port, requiring unique credentials to access management controls, monitoring capabilities, analytics, and event logs.



Image 4 - Supermicro BigTwin Server - Rear View



Image 3 - Intel® Optane™ Persistent Memory (PMem)

Intel® Optane PMem provided Nitrado with additional memory to store frequently used data that would not fit in DRAM but was still required for low latency responses. This allowed Nitrado to reduce the number of servers that would have been needed, reducing the footprint, thus saving power and space. In addition, the Intel® Optane PMem persistent memory reduced the overall costs of the solution while maintaining a strict SLA. Nitrado utilized the Intel Optane PMem in memory mode to keep more essential data close to the CPU.

SUPERMICRO

Supermicro is a global leader in high performance, green computing server technology and innovation. We provide our global customers with application-optimized servers and workstations customized with blade, storage, and GPU solutions. Our products offer proven reliability, superior design, and one of the industry's broadest array of product configurations, to fit all computational need.

For more information, visit <https://www.supermicro.com>



"We appreciate the excellent relationship between our two companies, which enables us to use early ship programs with the availability of the latest hardware. Our customers and therefore also service quality has the highest priority for us."

Marcel Bößendörfer - CEO

Benefits

Nitrado can keep at the forefront of hosting the latest and most complex games ever created. By modifying their homegrown applications to take advantage of the Supermicro X12 servers that contain the 3rd Gen Intel Xeon Scalable processors and Intel Optane persistent memory, SLA's, in terms of latency were easily met. Nitrado expanded the number of concurrent users, solidifying its position as a worldwide leader in interactive game hosting.

Nitrado decreased the number of systems needed to deliver an engaging experience to their customers, which increases computing densities. With PMem, the CPUs are kept busy rather than waiting for data, thus increasing the ROI of the systems. The TCO is reduced, and the savings can be passed on to customers. With an increase in the amount of directly addressable memory (DRAM + PMem), innovative and exciting games can now be developed without the limits of previous generations of systems.

Summary

Nitrado increased workloads and decreased latencies by implementing Supermicro servers with 3rd Gen Intel Xeon Scalable processors and Intel Optane persistent memory. Using the latest technology allowed Nitrado to meet increasing demands from its users while decreasing costs. With the newest technology from Supermicro and Intel, Nitrado can offer advanced technology at an affordable price to its customers.

For more information, please visit:

<https://nitra.do/Success-Story-Intel>

www.supermicro.com/X12

<https://www.intel.com/content/www/us/en/architecture-and-technology/optane-dc-persistent-memory.html>