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Solutions Brief

Supermicro SAP HANA Certified Appliance Solution Brief

Executive Summary

Digital transformation is a top priority for any enterprise or business looking to gain a competitive advantage in the rapidly evolving information economy. Real time, actionable business insights and continuous operational improvements, once just wishful thinking, have become standard requirements for today's information-driven CEOs. Your digital corporation now requires a powerful, scalable platform for enterprise resource planning (ERP), supply chain management (SCM), or customer relationship management (CRM) to run. Your CEO requires the ability to manipulate, extract, and analyze large volumes of live transactional data, all in real time, without interruption to business operations. Supermicro and SAP are here to help.

SAP HANA enables your digital transformation by providing a real-time, in-memory computing platform that is 10,000 times faster than traditional databases,* all while allowing real-time, On Line Transactional Processing (OLTP) and On Line Analytical Processing (OLAP) on the same system or environment. Supermicro has partnered with SAP to pre certify, validate, and architect single node SAP HANA scale-up appliances to power your digital transformation infrastructure.

2U 4 Socket SAP HANA Appliance (SYS-2049U-TR4)

- Quad Socket 2nd generation Intel® Xeon® Scalable processors (Cascade Lake), up to 112 cores

- Can be configured as 4 socket or 2 socket (upgrade ready) HANA Appliances

- Appliance model supports up to 6 TB DRAM

- Tailored Datacenter Integration (TDI) model supports up to 18 TB (DRAM + Intel® Optane™ DC Persistent Memory)

7U 8 Socket SAP HANA Appliance (SYS-7089P-TR4T)

- Octal Socket 2nd generation Intel® Xeon® Scalable processors (Cascade Lake), up to 224 cores

- Can be configured as 8, 6, 4, or 2 socket (upgrade ready) HANA Appliances

- Appliance model supports up to 12 TB DRAM

- Tailored Datacenter Integration (TDI) model supports up to 24.6 TB (DRAM + Intel® Optane™ DC Persistent Memory)

Supermicro SAP HANA Certified Appliances

The Supermicro 4 socket (SYS-2049U) and 8 socket (SYS-7089P) multi-processor (MP) SuperServers were designed for the most demanding, mission-critical workloads in use by top enterprises and cloud service providers. These 4 and 8 socket servers support the highest-performance Intel® Xeon® Scalable processors, the largest memory capacity available, the latest in Intel® Optane™ DC persistent memory technology, and fastest all-flash NVMe or SSD storage options available for the SAP HANA® platform. The combination of these cutting edge technologies makes Supermicro MP Servers the most powerful single-node SAP HANA platforms available on the market today. These SAP Appliances are the ideal building blocks for your SAP S/4HANA, BW/4HANA, or SAP HANA database deployments.

Supermicro has partnered with Intel and SAP to certify Intel® Optane™ DC persistent memory for use with SAP HANA version 2.0 SPS03, or higher, on 2nd Gen Intel® Xeon® Scalable Processors. Intel® Optane™ DC persistent memory is an innovative memory technology that delivers affordable large capacity uniquely combined with support for data persistence. Data persistence technology allows for your entire data volume to reside on high speed Intel® Optane™ DC persistent memory across work sessions and power downs without the need to write and read from a traditional disk. As validated by SAP and Intel, SAP HANA reboot time using a 6TB database was dramatically reduced from over 50 minutes down to 4 minutes—a 12.5x improvement over traditional SSD to DDR load times. This makes Intel® Optane™ DC persistent memory ideal for your SAP DevOps environment, where system restarts are frequently required.

In addition to fast load times for DevOps, Intel® Optane™ DC persistent memory delivers an optimized balance between persistence and performance at a lower cost per Gigabyte than DRAM. With the high cost of DDR, especially for large in-memory deployments, the use of Intel® Optane™ DC persistent memory can dramatically lower the initial acquisition cost of your SAP HANA hardware. This cost savings increases exponentially as your SAP HANA cluster grows from system to rack scale. Intel® Optane™ DC persistent memory is not only lower cost than DDR memory, but is also available in larger sizes, up to 512GB per unit. The combination of DDR memory plus Intel® Optane™ DC persistent memory allows for much larger SAP HANA deployments, per socket, than use of traditional DDR memory alone (see graphic below). Please contact sapexpert@supermicro.com or your local Supermicro sales for up to date pricing and cost reduction comparison between Intel® Optane™ DC persistent memory and DDR memory.

SAP HANA Appliance Certification

The SAP HANA Appliance certification guarantees that the S/4 HANA database software performs as intended on the certified system. SAP HANA Appliances are offered in various sizes with predefined, fixed BOMs and sizing as listed on SAP's HANA certified hardware directory. Scale-up appliances are specifically designed to run as a single autonomous compute node with internal or, connected to, external storage. To increase the size and performance of a scale up system, you simply upgrade the CPU, RAM, or Disk in the node.

All SAP HANA Appliances are designed to be turn-key solutions. As such, Supermicro pre-installs the HW components, operating system, and SAP HANA (on a temporary key) before delivering the appliance.

SAP HANA CERTIFIED APPLIANCES (SCALE FROM 192GB TO 24.6 TB AEP + DRAM)

System	Specifications (BWoH, BW/4H, S/4H and DM)
SYS-2049U-TR4 2 Socket configuration (Up to 56 cores)	192 GB to 7.6 TB (12 × 128GB DDR4) + (12 × 512GB Intel® Optane™ DC Persistent Memory)
SYS-2049U-TR4 4 Socket configuration (Up to 112 cores)	192 GB to 15.4 TB (24 × 128GB DDR4) + (24 × 512GB Intel® Optane™ DC Persistent Memory)
SYS-7089P-TR4T 2 Socket configuration (Up to 56 cores)	192 GB to 7.6 TB (12 × 128GB DDR4) + (12 × 512GB Intel® Optane™ DC Persistent Memory)
SYS-7089P-TR4T 4 Socket configuration (Up to 112 cores)	192 GB to 15.4 TB (24 × 128GB DDR4) + (24 × 512GB Intel® Optane™ DC Persistent Memory)
SYS-7089P-TR4T 8 Socket configuration (Up to 224 cores)	192 GB to 24.6 TB (48 × 256GB DDR4) + (48 × 256 Intel® Optane™ DC Persistent Memory)

SAP HANA Appliance—Tailored Data Center Integration

All SAP Certified Appliances are eligible for Tailored Datacenter Integration (TDI) deployment, which allows the customer to build an SAP HANA server with their own choice of CPU, RAM, Disk, and add-on cards. The SAP HANA TDI option offers you more flexibility and freedom of choice to deploy SAP HANA hardware matching your existing data center infrastructure, licenses, and hardware.

Again, to emphasize, SAP HANA Appliances are designed as fixed BOM turnkey solutions, whereas SAP HANA TDI deployments allow the customer to mix and match certified components. TDI open architecture allows the customer to cluster their HANA servers in their own preferred method for high availability and network storage. Customers choosing SAP HANA TDI may use their own resources or 3rd party to deploy and integrate Supermicro hardware with their existing infrastructure.

Supermicro SAP HANA Hardware Sizing and Consulting

To assist you on your SAP HANA infrastructure and hardware selection, Supermicro's SAP architects and solutions managers offer free hardware sizing and consulting services. Whether you are a greenfield customer considering SAP HANA adoption or brownfield customer looking to upgrade legacy SAP ECC to S/4 HANA, Supermicro's SAP HANA experts are here to guide you and help you optimize your hardware stack for performance and cost.

To get started, please contact sapexpert@supermicro.com.
Supermicro SAP HANA certified solutions: https://www.supermicro.com/en/solutions/sap

About Super Micro Computer, Inc.

Supermicro® (NASDAQ: SMCI), the leading innovator in high-performance, high-efficiency server technology is a premier provider of advanced server Building Block Solutions® for Data Center, Cloud Computing, Enterprise IT, Hadoop/Big Data, HPC and Embedded Systems worldwide. Supermicro is committed to protecting the environment through its "We Keep IT Green®" initiative and provides customers with the most energy-efficient, environmentally-friendly solutions available on the market.

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About Intel® Select Solutions

Intel is driving the next wave of data center innovation with Intel Select Solutions, based on Intel technologies. Intel Select Solutions are verified solutions configurations that are aimed to speed selection and deployment of data center and communications network infrastructure. The solutions are developed from deep Intel experience with industry solution providers, as well as extensive collaboration with the world's leading data center and service providers. Intel, the Intel logo, Intel Atom, and Xeon are trademarks of Intel Corporation or its subsidiaries in the U.S. and/or other countries.

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