

Cisco Leads the Way with SAP HANA Tailored Datacenter Integration

Solution Brief
September 2015



Highlights

Greater Choice

- You have the choice of three deployment models for SAP HANA that use a common architectural approach:
 - Appliance model
 - SAP HANA Tailored Datacenter Integration (TDI) model
 - Cloud model

Integrate with Your Existing Data Center

- Cisco® Solutions for SAP HANA TDI let you to use the storage and network infrastructure, procedures, and staff knowledge you already have in your data center

Operational Benefits:

- Lower capital expenses and operating costs
- Greater resource utilization
- Enhanced operating efficiency
- Greater management simplicity

SAP HANA can be deployed a number of ways to align with your business and data center needs. The Cisco® portfolio of SAP HANA solutions provides support for the full spectrum of deployment models.

Businesses have been asking for choice in their SAP HANA deployments. SAP, in response to these requests, has developed three basic deployment models that application data center managers can use to implement SAP HANA:

- **SAP HANA Appliance model:** Comes prebuilt with preinstalled SAP HANA software and all necessary components provided by certified SAP HANA hardware partners
- **SAP HANA Tailored Datacenter Integration (TDI) model:** Enables the use of enterprise storage and networking components that already exist in your data center rather than requiring customers to purchase additional storage and networking to be used only for the SAP HANA environment
- **SAP HANA Cloud model:** Deploys SAP HANA using the infrastructure-as-a-service (IaaS) or hosted offerings of SAP and certified cloud providers

Cisco and its partners deliver these deployment models using a common architectural approach, built on standard building blocks with the Cisco Unified Computing System™ (Cisco UCS®) as the base. This approach gives application data center managers flexibility of choice in the way that they implement SAP HANA. Cisco supports the SAP HANA TDI deployment with shared storage today (as of April 2014). Cisco supports both SAP HANA TDI deployment with shared storage and SAP HANA TDI deployment with shared networking. This document focuses on the SAP HANA TDI model of deployment.

What Is the SAP HANA TDI Model?

SAP HANA TDI provides the first evolutionary step away from the constraints of a very controlled standalone appliance model toward a model in which application data centers can be configured using existing SAP certified enterprise storage (Figure 1). SAP HANA TDI using shared enterprise storage was publicly released with SAP Service Pack 7 and is generally available from SAP. More recently, SAP has extended this model to allow data centers to use existing enterprise networking.

When you use the SAP HANA TDI model, existing network and storage can be used only if sufficient resources are available and if all components used are SAP certified. Here, “sufficient resources” means that sufficient storage capacity and I/O bandwidth are available on both the storage system and the storage network to meet the SAP HANA application needs in your environment.

Benefits of the SAP HANA TDI Model

A typical SAP HANA appliance comes preconfigured with all necessary components provided by certified SAP HANA hardware partners. The appliance deployment model does not allow businesses to use any existing data center resources. Every SAP HANA appliance installation must be operated in its own isolated infrastructure environment. The SAP

HANA TDI model, however, enables the use of storage and networking components that already exist in your application data center rather than requiring you to purchase additional storage and networking resources to be used only for the SAP HANA environment. In addition, multiple production SAP HANA servers can share the same network and storage resources. This capability can have a broad impact on investment expenditures and operating expenses because you can:

- Use your existing storage and network investment in people, process, and equipment
- Reduce hardware and operating costs by reusing existing hardware components and operation processes

- Get the best use of your investment in current data center switching architecture
- Create a more flexible deployment in which server, network, and storage resources can be moved between different SAP HANA and SAP business solutions applications and even non-SAP applications
- Mitigate risk and optimize operations and resources by using existing data center management processes for SAP HANA implementations
- Gain flexibility in hardware vendor selection and SAP HANA configuration

These features give you an advantage if you have existing EMC, NetApp, IBM, Nimble, or other certified storage and Cisco networking capacity. For

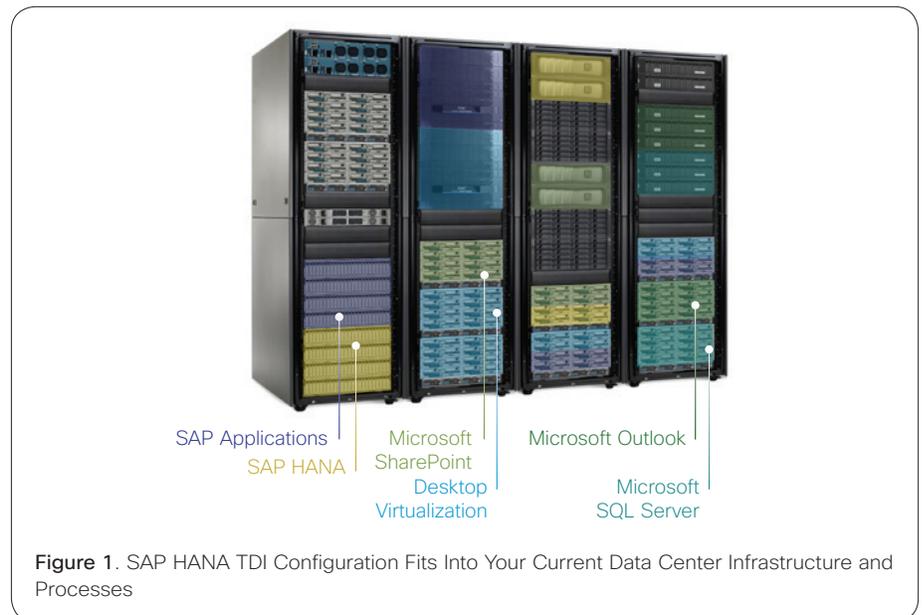


Figure 1. SAP HANA TDI Configuration Fits Into Your Current Data Center Infrastructure and Processes

example, you can use your existing SAN in your SAP HANA deployment, or support multiple SAP HANA production systems within a single Cisco UCS environment, or run SAP HANA together with other applications on a shared infrastructure.

Benefits of Cisco UCS for TDI

All three SAP HANA deployment models from Cisco use the same, standard Cisco UCS building block with EMC, NetApp, IBM, Nimble, or other certified enterprise storage vendors. This approach makes it easy to integrate SAP HANA using your standard data center design and to scale as your business requires. Cisco networking is already being used by 80 percent of the companies that use SAP. Additionally, Cisco has been partners with the primary SAP HANA Certified Enterprise Storage vendors EMC and NetApp since Cisco UCS was first delivered, and has added alliances with IBM and Nimble. Doesn't it make sense to use the storage and networking infrastructure you know, trust, and already have in your data center?

Using Cisco UCS as the basic building block delivers:

- **Scale economics:** The Cisco UCS chassis and fabric costs half as much in enterprise- and cloud-scale deployments.
- **Operational efficiency:** Add capacity 77 percent faster with 67 percent fewer configuration steps.

- **Cloud readiness:** Achieve instant compatibility across Cisco's ecosystem of service providers and cloud power partners.
- **Management simplicity:** Use a single orchestration interface across four pillars (computing, network, storage, and multiinstance resources).
- **Consistency:** Use a single family of building blocks across SAP HANA appliances, SAP HANA TDI, and cloud deployment models.
- **Redundancy:** Hardware redundancy is designed in for reliability and availability.
- **Results:** High performance accelerates access to data, analysis, and reports.

Rules and Responsibilities

With the SAP HANA TDI model, SAP has defined specific rules and responsibilities:

- **Server:** Only servers listed in the SAP HANA Product Availability Matrix are supported.
 - No local disks and no flash-memory cards are required.
 - Additional Fibre Channel adapters for booting from the SAN are allowed.
- **Storage:** All storage devices must have successfully passed the hardware certification for SAP HANA. A list of storage resources certified for SAP HANA TDI can be found at <http://scn.sap.com/docs/DOC-48516>.

- **SAP HANA Installation:** SAP Certified Technology Specialists must perform the installation. The certification includes:
 - SAP Certified Technology Specialist (E_HANAINS131) with prerequisite SAP Certified Technology Associate (C_HANATEC_1 or C_HANATEC131) certification.

Cisco is certified to perform these installations.

- **Customer:** The SAP HANA TDI solution is **owned and supported** by the customer, end to end, including design, implementation, certification, and support. Cisco and its partners can help you through any or all of these phases with Cisco Advanced Services for SAP HANA TDI. Some support offerings available from Cisco for SAP HANA TDI include:
 - Plan and design of the end-to-end SAP HANA solution including computing, virtualization, network, and SAN resources
 - Review of your existing SAP HANA solution design with recommendations for optimization
 - Implementation of the SAP HANA system and infrastructure components that comprise the end-to-end SAP HANA solution
 - Custom data load and extract-transform-load (ETL) services
 - Platform migration from your existing database platforms to SAP HANA

- Rapid deployment services for operational reporting and cost and profitability analyses
- Optimization of your SAP HANA system, including patches, upgrades, periodic health checks, and technology workshops to expand your SAP HANA system and discuss the deployment of new features: for example, disaster tolerance

SAP HANA TDI with Cisco

If you want to be able to easily integrate SAP HANA into your application data center policies and procedures using the EMC, NetApp, IBM, Nimble, or other certified enterprise storage resources you already own, the Cisco solution for SAP HANA TDI deployment leads the way with a cost-effective solution. If you want a partner who can help you get the best results and reduce the costs of a SAP HANA deployment, Cisco is an excellent choice.

For More Information

For more information on certified storage vendors, please visit <http://scn.sap.com/docs/DOC-47899>.

For more information about SAP and SAP HANA solutions on Cisco UCS, please visit <http://www.cisco.com/go/sap>.

For more information about Cisco UCS, please visit <http://www.cisco.com/go/ucs>.



Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.