Solution Brief

NetApp Solutions for SAP HANA Tailored Datacenter Integration (TDI):
Flexibility, performance, and data protection for SAP HANA environments

The Challenge
The SAP HANA platform enables distributed, real-time data correlation and analysis of multiple high-volume data sources and feeds by enterprises, service providers, and SMBs. Described as revolutionary; SAP HANA is expected to replace relational databases that work with external storage systems. However, organizations considering adopting or migrating to SAP HANA have ongoing business operations and processes to think about.

Migration to SAP HANA, as to any other significant platform, can be time consuming and expensive and may pose risks to data, applications, and ongoing operations. Organizations migrating from traditional SAP systems with relational databases underneath, such as Oracle® DB, IBM DB2, and Microsoft® SQL Server®, have found that SAP HANA can be rigid and resource intensive and requires tight integration with existing systems, especially legacy environments.

The growing use of SAP HANA for mission-critical applications and systems is fueling the need for high-capacity, high-performance storage. During deployment, there is a risk of data loss due to system corruption. Thus, all hardware, including storage systems, must endure rigorous testing with SAP HANA so that KPIs are fulfilled and to achieve certification.

Organizations using SAP HANA need a data foundation that allows access to a shared storage platform across a distributed infrastructure for optimal performance and to deliver real-time insights to the business. Such organizations also require fast and easy system backup, restore, and disaster recovery with continuous access to data. It is for these reasons that organizations that choose SAP HANA choose NetApp.

The Solution
NetApp Solutions for SAP HANA Tailored Datacenter Integration (TDI)
Although SAP HANA TDI gives IT departments more flexibility to tailor SAP HANA environments as needed, NetApp takes SAP HANA TDI a step further by offering a range of certified storage and data protection options.
Only NetApp Solutions for SAP HANA TDI deliver a complete suite of SAP HANA Certified disaster recovery solutions to maximize data protection for SAP HANA environments.

NetApp Solutions for SAP HANA TDI provide a choice of components for IT organizations needing to tightly integrate SAP HANA into existing environments. NetApp offers two lines of certified storage solution choices for SAP HANA TDI: E-Series storage is for customers that need the highest level of performance to handle big data loads and FAS systems are useful for multiple HANA nodes and provide a suite of essential data protection and disaster tolerance capabilities. Unlike those who use the more rigid appliance model, NetApp Solutions for SAP HANA TDI customers can reduce operating costs by tailoring the implementation of new components to optimize usage. Thus, with NetApp Solutions for SAP HANA TDI, organizations can provide the data protection, performance, and disaster tolerance required to maximize their SAP HANA investment.

NetApp storage architecture creates a single, end-to-end foundation with one store. NetApp can scale out from small to very large storage capacity without sacrificing performance or service levels to support the most demanding SAP HANA workloads.

Customers can select and purchase components to create high-performance, best-in-class SAP HANA environments, complete with snapshot-based backup, restore, and disaster recovery. Installation of components for SAP HANA TDI needs to be performed by a SAP HANA Certified specialist. Once installed, SAP verifies the test results and provides certification.

**NetApp E-Series storage for SAP HANA TDI and real-time analytics**

Accessing and analyzing data in real time drives faster, better decision-making. SAP HANA performs real-time analysis on data from multiple sources including SAP HANA, legacy systems, big data repositories, and external sources. It is these real-time capabilities that are leading SAP HANA to become a platform for mission-critical applications.

NetApp E-Series storage offers SAS storage as well as an all-flash array solution that delivers four times the performance of comparable storage for SAP HANA. E-Series storage handles large data volumes by providing continuous data availability and enormous throughput while maintaining high speeds, all of which are critical to SAP HANA environments. Furthermore, E-Series storage delivers transparent, lossless failover for compute nodes in data-intensive environments. All this can be done at a lower cost than FAS systems.

By leveraging additional applications, structured data from SAP HANA TDI can be smoothly integrated with unstructured data for correlation and reporting. In these cases, organizations can quickly implement new services that impact revenue and customer retention. For example, a retail coffee chain may wish to correlate a customer’s purchase and transaction history with cellular location data, a list of area franchises, and a live weather feed in order to offer a coupon or promotion before that customer leaves the retail location. NetApp E-Series excels in these use cases, enabling SAP HANA TDI customers to respond faster to ever-changing business conditions. The NetApp E3700, E5400, E5500, EF450, and EF550 are the first in the series to receive SAP HANA Storage Certification.

**NetApp FAS systems: unparalleled data protection for SAP HANA TDI**

For organizations prioritizing data protection and disaster tolerance, NetApp FAS systems are superior choices for SAP HANA TDI. FAS systems deliver a full range of data protection capabilities that are unique to SAP HANA TDI environments.
Data protection for SAP HANA TDI
NetApp FAS series with Snap Creator™ Plug-In delivers industry-leading data protection leveraging asynchronous storage replication and Snapshot™ technology for very fast backup, restore, and recovery. Snapshot technology enables more frequent and faster data backups. NetApp is the only SAP partner to implement Snapshot-based backup, restore, and recovery integration within the HANA studio for SAP HANA TDI. Using the Snap Creator Plug-In, an extension of the NetApp Snap Creator Framework, backup, restore, and recovery can be completed in minutes rather than hours.

Snap Creator features include:
- Complete disaster recovery with asynchronous storage replication
- Capability to use Snapshot copies to backup, restore, and recover in minutes, without causing organizational or IT constraints
- Only available through NetApp FAS systems certified for SAP HANA TDI

Disaster tolerance using NetApp FAS systems and MetroCluster
NetApp Solutions for SAP HANA TDI with FAS systems has been certified with NetApp MetroCluster software to deliver disaster recovery with synchronous storage replication. MetroCluster adds the ability to create an on-campus or metropolitan-area cluster with synchronous replication, enabling disaster recovery with minimal downtime. SAP HANA customers benefit from continuous data availability and transparent failover with no data loss.

Data management using certified NetApp FAS systems with Data ONTAP
Organizations requiring an agile data infrastructure for dynamic workloads and environments should select NetApp FAS systems with the Data ONTAP® operating system for SAP HANA TDI. Data ONTAP enables large, secure data movement across environments. It also enables IT to add storage components on the fly and perform lifecycle operations without interrupting business operations. With Data ONTAP, IT organizations can maximize efficiency by sharing infrastructure between workloads or tenants with different performance, capacity, and security requirements. Data ONTAP also helps IT organizations minimize downtime and administration time.

The certification of the NetApp FAS3250 and larger systems with SAP HANA TDI provides SAP HANA TDI customers with a choice of storage and controllers. Customers simply add building blocks as needed for a scale-out configuration. Although a single FAS3250 cluster can support four SAP HANA compute nodes, most SAP HANA customers choose NetApp FAS systems for simplified administration using NFS in addition to the data management and protection solutions.

About SAP HANA TDI Storage Certification
SAP Certified Technology Associates will have completed training and passed a SAP HANA certification exam prior to installing SAP HANA. After installation, certification of an SAP HANA TDI storage environment can be performed on site, but it requires the submission of meticulous documentation in addition to passing a rigorous test suite on the SAP HANA environment. Both E-Series and FAS systems are SAP HANA Storage Certified offerings and can be used to scale up and scale out SAP HANA TDI implementations.
Summary: Organizations Choosing SAP HANA TDI Choose NetApp

NetApp Solutions for SAP HANA TDI are not point solutions; they are highly scalable, certified components of a broader platform architecture. NetApp storage solutions use proven, standards-based technologies such as NFS, 10GB+ Ethernet and FCP. NetApp adds to the flexibility inherent in SAP HANA TDI by offering enterprises the choice of NetApp E-Series or FAS systems. The E-Series is ideal for enterprises requiring high performance for large data volumes and enormous throughput critical to SAP HANA environments. It can deliver a higher performance level for a lower cost than FAS systems. FAS systems are the best choice for enterprises that need data protection and data management capabilities. Data management capabilities are delivered through NetApp Data ONTAP and data protection is available through the extension of NetApp Snap Creator Plug-Ins for SAP HANA, which enables Snapshot-based backup, restore, and recovery in minutes rather than hours. In fact, only NetApp Solutions for SAP HANA TDI deliver a complete suite of SAP HANA Certified disaster recovery solutions to maximize data protection for SAP HANA environments. With NetApp Solutions for SAP HANA TDI, enterprises can also simplify scaling and growth as their SAP HANA environments evolve. Thus, NetApp Solutions for SAP HANA TDI are the best choices for enterprises planning to adopt and deploy SAP HANA.

About NetApp

NetApp creates innovative storage and data management solutions that deliver outstanding cost efficiency and accelerate business breakthroughs. The world’s leading companies rely on our solutions to achieve better economics, speed, and scale of business. Discover our passion for helping companies around the world go further, faster at www.netapp.com.

Go further, faster®