# TR-4436: SAP HANA on NetApp AFF Systems with Fibre Channel Protocol

## NetApp Solutions

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## Introduction

The NetApp AFF product family is certified for use with SAP HANA in TDI projects. The certified enterprise storage platform is characterized by the NetApp ONTAP software.

The certification is valid for the following models:

- AFF A220, AFF A250, AFF A300, AFF A320, AFF A400, AFF A700s, AFF A700, AFF A800
- ASA AFF A220, ASA AFF A250, ASA AFF A400, ASA AFF A700, ASA AFF A800For a complete list of NetApp certified storage solutions for SAP HANA, see the Certified and supported SAP HANA hardware directory.

This document describes AFF configurations that use the Fibre Channel Protocol (FCP).

The configuration described in this paper is necessary to achieve the required SAP HANA KPIs and the best performance for SAP HANA. Changing any settings or using features not listed herein might cause performance degradation or unexpected behavior and should only be done if advised by NetApp support.

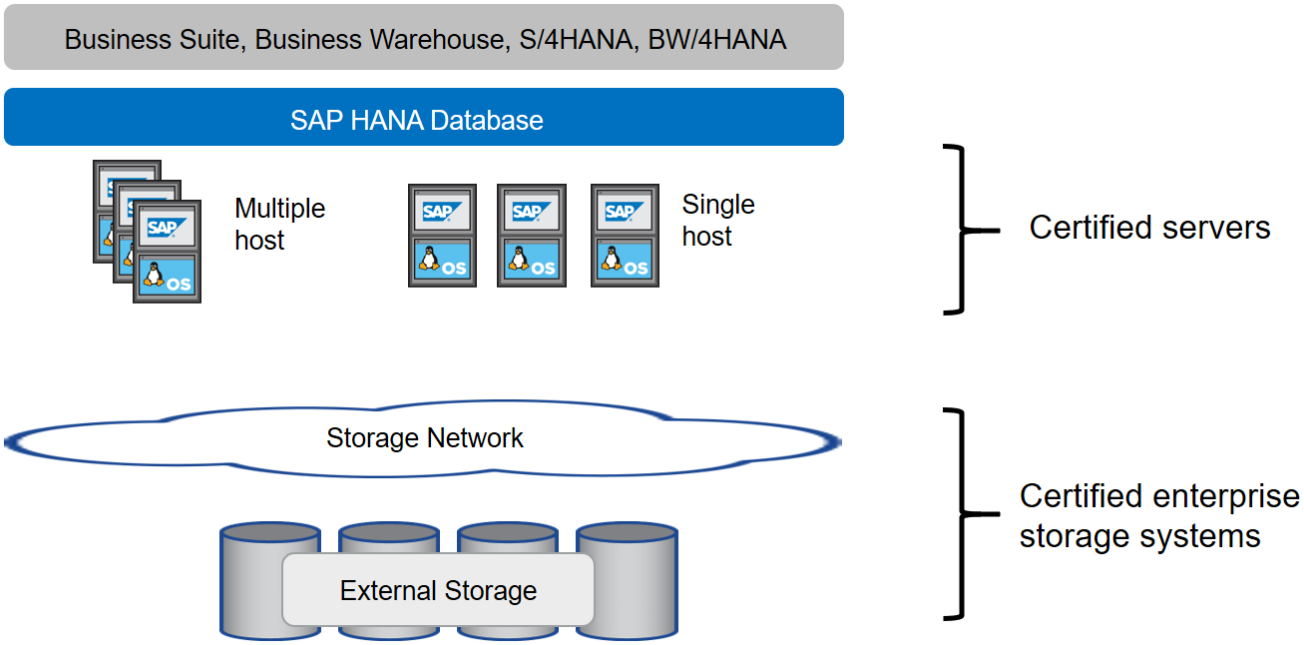
The configuration guides for AFF systems using NFS and NetApp FAS systems can be found using the following links:

- SAP HANA on NetApp FAS Systems with FCP
- SAP HANA on NetApp FAS Systems with NFS
- SAP HANA on NetApp AFF Systems with NFS

In an SAP HANA multiple-host environment, the standard SAP HANA storage connector is used to provide fencing in the event of an SAP HANA host failover. Always refer to the relevant SAP notes for operating system configuration guidelines and HANA specific Linux kernel dependencies. For more information, see SAP Note 2235581 – SAP HANA Supported Operating Systems.

## SAP HANA tailored data center integration

NetApp AFF storage systems are certified in the SAP HANA TDI program using both NFS (NAS) and FC (SAN) protocols. They can be deployed in any of the current SAP HANA scenarios, such as SAP Business Suite on HANA, S/4HANA, BW/4HANA, or SAP Business Warehouse on HANA in either single-host or multiple-host configurations. Any server that is certified for use with SAP HANA can be combined with NetApp certified storage solutions. The following figure shows an architecture overview.




For more information regarding the prerequisites and recommendations for productive SAP HANA systems, see the following resources:

- SAP HANA Tailored Data Center Integration Frequently Asked Questions
- SAP HANA Storage Requirements

# SAP HANA using VMware vSphere

Raw device mappings (RDM), FCP datastores, or VVOL datastores with FCP are supported as well. For both datastore options, only one SAP HANA data or log volume must be stored within the datastore for productive use cases. In addition, Snapshot- based backup and recovery orchestrated by SnapCenter and solutions based on this, such as SAP System cloning, cannot be implemented.

For more information about using vSphere with SAP HANA, see the following links:

- SAP HANA on VMware vSphere - Virtualization - Community Wiki
- Best Practices and Recommendations for Scale-Up Deployments of SAP HANA on VMware vSphere
- Best Practices and Recommendations for Scale-Out Deployments of SAP HANA on VMware vSphere
- 2161991 - VMware vSphere configuration guidelines - SAP ONE Support Launchpad (Login required)

Next: Architecture.

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