DELL Technologies

Solution Brief

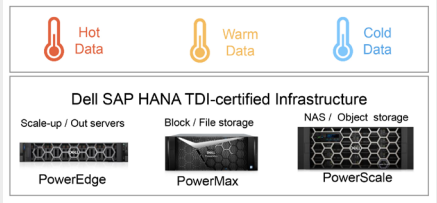
Dell Technologies Solutions for SAP HANA Data Tiering

Reduce TCO for SAP and SAP HANA native applications; increase capacity and data volume management

Optimize SAP with native application data management and placement

- Lower TCO and SAP licensing costs by reducing the amount of data in expensive DRAM.
- Apply SAP data archiving to reduce the size of the SAP ERP database prior to SAP S/4HANA migration.
- Set an IT foundation ready to support your SAP data temperatures (hot, warm, cold) and data placement strategy.

SAP Data Temperatures



Dell Technologies broad solutions portfolio

Run SAP from edge to core to cloud.

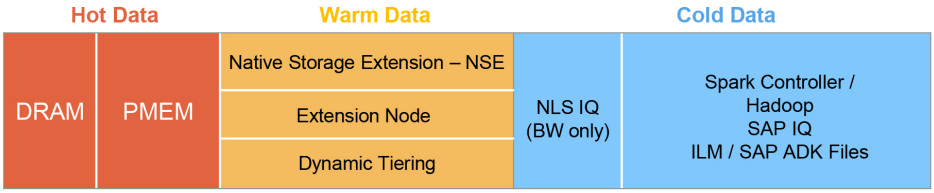
- Platforms for consolidating and simplifying IT running SAP landscapes.
- Comprehensive data and infrastructure services for
- "Always-on" mission-critical SAP.
- Integration with SAP LaMa for managing physical and virtual landscapes.
- Backup and restore directly from SAP HANA Studio using Dell PowerProtect DD Series Appliances.

Today's Situation

As organizations scale the adoption of the SAP HANA in-memory database for "data driven" enterprise applications, IT must have a strategy for managing TCO and SAP HANA licensing costs. By minimizing the data footprint that must be maintained in expensive DRAM, IT can safeguard maximum data value at the minimum cost.

With the introduction of SAP HANA data tiering, SAP gives IT a framework for managing data placement based on the data value and SLA over time.

Multi-temperature Data Management



Source SAP

Hot Store is used to store business-critical data for real-time processing and real-time analytics. Data is retained "in-memory" within SAP HANA to guarantee performance and consists of the standard dynamic random-access memory (DRAM).

Warm Store is for less critical data with reduced performance and SLAs that can be stored on inexpensive storage but still managed as unified part of the SAP HANA database. Data is stored on dedicated "in-memory" nodes (Extension Nodes) with a relaxed sizing ratio.

Cold Store is used to store large amounts of data which is accessed sporadically and in a highly restricted manner. The data is stored in inexpensive storage layers, like HDFS, Azure Data Lake and SAP Big Data Services. Although it is no longer part of the SAP HANA database, it can still be accessed at any time.

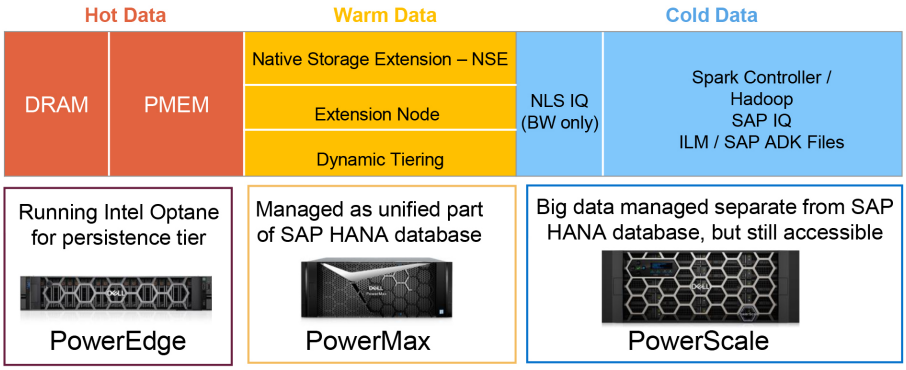
Which Data Tier Should You Use?

The answer: it depends. A data tiering strategy needs to be aligned with your SAP HANA deployment – the data processing tier, cost and performance characteristics must be suited to the application profile.

Native HANA	BW on HANA BW/4HANA	Suit on HANA S/4HANA

Dell Infrastructure Solutions for SAP Data Tiering

As illustrated below, with Dell Technologies solutions for SAP Data Tiering, IT can deploy an SAP HANA TDI certified infrastructure foundation ready to support a "holistic" data management model for SAP HANA landscapes.



Dell Infrastructure for SAP Native Storage Extension (NSE)

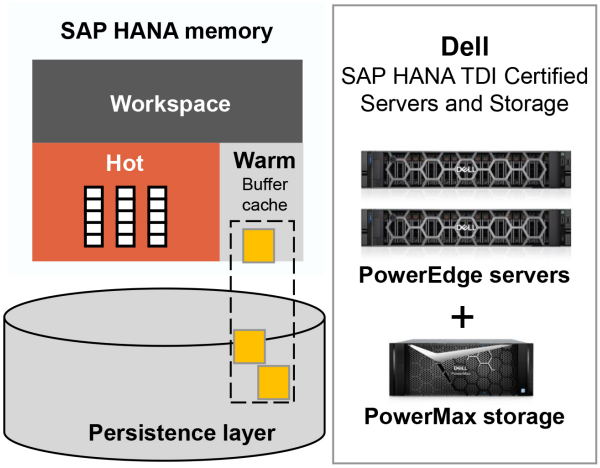
SAP has introduced several ways to manage the warm store but positions the Native Storage Extension (NSE) released with SAP HANA 2.0 SPS 04 is the option IT should consider first.

Benefits include:

- Increase SAP HANA data capacity at low TCO.
- Add warm storage data, up to 1:4 ratio of SAP HANA hot data in-memory to warm data on disk. NSE disk store ≤ 10TB, for initial SAP HANA release.
- Deeply integrate warm data tier, with full SAP HANA functionality.
- Support all SAP HANA data types and data models.
- Complement, without replacing, other warm data tiering solutions.

Use cases for initial SAP NSE release include:

- Growing data volumes from customer- or SAP-built HANA applications.
- SAP S/4HANA data aging (NSE is an evolution of "paged attributes").



Dell infrastructure solutions for SAP HANA Data Tiering: Lower TCO and licensing costs

Hot Store PowerEdge servers	Enhance capacity and data volume management with persistent memory (PMEM) • Lower TCO with higher capacity (PMEM replaces DRAM). • Using extension nodes with SAP BW, you can overload a node by a factor of 4 with no performance impact for warm data on the extension node.
Warm Store PowerMax storage	Consolidation platform lowers TCO running legacy SAP ERP and SAP HANA landscapes • Supports Native Storage Extension (NSE) for SAP S/4HANA data aging, providing 1:4 ratio for hot towarm data (not larger than 10TB for initial SAP HANA release). • Supports data tiering options for SAP BW on HANA and SAP BW/4HANA for data temperatures.
Cold Store PowerScale storage	Big data managed separately from the SAP HANA database but still accessible at any time • SAP BW Near Line Storage (NLS) IQ | SAP BW/4HANA Data Tiering Optimization (DTO) with IQ. • SAP Suite on HANA (SoH) and SAP S/4HANA: ILM Store with IQ and Archiving.

For a complete list of Dell Certified and Supported Hardware for SAP HANA® see Certified and Supported SAP HANA(R) Hardware Directory and SAP-Certified Dell Solutions. See Dell Technologies InfoHub for design/validation guides, solution guides and other technical guides that describe solutions for SAP HANA. If you have questions about specific configurations and/or upgrades, consult with your Dell Technologies sales representative.

(This SAP Solution Brief provides a good introduction to recommended data tiering approaches for SAP and native applications.)

Recommended support and services

Dell ProSupport Plus for critical systems or Dell ProSupport for premium hardware and software support for your Dell hardware solutions for SAP HANA. Consulting and deployment offerings are also available. Contact your Dell representative today for more information. Availability and terms of Dell Services vary by region. For more information, visit Dell.com/Services.

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