Total Cost of Ownership Comparison of Running SAP HANA on Lenovo ThinkSystem Servers

Article

Real-time analytics is a primary operational requirement for enterprises. In-memory database platforms like the SAP HANA platform are the bedrock for this requirement, and they can also act as transactional databases for business applications. The hardware supporting SAP HANA is crucial to realizing the performance capabilities of the platform; attempting to run SAP HANA on hardware that cannot utilize all of its capabilities constrains overall performance.

Study overview

Prowess wanted to explore the differences in 3 year TCO running SAP HANA on x86 servers from some of the leading OEMs: Dell Technologies, Hewlett Packard Enterprise (HPE), and Lenovo. To assess SAP HANA TCO, Prowess examined two-socket and four-socket servers from these OEMs certified for SAP HANA appliance and TDI deployments.

Prowess evaluated a range of memory configurations for each OEM that encompass a variety of business use cases: 4 TB, 6 TB, and 9 TB. Prowess also examined different ratios of DRAM to persistent memory for the memory configurations: all DRAM, 1:1, and 1:2.

This study assumes on-premises deployment of SAP HANA, and it does not consider the ramifications of TCO for deploying SAP HANA in the cloud.

Access the full Prowess article in the Lenovo Resource Library: Evaluating the Economics of Running SAP HANA.

Two-socket SAP HANA TCO findings

The Lenovo ThinkSystem SR650 V2 servers provide a marked savings over a three-year period compared to Dell EMC™ PowerEdge R750 and HPE® Superdome Flex 280 servers.

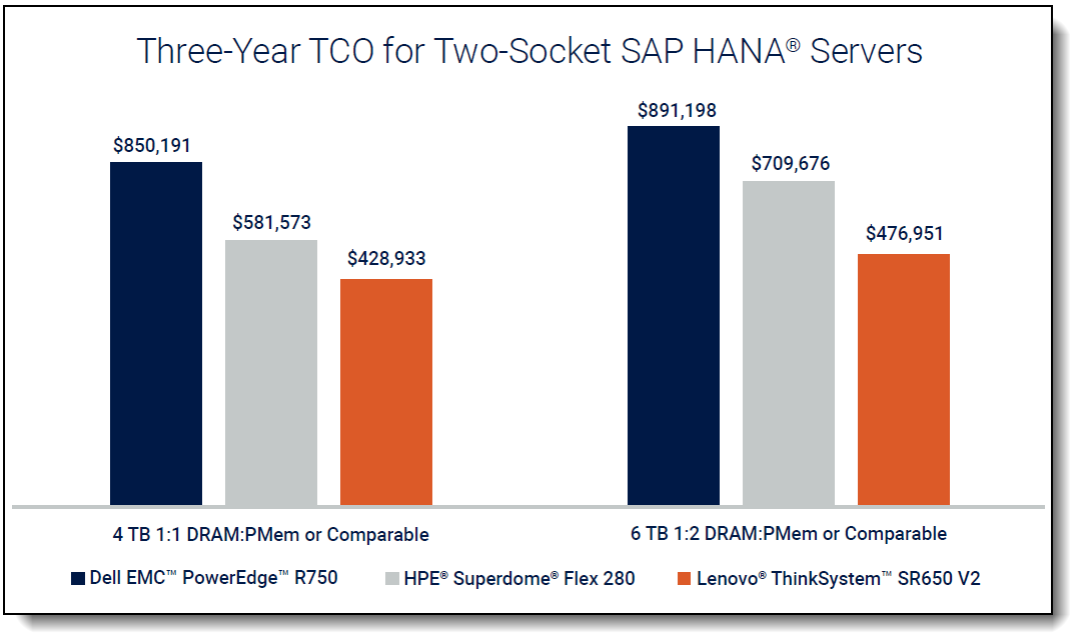

Figure 1. Three-year TCO for two-socket SAP HANA servers

This translates into a 3 year TCO saving of:

- 49% (4TB) and 46% (6TB) against Dell
- 25% (4TB) and 32% (6TB) against HPE

See the “Normalized Detail of Cost Analysis over a Three-Year Period” section in the Prowess study for details.

Four-socket SAP HANA TCO findings

The Lenovo ThinkSystem SR860 V2 servers can provide greater savings over a three-year period compared to Dell EMC PowerEdge R940 servers and HPE Superdome Flex 280 servers.

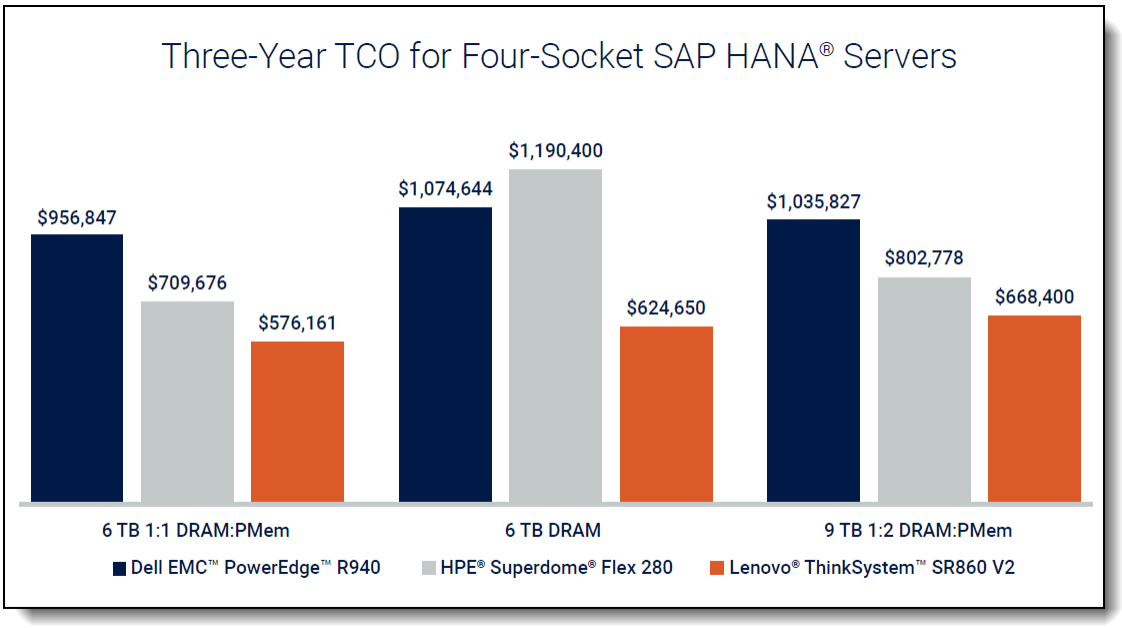

Figure 2. Three-year TCO for four-socket SAP HANA servers

This translates into a 3 year TCO savings of:

- 35% to 41% lower TCO against Dell
- 16% to 47% lower TCO against HPE

See the “Normalized Detail of Cost Analysis over a Three-Year Period” section in the Prowess study for details.

Conclusion

Analysis of the TCO for Dell Technologies, HPE, and Lenovo offerings for SAP HANA over three years reveals tangible savings with Lenovo ThinkSystem SR650 V2 and ThinkSystem SR860 V2 servers compared to Dell EMC PowerEdge R750, PowerEdge R940, and HPE Superdome Flex 280 servers. These savings persisted across memory configurations, both in differing proportions of persistent memory to DIMM-based memory and for all-memory configurations.

Read the full Prowess article from the Lenovo Resource Library: Evaluating the Economics of Running SAP HANA.

About the author

Randall Lundin is a Senior Product Manager in the Lenovo Infrastructure Solution Group. He is responsible for planning and managing ThinkSystem servers. Randall has also authored and contributed to numerous Lenovo Press publications on ThinkSystem products.

This article is one in a series on the ThinkSystem SR850 V2 and SR860 V2 servers:

- Five Highlights of the Lenovo ThinkSystem SR850 V2
- Five Highlights of the Lenovo ThinkSystem SR860 V2
- Why Scale-Up With 4S and 8S Servers?
- Unique Intel Features Available with ThinkSystem SR850 V2 and SR860 V2
- ThinkSystem SR860 V2 is the New 4S Performance Leader
- The Value of Refreshing Your 4-Socket Servers with the ThinkSystem SR860 V2 and SR850 V2
- The Perfect 4-Socket and 8-Socket Servers for SAP HANA
- **Total Cost of Ownership Comparison of Running SAP HANA on Lenovo ThinkSystem Servers**

Related product families

Product families related to this document are the following:

- ThinkSystem SR650 V2 Server
- ThinkSystem SR860 V2 Server

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