

LENOVO'S SCALABLE SOLUTIONS FOR SAP APPLICATIONS

SCALABLE CLUSTERS ENERGIZE SAP HANA BUT ALSO BOOST OTHER SAP DEPLOYMENTS

EXECUTIVE SUMMARY

Digital transformation is driving business to embrace new IT architectures as they try to take advantage of new data sources and drive better decision making. SAP is a leader in providing the software to help automate, run, and bring insight to enterprises. But **how** SAP applications are deployed can have a huge impact on how quickly and efficiently businesses operate and insights can be gleaned.

Lenovo has a strong relationship with SAP and is its preferred platform; SAP even uses Lenovo systems for developing and running its own applications. Combining Nutanix Enterprise Cloud platform software running on the hyperconverged Lenovo HX Series appliances together with the highly scalable System x3950 X6 running SAP HANA brings businesses a strong, scalable, and efficient solution for running existing SAP applications. It also creates a path to leverage SAP HANA (high performance analytic appliance) for real-time analysis.

TODAY'S CUSTOMER NEEDS

Businesses need to be more agile and have more actionable intelligence to stay competitive, as cycles no longer allow the luxury of pondering data. Decisions must happen quickly, in real-time. Decision makers need to instantly access, model, and analyze data, no matter where it resides or originated, as actionable data is coming from a wider range of sources and inputs than ever before. Enterprise resource planning software, business intelligence, and decision support can help customers store, analyze, and act on data to run their businesses. But the scalability they demand is beginning to surpass traditional architectural limits for many business-critical applications, including decision making applications. Further complicating the choice to deploy data decision tools is the fact that we live in a world where one may not know what questions will need to be answered in the future. Flexibility is paramount.

The cost and time to deploy often slow the decision to move forward, as many IT organizations struggle with the options for what to deploy and then struggle with the implementation details. Accelerating the time-to-market for deploying these SAP

landscapes can create a better ROI and increase the velocity for the business. Once deployed, they must have scalability and flexibility to keep the business from being restricted by its deployment choice. And with IoT and mobility bringing new data streams that enhance insight, systems need to be flexible enough to adapt to different types of data from other sources, sometimes from outside the enterprise. This fluid environment becomes more about connecting the dots to see trends in data rather than the exercise of “finding the needle in the haystack”, as old data warehouse solutions had been architected for in the past.

LENOVO & SAP ADDRESS SCALING NEEDS

Almost any SAP environment can take advantage of new, more scalable infrastructure. The benefits of consolidation, simplifying management, ensuring performance, and increasing availability are welcome in any deployment, from SAP Business Suite NetWeaver applications all the way through SAP S/4HANA and BW/4HANA. In fact, many advantages of Lenovo’s scalable architecture can extend out to other tiered enterprise architectures that drive businesses and their decision making. The change from a legacy deployment of physical or virtual servers and SAN to a more scalable hyperconverged cluster brings new levels of flexibility when consolidating classic SAP landscapes, including RDBMS databases. Applications and the database (Oracle, SQL Server, DB2, ASE, *etc.*) run in a scalable and virtualized Lenovo HX cluster, while the associated SAP HANA application runs on bare metal Lenovo System x servers.

SAP HANA is designed as a large in-memory platform that better enables business processes and real-time analysis. Data is in-memory, not stored and retrieved in separate hard disk drives or solid state drives like a traditional relational database management system (RDBMS). SAP HANA processes transactions and analytics in-memory on a single data copy, reducing system requirements and enabling greater consolidation. Most SAP customers still have not deployed SAP HANA but would like to move in that direction, often citing the cost and complexity of the solution for not moving just yet. Although it might not be as widely deployed, many SAP customers want to be “HANA ready”, because they realize they will move in that direction eventually.

Between large data-driven business applications, standard SAP applications, and SAP HANA, it is clear that a flexible, agile, and scalable solution is the only smart choice, as the data landscape is changing quickly and businesses need to respond accordingly.

THE COMPLETE LENOVO / SAP ADVANTAGE

Lenovo is a [key partner](#) of SAP, extending back to the early work with IBM. As Lenovo acquired IBM's x86 server business, it gained more than just a portfolio of products. Lenovo gained knowledge, expertise, R&D, and a deep working relationship with SAP.

Deploying SAP applications and landscapes is a complex, long-term operation, which is the primary driver for Lenovo's value: dramatically cut deployment time and accelerate time to decision. This strategy helps customers boost ROI, reduce complexity, and simplify management—all things that Lenovo is well known for delivering.

SAP is so confident in Lenovo's solutions and capabilities that it uses Lenovo for much of its own in-house development platforms and runs many of its own production environments, like CRM and customer enterprise cloud, on Lenovo platforms. In turn, Lenovo also runs SAP software to help drive its business, giving it unique insight in real-world conditions as a customer, a fact that Lenovo's end customers can appreciate.

SAP and Lenovo have innovated together with business warehouse data tiering solutions, 8TB SAP HANA configurations, as well as SAP IT Operations Analytics (ITOA) and SAP Vora solutions, along with teaming to drive application performance optimization. Lenovo sells preconfigured solutions for SAP HANA that enable medium and large businesses to immediately harness the real-time power in their environments and sells Business One for SAP HANA targeted to small business. This breadth of offering enables Lenovo to gain better understanding of how SAP systems can scale across a wide range of business environments and growth patterns.

HOW LENOVO & NUTANIX DIFFERENTIATE SAP LANDSCAPES

One of the most differentiating features of the Lenovo / Nutanix solution is that it is SAN-less, removing the largest impediment to quickly and easily deploying SAP solutions. Businesses can [save up to 31%](#) by not deploying a SAN for the database tier relative to Cisco and HPE. The Lenovo and Nutanix solution is more flexible and scalable, because it relies on a hyperconverged front-end application server tier that virtualizes both the compute and storage. This accelerates system copies and database clones (for non-HANA landscapes) while also allowing it to cost effectively scale out as application server data and needs grow. Scalability is a chief advantage of this solution; SAP has certified scaling out the SAP HANA database tier to 94 SAP HANA nodes. Should IT need to integrate with a SAN for backup or disaster recovery, Lenovo Services can provide a SAP HANA Tailored Datacenter Integration (TDI) linkage.

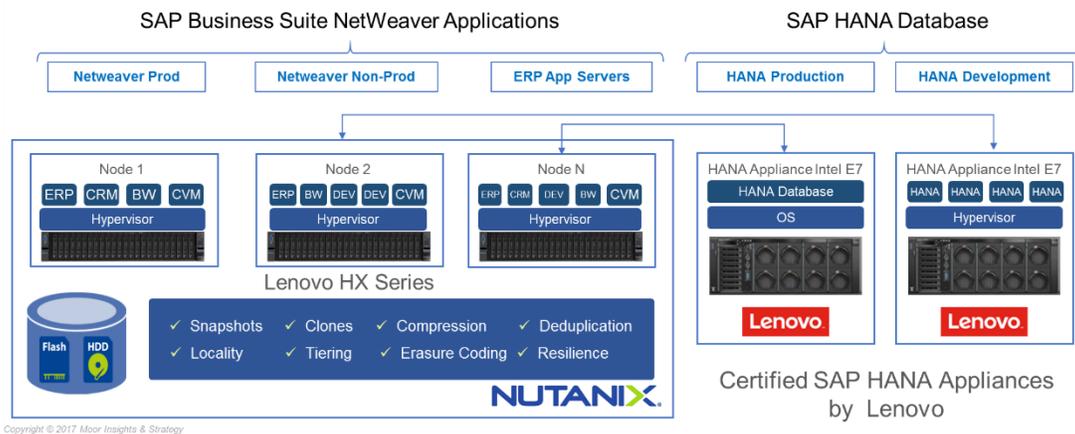
This consolidated, scale out solution reduces rack space, power, cooling, and management needs, enabling both reduced costs and headroom for future scaling. Nutanix and Lenovo have worked to consolidate SAP NetWeaver landscapes onto a single dense virtualized platform, reducing the footprint by up to 80% while driving better efficiency to support business needs. Lenovo and Nutanix help reduce both resources and budgets by providing a cost-effective solution that requires less handholding and fewer specialized skills, netting a lower operational cost while still delivering outstanding performance and availability.

Both Lenovo and Nutanix have partnerships with SAP, creating a stronger 3-way bond for development and support. Lenovo XClarity and Nutanix Prism are integrated for better system status / health, planning, and insight while reducing management costs. This management layer requires less staff and budget, so IT can spend more time driving value to the business and less time managing equipment.

THE LENOVO / NUTANIX ARCHITECTURE

This solution is consolidated and virtualized for maximum flexibility and ROI with a single architecture that can scale both up and out. The Lenovo HX Series Appliance with Nutanix provides the scalable front-end / business application logic that can flexibly grow as more needs are uncovered or more systems are connected.

FIGURE 1: THE LENOVO & NUTANIX ARCHITECTURE



Source: Lenovo and Moor Insights & Strategy

The SAP HANA database runs on Lenovo System x3950 X6 servers with up to 8TB of memory or on Lenovo System x3850 X6 servers with up to 4TB of memory. In both cases, the massive memory footprint enables SAP HANA to scale up easily as needs grow. SAP NetWeaver and the SAP Business Suite applications run on the HX cluster

with Nutanix. The entire solution is certified, built, configured, and integrated by Lenovo. Then, the SAP software install is completed at the customer site through Lenovo Professional Services. This single architecture is easily integrated and helps take the guesswork out of deploying SAP applications, delivering faster time to result. Because of the scalable nature, there is no need to overbuy or overprovision to be protected for future growth.

HOW CUSTOMERS ARE DEPLOYING LENOVO / NUTANIX TODAY

Lenovo is an SAP HANA leader with more than 7,200 deployments worldwide running on Lenovo platforms, and Nutanix is the leading solution for those deploying on hyperconverged systems. [V-GRASS](#) and [Uni-Orange](#) are good examples of Lenovo / Nutanix customers running SAP on these solutions, one of whom is using SAP HANA now, while the other is investigating the possibility for the future.

V-GRASS is a retailer in the rapidly changing fashion industry. It needs to stay ahead of trends and must deal with inventory and longer-lead decisions that require maximum insight. The company has deployed SAP HANA now to help in-house design teams move faster, make better decisions, and capture more opportunity.

V-GRASS employed SAP HANA on two Lenovo System x3950 X6 servers and used six hyperconverged Lenovo HX3310 appliances running Nutanix to host the SAP Business Suite, SAP Business Warehouse, and SAP Fashion Management applications. When deployed, reporting changed dramatically: reports that normally took 10 hours to retrieve were now available in real-time for immediate access. IT saw benefits as well, with two thirds less floor space consumed and significantly reduced operational costs.

Uni-Orange, while also running on Lenovo / Nutanix, has not made the decision yet on whether to deploy SAP HANA, but it still enjoys a scalable and efficient solution for its SAP deployment. The company is an integrated design firm that works in diverse areas like energy, industrial, manufacturing, medical, IT, and consumer goods.

Uni-Orange required a collaborative design system that would allow it to cooperate with designers around the world and scale out across its divergent businesses as opportunities presented themselves. By deploying its SAP system on four Lenovo HX3500 appliances running Nutanix Enterprise Cloud Platform Software, Uni-Orange could pool compute and storage onto a single virtual resource, greatly reducing management and maintenance costs. With a stable and robust SAP solution in place now, Uni-Orange has the flexibility to run today's operations while it evaluates whether SAP HANA makes sense for it in the future, should it head in that direction.

CALL TO ACTION

The SAP Business Suite applications and other decision support software can help business run better and act with more agility during this time of digital transformation, as insight becomes the currency of future success.

The SAP Business Suite helps drive better decision making, and SAP HANA furthers that process by delivering real-time analytics. The Lenovo / Nutanix SAP solution delivers the flexible support for deploying in a scalable fashion to meet changing business needs. With no SAN required for Lenovo's scale-out implementation for either the database tier or the application server tier, the solution can be deployed much faster, providing more flexibility and scaling rapidly as needs grow and change.

Whether a business is in the investigation phase, just wants to better optimize its existing IT, or wants to build out to the full suite, there are significant advantages to running on Lenovo / Nutanix. Because of their strong working relationships with SAP, MI&S recommends that businesses across the spectrum of SAP deployments consider the Lenovo / Nutanix solution.

IMPORTANT INFORMATION ABOUT THIS PAPER

AUTHOR

John Fruehe, Senior Analyst at [Moor Insights & Strategy](#)

PUBLISHER

Patrick Moorhead, Founder, President, & Principal Analyst at [Moor Insights & Strategy](#)

EDITOR / DESIGN

Scott McCutcheon, Director of Research at [Moor Insights & Strategy](#)

INQUIRIES

[Contact us](#) if you would like to discuss this report, and Moor Insights & Strategy will respond promptly.

CITATIONS

This paper can be cited by accredited press and analysts but must be cited in-context, displaying author's name, author's title, and "Moor Insights & Strategy". Non-press and non-analysts must receive prior written permission by Moor Insights & Strategy for any citations.

LICENSING

This document, including any supporting materials, is owned by Moor Insights & Strategy. This publication may not be reproduced, distributed, or shared in any form without Moor Insights & Strategy's prior written permission.

DISCLOSURES

This paper was commissioned by Lenovo. Moor Insights & Strategy provides research, analysis, advising, and consulting to many high-tech companies mentioned in this paper. No employees at the firm hold any equity positions with any companies cited in this document.

DISCLAIMER

The information presented in this document is for informational purposes only and may contain technical inaccuracies, omissions, and typographical errors. Moor Insights & Strategy disclaims all warranties as to the accuracy, completeness, or adequacy of such information and shall have no liability for errors, omissions, or inadequacies in such information. This document consists of the opinions of Moor Insights & Strategy and should not be construed as statements of fact. The opinions expressed herein are subject to change without notice.

Moor Insights & Strategy provides forecasts and forward-looking statements as directional indicators and not as precise predictions of future events. While our forecasts and forward-looking statements represent our current judgment on what the future holds, they are subject to risks and uncertainties that could cause actual results to differ materially. You are cautioned not to place undue reliance on these forecasts and forward-looking statements, which reflect our opinions only as of the date of publication for this document. Please keep in mind that we are not obligating ourselves to revise or publicly release the results of any revision to these forecasts and forward-looking statements considering new information or future events.

© 2017 Moor Insights & Strategy. Company and product names are used for informational purposes only and may be trademarks of their respective owners.