



VersaStack for SAP HANA Tailored DataCenter Integration

Improve performance,
reduce complexity and
costs with VersaStack™
integrated infrastructure
solution

VersaStack, an IBM and Cisco integrated infrastructure solution, combines computing, networking, storage and management into a single integrated system.

With the volume of business data growing exponentially there is a need to store, search and analyze data in real time to meet business goals and to keep competition at bay. Given fast and high growth, companies are looking for solutions that are dramatically simpler to buy, deploy and maintain than traditional infrastructures for their critical business applications such as SAP.

SAP introduced SAP HANA as a standardized and highly optimized in-memory database platform that allows running real-time analytics and applications for faster insights into your business.

VersaStack, an IBM and Cisco integrated infrastructure solution, combines computing, networking, storage and management into a single integrated system. It is an integrated, validated and pre-tested solution for easy deployment and rapid time to value for installation of new infrastructures. It combines IBM storage with Cisco UCS Integrated Infrastructure, including the cutting-edge Cisco Unified Computing System and the consolidated UCS Director Management interface.

SAP introduced SAP HANA as a standardized and highly optimized appliance delivery to provide customers a choice in hardware suppliers, including IBM and Cisco. SAP HANA Tailored Datacenter Integration (TDI) offers customers more openness and freedom of choice to configure the SAP HANA layer depending on their existing



data center layout. Compared to the appliance delivery approach, SAP HANA TDI is an additional, more open and flexible approach to serve your needs in regard to the integration of SAP HANA in the data center. With VersaStack, integration of SAP HANA TDI is smooth and comfortable, delivering an infrastructure that can reduce hardware and operations costs by reusing existing hardware components and operations processes.

The combination of SAP HANA software and the VersaStack infrastructure solution supports the analysis of data from SAP within seconds. VersaStack in a SAP HANA environment means more performance, lower cost and complexity to achieve business goals.

Solution versatility with a choice of storage

VersaStack offers versatility with a choice of storage solutions built with IBM® Spectrum Virtualize™ to address differing customer requirements for SAP HANA implementations. With IBM Spectrum Virtualize, customers can choose from all flash storage with IBM FlashSystem® V9000, or hybrid storage with IBM Storwize® V7000 and IBM Storwize V5000 to ensure that VersaStack can be sized appropriately to customers' SAP HANA needs. There is consistency of functionality with IBM Easy Tier®, IBM FlashCopy® and remote mirroring across all three, with encryption and IBM Real-time Compression™ (RTC) also available on some of the solutions, maximizing data efficiency and security.

Start with the storage infrastructure you need today and scale as demand rises. VersaStack with IBM Storage delivers increased flexibility with scale up or scale-out “building-block” capabilities without compromising performance.

Extreme performance and faster business insights

As with every database, SAP HANA has to write to disk — even though it's an in-memory database platform. Writing to disk is necessary to guarantee that database transactions are processed reliably. Also, to ensure the recovery of the database with zero data loss in case of faults, SAP HANA nodes records each transaction in the form of redo log entries; in doing so HANA requires a very low IO response time.

So, it makes sense to propose a fast storage platform that can process various types of writes quickly. This implies storage with low latency and high throughput. VersaStack with IBM FlashSystem V9000 can accelerate the writes with ultra-low latency with IBM FlashCore™ technology. In a SAP HANA environment this means near real-time access to critical data with a predictable user experience and sustained extreme performance — exactly the edge you are looking for. Whether you are running SAP HANA online transaction processing (OLTP) or online analytic processing (OLAP) workloads, IBM FlashSystem delivers extreme performance at a lower cost and footprint. Further, with Storwize V7000 or V5000 hybrid storage, you can match the cost of storage with business goals.

To work efficiently and effectively, the SAP and SAP HANA architecture and vision require integrated infrastructure with deterministic network performance. Cisco UCS is the only system that provides this level of unified computing, networking, virtualization and storage. Cisco UCS servers are consistently the highest performing in their class, across a broad spectrum of workloads.



Accelerate deployment

VersaStack, an integrated infrastructure is pre-tested and validated, saves time and money by radically streamlining procurement, implementation, and scalability. It is based on a set of Cisco Validated Designs (CVDs) and IBM Redbooks® application guides that maximize reliability and minimize risk. VersaStack cuts infrastructure design, deployment, administration and results with a lower TCO. Its compact form factor also enables companies to save money on cooling, power, and floor space on SAP HANA implementations.

Further, with “single pane of glass” management provided by Cisco UCS Director to manage the entire infrastructure, it allows SAP HANA implementations to match business goals and speed insights rather than waste time on infrastructure management issues.

Cisco UCS industrializes IT, making organizations more efficient and more effective by automating and standardizing IT processes. It allows staff to work at a higher level, defining policies and allowing automation to handle routine administrative tasks. It incorporates a radically simplified architecture that eliminates the complexity of “rack-in-a-box” blade systems while overcoming the challenges of virtualization by interconnecting servers and virtual machines with an equivalent level of visibility and control. The system is intelligent infrastructure that is configured through integrated, model-based management to reduce TCO and enable your staff to focus on strategic initiatives rather than on troubleshooting. With Cisco UCS, you can run any workload on any resource with dynamic provisioning, making it the ultimate platform for building your SAP business-critical infrastructure based on SAP HANA.

High availability and protect vital workloads

The IBM HyperSwap® feature of IBM Spectrum Virtualize enables continuous access to data in case of a planned (scheduled maintenance) or unplanned downtime (failure or a disaster). It automates recovery and provides continuous availability against storage failures. The VersaStack solution provides extreme uptime with proven IBM and Cisco technology. Furthermore, VersaStack provides hardware based encryption to protect and secure your data without having any impact on data operations.

Reduce cost

Unlike competing products, you can add computing, networking or storage resources independently rather than buy a whole new chassis every time you require more capacity in a specific area. “You can expand based on what you need and what the customer needs versus what the manufacturer is pushing down on you,” John Buskermolen, co-founder of i-Virtualize Inc., a Toronto-based provider of hosted and on-premises infrastructure services.

In the case of VersaStack with IBM FlashSystem V9000, energy efficiency and density are enabled by RTC functionality, delivering superior economics and enabling VersaStack implementations to store five times more data in the same space¹ without driving up power costs or other operational expenses. In a study, the IDC says that UCS servers running SAP workloads give a “five year total business benefit \$4.79M; Five-year ROI: 368 percent; and payback period: 10 months”². IDC also highlights:

- Reduced staff time needed for server management: 68.4 percent³
- Reduced staff time needed for server deployment: 83.8 percent⁴
- Reduced productive employee time lost due to hardware downtime and degradation: 96.3 percent⁵

Why IBM and Cisco

IBM and Cisco have a long history of working together to deliver market-leading IT solutions. Together, the companies have a 15-year history of demonstrated joint success with more than 25,000 shared customers. IBM and Cisco have experience driving emerging technology transitions and breadth of resources, and have a proven history of delivering innovative, validated solutions while helping customers lower costs and reduce risk. Furthermore, IBM and SAP have maintained an extremely close and collaborative relationship for more than 40 years. IBM Storage Systems including IBM Storwize, and IBM FlashSystem are certified for SAP HANA TDI. With years of hands-on experience and unparalleled knowledge, IBM and Cisco are positioned to help you optimize your infrastructure for SAP applications, including SAP HANA to achieve optimal competitive advantage.

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1. Cisco Unified Computing System and Intel Xeon Processors: 103 World-Record Performance Results http://www.cisco.com/c/dam/en/us/products/collateral/servers-unified-computing/le_32801_pb_ucs_worldrecords.pdf
2. The Business Value of Cisco UCS as a Platform for SAP HANA and Other SAP Mission-Critical Applications, Matthew Marden, Jed Scaramella, Carl W. Olofson September 2014 <https://buildprice.cisco.com/solutions/sap/img/IDC-TCO.pdf>
3. ibid
4. ibid
5. ibid

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