



VersaStack Solution for High Performance

Cisco Integrated Infrastructure with IBM FlashSystem V9000 Storage



Your business is being asked to deliver instant access to information and services. Whether you need to accelerate the performance of your entire data center or deploy solutions to support specific high-performance applications, the VersaStack solution for high performance can help you achieve your goals. With this flash-memory-based solution, you can create cost-effective data center infrastructure that delivers IT agility and helps answer crucial business questions in less time.

Scalable Performance

With the VersaStack solution, you get powerful, flexible servers and flash-memory storage systems that perform at scale. Based on Cisco UCS® Integrated Infrastructure, the solution combines Cisco Unified Computing System™ (Cisco UCS) blade and rack servers, IBM® FlashSystem® V9000 storage, and Cisco Nexus® 9000 Series Switches into a single system. This prevalidated solution delivers high performance and low-latency response times to critical applications and can be easily deployed and managed in your data center. Solution readiness for Cisco® Application Centric Infrastructure (Cisco ACI™) lets your IT staff build, deploy, secure, and maintain applications through a more agile framework (Figure 1). With the VersaStack solution you can:

- **Get results quickly:** The solution uses IBM FlashSystem V9000 storage, an all-flash-memory array with ultra-low response times. Designed to replace Tier 1 systems with slow disk drives, IBM FlashSystem V9000 storage can function as a software-defined storage layer that virtualizes all managed storage for easy access.
- **Deliver extreme performance:** The system accelerates I/O for critical applications through IBM FlashCore® technology, which includes advanced flash-memory management features, ultra-fast write buffers, and hardware-based data offload methods, while preserving enterprise resiliency through IBM Variable Stripe RAID™ and other unique reliability features.

- **Scale up or scale out:** You can scale your environment up if you need greater performance and capacity (adding computing and network resources individually as needed), or you can scale it out if you need multiple consistent deployments (adding integrated systems). You can add flash-memory capacity to support multiple applications, and you can scale out the virtualized storage system to increase the number of I/O operations per second (IOPS) and the bandwidth.
- **Increase external storage capacity:** When you need more storage capacity, you can extend the capabilities of the solution to virtualized external storage capacity. Each IBM FlashSystem V9000 array can manage up to 32 petabytes (PB) of external storage.

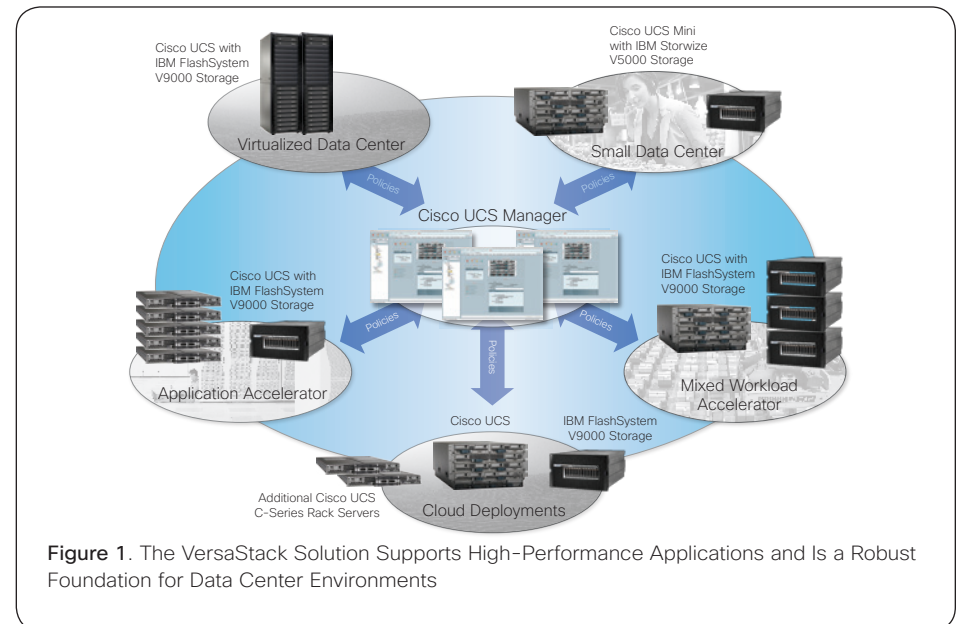


Figure 1. The VersaStack Solution Supports High-Performance Applications and Is a Robust Foundation for Data Center Environments

Quick and Reliable Deployment

This VersaStack solution, based on a Cisco Validated Design, simplifies and accelerates the deployment of IT resources to your high-performance applications and environments.

- **Pretested and validated:** Unlike other solutions that simply overlay software, the VersaStack solution is pretested and validated by Cisco engineers to deliver a solution that pools your computing, network, and storage resources. With a guidebook for implementation, your architects and administrators don't have to spend a lot of time integrating components into a workable solution, reducing time, risk, and guesswork.
- **Rapidly provisioned:** Unified management simplifies processes and provides the automation you need to be efficient. Using the role- and policy-based management capabilities of Cisco UCS Manager, your IT staff can provision servers in minutes rather than the days or weeks required in traditional environments.

Improved Operation Efficiency

By deploying this VersaStack solution, your organization can do more with less. Your IT staff can perform more tasks with less effort, manage infrastructure better with fewer tools, and increase performance and capacity in a smaller footprint.

- **High density:** Comprehensive infrastructure density—with servers, switches, cabling, storage, and management in a single system—reduces the cost per rack unit at the solution level and increases operation efficiency at the data center level.
- **Optimized storage resources:** The system includes technologies that enhance high-performance environments with built-in functions such as IBM Real-time Compression®, thin provisioning, highly available configuration, and data copy services.



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Your IT staff can centrally manage storage volumes from a single point, migrate data without disruption to applications, and avoid downtime for backup, maintenance, and upgrade operations.

- **Simplified operations model:** Based on Cisco UCS Integrated Infrastructure, this VersaStack solution can help you get more work done with the same (or fewer) resources. You can run more high-performance applications on fewer servers, so you need to buy and manage fewer components. The solution can also reduce cabling, power, and cooling requirements and automate routine tasks to increase productivity.

Why Cisco and IBM?

Cisco and IBM are global IT industry leaders and have a 15-year history of demonstrated joint success, with more than 25,000 shared customers. We have experience in guiding emerging technology transitions and have the breadth and capability to deliver innovative, validated solutions while helping your organization reduce risk.

Cisco and IBM together provide global delivery capabilities and deep industry expertise along with current technology offerings in data center computing, networking, mobility, collaboration, analytics, and the Internet of Things (IoT). Our solution portfolio is based on client-specific needs and strategies across industries and segments, including healthcare, banking, public safety, energy, utilities, and retail. As a result, we can offer you what you need to achieve the vision of a modern data center that delivers IT and business agility.

For More Information

Learn more about VersaStack at <http://www.cisco.com/go/versastack> and <http://www.ibm.com/versastack>.

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