VersaStack innovations

VersaStack now provides an even broader portfolio of solutions for modern workloads and use cases

Highlights

- Simplify and standardize service delivery through infrastructure automation with IBM® software-defined storage and Cisco Unified Computing System (UCS) integrated infrastructure

- Deploy premier solutions for hybrid cloud utilizing Cisco ONE Enterprise Cloud Suite and IBM Spectrum™ Copy Data Management

- Deliver a full-featured private cloud with VersaStack™ for Automated Infrastructure solutions

- Easily add object storage capabilities to VersaStack solutions with IBM Cloud Object Storage
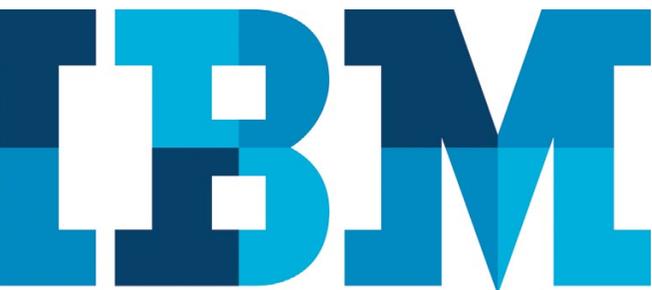
The direction of IT in the 21st century is clear: Converged infrastructure deployments are becoming the foundation of both cloud-based and traditional data centers. Market surveys conducted by IT industry analyst firm Enterprise Strategy Group (ESG) show that 56 percent of enterprises plan to deploy converged infrastructure, while 32 percent already have.[1]

Converged infrastructure solutions enable enterprises to easily and cost-effectively scale compute, network and storage capacity as needed to reduce design, deployment and management overhead; lower the total cost of ownership (TCO); and simplify scalability.

But if converged infrastructure solutions are to truly succeed, they must address a multitude of new application workloads and business use cases—from hybrid cloud architectures and big-data analytics, through mobile and social systems of engagement, to the Internet of Things and the explosion of unstructured data.

VersaStack components in a rack-mount chassis

As part of their ongoing collaboration spanning more than 15 years and 25,000 shared customers, IBM and Cisco have provided VersaStack converged infrastructure solutions since 2014. Recently, the industry giants have expanded their VersaStack offerings to include solutions to some of the most pressing IT requirements, including private and hybrid cloud deployment and management, object storage and converged infrastructure as a service (IaaS). Now, when enterprises want to gain the benefits of converged infrastructure to address almost any application workload or business use case, they won't need to cobble together a solution from untested elements and risk

an unknown result. Instead, they can turn to highly integrated, low-risk, comprehensive solutions from two of the world's largest and most trusted technology solution providers.

VersaStack converged infrastructure
VersaStack brings together Cisco UCS integrated infrastructure (including Cisco UCS servers, Cisco Nexus switches and Cisco UCS Director management software) with market-leading IBM software-defined storage. VersaStack supports varied Cisco and IBM component options that enable enterprises to easily and cost-effectively scale compute, network and storage capacity as needed. VersaStack offers many benefits, including:

- Up to 83 percent reduction in design, deployment and management overhead[2] through use of repeatable, consistent processes and templates across standardized infrastructure and management
- Lower TCO based on simplified architecture and validated design that helps reduce deployment time, increase asset utilization, and decrease capital and operating expenses
- Up to 49 percent reduction in power and cooling costs and up to 78 percent reduction in cabling
- Rapid scalability of the platform through infrastructure automation

VersaStack solutions are backed by Cisco Validated Designs and IBM Redbooks® to provide faster delivery of applications, greater IT efficiency and less risk. With Cisco UCS Management spanning from the data center to the infrastructure edge, VersaStack now addresses the entire spectrum of data center workloads. For example:

- Cisco UCS servers and IBM storage virtualization simplify data center evolution to a shared cloud-ready infrastructure based on an application-driven policy model.
- Cisco UCS servers and IBM FlashSystem® storage accelerate performance-critical data center workloads.
- Cisco UCS servers and IBM Storwize® V7000 storage address virtualized enterprise and midsized businesses.
- Cisco UCS Mini and IBM Storwize V5000 family storage target edge workloads, remote office/branch office (ROBO), factory, oil platform and remote location applications, among many other use cases.

VersaStack for Hybrid Cloud

Whether it's the education, retail, finance, Smart Cities or energy sector, digital transformation is deciding the winners. Industry analysts confirm[3] that cloud is now mainstream, with 73 percent of organizations pursuing a hybrid cloud strategy. Yet only three percent have optimized that strategy.

To address two of the most powerful currents pushing IT into the 21st century—converged infrastructure and cloud—IBM and Cisco have developed VersaStack for Hybrid Cloud, which combines a successful converged infrastructure platform with industry-leading hybrid cloud and data management technologies to create versatile new solutions.

" *With VersaStack for Hybrid Cloud, IBM and Cisco have combined their considerable talents to deliver a converged infrastructure solution that extends beyond on-premises to a hybrid cloud configuration. That spreads the already valuable existing benefits, such as resource pooling and process automation, to new dimensions that magnify the options for managing and deploying applications and data. IT should be thrilled with not only the increased range of choices, but also the ability to manage more efficiently, cost effectively, and easily.*"

—David Hill, Mesabi Group

At the heart of VersaStack for Hybrid Cloud lies the Cisco ONE Enterprise Cloud Suite, which includes Cisco CloudCenter, an application-centric hybrid cloud management platform that makes it easy to deploy and manage data center, private cloud and public cloud application solutions. Cisco ONE Enterprise Cloud Suite works with more than 20 cloud providers, including IBM Bluemix® Infrastructure (formerly IBM SoftLayer®). It helps provide a single solution that

delivers outstanding agility, security and efficiency when compared to public cloud alone. Cisco ONE Enterprise Cloud Suite offers powerful capabilities to securely provision multi-tier applications; automate stretched application deployments without the need to modify applications, blueprints or deployment scripts; and efficiently migrate applications to Cisco Application Centric Infrastructure (ACI) environments.

From IBM, VersaStack for Hybrid Cloud incorporates IBM Spectrum Copy Data Management to orchestrate the creation, distribution, use and management of application-aware data copies, both on-premises and in the cloud. IBM Spectrum Copy Data Management catalogs copy data across local, hybrid cloud and off-site cloud infrastructures; identifies duplicates; and compares copy requests to existing copies, ensuring that the minimum number of copies are created to service business needs. With the addition of IBM Spectrum Copy Data Management, VersaStack offers a unique solution not only for production applications in a hybrid environment, but also for automated workload management for DevOps, test/dev and disaster recovery. These capabilities build on market-leading IBM Spectrum Storage™ software-defined storage solutions that are included in VersaStack converged infrastructure. Cisco UCS components with IBM Spectrum Storage maximize server and storage resources by delivering a rich set of storage capabilities to Cisco UCS servers, improving efficiency while reducing complexity and cost.

Through this powerful combination of Cisco ONE Enterprise Cloud Suite cloud management and IBM Spectrum Storage solutions such as IBM Spectrum Copy Data Management, VersaStack offers an agile and easy-to-consume hybrid cloud solution that not only helps deploy and manage applications and data in data center or public cloud environments, but also frees up resources in the data center for next-generation applications and cognitive workloads.

IBM Spectrum Storage

All of the IBM storage options for VersaStack are built with IBM Spectrum Storage software, which means that deploying IBM FlashSystem or Storwize arrays in VersaStack opens the door to the entire IBM Spectrum Storage Suite.

These solutions are already proven to work together in the most demanding mission-critical environments. IBM Spectrum Storage with Cisco UCS helps improve efficiency and leverage existing server resources while delivering a comprehensive set of storage capabilities.

VersaStack solutions come with IBM Spectrum Storage capabilities, no matter how they are configured. IBM Spectrum Virtualize™, for example, provides the foundation for a number of VersaStack storage options from both the IBM FlashSystem and Storwize families. IBM Spectrum Virtualize makes cloud connectivity possible through IBM Transparent Cloud Tiering. It provides data compression that can lower storage costs significantly and allows virtualization of nearly 400 different types of multi-vendor external storage systems to make them act as one storage resource, with all the enterprise-class data services included in IBM Spectrum Virtualize itself.

IBM Spectrum Control	Hybrid cloud storage and data management that helps optimize applications and reduce storage costs
IBM Spectrum Protect	Optimized hybrid cloud data protection that can simplify restores and reduce backup costs
IBM Spectrum Virtualize	Virtualization and optimization of hybrid cloud block environments that helps improve flexibility and reduce costs
IBM Spectrum Archive	Data archiving and long-term retention solution that lowers costs by delivering a fast tape file system
IBM Spectrum Accelerate	Highly flexible, scale-out enterprise block storage for hybrid clouds that deploys in minutes
IBM Spectrum Scale	High-performance, highly scalable hybrid cloud storage for unstructured data
IBM Cloud Object Storage	Flexible and economical scalable hybrid cloud object storage with geo-dispersed enterprise availability and security
IBM Spectrum CDM	Simplified copy data management that can increase business velocity and efficiency

Members of the IBM Spectrum Storage family

Once these IBM Spectrum Virtualize or IBM Spectrum Accelerate™-based systems are part of your VersaStack platform, you can easily add IBM Spectrum Storage solutions to extend capabilities and functionality so that you can address almost any IT challenge, application workload or business use case. Do you need a high-performance file system and object storage solution? IBM Spectrum Scale™ provides the solution with global reach and a rich feature set that has been proven in the most demanding big data, AI and cognitive environments around the world. It can integrate well with IBM Cloud Object Storage to create a comprehensive file and object storage solution with native IBM Bluemix Infrastructure cloud integration that can make your unstructured data storage capacity seem essentially unlimited.

Want to transform your tape system into an active archive that makes petabytes of data surprisingly accessible while dramatically lowering storage costs? Consider deploying IBM Spectrum Archive™. Is protecting your valuable data assets a top priority? Add IBM Spectrum Protect™ to manage leading-edge disaster-recovery and data-replication solutions. And if you want to drill down and analyze your storage systems so that you can make the best investment decisions, deploy IBM Spectrum Control™ either on-premises or as a cloud service.

VersaStack for Automated Infrastructure

Some organizations choose not to deploy public cloud solutions, often due to regulatory, security or other corporate priorities. For these enterprises, many of the same IBM and Cisco components that are integrated to create VersaStack for Hybrid Cloud can also be combined to build VersaStack for Automated Infrastructure solutions that provide the foundation for versatile private clouds.

VersaStack for Automated Infrastructure introduces simple, standardized infrastructure automation to accelerate the delivery of IT applications and services with the Cisco ONE Enterprise Cloud Suite IaaS package and IBM Spectrum Copy Data Management. It provisions, configures and secures resources across tenants and resource pools, creating the foundation for a private cloud. It also offers application data replication from one VersaStack to another VersaStack, as well as to and from public cloud environments.

VersaStack object storage solutions

Object-based storage solutions offer a new approach for handling the massive amounts of unstructured data flooding into enterprises from cloud-based applications such as social, photo or video websites. Object storage can simplify application design and development while delivering more cost-effective storage that can be expanded easily as unstructured data grows. Cisco UCS S3260 Storage Server combined with IBM Cloud Object Storage delivers an object storage solution for data-intensive workloads, enabling IT organizations to meet compliance, data sovereignty and other business requirements with an easily scalable, cost-effective unstructured data management solution.

IBM Cloud Object Storage is a breakthrough cloud platform that helps solve petabyte-scale and beyond storage challenges for companies worldwide. IBM Cloud Object Storage provides the flexibility to handle content and data storage needs using the same platform across the entire enterprise.

IBM Cloud Object Storage uses distinctive information dispersal algorithms (IDAs) to protect digital assets, rather than relying on storage of multiple copies, which can reduce the physical storage capacity required by more than 50 percent.[4] IBM Cloud Object Storage systems can achieve TCO savings of up to 80 percent compared to most traditional storage systems as well as public cloud storage.[5]

VersaStack solutions that include IBM Cloud Object Storage offer many benefits to organizations ranging from media and entertainment, through financial services and insurance, to healthcare, life sciences, government and even cloud service providers. Active archiving and data backup are two of the most common use cases. By using IBM Cloud Object Storage as a tier in your backup infrastructure, you can replace a lot of expensive network-attached storage, use the same backup software that you use today, and potentially eliminate the need to replicate to remote sites for disaster recovery. The solution minimizes copies and replication, securely protects your data, and simplifies the entire backup/recovery process. The combined use of IBM Cloud Object Storage for both backup and archive can drive huge costs out of your storage infrastructure, enabling and accommodating future data growth on an exceptionally scalable platform.

The future is coming

Simplicity, flexibility, great scalability and much lower costs— these are just some of the advantages and benefits when you combine VersaStack with additional members of the Cisco UCS and IBM Spectrum Storage families to create leading-edge cloud, IaaS and object storage solutions.

The future is coming. With VersaStack, you'll be ready.

Why IBM?

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

The companies 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.

For more information

To learn more about IBM storage solutions, including VersaStack for Hybrid Cloud, please contact your IBM representative, or visit:
https://www-03.ibm.com/systems/storage/converged-infrastructure/versastack/

Additionally, IBM Global Financing provides numerous payment options to help you acquire the technology you need to grow your business. We provide full lifecycle management of IT products and services, from acquisition to disposition. For more information, visit: **ibm.com**/financing

[1] "Economic Value Validation: Quantifying the Value of VersaStack, a Converged Infrastructure Solution by IBM and Cisco," *ESG*, April 2016. https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=TSL03278USEN

[2] "The converged cloud," *IBM Corp.*, October 2016. https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=TSS03206USEN&

[3] "Cloud Going Mainstream," *IDC*, September 2016. http://www.cisco.com/c/dam/en/us/solutions/collateral/trends/cloud/cisco-bca-infobrief.pdf

[4] Based on internal IBM testing.

[5] "The Total Economic Impact™ Of Cleversafe, An IBM Company," *Forrester Research, Inc.*, March 2015. https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=KUL12373USEN

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