VersaStack for Hybrid Cloud

VersaStack with innovative IBM and Cisco components enables converged cloud infrastructure

Highlights

- Build powerful hybrid cloud solutions using VersaStack™ converged infrastructure
- Leverage Cisco® ONE™ Enterprise Cloud Suite cloud management and IBM® Spectrum Storage™ for application-centric infrastructure
- Easily migrate applications and data between on-premises and cloud resources
- Lower total cost of ownership and accelerate infrastructure return on investment
- Enable end-to-end data management

According to industry analysts, more than 50 percent of IT spending will be cloud-based by 2018.[1] IBM research confirms that 75 percent of enterprises in the US plan to increase cloud investment,[2] which means they already have made some initial investments in this technology. A natural result of this trend is that enterprises are increasingly integrating cloud resources with traditional IT to accommodate dynamic needs and specific business priorities. This is hybrid cloud. Today, 64 percent of cloud adopters are using some form of hybrid cloud,[3] and more than 80 percent of enterprise IT organizations are predicted to commit to hybrid cloud architectures by the end of 2017.[1]

Hybrid cloud is simply one facet of a larger, ongoing trend within enterprise IT departments to control costs, accelerate deployment of applications and modernize existing IT infrastructure. Currently, one of the most attractive solutions to these challenges has been converged or integrated infrastructure, where computing, storage and networking resources are packaged in a single platform. According to IT industry analyst firm ESG, 56 percent of enterprises plan to deploy converged infrastructure, while 32 percent already have.[4]

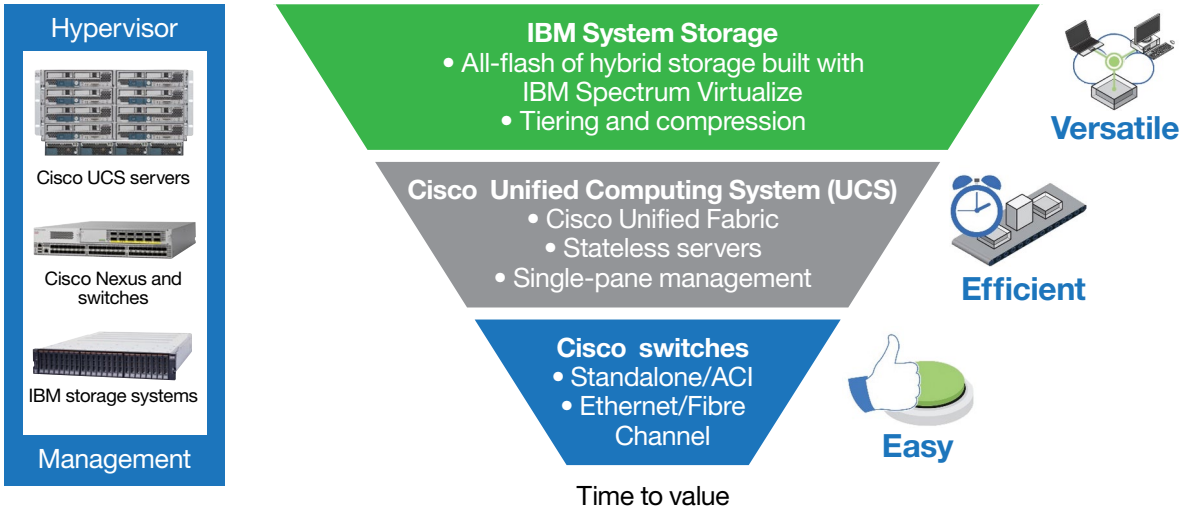
Hybrid cloud and converged infrastructure are currently two of the most effective and active IT solution domains in the marketplace. Global IT industry leaders, IBM and Cisco, have responded to this skyrocketing customer demand by offering VersaStack for Hybrid Cloud.

VersaStack

Jointly developed by IBM and Cisco, VersaStack brings together Cisco Unified Computing System™ (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 UCS servers, Cisco switches (Nexus and MDS), and IBM storage configuration options that enable enterprises to easily and cost-effectively scale compute, network and storage capacity as needed. VersaStack offers many benefits:

- Up to 83 percent reduction in design, deployment and management overhead[5] through use of repeatable, consistent processes and templates across standardized infrastructure and management
- Lower total cost of ownership 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[5]
- Rapid scalability of the platform through infrastructure automation and a simplified, validated architecture

VersaStack components



Time to value
Reduced capital expense and operational expense
Scalable compute and storage with investment protection
Simple and comprehensive management

VersaStack is backed by Cisco Validated Designs and IBM Redbooks® application guides for a faster delivery of infrastructure and workload/application deployment, plus world-class support from industry giants across a broad range of services including strategy, architecture, design, planning, implementation and management.

Converged cloud

VersaStack for Hybrid Cloud is a converged infrastructure solution with additional software components that deploy and manage applications and automate application-aware data to and between data center and cloud environments. This "converged cloud" capability extends existing VersaStack solutions that include both IBM and Cisco best-in-class hardware and software products. It adds easy-to-consume hybrid cloud solutions to scalable and automated VersaStack infrastructure.

VersaStack for Hybrid Cloud solutions can include:

- Cisco ONE Enterprise Cloud Suite, which includes CloudCenter to automate self-service application deployment to users' choice of on-premises or public loud environments. It works with more than 20 cloud types and regions, including IBM Bluemix® Infrastructure (formerly IBM SoftLayer®).
- IBM Spectrum™ Copy Data Management that orchestrates the creation, distribution, efficient use, and retention of application-aware copies of data, both on-premises and in the cloud. This capability builds on the wide range of IBM storage solutions that can be included in VersaStack.

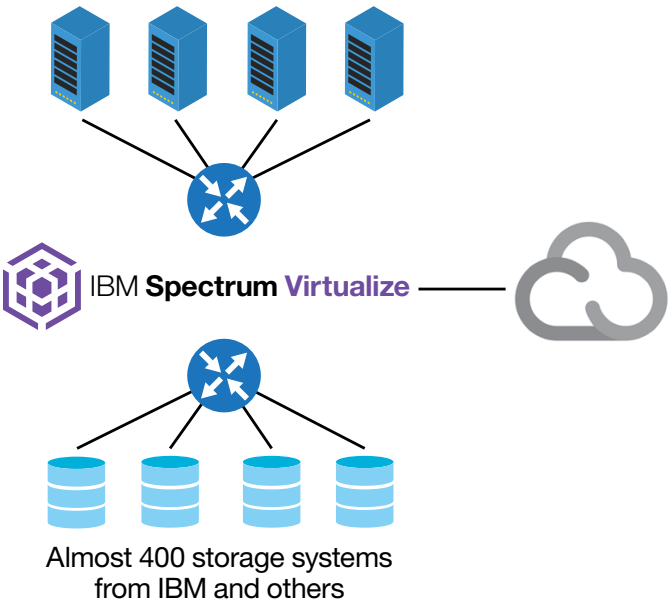
Combining Cisco ONE Enterprise Cloud Suite and IBM Spectrum Copy Data Management technologies in VersaStack implementations creates VersaStack for Hybrid Cloud with a hybrid cloud management layer enabling orchestration, deployment, management and migration of applications across data center, public cloud and private cloud environments. The solution allows enterprises to:

- Improve business agility by deploying applications now and moving to an optimal environment later
- Migrate applications and data to the cloud
- Enable end-to-end data management through tracking and management of copies

VersaStack for Hybrid Cloud provides the flexibility to choose the best deployment option for a wide variety of enterprise IT workloads, while freeing up resources in the data center for new-generation applications and cognitive workloads.

Cisco ONE Enterprise Cloud Suite

Cisco ONE Enterprise Cloud Suite is an application-centric hybrid cloud management platform that makes it easy to deploy and manage data center, private cloud and public cloud application solutions. 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 (Cisco ACI™) environments.



IBM Spectrum Copy Data Management

IBM Spectrum Copy Data Management makes copies available to data consumers when and where needed, without creating unnecessary copies or leaving unused copies on valuable storage. It catalogs copy data from across local, hybrid cloud and off-site cloud infrastructures; identifies duplicate copies; and compares copy requests to existing copies. This ensures that the minimum number of copies is created to service business needs. Copy processes and work flows are automated to ensure consistency and reduce complexity. IBM Spectrum Copy Data Management rapidly deploys as an agentless virtual machine for faster time to value.

By automating time-consuming manual IT tasks, IBM Spectrum Copy Data Management can increase the speed of application development, improve overall code quality and deliver more timely results for business intelligence along with many other benefits. IBM Spectrum Copy Data Management provides a modernization layer that enables application programming interface (API)-level access for easy integration with development tools (such as Puppet or IBM UrbanCode™) and application tools (such as Oracle Recovery Manager [RMAN]). Self-service features even allow data consumers to fulfill their needs without IT intervention, while IT keeps firm control over who can access which data.

IBM cloud storage solutions

IBM all-flash and hybrid storage solutions available for VersaStack are deeply integrated with IBM Spectrum Virtualize™ or IBM Spectrum Accelerate™. These IBM Spectrum Storage family members enable integration with popular cloud storage services and resources, including IBM Bluemix Infrastructure, Amazon S3, and Openstack Swift. IBM Bluemix Infrastructure, in particular, provides a wide range of high-performance global cloud compute and storage resources that are deeply integrated with IBM Spectrum Storage to optimize performance and management. Additional IBM Spectrum Storage family members such as IBM Spectrum Control, IBM Spectrum Protect, and IBM Cloud Object Storage can be added to VersaStack configurations and delivered on-premises or as cloud-based services through IBM Bluemix Infrastructure to deliver a broad spectrum of storage solutions within hybrid cloud architectures.

For VersaStack implementations that leverage the heterogeneous storage virtualization capabilities of IBM Spectrum Virtualize, IBM Transparent Cloud Tiering is available to extend local storage into the cloud for snapshots and restores. This improves business agility by rapidly deploying cloud storage and helps to transform the economics for storage with the ability to convert storage-related capital expenses into operational expense.

VersaStack for Hybrid Cloud use cases

Beyond providing a simplified, comprehensive, on-premises IT infrastructure with agile cloud connectivity and data management, VersaStack for Hybrid Cloud can be used by enterprises to gain a variety of benefits, such as:

- ***"Converged cloud"*** IT infrastructure that allows easy movement of applications and data across on-premises and cloud environments such as IBM Bluemix Infrastructure to optimize cost and performance
- ***End-to-end copy data management*** to lower storage capacity requirements and accelerate application development and testing
- ***IT as a service*** to balance user self-service on-demand deployment and management in environments with central governance and control
- ***Capacity utilization optimization*** with automated standup and teardown of applications and the ability to supplement data center storage with cloud capacity on demand
- ***Hybrid cloud application migration*** to enable migration of existing applications from one environment to another
- ***DevOps and CI/CD automation*** to facilitate automated continuous application deployment to existing continuous delivery, with acceleration of the software development lifecycle using an integrated tool chain

Why IBM and Cisco?

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 VersaStack, please contact your IBM representative or IBM Business Partner, or visit: **ibm.com**/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

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[1] "IDC FutureScape: WorldWide Cloud 2016 Predictions – Mastering the Raw Material of Digital Transformation," *IDC*, November 2015. https://www.idc.com/getdoc.jsp?containerId=259840

[2] "Global Tech Hot Spots: A country-level look at big data & analytics, cloud, mobile and social," *IBM Center for Applied Insights*, November 3, 2014. https://ibmcai.com/2014/11/03/global-tech-hot-spots-a-country-level-look-at-big-data-analytics-cloud-mobile-and-social/

[3] "Don't Get Left Behind - The Business Benefits of Achieving Greater Cloud Adoption," *IDC*, August 2015. http://www.cloudbusinessoutcomes.com/

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

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

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