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OmniStack Integrated Solution with Cisco UCS C240 M3 Series

Solution Brief

Introduction

SimpliVity's mission is to provide IT organizations with the best of both worlds: cloud economics with enterprise performance, protection, and functionality. With the new solution from SimpliVity and Cisco, SimpliVity is expanding on that mission. SimpliVity OmniStack integrates with Cisco Unified Computing System C240 M3 Series Rack-Mount Servers to provide OmniStack-powered hyperconverged infrastructure.

SimpliVity's OmniStack technology—including OmniStack software and its revolutionary Accelerator Card—is driving hyperconvergence and the software-defined data center. SimpliVity OmniStack is a software-defined infrastructure solution providing abstraction, pooling and automation of resources and services. OmniStack runs on x86 industry-standard servers, delivering a hyperconverged infrastructure solution. Clustering multiple OmniStack-powered hyperconverged infrastructure units forms a shared resource pool and delivers high availability and efficient scaling of performance and capacity. Instances of OmniStack-powered hyperconverged infrastructure within and across data centers form a federation that can be globally managed from a single interface via VMware vCenter.

In addition to its own packaging of OmniStack on Dell x86 appliances, offered as OmniCube, SimpliVity now provides OmniStack Integrated Solution with Cisco Unified Computing System (UCS). Together, SimpliVity and Cisco offer a unique architecture that unifies data efficiency, policy-based data protection, and global unified management.

Benefits of OmniStack Integrated Solution with Cisco UCS C-Series

Virtualization has significantly improved IT efficiency, yet workload mobility and performance are huge problems when the underlying data center infrastructure is not virtualized. IT organizations with legacy, siloed IT infrastructure typically have greater complexity, multiple management points, performance issues, and higher costs. Data centers are littered with too many appliances performing too many disparate functions, so it's no wonder IT professionals are struggling to do more with less.

SimpliVity's Data Virtualization Platform, powered by the OmniStack Accelerator Card, manages data segments in 4K to 8K chunks and deduplicates redundant segments before data hits disk, eliminating unnecessary read/write IO. Deduplicating, compressing and optimizing production data in real time saves IOPS and capacity on primary storage and throughout the workload's lifecycle.

Cisco delivers efficiency and scalability to the data center with its UCS servers. UCS' industry-leading performance and efficiency gains deliver the requirements needed for IT infrastructure and enterprise applications, and its policy-based automation and deep integration with familiar systems and orchestration tools make management simple. Cisco UCS is the fastest-growing next-generation data center computing solution that converges data center silos into a single unified system. Together, SimpliVity and Cisco provide:

- **Data Virtualization:** All data is deduplicated, compressed, and optimized inline, at inception, once and forever across all stages of the data lifecycle—without impacting performance.
- **Process Acceleration:** Through the OmniStack Accelerator Card, data is processed at near-wire speeds, reducing latency due to the high-speed, high-availability NVRAM with native FPGAs allowing for efficient architectures.

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- **Hyperconvergence:** SimpliVity OmniStack provides Cisco with storage capabilities that improve the overall Cisco UCS offering. Its Data Virtualization Platform technology not only reduces capacity requirements, but also IOPS to SSD/flash and HDD—as well as associated data center floor space and power. SimpliVity OmniStack integrated with Cisco UCS assimilates eight to twelve core data center functions, including the hypervisor, compute, storage, network switching, backup, replication, cloud gateway, caching, WAN optimization, real-time deduplication, and more. Integrated enterprise functionality, including advanced virtual machine-centric backup and WAN-optimized replication to an offsite location for disaster recovery, result in robust resiliency.
- **Global Unified Management:** SimpliVity offers global unified management through a single pane of glass, VMware vCenter, to manage virtual machines (VMs) at the VM level. OmniStack's VM-centric approach shifts policies from underlying hardware components to workloads, enabling greater mobility and automation. Administrators are no longer required to manage LUNs and volumes; instead, they manage VMs.
- **Less infrastructure and more intelligent servers:** OmniStack Integrated Solution with Cisco UCS enables end-to-end server visibility, management, and control in both bare-metal and virtual environments, and facilitates the transition to cloud computing and IT-as-a-service (ITaaS) with fabric-based infrastructure.
- **Consolidated resources with Cisco UCS C-Series servers:** Cisco UCS C-Series servers allow for dramatic reduction in the number of devices an organization must purchase to cable, configure, power, cool, secure, and optimize virtualized environments across entire systems—not to mention supporting traditional operating systems and application stacks in physical environments.
- **A 10GB Unified Network Fabric:** This fabric results in low-latency, lossless, wire-once deployment with fewer interface cards, cables, and ports to maintain.

Use Cases

Data Center Consolidation – Completely consolidate IT across two or more sites—all managed from a single pane of glass, where all applications run on OmniStack with Cisco Unified Computing.

Remote Office/Branch Office and Multi-Site Central Management Projects – Enable unified Remote Office Management projects by providing data mobility services and the ability to manage remote OmniStack Integrated Solutions from one location and interface.

Additional Use Cases:

- All-in-one IT modernization projects for broad sets of applications, including mission-critical applications
- Backup, disaster recovery, and business continuity projects
- Data migration, as well as merger and acquisition projects
- Development, test, and QA projects
- Technology refresh projects

About SimpliVity Corporation

SimpliVity's revolutionary Data Virtualization Platform delivered on hyperconverged infrastructure is the first and only technology that comprehensively—and simply—addresses the performance and capacity challenges in today's virtualized data centers. Ensuring performance, capacity, mobility, manageability, and protection of data without driving up CAPEX and OPEX requires a new data architecture delivered on commodity x86 building blocks. Launched in 2013, SimpliVity is used by hundreds of enterprises and service providers worldwide, including Dairylea, T-Systems, University of Alberta School of Business, and Wausau Coated. Headquartered in Massachusetts, SimpliVity's business model is 100% indirect, and its solutions and professional services are available through its network of worldwide resellers and distributors.

About Cisco

The Cisco Unified Computing System represents a radical simplification in the way servers and networks are deployed today. It integrates compute resources on a unified IO fabric supporting FCoE, as well as standard IP protocols. The flexibility and simplicity offered by Cisco UCS Manager, integrated into Cisco Unified Computing System, also enables administrators to oversee physical infrastructure like they do virtual infrastructure.

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