MaxDeploy Reference Architecture Brief on Cisco UCS Family

MaxDeploy Reference Architecture delivers a new and flexible way of deployment hyper-converged solutions for the virtual data center by predefining and pre-validating solutions that combine Maxta Storage Platform (MxSP) along with partner solutions and platforms. This removes the interoperability and performance guesswork and simplifies ordering process. MxSP enables pooling of SSDs and locally attached disks across a virtualized cluster of any standard x86 server, delivering a simple, easy to deploy hyper-converged infrastructure solution.

Key Solution Benefits

The combination of MxSP with UCS Rack-Mount servers provides a cost-effective yet powerful solution in a small footprint. The solution delivers high performance for a range of virtualized workloads, is easy to manage and scales flexibly to meet current and future needs. Other important benefits include:

- Maximize choice by enabling custom server configurations, any virtualization (vSphere, KVM), and OpenStack platform
- Maximize simplicity by streamlining IT management and providing VM-centric enterprise-class reliability and data services
- Maximize savings by reducing total cost of ownership and increase agility
- Cost-effectively scales up VM performance density for more and larger VM workloads

Cisco UCS C240 M3 Servers

The form-factor-agnostic Cisco® Unified Computing System™ (Cisco UCS™) combines Cisco UCS C-Series Rack Servers and B-Series Blade Servers with networking and storage access in a single converged system that simplifies management and delivers greater cost efficiency and agility with increased visibility and control. The latest expansion of the Cisco UCS portfolio includes the new Cisco UCS C240 M3 Rack Server (two rack units [2RU]) and Cisco UCS C220 M3 Rack Server (1RU) and the Cisco UCS B200 M3 Blade Server. These three new servers increase compute density through more cores and cache balanced with more memory capacity and disk drives

and faster I/O. Together these server improvements and complementary Cisco UCS advancements deliver the combination of features and cost efficiency required to support IT's diverse server needs. The Cisco UCS C240 M3 Rack Server (Figure 1) is designed for both performance and expandability over a wide range of storage-intensive infrastructure workloads.

System Configuration Information Key Solution Benefits

Components	Description
Number of servers	4 (Cisco UCS C240 M3 Systems)
Processor per server	2 Socket 6 cores (Intel Xeon® CPU E5-2643 @ 3.30GHz)
Memory per server	128GB DDR3
HDDs per server	12x1TB 7.2K RPM SATA
SSDs per server	2x300GB SATA (Intel DC S3700)
Network configuration	Dedicated 10 GigE port
Maxta virtual machine	4 vCPU/8GB memory
Virtualization products	- VMware vSphere 5.x - KVM in CentOS 6.5 - RedHat Enterprise Linux 6.x
Management	- VMware vCenter 5.x - OpenStack Icehouse, Juno - Maxta Native Web Interface and API
Performance	35,000 – 120,000 IOPS @ 4K Block Size

Maxta Storage Platform

Dramatically Simplify IT – Manage VMs, NOT storage:

The solution dramatically simplifies IT by eliminating the need for storage provisioning and managing volumes, LUNs, file systems, and RAID. The installation and configuration of takes only few minutes. Additionally, all data services such snapshots and zero-copy clones are configured and managed from the virtualization UI at the VM-level rather than from a storage specific UI at the storage-level. This enables the VM administrator to leverage storage without the need for deep storage and vendor specific expertise. This simplification along with converged compute and storage eliminates the day-to-day tasks of storage management and enables administrators to focus on managing applications and VMs.

Maximize CAPEX and OPEX Savings – Leverage Hyper-Convergence:

The solution enables significant capital savings by converging compute and storage resources on Intel Server Boards and System servers, without compromising performance or scalability. This provides considerable up-front capital savings and even greater savings on upgrades compared to the capital expenses associated with purchasing and expanding storage arrays or storage appliances. In addition, leveraging commodity disk drives, Intel SSDs, snapshots, zero-copy clones, thin provisioning, in-line compression and in-line de-duplication increases storage efficiency and reduces storage expenses. By significantly simplifying IT, increasing IT efficiency, and enabling administrators to focus on managing applications and VMs, the solution enables dramatic reduction in operating expenses.

Enhance Resiliency, High Availability, Data Protection, and Agility – Provide Enterprise-class Services:

The revolutionary solution achieves best-in-class resiliency and high availability with end-to-end data integrity and no single point of failure. With the solution there is no compromise to the enterprise-class features such as efficient snapshots, zero-copy clones, capacity optimization features such as thin provisioning, compression and de-duplication. Additionally the solution seamlessly supports all the virtualization features such as live migration, high availability, and load balancing.