Snapshot Report

Maxta Storage Platform™

Simple, scalable storage for virtualization

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Maxta's founders were thinking about the simplicity, cost savings and efficiency advantages of software-defined storage way back in 2009, well before most IT professionals had heard of today's oft-repeated term. Maxta's Storage Platform (MxSP) software aims to ease the complexity of provisioning and managing storage for virtualized servers. MxSP also reduces the total cost of ownership and shortens the return on investment for storage systems by leveraging compute / storage convergence on off-the-shelf standard servers coupled with server attached SSD and hard drives versus the expensive, proprietary storage systems still dominating IT shops around the world. Maxta has a better idea and they make a convincing case that the MxSP storage software platform is a ready-for-primetime technology that can save IT significant time and money.

Are storage arrays dinosaurs?

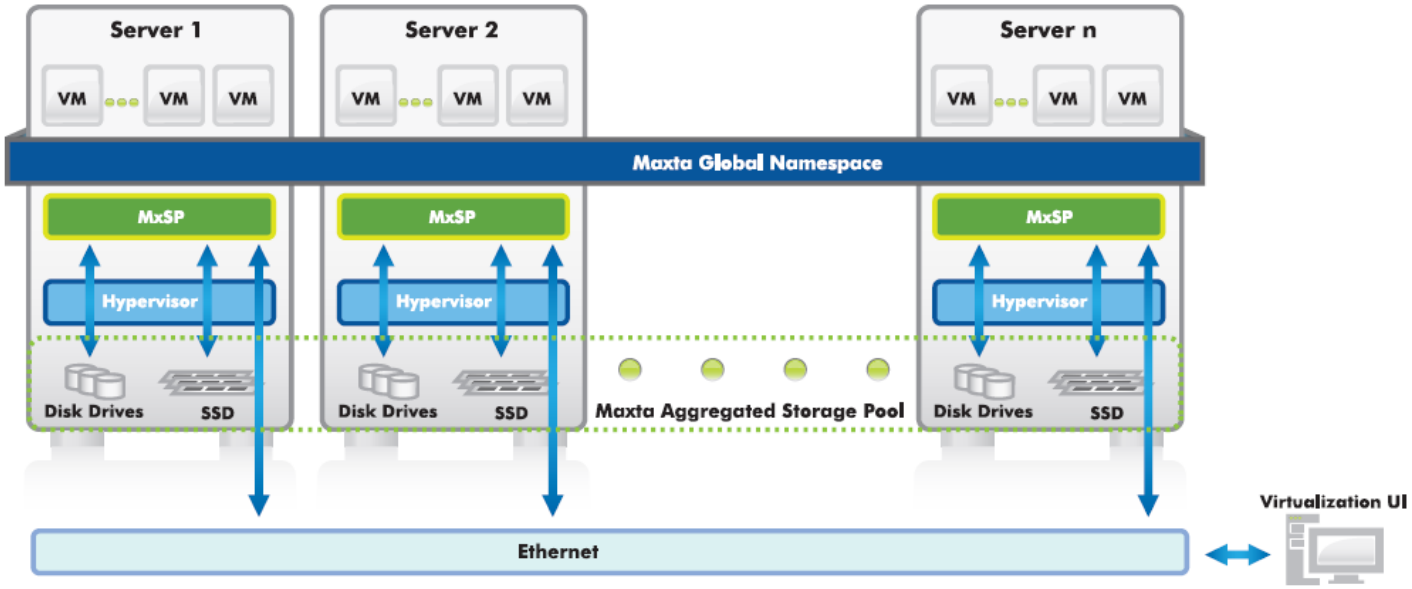
Server virtualization technologies have matured and become main-stream in the past decade, but software-defined networking and storage products are new to the marketplace. The storage market is still dominated by the decades old SAN / NAS architectures and products that are expensive and complex and are ripe for a new disruptive technology. Software-defined storage not only has the potential to conserve precious IT budgets, the technology is also an ideal solution to the challenges of dynamically provisioning and simplifying management of virtualized server environments in data centers as well as private and public clouds. Through a converged compute / storage model, Software-defined storage eliminates the need for storage networking as well as networked external storage arrays (SAN/NAS). If IT finds a way to reduce the number of Fibre Channel networks and the storage arrays they connect to, while maintaining data integrity, availability as well as enterprise class data services, the result will not only be far cheaper than proprietary storage solutions, it also has the potential to be far less complex to administer. The reduction or elimination of dedicated storage arrays also reduces the need for expensive power, cooling and rack space in the data center. Imagine that you didn't need specially trained staff dedicated to actively managing your storage systems? Or, imagine that server or virtualization administrators could dynamically access the storage they require for virtual machines (VM) without the complexity of proprietary storage systems management?

The Maxta Storage Platform Solution

Maxta Storage Platform (MxSP) is a Software-Defined, VM-centric storage platform that leverages commodity servers to provide a highly resilient, low latency, high performance (high IOPS) storage that dramatically simplifies IT, while delivering significant cost savings. It enables the convergence of compute and storage on standard servers leveraging server-side flash/SSDs and disk drives to optimize performance and capacity. MxSP enables shared storage functionality with enterprise-class data services and full scale-out without performance degradation. MxSP enables administrators to concentrate on managing virtual machines while MxSP handles the provisioning and maintenance of storage for virtual machines.

In a VMware environment, MxSP aggregates locally-attached hard drives and SSDs on a vSphere cluster, presenting those storage resources to the cluster as a single shared Maxta datastore with a global namespace. Administrators manage the Maxta storage platform via the standard vSphere client providing VM administrators with a single pane of glass.

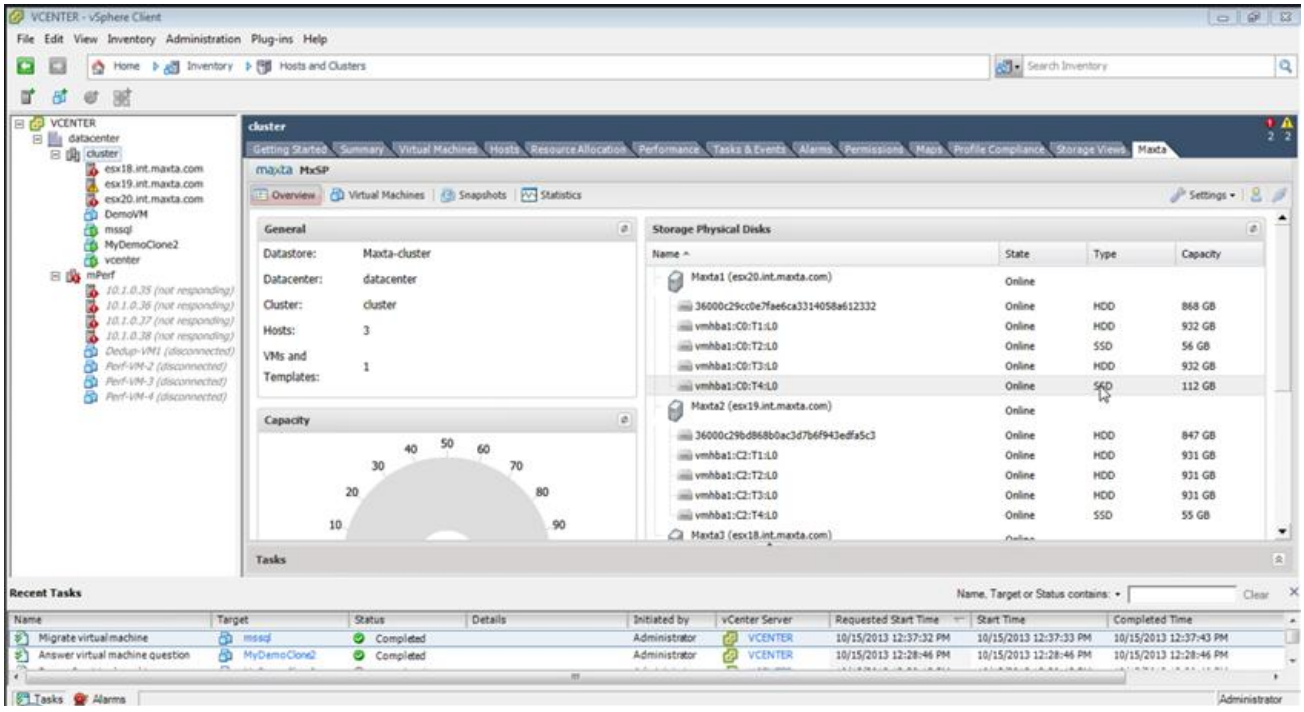
The versatile architecture of MxSP provides the ability to scale capacity and performance independently on-demand without having to over-provision resources. This flexibility enables the servers to either have access to Maxta datastore and contribute storage to it ("Converged Compute/Storage Servers") or have access to Maxta datastore without contributing storage to it ("Compute Only Servers"). The key to the Maxta datastore is the Maxta Global Namespace. This namespace allows all VMs on a cluster to seamlessly access the aggregated storage for that cluster without knowing any of the details of how that storage is configured. (See the figure below.)



Performance and storage efficiency

MxSP utilizes the SSD drive in each Converged Compute/Storage Server as write-back cache, ensuring blazing disk write speeds for the attached VMs. MxSP synchronously replicates the newly-written data to at least a second server in the cluster before acknowledging the write to the application. This ensures data availability in case of a disk drive, SSD or server failure eliminating single point of failure. The SSD drive is also used as a read cache, providing fast read access to frequently accessed data and metadata. MxSP uses thin provisioning techniques to support the ability to provision capacity several times larger than the size of raw physical storage. It also supports inline data compression and inline data de-duplication to keep the size of data as compact as possible, increasing overall storage efficiency. These state of the art capacity optimization capabilities dramatically reduce the data footprint, improving effective storage capacity and reducing cost.

MxSP takes only a few minutes to install and all management functionality is included via a plug-in to the vSphere Client. This means that server admins don't have to bounce between their VM management user interface and a storage-specific user interface. All MxSP commands and functions are available at the VM level within the vSphere Client. Once again, admins can concentrate on managing VMs without being concerned with configuring volumes, LUNs and RAID. MxSP handles all of the low-level storage administration tasks required to make the datastore available to the VMs.



MxSP is fully integrated into the virtualization platform from UI to data management delivering seamless support for VMware features such as vMotion, Storage vMotion, High Availability and the VMware Distributed Resource Scheduler (DRS).

Data protection and recovery

MxSP's highly efficient snapshot improves data protection and data recoverability. Unlimited, near-instantaneous VM snapshots can be used for highly efficient disk based short term data protection. MxSP can also revert to any previous VM snapshot in a matter of seconds, streamlining data protection and recovery efforts. New VMs can be instantly provisioned by utilizing MxSP's Zero-Copy Clones.

Our Take

Maxta currently supports VMware vSphere but has plans to support additional hypervisors in future releases. Maxta's sales model is almost exclusively via a channel organization, leveraging the expertise of their channel partners to push sales. MxSP is a very impressive technology that eliminates the need for expensive, proprietary storage arrays and complex management in favor of commodity hard drives and SSD drives in a converged compute / storage architecture with a simplified management. The savings potential of implementing MxSP encompasses reduced hardware requirements, reductions in data center power, cooling and floor space requirements, and ease of use that allows IT to control storage costs and for VM administrators to control their own data destiny.