

ioTurbine

Accelerate Virtualized Application Performance

ioTurbine transforms ioMemory into a transparent, acceleration device for virtualized workloads to cache hot data off any storage system, whether SAN- or NFS-based. ioTurbine caches data within hosts, close to application workloads, delivering unparalleled low latency. With ioTurbine, Fusion-io customers can deploy terabytes of flash-based cache to significantly accelerate performance of virtualized workloads, eliminate I/O bottlenecks, increase virtual machine density per physical host, and minimize incremental investments in external storage infrastructure.

IoTURBINE SOLUTION

ioTurbine software caches frequently used data on ioDrives

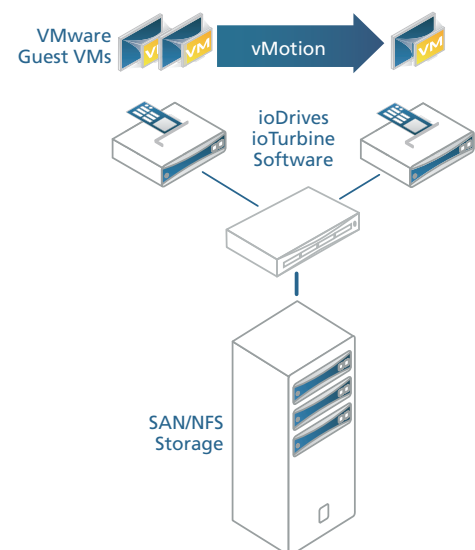
- Virtualize without compromise
- Maximize performance for I/O intensive applications
- Seamlessly integrate with existing storage
- Take full advantage of vMotion

Example applications

- Any Windows application
 - SQL Server
 - Exchange
 - Sharepoint
 - Active Directory
 - IIS

IoTURBINE BENEFITS

- Transparently cache hot data off any existing SAN- or NFS-based storage volumes to eliminate I/O bottlenecks and significantly accelerate virtualized workloads
- Increase the VM density per physical host and minimize incremental server investments
- Minimize expensive investments in external storage infrastructures; minimize overprovisioning of LUNs and maximize storage efficiency
- Minimize investment in storage networking and maximize available network bandwidth
- Virtualize I/O intensive critical applications as NAND flash memory in the host can be hundreds of times faster than disk-based solutions
- Leverage policy-based management by treating ioMemory as an elastic cache resource when VMs are created, destroyed or migrated
- Build a scalable, performance-oriented foundation for cloud computing



Features

SIMPLE ADMINISTRATION AND OPTIMUM CONTROL

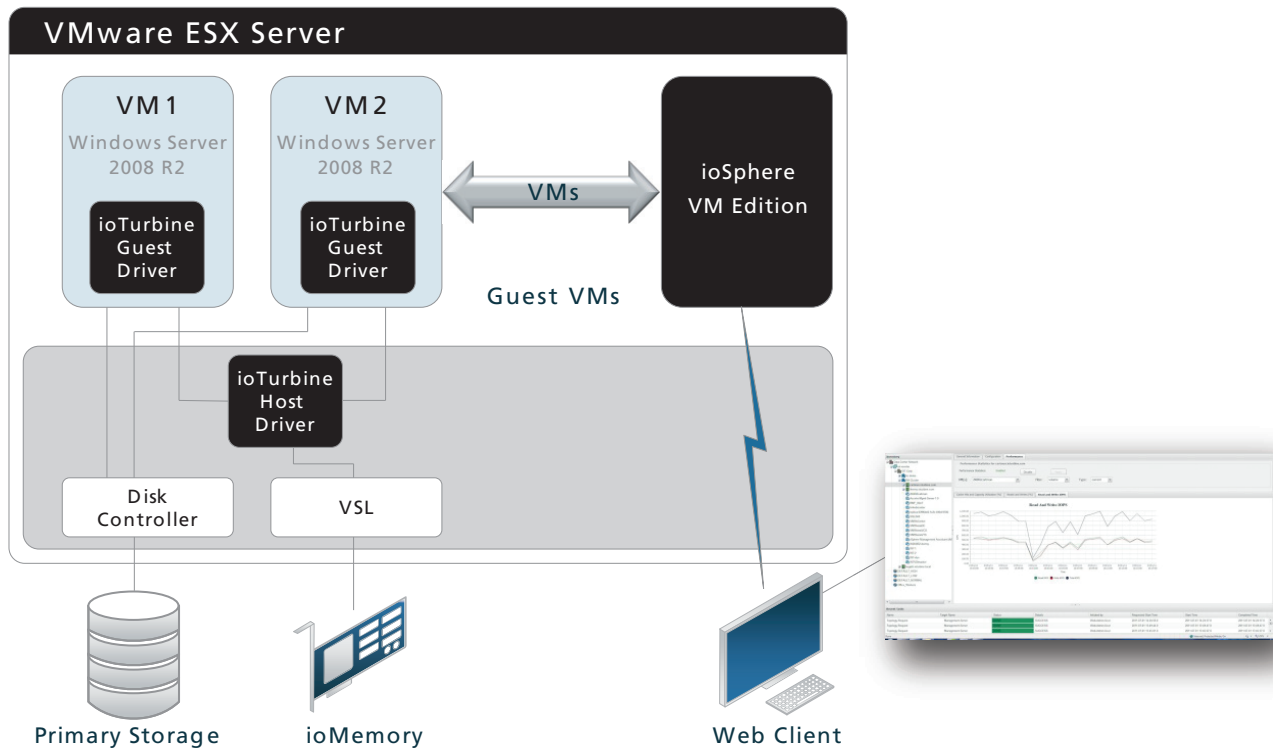
- Guest VMs continue to see SAN- or NFS-based ESX data stores “as-is” without requiring any configuration change
- Transparently use ioMemory as a cache
- Seamless live migration of VMs with VMware vMotion from one physical host to another
- Centralize VM cache policy management across the data center
- Integration with VMware vCenter to provide VM-to-physical host relationship

INTELLIGENT, EFFICIENT USAGE OF VIRTUALIZATION AND INFRASTRUCTURE

- Support for VMware vSphere
- Graphical reports to monitor cache hits and performance statistics
- Fine-grain control for advanced users to cache at the disk, volume or individual file level
- Policy-based management on a per-VM basis allows ioMemory cache size to be dynamically adjusted when VMs are created, destroyed or migrated between hosts
- Profiler feature allows customers to understand I/O requirements for existing workloads to estimate appropriate ioMemory cache capacity requirements
- Optional compression feature enables higher utilization of available ioMemory capacity

WWW.FUSIONIO.COM

ioTurbine Deployment



Technical Details

- Accelerate any OS visible storage volume, disk or file as a write-through cache
- Runs as two components: in the hypervisor and the guest operating system
- Tightly coupled with guest OS I/O routines and transparently redirects read requests to ioMemory for significantly faster random read access
- Per-VM performance statistics and rich graphing– Hits, Reads, and Writes with percentages and IOPS
- Package support logs and ftp to Fusion-io Support for diagnostics

PRODUCT FEATURES

Cache type	Fully associative cache
Cache mode	Write-through
Additional CPU and RAM overhead	No noticeable increase over the ioMemory VSL requirements
Management	GUI, CLI
Power loss protection	Yes

SYSTEM REQUIREMENTS

Compatible cache devices	ioDrive, ioDrive Duo and ioDrive Octal
Operating systems	Microsoft Windows Server 2008 and 2008 R2 (x64-bit only)
Hypervisor	VMware ESX 4.0, ESX 4.1, ESXi 4.1

For More Information

www.fusionio.com | 801 424 5500 | facebook.com/fusionio | twitter.com/fusionio

International sales www.fusionio.com/contact