

BlueArc Network Attached Storage for Virtual Desktop Infrastructure (VDI)

Maximize Virtual Desktop Performance

VDI STORAGE REQUIREMENTS

Implementing the correct storage architecture can increase the efficiency and price/performance of a VDI deployment by a factor of 100:1.

The features required to deliver high-performance and cost-effective storage for VDI include:

- Support multiple protocols:
 - NFS for VDI instance
 - CIFS for user data
- High-performance file storage system
- Support SSDs for master images
- Wide stripping for performance
- Large read & write cache
- 1,000s of snapshots
- Storage clones for space efficient persistent VDI instances
- Integrated vCenter management for simplified administration
- Scales to support 100s to 1,000s of VDI instances

Utilizing VDI optimized features coupled with a scalable multi-protocol architecture enables VDI deployments that can deliver price – performance levels that are 100 times better than alternatives.

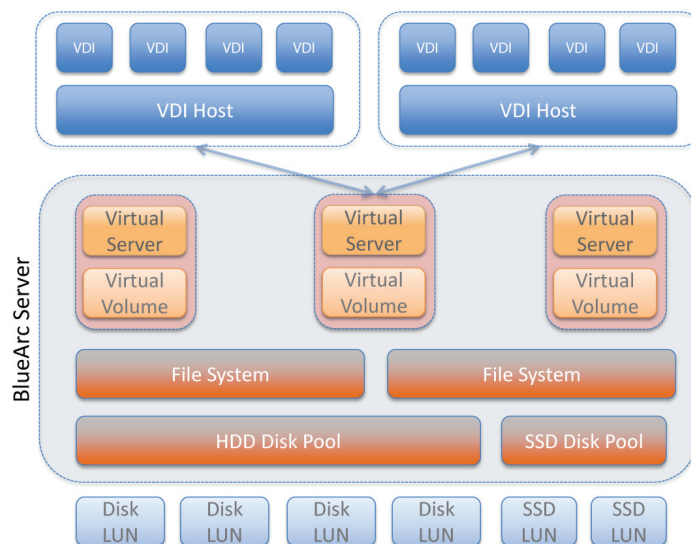
Storage: The Key to VDI Performance

Evaluator Group research indicates a growing number of Virtual Desktop Infrastructure (VDI) deployments. Initially deployed in Fortune 1000 companies, VDI is now moving into SMB and specific vertical markets. A primary issue impacting the success of VDI is the performance and cost of deployment. Storage is often a critical item determining VDI success or failure. Evaluator Group's key findings are:

Storage is typically the gating issue to achieving VDI performance

- Using the right storage architecture is critical for VDI success
- Writeable storage clones can improve storage efficiency by 100 X
- Using Flash for VDI can dramatically improve performance

BlueArc Architecture



Performance Optimized Architecture

BlueArc systems are optimized for VDI environments. The scalable design allows deployments to start small and grow to thousands of users, all within a single BlueArc cluster. BlueArc hardware-accelerated file systems deliver the highest I/O operations per second (IOPS) per node when compared to alternatives. The architecture includes multi-protocol support, enabling administrators to separate VDI images from user data. Additional support for caching, SSD and spinning media provide performance and efficiency.

Some of the most relevant features for VDI include:

VDI FUNCTION	BLUEARC FEATURE	BENEFIT
Management	JetCenter plug-in	Single management interface
Performance	High-performance file system + SSD	Master VDI image on SSD
Efficiency	Tiers + JetClone	Consolidate images 100:1
Data Separation	NFS, iSCSI, CIFS	Single platform for all data
Data Protection	1,024 Snapshots	Protection for each VDI instance

The BlueArc design delivers the features required, with the scalability and reduced management unique to the BlueArc clustered architecture.

Maximizing Virtual Desktop Performance

Evaluator Group, Inc. (EGI) has created the first industry storage benchmark for virtual desktop infrastructure (VDI) called the VDI-IOMark. The VDI-IOMark was developed in conjunction with industry experts and storage vendors to ensure measurement and benchmarks accurately and fairly measure storage performance. While the VDI-IOMark is designed to recreate real-world VDI workloads by generating I/O streams that are a replay of actual workloads, it should be noted that these benchmarks are only guidelines and actual results vary depending on each organization's specific environment. The BlueArc mid-range Mercury 110 system was configured 48 SAS 15k rpm 450Gbyte HDDs, RAID 5, 4 Kbyte file system block size and aggregated 2x 10GbE network. The environment consisted of two ESXi servers with 48 Gbytes memory per system. The initial VIO-IOMark simulation indicates that the BlueArc Mercury 110 supports 1,502 task users or 751 knowledge users with a latency of less than 50 ms.

Simplified Management and Storage Efficiency

BlueArc provides two new features which specifically enhance VDI deployments. BlueArc JetCenter provides integrated management with VMware by adding a BlueArc plug-in into the vCenter management application.

BlueArc JetClone introduces storage clones to both improve performance and reduce capacity requirements. A JetClone can be created in seconds and then utilized as the master image for additional VDI instances.

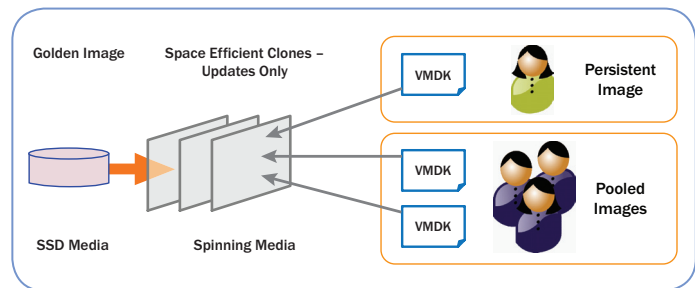
When combined with BlueArc JetCenter, a plug-in to VMware vCenter, VMware administrators have a simple way to manage JetClone, snapshots and other data management and data protection features.

About Evaluator Group

Evaluator Group incorporated in 1997 for the purpose of providing comprehensive and objective analysis of storage to IT storage professionals. Our clients range from mid-sized firms to the largest of the Fortune 100.

About BlueArc

BlueArc, a leader in high-performance file storage, delivers VMware-integrated, enterprise-class NFS storage solutions for virtualized infrastructures. With BlueArc solutions you can dramatically simplify and streamline your storage infrastructure without compromising on performance or scale in order to realize the TCO benefits of virtualization.



JetClone for VDI



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