Dell Network Attached Storage
APPLICATION READY SOLUTION GUIDE

Enable Data Mobility with Dell Network Attached Storage and F5 ARX

As a leading vendor of networked storage, Dell® provides companies worldwide with cost-effective file storage solutions that meet their business needs. Dell's comprehensive storage product portfolio provides competitive storage solutions at a full range of price and performance levels, ranging from the NX4 and PowerVault™ NX line of networked attached storage (NAS) to open systems (Windows/Linux) storage built on EqualLogic iSCSI storage platforms and Dell/EMC DD Series deduplicated storage systems.

F5® ARX® intelligent file virtualization enables organizations to seamlessly integrate Dell file storage solutions into their existing storage environments. ARX enables flexible data mobility with non-disruptive migration and automated management policies that intelligently move files to the appropriate storage tier based on business value. ARX solutions help organizations make the most of their investment in – and leverage the cost and management advantages of – Dell file storage systems.

Key benefits

Seamlessly Integrate Dell Storage
Virtualize the file storage infrastructure to deploy Dell storage solutions seamlessly alongside existing systems.

Simplify Storage Provisioning
Easily and transparently provision new capacity from Dell file storage systems into existing environments to respond to rapid data growth.

Maximize Storage Utilization
Make better use of new and existing storage assets by increasing aggregate utilization and balancing utilization across multiple resources.

Migrate Data Non-disruptively
Simplify and accelerate data migration and consolidation projects from legacy infrastructures to Dell storage systems.

Lower Costs with Dell Storage
Automatically migrate older and less business-critical files to lower-cost Dell PowerVault and EMC DD Series systems.

Reduce Backup and Restore Times
Reduce the redundant weekly backup of inactive data to dramatically lower backup times and costs.

Benefits and F5 value

F5's Application Ready Solution for Dell Network Attached Storage provides the following benefits to organizations, and their end users.

Seamlessly Integrate Dell File Storage

While purchase decisions tend to focus on upfront costs, the costs of managing and integrating a new platform can often be significantly greater. Deploying a new storage platform can challenge even the most seasoned IT organizations – users and applications are tied to existing storage resources, making it difficult to integrate new platforms into existing environments. In many cases, new platforms become their own islands of storage managed separately from existing resources.

ARX solutions simplify management of heterogeneous file storage environments. ARX aggregates physical storage resources to create a virtual storage pool that masks the physical differences between different storage types. Users and applications can be provisioned capacity from any resource in the virtual storage pool. This enables organizations to seamlessly integrate Dell storage systems into existing environments and efficiently use available storage capacity regardless of type, platform, or vendor, and without impacting users and applications.

Simplified Management

ARX solutions enable organizations to seamlessly integrate Dell storage systems into existing environments and efficiently use available storage capacity regardless of type, platform, or vendor, and without impacting users and applications.
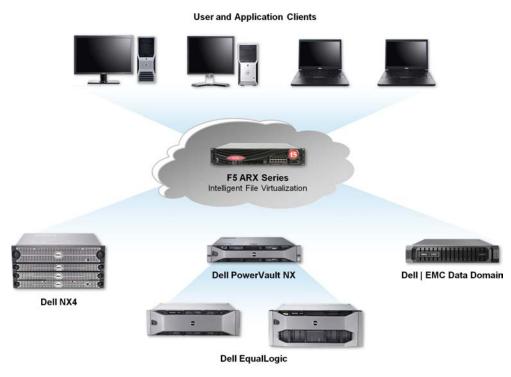

Figure 1: ARX seamlessly integrates Dell file storage into existing environments

Simplify Storage Provisioning

Modern file storage environments are inflexible – users and applications are statically mapped to physical file shares on backend storage devices and any changes can cause downtime. This creates challenges when existing shares need to be re-provisioned in response to rapid data growth. It also makes it difficult to share capacity between multiple storage resources or add capacity from any new platform into an existing environment.

ARX makes it easy and non-disruptive to provision or re-provision storage capacity in existing storage environments. ARX devices present virtual file shares to users and applications that can incorporate physical capacity from any backend file storage resource. Client systems map to or mount the virtual file shares, so provisioning additional capacity occurs transparently and without impact to users and applications. This makes it easy to quickly integrate new Dell storage solutions into existing environments.

Migrate Data Non-disruptively

Organizations looking to migrate to or consolidate with new storage systems typically face the challenge of managing business downtime. Migrations projects require significant upfront planning and preparation, manual migration of data, and reconfiguration of client mount points or drive mappings. Projects are typically performed within small downtime windows in order to minimize the disruption of moving file data. As a result, even small migration projects can often take weeks or months and consume limited IT resources.

Seamless Data Migration

The combination of ARX automated policies and non-disruptive data movement can dramatically reduce not only the operational costs but also the time required to migrate to Dell storage solutions.

ARX solutions enable movement of file data without disruption to users and applications. Automated policies reduce the IT overhead for even complex migration projects and can be scheduled to avoid peak traffic times or backup windows. In addition, migrations are performed without any changes to mount points or drive mappings, eliminating the need for client reconfiguration. The combination of automated policies and non-disruptive data movement can dramatically reduce not only the operational costs but also the time required to migrate to Dell storage solutions.

Lower Costs with Dell Storage

For many IT organizations, the rate of data growth can often far outstrip that of the storage budget. Storage vendors such as Dell offer a wide range of storage solutions that can help lower the per-GB cost of storage capacity through lower-cost technologies such as SATA and data deduplication. However, effectively leveraging lower-cost storage can be a drain on IT resources, requiring a continuous cycle of identifying and migrating appropriate files as they age or decrease in value.

Through the combination of virtualization and automated policy, ARX can seamlessly integrate lower-cost storage technologies such as PowerVault, EqualLogic, and Dell/EMC DD Series into a tiered storage infrastructure. ARX devices can automate the placement and movement of data between different tiers or types of storage through intelligent policies. Automated storage tiering policies operate at the file level, providing the flexibility necessary to move either individual files or entire projects to lower-cost storage over time, based on granular criteria (age, type, and more) and without requiring the use of stubs or pointers. ARX moves files transparent to users and applications which have full online access to their data at any point in its lifecycle regardless of location.
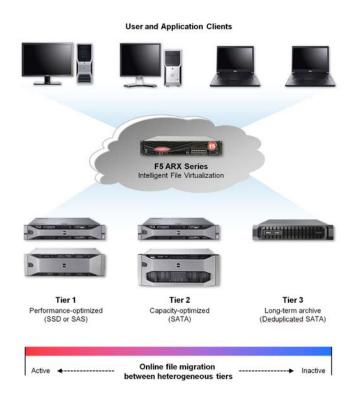
Figure 2: Automatically migrate files between heterogeneous storage tiers with ARX

Reduce Backup and Restore Times

As data continues to grow, the amount of time required to back up or restore that data also grows. In many cases, weekly backups can consume almost the entire backup window, leaving little room to respond to error or for future growth. ARX can significantly reduce the amount of time required to perform backup and restore operations, often by up to 80%.

Much of the time spent backing up data is consumed by inactive data that does not change between backups. This means that a sizeable percentage of every full backup is redundant. ARX devices automatically migrate inactive or unchanging files to lower cost storage tiers where they can be backed up much less frequently. This automated tiering does not disrupt user access to those files but enables organizations to apply different backup policies to different tiers based on the data classification of each tier.

Maximize Storage Utilization

Business data grows not only rapidly, but also unpredictably and unevenly. As a result, storage environments typically experience uneven capacity utilization between different servers or volumes. Organizations often have to spend significant amounts of time re-provisioning capacity or manually balancing utilization with disruptive and labor-intensive data migrations.

ARX solutions help simplify the management of rapid and unpredictable data growth. ARX devices aggregate and automatically balance capacity across multiple storage resources to eliminate islands of storage and increase aggregate utilization. ARX also eliminates the disruption from re-provisioning events, allowing organizations to target higher levels of utilization when provisioning new or re-provisioning existing file shares.

More Information

To learn more about F5 and Dell Network Attached Storage, use the search function on F5.com to find these and other resources.

Partner Pages

Dell | F5 Global Alliance on F5.com

DellTechCenter on Dell.com

Dell Power Solutions Articles

Simplifying Data Management and Mobility: F5 ARX File Virtualization and Dell Storage

Case Studies

Clackamas County

Deployment Guides

Dell NX1950 and EqualLogic PS5000 Storage Array (F5 ARX Series)

Dell NX1950 and MD3000 Storage Array (F5 ARX Series)

Dell NX3000 (F5 ARX series)

Data Domain Storage Systems (F5 ARX Series)

F5 Networks, Inc.   401 Elliott Avenue West, Seattle, WA 98119   888-882-4447   www.f5.com

F5 Networks, Inc. **Corporate Headquarters**	**F5 Networks** **Asia-Pacific**	**F5 Networks Ltd.** **Europe/Middle-East/Africa**	**F5 Networks** **Japan K.K.**
info@f5.com	apacinfo@f5.com	emeainfo@f5.com	f5j-info@f5.com