

Petabyte Scale Migration – A Personal Story using StorageX

Are you facing a large petabyte scale migration? A job this large requires the right solution. Read one customer's own story how he used StorageX to successfully manage a ten-petabyte migration.

Customer Challenges

Details

- CIFS and Mixed Mode shares
- 4,000-5,000 total shares
- Up to 40 TB per share
- Up to 180 million files per share

Eliminate origin storage issues	Data growth	Traditional tools would take 5x the time
Scale of weekly cutovers (100s)	Need to lower cost	Maintain security
CIFS & NFS mixed environment	Maximize uptime	Business Unit buy In

The results at the left are an excellent example of the kind of outcome our customers we're excited about at Data Dynamics. With today's constant need for maximizing efficiency, while constantly driving costs down, the StorageX story related here is a clear example of how we're changing the landscape of managing your data.

Customer Story

Results

- 10 years of work done in 2 years
- 10 PBs optimized
- 50% cost savings realized

With data growth, equipment end-of-life (EOL), and increasing support costs it is very crucial for organizations to consolidate and eliminate older and more expensive storage systems. The cost of such data migration is significant and migration can present substantial business and technical challenges.

A variety of tools are required to move data between arrays from different vendors or to newer equipment. Traditional migration solutions do little to address these challenges. Host-based tools can reduce the performance of other business applications by consuming CPU cycles and I/O bandwidth. Array-based solutions either do not support heterogeneous storage environments, or offer a one-way transfer that locks customers into a single-vendor solution.





Appliance-based solutions require a service technician to enter the data center, install the appliance in the data path between the host and the storage device, and then remove the appliance after performing the migration. The result is an expensive, intrusive approach that is not readily scalable and requires downtime before and after the migration.

To efficiently meet ongoing migration needs, storage administrators need a simpler, less disruptive, and more cost-effective way to migrate data between heterogeneous storage arrays.

StorageX Dynamic File Management

One such solution for file based data management and migration is Data Dynamics StorageX. StorageX is a software based solution which facilitates file based storage management and migration. StorageX distinguishes itself by being a very simple, yet powerful GUI based tool which simplifies the migration, consolidation, and archiving of file data in large, complex, heterogeneous file storage environments. StorageX is fully automated and has a policy driven approach to data migration and management.

StorageX supports various NAS devices (EMC VNX/VNX OE for File and Isilon/OneFS, NetApp/Data ONTAP 7-Mode and Cluster Mode, Windows, and Linux) as both sources and destinations, as well as stand-alone CIFS and NFS file storage resources. StorageX software can be installed on virtual or physical servers. Installation is a simple and straightforward process. We migrated more than 3,000 NAS between variety of source and destinations storage systems/servers. Some of the major benefits of StorageX are explained below.

Benefits of StorageX

- 1. GUI interface:**
The graphical user interface makes it very easy to handle bulk NAS migrations. With the GUI, we can add storage resources (source and destination) and create data movement policies for NFS/CIFS share by specifying the replication and migration options.
- 2. Migration Policies:**
Migration policies define the data movement between source and destinations. For CIFS shared folders and NFS exports, there are several configuration options available. Carefully input the data in the migration template as it is the base for deciding the migration options. Options are available to copy directories only, delete orphaned file/folder on destination, copy security settings, choose file attributes, filter files by age, exclude files/folders, etc. After the initial baseline data copy phase, continuous incremental copies ensure replication of new, locked, or recently modified files on the

“Using the StorageX GUI interface, it was easy to configure migration policies (baseline, incremental and final copy)”

“StorageX copied security permissions (in Windows) and mode bits and file attributes (in Unix). No manual intervention or correction was needed”



source to the destination. In the final cut-over phase, StorageX options allow you to remove user access to the source, perform a short, final sync to copy any new files recently added or updated, and then share the new destination with users. This phased migration (baseline, incremental and final copy) approach reduces the overall downtime window required to migrate the NAS data.

“StorageX provided a detailed summary report of the migration with migration start, end time stamps, bytes copied, number files and folders copied, skipped or deleted files and error logs”

3. **Migration Schedule:**

Once the baseline copy is completed, subsequent incremental copies can be automated through migration schedules. Migrations can be scheduled every minute, hourly, daily, weekly, etc.

4. **Automated Emails:**

Email notifications can be configured for effective monitoring. We did not need to login to the tool to check the migration status, emails alerted us under different conditions (completed successfully, completed with errors/warnings or cancelled).

5. **Migration Summary Report:**

Summary reports give a detailed status of the migration with migration start, end time stamps, bytes copied, number files and folder copied. If the migration is cancelled with error or if it is unsuccessful, the error logs clearly indicate the cause so we can troubleshoot to fix the issue and retry the data copy. If certain files are skipped or deleted, that is also indicated in the summary.

6. **Security Permissions and File Attributes:**

A major challenge in NAS data migration is copying the security permission (in Windows) and mode bits and file attributes (in Unix). StorageX can copy security permissions and file attributes over smoothly from source to destination based on the options specified in the migration template. No manual intervention or correction is needed after the final data copy.

About Data Dynamics

Data Dynamics is a leader in intelligent file management solutions that empower enterprises to seamlessly analyze, move, manage and modernize critical data across hybrid, cloud and object-based storage infrastructures for true business transformation. For more information, please visit: www.datadynamicsinc.com.

Copyright © 2017 Data Dynamics, Inc. All Rights Reserved.

The trademark Data Dynamics is the property of Data Dynamics, Inc. StorageX is a registered trademark of Data Dynamics Inc. All other brands, products, or service names are or may be trademarks or service marks of, and are used to identify, products or services of their respective owners.