

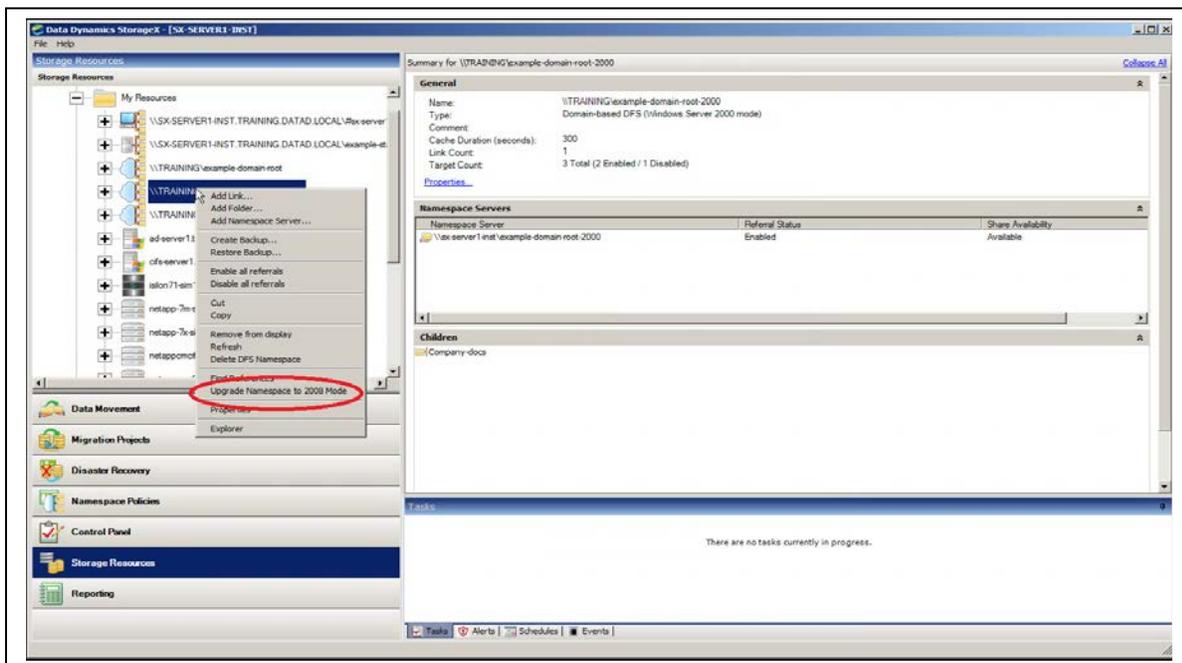
The major benefits provided for namespace management by StorageX include:

- Automation functionality to enhance the value brought by Microsoft DFS
- The ability to upgrade and/or convert DFS namespaces, either from 2000 to 2008 or from stand-alone to domain-based
- Automated failover from primary to secondary site in the event of a failure
- Backup and restoration of DFS namespace and link information
- Replication between primary and secondary sites for CIFS and NFS
- Data mobility for tiering and management or hardware refresh/consolidation and optimization

Implementation

The user was able to easily install StorageX components in their environment, and then configured the product using the user-friendly StorageX Console UI. A SQL database instance was required and deployed on the same virtual machine as the StorageX console.

For the data movement, Replication Agents were deployed on individual VMs within each of the dispersed geographic sites, with each configured to relay status and updates to the StorageX Console. Upon installation and configuration of StorageX, the user added all of the legacy namespaces to the StorageX Console to be managed.



Project execution

Once the DFS namespaces were added, managing and navigating across those namespaces was easy, leveraging the StorageX Console user interface. All of the global namespaces, both domain-based and stand-alone, were visible via a single interface. Subsequently, new Windows 2012 servers were set up and were configured to be hosts for the legacy namespaces.

Using StorageX's embedded automation, they converted all stand-alone namespaces to domain-based namespaces. In instances where the local branches required stand-alone, non-domain-based namespaces, those were kept in place.

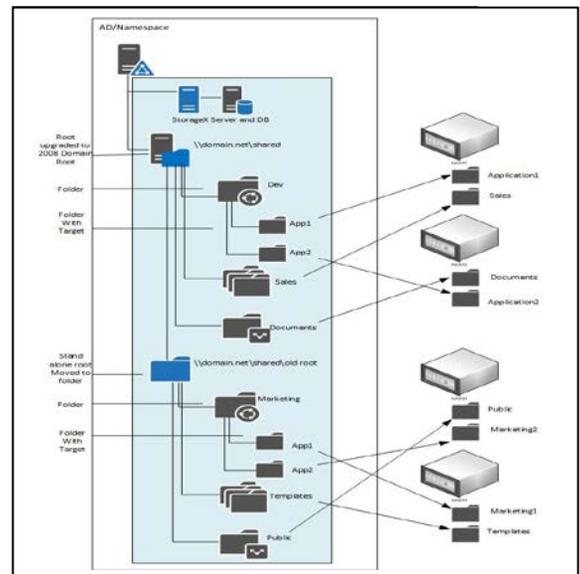
StorageX upgraded Windows 2000 namespaces running on Windows Server 2003 to Windows 2008 namespaces. This process was broken down into batches, based on the hosted server on which they resided. The reason for this batch processing was to expedite the removal of the oldest server hardware first and foremost from the datacenter. All namespaces were converted and moved from Server 2003 to Server 2012.

As part of the upgrading of the DFS namespaces, we encountered several stand-alone Windows File Servers. Leveraging StorageX and its Replication Agents, we automated the migration of the data from the File Servers to their new NAS devices. As part of the move, StorageX updated the DFS links associated with the old shares to reflect the new target NAS devices, making the experience seamless and transparent for the end user. By consolidating the data on the File Servers, the customer was able to retire the old server hardware, create more space in the overloaded data centers, and reduce the cost of power and cooling associated with them.

Conclusion

With the use of StorageX, the user was able to achieve their goals in a timely fashion and within budget. A total of 195 servers (150 servers hosting 2000 domain-based and 45 stand-alone Windows File Servers hosting CIFS shares) were retired in a matter of a few months, with limited outages. The project led to an aggregate reduction of 65% in total resource and time savings, as compared to manual processes, while mitigating risk. A summary of the major accomplishments included:

- ✓ Retirement of all legacy Windows 2003 Servers
- ✓ Retirement of all legacy servers associated with DFS
- ✓ Upgrade of DFS namespaces from 2000 to 2008 mode
- ✓ Upgrade of DFS stand-alone to domain-based namespaces (as required)
- ✓ Seamless migration of data from stand-alone File Servers to NAS devices
- ✓ Automated update to the DFS links for data copied from stand-alone servers to NAS devices



Upon completion of the project, the customer was able to leverage StorageX for ongoing management of the DFS infrastructure:

- Replicate remote stand-alone namespaces back to domain-based namespaces for easy access in event of failure
 - Using StorageX Availability policies to replicate DFS link information
- Backup DFS infrastructure
 - Using StorageX Backup policies to back up DFS link information from all namespaces, irrespective of type

The upgrade and ongoing management automation provided the following business benefits:

- ✓ Reduce ongoing maintenance costs for old servers, saving the organization in excess of \$100,000
- ✓ Provide better performance and SLA compliance to the business units by moving data to high-performance NAS devices from stand-alone servers
- ✓ Reduction in physical footprint, leading to substantial savings in space, power, and cooling requirements
- ✓ Disaster recovery capability for automated failover, meeting the required compliance requirements
- ✓ A full backup of the DFS infrastructure, providing resiliency in the event of an outage

Architecture

StorageX is comprised of four main components:

- StorageX server
- StorageX Console
- SQL database
- Replication Agents (data movers)

StorageX server and Console run on Windows 2008 R2 and above, while the Replication Agents are run on either Linux or Windows resources.

User Interface

StorageX has a simple and intuitive user interface. Devices can be added manually or by browsing a network, and all project and data movement tasks are configured using wizards. This ensures an expedited understanding and use of the product while mitigating risk.

Vendor Support

Data Dynamics has strategic partnerships in place with EMC, NetApp, Microsoft, and HDS. StorageX currently supports various NAS devices as source and target, as well as stand-alone CIFS and NFS file servers.

About Data Dynamics

Data Dynamics is a leader in file based storage management. Its industry-recognized StorageX platform is deployed in some of the largest enterprise customers globally. The StorageX intelligence-based policy engine ensures optimal utilization of storage tiers and delivers a positive business unit experience. Data Dynamics currently has strategic partnerships with market-leading storage vendors and continues to develop products that meet the requirements to manage the data explosion in the digital age.