



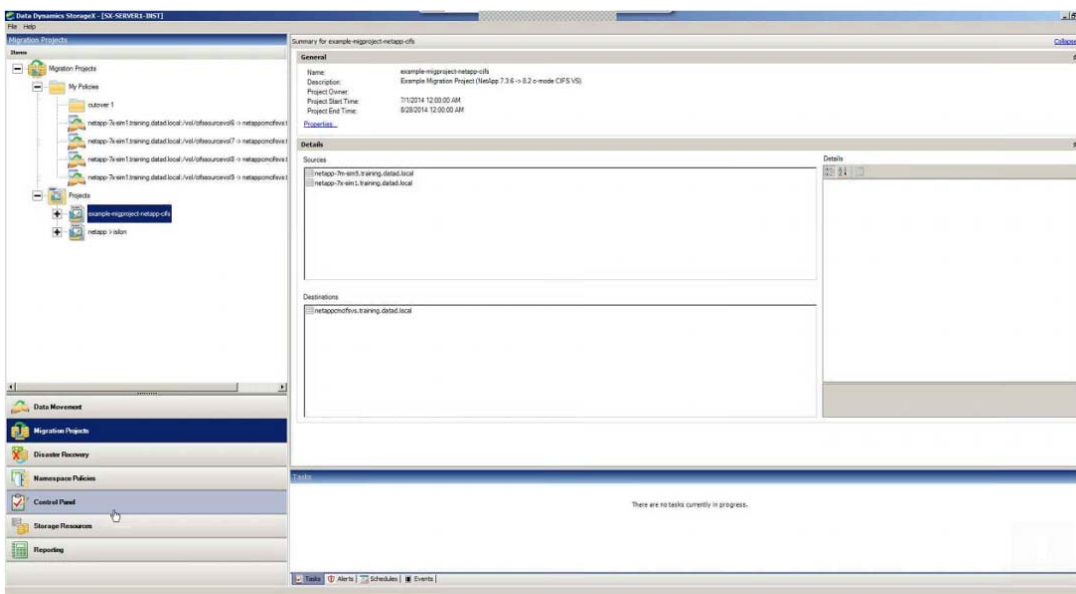
StorageX 7.5: Software-Based Cloud Storage Management

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In a world of converging data centers and the continuing trend of both infrastructure and applications migrating to the cloud, Data Dynamic's StorageX 7.5 offers storage admins a comprehensive, policy-based, out-of-band storage management solution for multi-vendor storage systems. StorageX offers intrinsic support for CIFS, NFS and DFS file systems and can automatically manage namespace, qtrees and other data-specific options. StorageX 7.5 represents a quantum leap in storage management technology that will certainly be of interest to enterprise IT shops, managed service providers and converged data center operators everywhere. Heterogeneous support for all of the major storage hardware vendors, as well as intrinsic support for CIFS, NFS and DFS namespaces makes StorageX a compelling contributor and facilitator of the converged data center.

First Impressions

Starting the StorageX management client offers administrators a familiar Explorer-style user interface with a two-panel left-hand pane and a context-sensitive right-hand pane where configuration details can be easily managed. In the left-hand pane, the lower panel consists of a list of tabs that can quickly take a user directly to the desired portion of the product. When you click on one of the tabs in the lower left panel, the upper left panel changes to a navigation-style menu featuring options for that particular tab. See Figure 1 for an example view of the StorageX user interface.



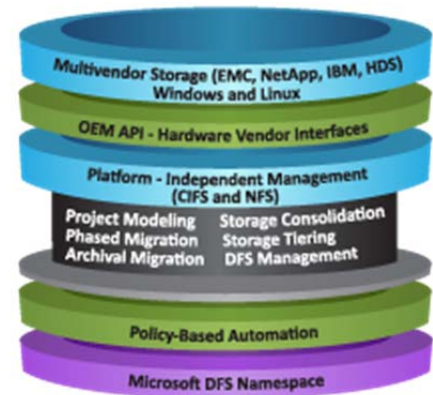
As IT admin roles continue to evolve along with converged data centers and the proliferation of software-defined automation in IT, ease-of-use considerations are no longer an afterthought. The more familiar a user interface is to the intended users, the more effective that software will be as traditional storage, network and server admin roles continue to merge and morph.

Figure 1: StorageX presents a familiar Explorer-style user interface to accelerate user familiarity.

The days of dedicated storage admins concentrating solely on storage management tasks may be coming to a close in the not-too-distant future, as infrastructure admins with other skill sets begin to handle some storage management duties, and vice versa. The familiar user interface of StorageX is a boon to first-time users, who will not have to spend hours learning how to navigate a new interface. Simply click on your desired task tab in the bottom left panel, then you can manage the management options and details either in the top left panel or in the right pane, whichever is more convenient. Some common yet complex management tasks in StorageX kicks-off a wizard, which steps the admin through the task at hand. Once an admin becomes comfortable with tasks in StorageX, direct manipulation of storage resources can be managed without use of wizards.

Heterogeneous Platform Support

StorageX seamlessly manages storage platforms from EMC, NetApp, and native Windows and Linux file systems. SSG-NOW Labs has seen no other storage management package that can migrate from one hardware platform to a different hardware platform without significant complexities and risk of data loss during the migration. Users can move or migrate from an NFS source to an NFS destination or a CIFS source to a CIFS destination at the click of a button. This flexibility removes source and destination data file system considerations from the migration process, as transformation of file systems and namespaces can be fully customized, either manually or via the policy engine. When you define a migration policy, you can see the source data file system in use and you can also pick the desired destination file system from a pull-down menu populated as part of the destination designation process.



Managing and Upgrading 2003 DFS Namespaces

With Microsoft having already announced the impending end-of-life of Microsoft Server 2003 on July 14, 2015, many companies must quickly address any servers running Windows Server 2003 and any accompanying 2003-compliant DFS namespaces. The addition of sophisticated DFS namespace management capabilities in StorageX 7.5 allow for an automated, policy-based approach to upgrading 2003 DFS namespaces. Note that StorageX allows admins to easily and quickly import a batch file listing multiple servers and/or namespaces that need to be upgraded to Windows Server 2008/2012 DFS namespaces. This import feature means that dozens or hundreds of servers and namespaces can be upgraded *en masse*, rather than with the manual Microsoft process that supports upgrading only one server at a time. Considering the ramifications of not getting all 2003 namespaces upgraded prior to the end-of-life date, many companies are purchasing StorageX based solely on their need to quickly and easily perform an automated upgrade of their DFS namespaces. StorageX also supports the ability to automatically update an existing DFS namespace during the replacement of a server, or as part of a migration from one server to another. Your end-users won't even know that a change has occurred to the DFS namespace as part of a server migration, move or server replacement. The ability to manage DFS namespaces and upgrade via a policy-based engine is a significant differentiator between StorageX and other competitors in the storage management software space.

Enterprise File Lifecycle Management

StorageX supports sophisticated file lifecycle management techniques while also providing a number of automated capabilities to help manage unstructured file data. Unstructured data such as Word, PowerPoint and Excel documents, video files and graphic images are becoming a major occupant of corporate storage space, yet most IT shops do not have a plan to deal with such data. StorageX solves this problem by automatically discovering and optimizing unstructured data

within your storage infrastructure. Once again, policy-based management of unstructured data allows for automated treatment of this data to move infrequently used files to a lower-cost storage tier based on a plethora of file characteristics, including date last accessed, date last modified, directory size and the number of files in a directory. StorageX also offers the ability to optimize, view, classify and report on unstructured data.

Data Movement and Migration

Any enterprise IT shop or cloud provider will find StorageX an invaluable software platform when performing data moves and migrations because the policy-based data management engine provides a strong foundation for automating those processes to the maximum extent possible. The primary difference between data moves and data migration is whether or not the data is transformed in any way during the move, and also whether or not file permissions and attributes are altered as part of the movement of data. In general, data movement occurs when you are moving data from one storage subsystem to another without performing any transformation of the data, e.g., moving data from one NFS subsystem to another NFS subsystem. Data migrations, on the other hand, can take data to or from multiple native windows or linux file servers and migrate and consolidate them into a centralized NAS device. As part of the migration process, a policy can be defined that retains or modifies file permissions and attributes. Although purely automatic migrations are possible with StorageX, most admins will want to manually start the Final Phase of migration, just to verify that users do not suffer loss of access to their data during the migrations process. Figure 2 shows a complete Phased Migration Policy in StorageX.

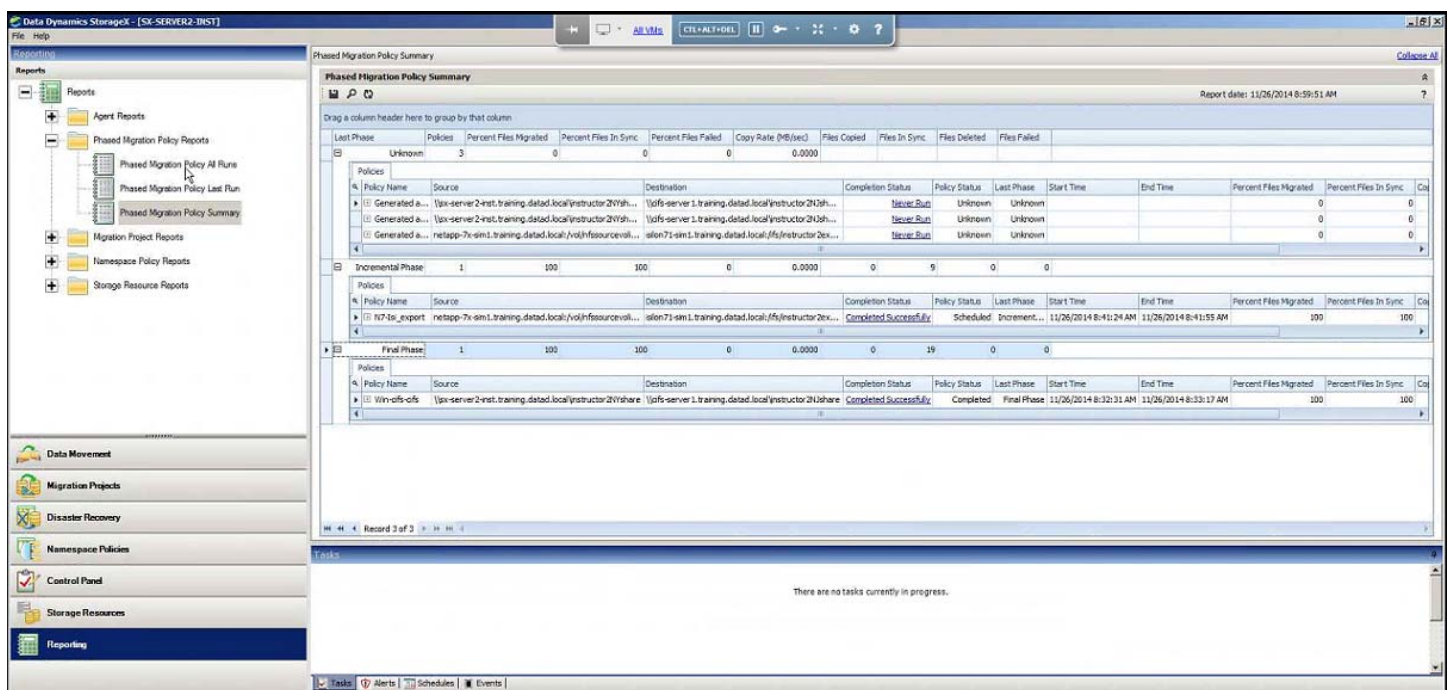


Figure 2: Phased migrations feature an Initial Phase, an Incremental Phase and a Final Phase, giving admins complete control over the migration process.

Replication of Files at Remote Sites

StorageX offers the ability to synchronize file replication to a central site, a cost-saving measure that removes the requirement to have expensive backup capabilities at each remote site. By leveraging migration policies in StorageX, admins can define an automated method that will replicate mission-critical data from remote sites back to a data center or backup location, where proper archiving of remote data can be centralized and managed. StorageX supports both file-level and byte-level replication, and admins can use a migration policy to define specific file, directory and date attributes that trigger a replication. Considering the expense of maintaining backup capabilities at individual remote sites, StorageX offers companies the ability to conserve both budget dollars and admin labor that can then be used to address other challenges.



Our Take

There are many storage and data management software packages on the market, yet none has the policy-based capabilities and cross-platform support offered by StorageX. The recent addition of sophisticated DFS namespace support and the ability to upgrade Windows Server 2003 DFS namespaces to Windows Server 2008 DFS namespaces makes StorageX 7.5 a strategic purchase for companies needing to upgrade and/or manage DFS namespaces. The ability to perform carefully planned phased data migrations saves storage admins so much time that a purchase justification can be articulated based solely on those features. Yet StorageX offers so much more that SSG-NOW strongly recommends that any IT shops with a heterogeneous storage hardware environment, or with both CIFS and NFS platforms, or with a mixture of Windows- and Linux-based storage, should evaluate StorageX for use in their environment. That's not to say that smaller or more homogenous shops should not also look at StorageX, for there are many desirable features that give admins a storage management advantage regardless of the underlying technologies in use. With the blurring of traditional admin roles expected to continue until *software-defined* admins become commonplace, the policy-based automation and easy-to-use interface give StorageX a significant competitive advantage in the storage management marketplace.

Data Dynamic's StorageX 7.5 is so much more than a storage management package. It relies on four foundational pillars: discover, analyze, migrate and manage content and where it should sit in its lifecycle. As organizations start using technologies, such as object storage and the Hadoop Distributed File System, the analysis of data will allow adopting organizations to discover their data, own it and use it to their competitive advantage and profitability. ■

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