



NAS and Object Migration Software for Modern Data Centers

BREAKING A DANGEROUS HABIT

Not so long ago, a typical network-attached storage (NAS) migration was in the tens of terabytes and was typically between similar systems. It was not particularly complex and rarely involved very important data.

In today's modern data center, the frequent task of migrating from one NAS or object storage platform to another should be handled by software that can deal with scale and complexity and, above all, will keep the data safe.

Today, it is not uncommon for a NAS migration to involve thousands of terabytes and billions of files, often between heterogeneous systems, all with different implementations of the storage protocols. And now, NAS data is some of the most important data in a company, often including customer data subject to government regulations, financial data subject to audit, or research information used for business intelligence. Any loss of this data or disruption to the systems that store it can cause untold business damage and expense.

Why then are many companies still using migration tools from a bygone era, even though they are extremely slow, cannot deal with complexity, are difficult to use, are not properly supported, and lack secure data integrity checks?

This whitepaper will examine how DobiMigrate® has completely changed the way companies handle NAS and object storage transitions, and how a software-driven migration approach is helping customers to achieve their TCO targets, minimize disruption to their business, and keep their data safe.

MODERNIZING STORAGE TRANSITION

DobiMigrate is purpose built to address the requirements of today's enterprise NAS migrations. It's built on new technology, which means it doesn't have inherent limitations in scale, speed, or complexity.

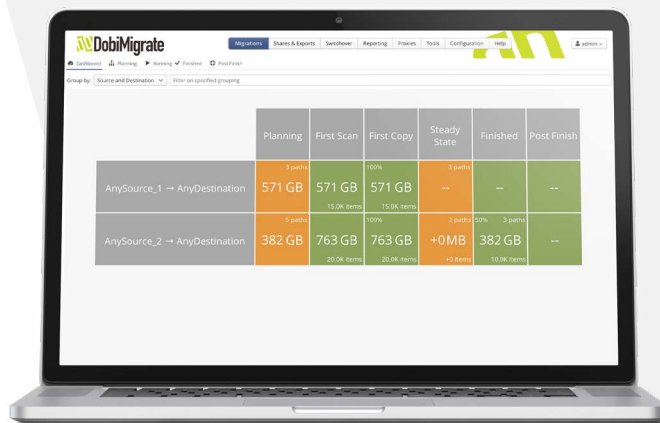
In addition to its patented capabilities, DobiMigrate takes the many and varied processes required for NAS and object migrations and combines them into a single and intuitive graphical user interface (GUI), enabling the easy management of any number of migration projects at any level of complexity – whether the migration is in the same data center or across the world.

And, most importantly, DobiMigrate validates and tracks every single file in a chain of custody so that any company can be sure their data is migrated safely and can prove it if required.

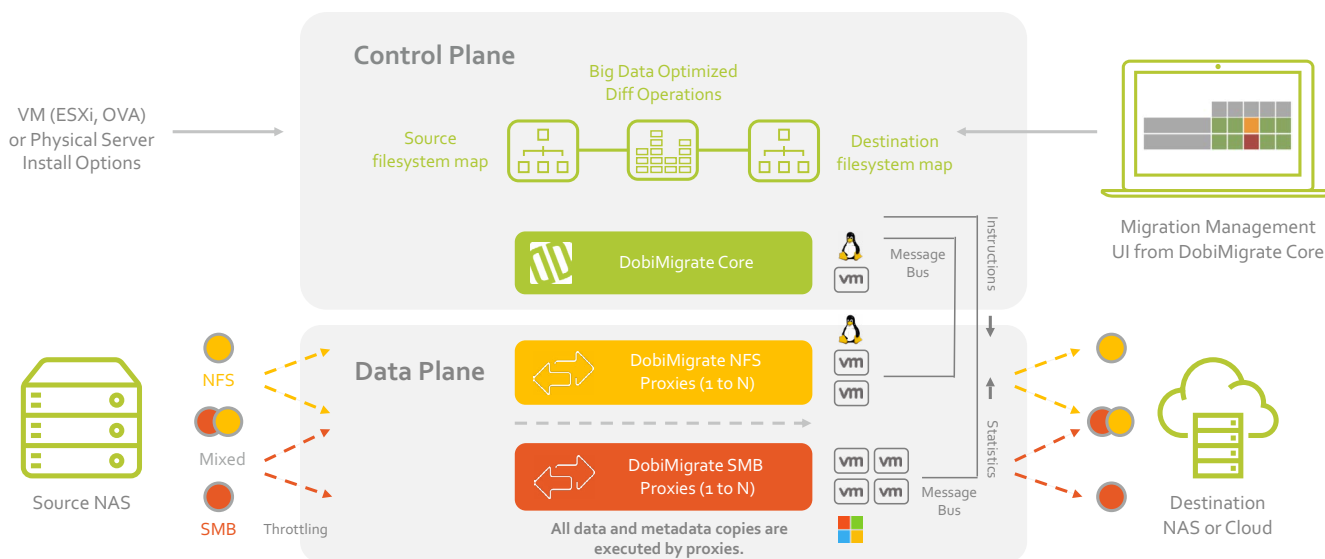
Finally, DobiMigrate is built to deal with the complexity of migrating between storage platforms, whatever the source or target, and is supported 24/7 by world-class migration experts.

DobiMigrate is modern NAS migration software for the challenges of the modern data center.

EASY-TO-USE INTERFACE



FLEXIBLE ARCHITECTURE





THE HIDDEN COST OF A STORAGE TRANSITION

The main reason an enterprise uses legacy migration tools is cost: These tools are usually “free.” But, in reality, the cost is mostly hidden. Let’s take a closer look at how the use of legacy migration tools impacts a budget.

Although hard costs such as personnel time certainly have an impact on the cost of a storage migration, they are not the main business drivers for modernizing storage platform transition.

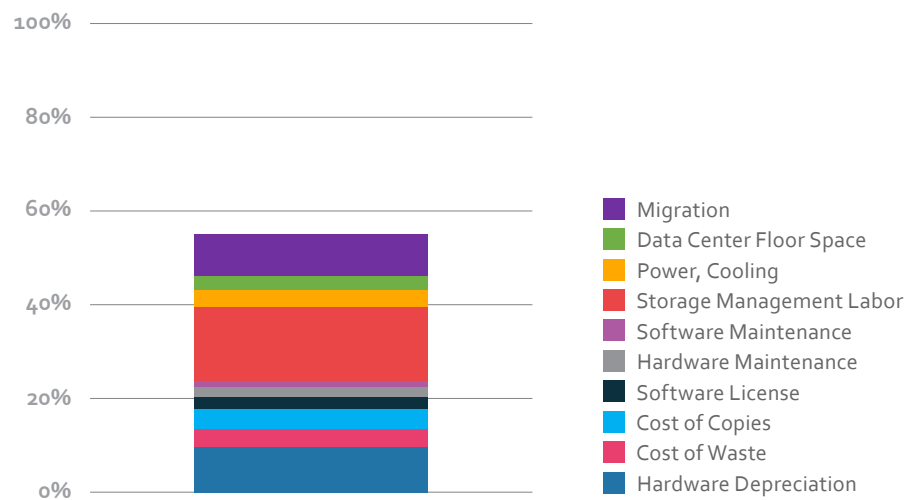
The largest costs of a slow and disruptive migration to a company are:

- The cost of keeping old storage longer than necessary
- The lost opportunity cost of the new storage

COST OF OLD STORAGE

It’s a simple fact that keeping any storage costs money. So it follows that having two storage systems costs more or less twice the amount. That’s what companies are doing when they move from one storage system to another. But, one of those systems is providing no business value and is simply a wasted cost.

Here’s a breakdown of some of the costs of keeping storage.



Source: Hitachi Data Systems report: “Storage Economics – 4 Principles for Reducing Total Cost of Ownership.”

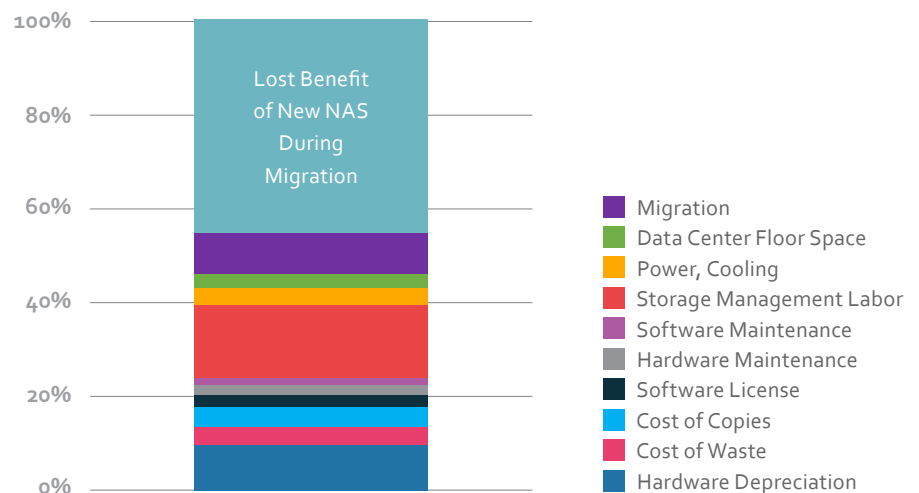
So, the purpose of any storage transition must be to move from one system to the other as quickly as possible to minimize the wasted costs.



LOST OPPORTUNITY

There are two main lost opportunity costs when going through a storage transition:

- **Lower TCO** – The purpose of buying a new storage platform is often to reduce the costs of the current storage and to help manage costs as data grows. The longer it takes to get to that new storage system, the less benefit is derived.
- **Lost business benefits** – The other main purpose for new storage is to bring new benefits to the business, such as faster access to critical business intelligence. Every day that it takes to move to the new storage is a lost day of business benefits.

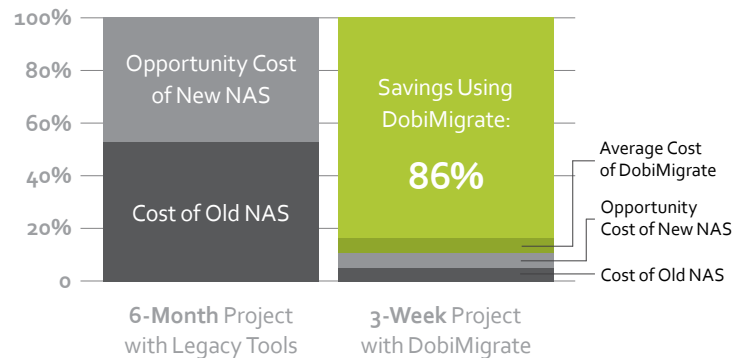


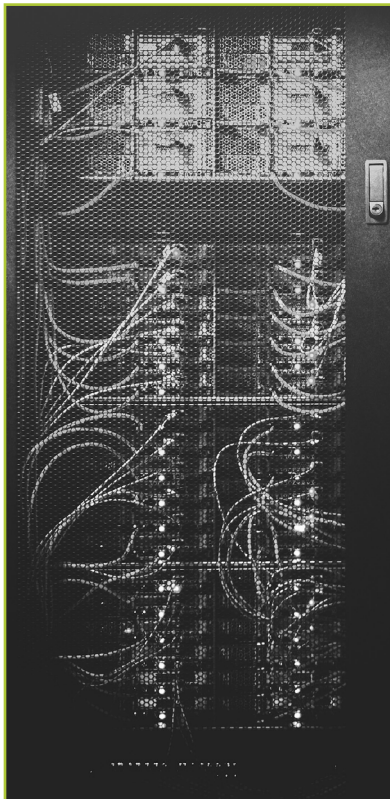
Source: Hitachi Data Systems report: "Storage Economics – 4 Principles for Reducing Total Cost of Ownership."

A simple calculation shows how both the cost of old storage and the lost opportunity cost can mount up and how a substantially faster migration can provide significant savings.

WHAT A MIGRATION REALLY COSTS AND HOW MUCH YOU CAN SAVE

250TB Example





THE DANGER OF NO CHAIN OF CUSTODY

NAS and object data has become some of the most important data stored by an organization. Yet many companies are still using migration tools that have no chain of custody integrity checking. Even external tools designed to check integrity are rarely used because they add steps to the migration process that are slow and painful, require additional scripts to run, and, when errors are found, require even more scripts to be created leading to an error-prone and long migration.

In brief, the technical problem is that if any integrity checking is done, it is mostly to check the timestamp and size of a file to declare it has been copied correctly. However, data corruption can occur without affecting the timestamp and size of the file. Any corruption of the actual content of the file during the migration is not discovered by this rudimentary check.

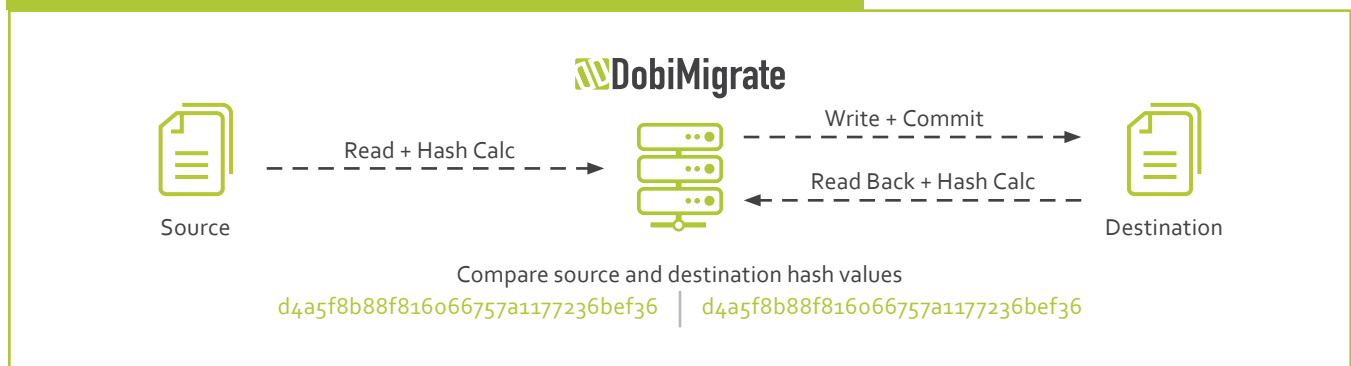


[See our tech brief](#) on this subject for a deeper look into why legacy tools are not able to track chain of custody.

An inability to track and prove chain of custody is extremely dangerous in today's environment of heightened data management regulations.

DobiMigrate, however, does provide chain of custody by hashing every single file as it is migrated. A file is declared successfully migrated only if the source and target match. A report can be created to show every single hash of every single file, which can be kept for future auditing.

FIGURE 1: DATA COPY VALIDATED BY MATCHING HASH VALUES



All this is done automatically while maintaining the extreme speed and ease of use of DobiMigrate.

DobiMigrate is trusted by legal departments in major companies, including some of the largest eDiscovery companies in the world, where data integrity is absolutely critical to legal outcomes.

“DobiMigrate is the best migration tool we have ever used... We could not have asked for a better partner.”

— Srinivas Gorrepati, Senior Systems Engineer – Lead, UMass Medical School

COMPLEXITY SUPPORT

Legacy migration tools were created when there were just a few major storage companies in existence. Today, the storage market is booming, and every company has their own take on how to implement a storage protocol. This provides companies with a wide variety of choices, but can make moving from one platform to another extremely complex.

A few examples of commonly encountered complexities in NAS migrations involve:

- Shared access multiprotocol environments where file content stored within directories/folders is accessed simultaneously by both Microsoft® Windows®/NTFS clients over the SMB protocol and Linux/Unix clients over the NFS protocol. DobiMigrate has patented technology providing unique functionality to identify migration issues before copy attempts are made, as well as intelligently copying the SMB and NFS content and metadata with a single migration policy.
- WORM (Write Once Read Many) datasets combine immutability with retention periods to ensure recorded data is not modified for a given period of time. These datasets are often encountered in industries with regulatory requirements. DobiMigrate provides functionality to migrate these immutable datasets and retain their retention periods on the destination platform.
- Migrations that require security identifier (SID) mapping (NTFS environment) and/or UID/GID mapping (NFS environment) due to multiple authentication domains in use. This can happen when companies acquire other businesses and are required to migrate data from the acquired entity's NAS arrays into the existing environment. The permissions on the source data are all controlled by NTFS SIDs and/or NFS user and group IDs (UID/GID combinations), which will all be invalid in the acquiring company's environment. DobiMigrate provides the ability to map SIDs and/or UID/GIDs in-flight, as content is migrated to new equivalent values, and maintain consistency in the permission enforcement after the end users and applications are redirected to the new destination system.

Technical support forums are littered with questions about using legacy NAS migration tools, from basic questions about the tools themselves, to very complex questions about the inner workings of a particular storage platform. Occasionally, questions are answered accurately but more often than not, inaccurate answers or advice are provided by individuals who are not subject-matter experts and merely “think” they understand the implementation details behind a vendor's solution. Relying on support forums to carry out an important storage transition is inefficient and risky.

Datadobi provides 24/7 support by migration experts and we are known by our customers for the best support in the industry.



DEPLOY EASILY AND PAY AS YOU GO

DobiMigrate does not require infrastructure investment and simply installs on a virtual machine (VM) with standard requirements.

DobiMigrate pricing is based on the number of terabytes to be migrated. If, after the initial purchase more data needs to be migrated, simply purchase a license for the additional number of terabytes required. It's as easy as that.

CONCLUSION

NAS and object platform migration using legacy tools is complex and risky. Faced with this fact, many companies are turning away from transitioning to a different type of storage, which impacts their ability to take advantage of new technology to grow their business or save money.

But, transitioning to new storage does not have to be a limiting factor for intelligent business decisions. DobiMigrate is new technology that simplifies the entire process and makes transitioning to new storage simple and rewarding.

FOR MORE INFORMATION

To request a demo of DobiMigrate or to learn more about Datadobi's range of products and services, visit www.datadobi.com.