



DataOptimizer

TRANSPARENT
FILE TIERING FOR
NETAPP STORAGE

In the age of big data, large quantities of data are collected every day. More and more machine data, images and videos are generated in ever higher resolution, and they use a great deal of storage space. However, most data becomes obsolete and unused, and this costs money, as the data is mostly stored on the costly primary storage.

Measurements carried out with customers using our tool Data-Analyzer yield the following age distribution:

- 15% hot data actively accessed, about 1 month old
- 35% warm data less actively used, 1 to 6 months old
- 50% cold data inactive, > 6 months old, with the proportion of unstructured data such as images or videos about 75%

Due to a lack of tools, storage is generally expanded instead of being optimized

Speed and a high degree of storage availability are necessary, and IT tries hard to meet the requirements of users and applications. Cost pressure increases and IT is aware that expanding storage is not a solution in the long run, as this means acquisition of expensive storage capacities, longer backup times, more energy and space consumption, and even longer times for a restore in case of disaster recovery.

This results in a quandary. IT knows that most data is cold but lacks the tools to clear up storage regularly, move data to cheaper storage or to the cloud. Moreover, users would like to access their data transparently through their familiar paths and not look for legacy data in special archives. Therefore, primary storage is again bought in the short term – a vicious circle.

The solution: DataOptimizer uses file tiering and hence cost-effective storage space for legacy and cold data.

With DataOptimizer, IT has a tool that meets all the identified challenges at once. The NetApp storage is periodically scanned and data that is identified as rarely used or unused. The identified data is then automatically relocated to cheaper storage according to the principle of file tiering. For users and applications, access to files remains unchanged.

File tiering is based on the principle that frequently used data is kept on fast storage such as SSDs. Rarely used data is kept on cost efficient storage based on SATA drives, or it can be relocated to the cloud. With **DataOptimizer**, cost effectiveness is achieved and backup / restore of important data is accelerated.

Highlights

Users, machines and IT systems create ever large volumes of data, most of which are no longer used after 3-6 months but continue to occupy costly disk space.

IT is aware of the problem but for the most part there is neither time and nor a suitable tool for moving less active data to cheaper storage on a regularly basis.

This automated tool helps to save money and manage storage capacities in a highly efficient manner.

DataOptimizer makes use of transparent file tiering to optimize NetApp storage. The principle: important files on fast storage, the rest on cost effective storage.

Thanks to the stubbing method, users and applications continue to see their files in the original location on the primary storage. A link (stub file) refers to the location in the secondary storage.

Before using **DataOptimizer**, the basic parameters for optimizing the storage environment can be determined using **DataAnalyzer**, an additional tool provided by ProLion. It gives detailed information about all the relevant performance indicators of a NetApp storage facility such as age structure, file types, unused LUNs and trend analyses.

Individual set of rules: DataOptimizer relies on a policy-based set of rules which can be configured on specific attributes such as file types, free storage capacity, creation or modification date of files, file size and much more. Even the periods of how often DataOptimizer should run can be adjusted individually, for example: daily, weekly or monthly. DataOptimizer automatically works out the specific set of rules which results in a reduced daily workload of the team.

User transparency during tiering with stubbing: Three different methods can be used, each with different consequences:

- **Copying:** A copy of the file is created on the cheaper medium. The file remains on the primary storage and an additional copy is created on the secondary storage.
- **Moving:** The file is moved to the cheaper storage and deleted on the costly primary storage. Although costly storage is reduced, users must access files through a new path.
- **Stubbing/linking:** The file is moved to cost efficient storage and a link (stub file) with the header information is stored on the costly high-performant storage. Advantage: Costly primary storage is reduced and users and applications can access their data in the same way as before, as data access is forwarded to the cheaper secondary storage in the background. This is achieved via the stub file and the desired file is delivered from this storage system directly to the user or application via "path-through". For the user and the application, data access is absolutely transparent!

→ DataOptimizer uses stubbing and, thus, it achieves user transparency for all files.

Architecture: DataOptimizer runs on its own Windows server and connects to the NetApp storage via the FPolicy interface. It is recommended that the Windows server is made highly available so that it is available at any time. Of course, the Windows server can also be virtualized.

Advantages

- Expensive storage is regularly cleared up, reducing storage costs significantly
- Data is managed cost effectively and storage optimized
- Policy-based file tiering considers the widest variety of file attributes, thereby achieving optimal relocation
- An automatic rule-based process lightens the work of the storage team
- Users and applications can access data as usual and continue working without operational interruption

Pricing model

DataOptimizer is licensed per TB based on relocated capacities: Only the volume of data moved by DataOptimizer from the costly storage to the cost efficient storage counts towards the calculation of the licence costs.

About ProLion

Innovation is the basis on which we create our products for you. We believe that a company can only have long-term success through innovation. For our customers, we enjoy regularly going the extra mile. This means that we are there for you and readily available, whenever you need us. A team consisting of experts with long-term experience in storage technologies makes up the pool of knowledge at ProLion. This team develops innovative software and hardware solutions for storage systems.



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