

Teradata Virtual Storage

Storage optimized for cost-effective analysis and high performance

Faced with already massive – and rapidly growing – amounts of data and the evolving demands for increased analytical capabilities, companies like yours are seeking data warehouse solutions with storage capabilities that can keep pace. One of the primary requirements is data storage that can organize itself for optimized performance across different classes of data usage in your data warehouse.

Businesses like yours also require a solution that supports the need for high concurrency with near real-time analysis on current, frequently accessed hot data. At the same time, your company needs a

solution that supports strategic analytics on larger and larger amounts of history, compliance, and archive data that are less frequently accessed: cold data. And, you need a solution that is flexible enough to continuously adapt to the changing usage patterns, or temperature, of the data. Simply, you need a temperature aware data storage system that automatically optimizes data warehouse performance at a cost per unit of storage that matches data usage.

While a wide range of storage elements exists – everything from high-performance to fat drives to solid state storage – you’ve had few choices for such an overall solution.

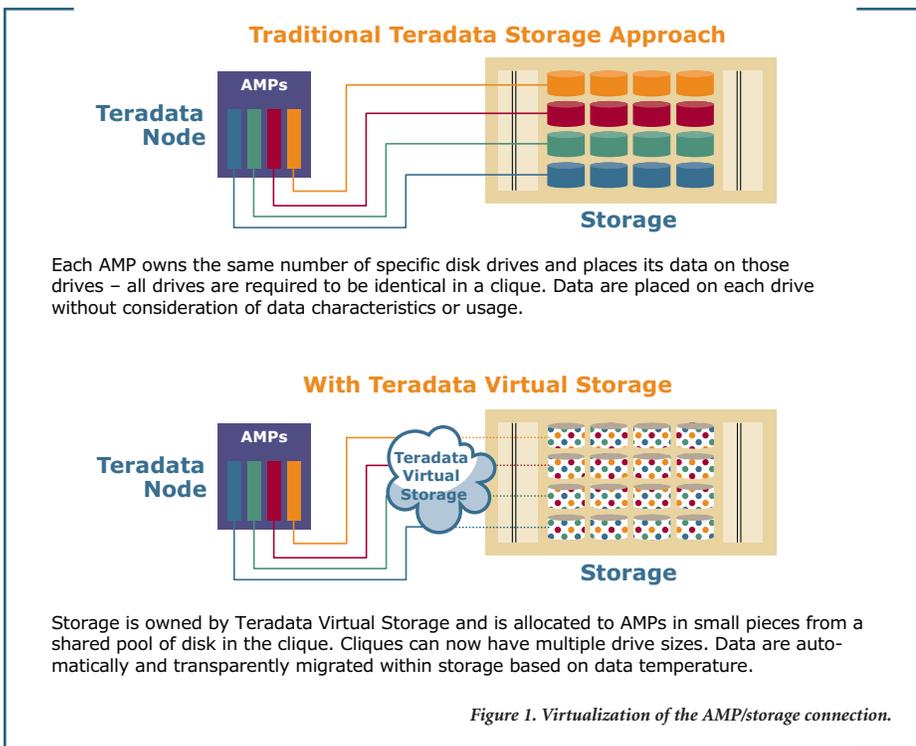


You could either choose to use two separate systems to meet the different demands of hot and cold data or select a single system with excess – and costly – storage capacity or with inadequate performance.

But now, Teradata® Virtual Storage provides you with an industry unique approach: the ability to store strategic levels of hot data in your active enterprise data warehouse (EDW) along with economical storage of large volumes of cold data. Plus, it gives you the configuration flexibility and mixed storage capabilities to efficiently use those data across your entire company in a single EDW. And best of all, it’s all automatic. There’s no need for a DBA or operator to manually manipulate data, so total cost of ownership remains low.

Hands-Free Data Placement

Teradata Virtual Storage replaces the Teradata traditional fixed assignment disk storage with a virtual connection of storage to your data warehouse’s work units (called AMPs), allowing you to configure and expand data storage in your system. (See Figure 1.) And because it’s



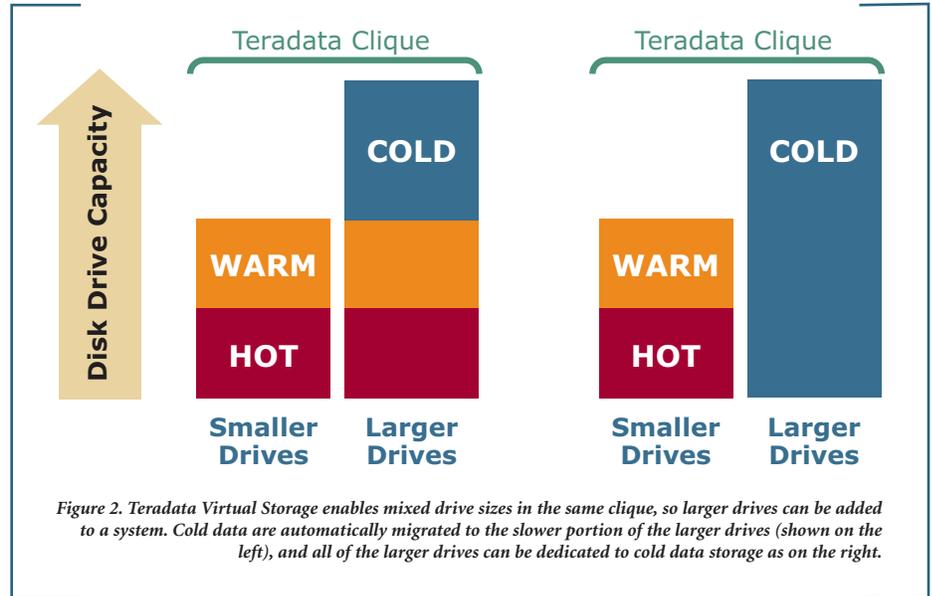
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temperature aware, it stores data according to their use. Frequently used hot data automatically migrate to the fastest storage resource. Cold data, on the other hand, are migrated to slower storage resources.

Teradata Virtual Storage not only gives you automatic, hands-free, intelligent placement of data based on usage, it provides those data in a heterogeneous environment so all your data are available in a single system and ready for analysis as needed.

Teradata Virtual Storage optimizes placement of data on the available storage for the best overall performance and highest efficiency of storage use. As a result, the multi-temperature data warehouse is dramatically enhanced enabling you to mix both small and large capacity drives within the system – and to maximize performance from each.

Teradata Virtual Storage is available as an optional storage software product with the Teradata Active EDW platform utilizing the Linux operating system. Use of Teradata Virtual Storage requires the support of Teradata Database 13 or higher version, and it effectively optimizes storage operation on both Teradata Enterprise Storage and EMC Symmetrix arrays. Ideally, it would be used with Teradata systems that require storage expansion to accommodate cold data growth or that are targeted to accommodate a wide range of your multi-temperature warehouse needs.



A Blend of Storage and Performance

Teradata Virtual Storage allows a mixture of different disk drive capacities to be configured in an active EDW system. It blends the performance-oriented storage of small capacity drives with the low cost-per-unit of large capacity storage drives. (See Figure 2.) And when you add in its multi-temperature capabilities, the EDW can transparently manage the workload profiles of data on the storage resources based on application of system resources to the usage.

As portions of your data change from hot to cold or vice versa, Teradata Virtual Storage automatically moves them to the most appropriate storage location,

a capability no one else offers. In addition, Teradata Virtual Storage:

- > Continuously grades and migrates your data blocks by their frequency of access and use.
- > Eliminates the need for DBAs to manually intervene.
- > Enhances leverage of Teradata Database's multi-temperature warehouse capabilities.

Painless Growth

Teradata Virtual Storage protects your technology investment by extending the use of your current Teradata resource. It allows you to add storage to existing systems without having to add compute resources to meet specific configuration expansion requirements. Just as important,

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it provides you with a painless, cost-effective approach to the storage expansion of a Teradata system that:

- > Allows the addition of storage to existing systems without the overhead of expanding the number of system nodes.
- > Enables you to mix small and large capacity drives in the same system.
- > Provides the most effective utilization of your current storage resources.

Foundation for Tomorrow

The ability to effectively match the performance of different storage sizes and classes to the usage patterns of your EDW

data will be a critical component to future system growth. Teradata Virtual Storage, the foundation on which you can build that capability, paves the way for the future of combining emerging storage technologies, such as extremely fast solid state disks and low-cost, high-capacity drives in the same Teradata system. The end result? Data will be placed on the storage that is most appropriate for its usage profile.

Why Teradata?

Teradata Corporation, the global leader in enterprise data warehousing and analytic solutions, provides affordable, powerful, and easy-to-deploy solutions for companies

of all sizes. Our customers receive the innovation, consulting services, technology, and industry-specific applications for a smarter enterprise to compete and lead in their markets.

For More Information

To find out more about how Teradata Virtual Storage can help you maximize your data warehouse performance so you can continue to grow your business, contact your local Teradata representative or visit Teradata.com.

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