THE CLIPPER GROUP

Navigator™

StorageTek IntelliStore Archive —
One Storage Platform with Disk and Tape Tiers

Analyst: Michael Fisch

Management Summary

StorageTek recently announced *IntelliStore archive*, its new intelligent archival storage platform. This product centrally stores and protects archived information and makes it available for enterprise use.

As an analogy, think of a black box into which "widgets" go for safekeeping. This box is large and expandable, so it will not run out of space. It has sturdy walls and locks, so the contents are safe. There are multiple compartments inside, some of which are designed for quick access (like pants pockets) and others are for economically storing large quantities of widgets (like a warehouse). The box can move widgets between these compartments as they age and change value with time. In fact, the box is aware of each widget individually and able to describe it. This is quite useful for classifying, searching, and managing a large repository. It knows if a particular widget is already stored and will not keep two of the same kind, thus conserving space. It can enforce the retention of widgets for specific periods, so people cannot dispose of them before the appropriate time. Moreover, this black box remains a single box no matter how large it gets. This makes it easier to manage than many stacks of boxes, for instance.

IntelliStore archive is like this black box, and the widgets it contains are an enterprise's digital archived data.

IntelliStore Archive Features

IntelliStore archive consists of two primary components – access nodes and back-end storage. The software intelligence resides in the nodes, which are clustered Intel servers running Linux. Application servers (e.g., e-mail, database, file servers) interface with the access nodes and send data for archiving. The nodes process the data, apply policies, and store it in a shared pool of back-end storage. The platform supports both StorageTek disk arrays (*FlexLine 600*) and tape libraries (*Streamline SL500* and *SL8500* libraries with *9840* and *9940* drives).

Its capabilities include:

- **Virtually unlimited scalability** – The platform scales to hundreds of petabytes of capacity, a tremendous amount, even today. The minimum configuration is 4 TB, and it scales by adding disk arrays and tape libraries to the shared pool. Adding access nodes scales performance, which is likely the gating factor in the practical scalability of a solution.

- **Data protection** – Data is RAID protected when stored on disk, and IntelliStore

IN THIS ISSUE

archive can copy data to multiple devices for additional redundancy.

- **Disk and tape tiers in a single system** – This is a unique feature. IntelliStore archive can incorporate disk arrays and/or tape libraries (initial release is disk only, and tape support is scheduled to follow later this year). Low-cost disk arrays provide relatively fast, online access to data, but tape is still the lowest cost media at scale, albeit with slower access times. Disk and tape tiers let enterprises strike an optimal balance between access performance and cost. As a result, overall storage costs can be lower without sacrificing accessibility.

- **File system access** – Application servers interface with it through NFS and CIFS protocols, which are industry standard for file servers and NAS. However, IntelliStore archive is actually an object storage platform that creates a unique identifier for each data object using a mathematical algorithm (also called content-addressed storage or CAS). Compared to general file systems, object storage has greater scalability, more flexibility for describing data objects with metadata, and application independence. To leverage these capabilities fully, an object API will be available in a later release with which third-party applications can integrate.

- **Redundancy elimination** – The platform saves capacity and costs by not storing redundant data, a common problem due to data proliferation in enterprises. It uses the object identifiers to determine if a data object has already been stored.

- **Information lifecycle management (ILM)** – IntelliStore archive classifies data using metadata, places it in the appropriate tier, and can later migrate it as its value changes with time and circumstance, as per business policy.

- **WORM (write once, read many)** – To satisfy the strictest standards for data retention and authenticity, it can enforce specific retention periods and disallow data deletion or modification before policies and laws allow.

- **Centralization** – IntelliStore archive is a centralized platform for archival storage. It supports multiple applications as well as storage tiers. A consolidated architecture is simpler to manage and enables higher capacity utilization.

- **Pricing** – The list price $75,000 for the first four TB of disk and $9,000 per additional TB.

IntelliStore archive is scheduled for general availability in Q3, and tape support, WORM protection across both media, and remote replication coming before the end of the year.

Conclusion

Archived information (also called fixed content or reference information) is a large and increasingly important category of data. Business operations and corporate governance, including regulatory compliance, depend on it. As such, enterprises face a growing need to store and manage it well.

Several storage vendors have introduced specialized archival platforms built on low-cost ATA disk arrays. What makes Storage-Tek's IntelliStore archive different (once all the features are in place) is the combination of disk and tape storage in one platform. And, why not? Some data needs performance; some needs lowest cost. Tape continues to meet the latter need very well, in addition to being a portable media. Tape is not going away. It is also a particular area of expertise for StorageTek.

There are many reasons to deploy a centralized archival storage platform, including manageability and online access. **However, if the addition of multiple, integrated tiers would serve your enterprise requirements better than disk-only, consider IntelliStore archive.**

About The Clipper Group, Inc.

The Clipper Group, Inc., is an independent consulting firm specializing in acquisition decisions and strategic advice regarding complex, enterprise-class information technologies. Our team of industry professionals averages more than 25 years of real-world experience. A team of staff consultants augments our capabilities, with significant experience across a broad spectrum of applications and environments.

➢ *The Clipper Group can be reached at 781-235-0085 and found on the web at www.clipper.com.*

About the Author

Michael Fisch is Director of Storage and Networking for The Clipper Group. He brings over nine years of experience in the computer industry working in sales, market analysis and positioning, and engineering. Mr. Fisch worked at EMC Corporation as a marketing program manager focused on service providers and as a competitive market analyst. Before that, he worked in international channel development, manufacturing, and technical support at Extended Systems, Inc. Mr. Fisch earned an MBA from Babson College and a Bachelor's degree in electrical engineering from the University of Idaho.

➢ *Reach Michael Fisch via e-mail at mike.fisch@clipper.com or at 781-235-0085 Ext. 211. (Please dial "211" when you hear the automated attendant.)*

Regarding Trademarks and Service Marks

The Clipper Group Navigator, **The Clipper Group Explorer**, **The Clipper Group Observer**, **The Clipper Group** *Captain's Log*, **The Clipper Group Voyager**, and *"clipper.com"* are trademarks of The Clipper Group, Inc., and the clipper ship drawings, *"Navigating Information Technology Horizons"*, and *"teraproductivity"* are service marks of The Clipper Group, Inc. The Clipper Group, Inc., reserves all rights regarding its trademarks and service marks. All other trademarks, etc., belong to their respective owners.

Disclosure

Officers and/or employees of The Clipper Group may own as individuals, directly or indirectly, shares in one or more companies discussed in this bulletin. Company policy prohibits any officer or employee from holding more than one percent of the outstanding shares of any company covered by The Clipper Group. The Clipper Group, Inc., has no such equity holdings.

Regarding the Information in this Issue

The Clipper Group believes the information included in this report to be accurate. Data has been received from a variety of sources, which we believe to be reliable, including manufacturers, distributors, or users of the products discussed herein. The Clipper Group, Inc., cannot be held responsible for any consequential damages resulting from the application of information or opinions contained in this report.