HEDGE FUNDS REVIEW

July 2007

The New Foundation for Hedge Funds

Feature

Hedge funds going digital was one thing, but boy, do they generate some data? More than you can put on a floppy disk, anyway, as Bob Guilbert from Eze Castle explains

The hedge fund industry continues to expand and has reached the $2trn mark. This growth is driving the need for more sophisticated back-end infrastructures. Today, hedge funds require a technology infrastructure that can sustain continuous operations and protect critical operational systems. Increasingly, firms are selecting storage area networks (SANs) to fulfill these needs. Growing transaction volume and reporting requirements are heightening the demand for high-end storage solutions with improved performance, flexibility, and reliability.

Estimates from industry analysts predict that storage capacity requirements will expand into mid-to-high double-digit growth annually. What is fueling the need for SAN infrastructures? The exponential growth of a hedge fund's files, email, instant messages and databases means an ongoing need for more storage. In addition, hedge funds are adding more and more electronic and algorithmic-trading technologies, research-management systems and advanced OMS and EMS systems that require more storage capacity. Lastly, in an industry that is becoming more institutionalised daily, many fund managers are recognising the value of using SAN technology to help maintain overall transparency and compliance. SANs are rapidly becoming the choice method within the industry to manage the overwhelming amount of electronic data, achieve continuous application uptime, and optimise storage utilisation.

Managing the Data Explosion

The need for an effective storage solution is mission critical: data protection, disaster recovery, and speedy access to vital information and systems are key to ensuring business continuity. Hedge fund firms have numerous technological options to manage and store their data, each with clear advantages catering to a variety of firms. The most common architectures are direct-attached storage (DAS), network-attached storage (NAS), or SANs.

DAS is conventional server technology with servers directly attached to the computer that uses them. Direct-attached storage works well in environments with an individual server or a limited number of servers – it is easy and inexpensive, but is not designed to scale with an organisation. If a firm has dozens of servers or experiences significant data growth, a DAS environment will quickly become unmanageable because storage for each server must be managed separately.

A remarkable innovation over the past decade is the migration from DAS to storage over a network, either through a SAN or NAS. As business and technology evolve, data centres are increasingly becoming virtualised. There has been a giant leap to convert disk drives into virtual pools that can be managed much more conveniently. The following two solutions are examples of this trend.

Network-attached storage (NAS) is a very mature networked storage solution and is well suited for the data management needs of today's hedge fund and investment firms. NAS, which replaces a conventional file server with appliance-based file services, is the only type of networked storage that allows data sharing by connected host systems. In a NAS environment, servers are connected to a storage system by a standard ethernet network and use standard file access protocols to make storage requests.

Larger hedge funds (AUM greater than $500m) are increasingly gravitating towards SANs for the highest levels of information management, resilience and accessibility. A SAN is a device filled with large disk drives that allows data stored on many different servers to consolidate into one location. Resources are virtualised and presented over high-speed networks specifically designed for data storage. Despite initial high deployment costs (the implementation costs for a medium-sized hedge fund can approach or exceed $250,000), larger operations see reduced costs compared to other options and enjoy greater access to storage resources: clustered storage processors, NAS (file sharing) integration, mirrored drives/shelves, and separate storage equipment from hardware.

SANs deliver enhanced data protection through "snapshots" of advanced applications and deliver the ability to protect storage at disk rather than data level. Snapshots work by capturing a block-level image of a volume taken on a customisable schedule that keeps the data as it was when the snapshot was created, even if the original data changes. This allows for firms to go back to a specific point in time and regain the information. In essence, all failed updates or upgrades can be undone and re-attempted.

In addition, SANs recover data much faster than off-site backups. Overall flexibility is also enhanced when hedge funds utilise a SAN because storage resources share performance across all disks and can be resized on the fly at multiple recovery points. Another benefit of SANs is the self-managing capabilities that include the ability of the SAN to automatically send notifications to the manufacturer and system manager in the case of failed events or parts.

Is a SAN is Right for Your Firm?

With so many options, many of them complex, it is essential for funds to evaluate their needs and goals and choose a strategy that best addresses their unique requirements. A SAN model is sophisticated and often ideal for firms with numerous production servers. Medium and larger hedge funds typically prefer to adopt a SAN for its efficient and reliable data replication between units, which facilitates failover should an outage occur, and simplifies data management.

In determining whether to implement a SAN for your business, the first step is to list and prioritise your reasons for seeking a SAN. Common reasons include archiving data, ensuring local and remote disaster-recovery, reducing deployment times for new applications, and improving application performance.

Once you've addressed your needs, review your business processes. Without this knowledge, it is difficult to anticipate how your storage needs may change or evolve. Increased regulatory oversight, for example, causes many firms to modify retention policies, thus increasing storage requirements. You must also know the types of applications you run and their storage requirements because they can affect the configuration of the SAN. Documenting a simple inventory to be evaluated by vendors is extremely helpful when fine tuning a proposal.

Establishing your recovery point objective (RPO) and recovery time objective (RTO) for each system is also a vital step. RPO represents the amount of business processes you can tolerate losing and forgo access, and RTO represents how much downtime you can withstand. Your RPO/RTO goals can range from seconds for critical applications to days or weeks for less important applications. Any potential data loss that is foreseeable must be assessed to determine the requirements your business needs.

Get ready for more of the same

Lastly, anticipate growth. There are many factors that may cause your storage needs to grow. It may be in your business plan to increase staff or to open new funds. Adding new applications such as research tools, unified messaging, CRM or OMS can all increase storage requirements. Additionally, existing applications like email will continue to consume storage. Do not forget about long-term maintenance, expansion and licensing costs. Identifying potential disruptive factors early on will assist the decision-makers in choosing a solution that will facilitate your business now and in the future.

In all, picking the optimum solution, especially without the technical know-how, can be confusing and complex. Firms should ask themselves what infrastructure will help ensure their data centre can easily support the pursuit of any investment and business opportunities, as well as support the underlying applications required. When you are armed with enough information, you can negotiate a solid proposal that has the wherewithal to address your unique requirements.

Increased control of IT variables such as cost, asset utilisation and allocation, and availability are vital to managing the ever-growing amount of data companies must manage. For many firms, using a SAN is a feasible option. Its flexible, dependable and highly resilient infrastructure has attracted many investment firms and hedge funds, and that number only continues to expand as technologies and capabilities advance.