

# THE TURRET

EZE CASTLE INTEGRATION'S  
MONTHLY TECHNOLOGY  
NEWSLETTER  
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Keeping the investment professional current on  
emerging technology

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Eze Castle Integration is a leading provider of outsourced technology solutions for investment management companies.

If you are interested in learning more about any of the topics in this newsletter, please contact us at 800.752.1382.

We look forward to hearing from you!



## A LOOK AT VIRTUALIZATION TECHNOLOGY

By: Bob Guilbert, Managing Director Eze Castle Integration

Hedge funds and investment firms demand technologies and processes that improve operational efficiency, boost business performance and maximize investments. In addition, on top of these requirements, firms demand the highest levels of redundancy, resiliency and availability to ensure business continuity.

As a result, virtualization technology, which in recent years has transformed the IT world, is gaining adoption in the hedge fund community. Research firm IDC estimates the market for virtualization services will grow from \$5.5 billion in 2006 to \$11.7 billion in 2011, as businesses use the technology to address data center challenges including consolidation, power consumption, management and cooling costs.

Among the new technologies sweeping the marketplace, virtualization is generating huge excitement and experiencing skyrocketing adoption rates. Virtualization works by creating an abstraction layer that decouples physical hardware from the operating system (OS) so multiple virtual machines can run in isolation, side-by-side on the same physical machine. Virtualization allows firms to increase IT resource utilization, scalability and flexibility. It also has implications for disaster recovery environments.

### Server Consolidation

Today's IT environments are faced with server sprawl due to the common practice of dedicating a single server to each application and sizing the server for peak loads. This approach has created severe underutilization of server assets and has drastically increased management and maintenance challenges for IT professionals. In fact, it is estimated that utilization of a typical server is only 5-15 percent, which means 85-95 percent of server capacity is not utilized and resources are wasted.

Virtualization technology addresses server sprawl by allowing firms to significantly increase server utilization by running multiple applications and operating systems on a single server. VMware, the leading provider of virtualization software, claims that customers are able to consolidate 10 or more virtual machines per physical processor. By reducing the number of servers, virtualization delivers cost savings to hedge funds through decreased hardware expenditures, simplified systems management, reduced cooling and data center costs and increased efficiency.

Increased server utilization also leads to improved IT staff productivity. Hedge funds typically have a limited IT headcount, so spending time on menial

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## EXPLORING EZE MANAGED SUITES IN NYC

On January 16, 2008, Eze Castle held the grand opening of its Eze Managed Suites in New York City. Located in Midtown at 529 Fifth Avenue on the 8th floor, Eze Managed Suites bundle premier technology and business services with 18,000 sq. ft. of premium real estate to allow hedge funds and investment firms to become operational quickly and easily.

The Suites were designed specifically to support the business and technology requirements of hedge funds and investment firms. The Suites come in a variety of sizes and are fully inclusive of:

- ◆ Business Support
- ◆ Telecommunications
- ◆ Technology Services

Features include:

- Professional offices, well-appointed conference rooms, and two kitchens with complete amenities;
- Avaya phone system and unlimited local and domestic long distance calling; and
- State-of-the-art technology environment supported by Eze Castle engineers who are available 24x7x365 to quickly resolve technology issues.

For more information on the Eze Managed Suites, please [CLICK HERE](#) or contact your client relationship manager for a tour.

## A LOOK AT VIRTUALIZATION TECHNOLOGY

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server management activities is unacceptable. Virtualization simplifies an IT environment and allows IT professionals to shift their focus to more valuable and strategic initiatives.

### Simplifying Development & Test Environments

To run their businesses, hedge funds rely on a multitude of sophisticated proprietary applications, including risk management, portfolio management and algorithmic trading systems. Linked to these applications are development and test environments that have specific requirements including:

- Being isolated from the production applications until development and testing are complete,
- The ability to undertake realistic tests that simulate actual production processes, and
- The ability to conduct stress testing through simulated failure conditions.

It is not uncommon for multi-tiered projects to require two to four physical systems for basic application development and functional testing. As a result, hedge funds often face resource availability and system management challenges when creating development and test environments.

Resources, for example, are often limited by budgets and facilities or real estate constraints, which forces developers to vie for already minimal resources and slows each step of the development cycle. On the flip side, if a firm is able to make the necessary hardware available, the hardware and administrative costs and management challenges are great.

Virtualization technology eases these typical development and test challenges by allowing hedge funds to do more with less, which ultimately speeds the development process. Using server virtualization, firms can consolidate multiple virtual test machines onto a single physical machine or build complex multi-tier environments on a single computer. Additional capabilities include moving between operating system environments without repartitioning or rebooting and automating test sequences. Virtualization also allows several developers to simultaneously access a virtual machine for increased collaboration and productivity.

### Virtualization Improves Availability

Virtualization technology can improve application availability by essentially eliminating downtime associated with hardware maintenance and server backups.

Virtualization technology allows hardware maintenance to be decoupled from software maintenance tasks, which significantly reduces the required amount of downtime. Using VMware technology, for example, IT can simply place a VMware ESX Server host in maintenance mode and VMware Distributed Resource Schedule (DRS) will automatically migrate all virtual machines to other ESX Server installations in a resource pool, allowing physical server maintenance with zero downtime. This allows maintenance to occur during prime business hours rather than on nights and weekends.

Similarly, snapshot copies of running production systems can be taken at any time for debugging or patch testing. Problems with a new patch or a new application upgrade can be investigated offline without taking the server down for maintenance. This results in the ability to work on problems at the optimal pace.

### Considerations for Hedge Funds

Virtualization technology offers numerous benefits and can play a key role in increasing efficiency of technology resources in a hedge fund. As with any new technology, however, virtualization is not without its challenges.

The initial short-term costs of a virtualization project can be expensive, between software licenses, new hardware and re-configuring existing hardware, so firms must be realistic about the short-term and long-term returns. Generally, having 15 servers or more creates a “sweet spot” of cost justification for firms.

Another potential challenge can occur if a business does not have the right level of redundancy in their system because if the virtualized hardware fails then numerous applications are impacted. With virtualized environments, backup and data protection systems should be utilized to minimize the impact of a failure.

Also, while virtualization is a mainstream technology, not all software vendors have certified their applications to run in virtualized environments. Therefore, before deploying an application on a virtualized infrastructure, firms should confirm with the supplier that the application has undergone testing and is certified for virtualization.

A final consideration centers on increased overhead. Adding virtualization layers to a server adds processing or CPU overhead that can range from an increase of a few percentage points into the double digits. Some users and vendors have reported that overhead can range from 2-3 percent to 20 percent, depending on the product and application. That said, most servers are significantly underutilized, so consolidation benefits are often dramatic and outweigh CPU increases.

### What's Next?

With realistic expectations, virtualization can deliver real benefits to hedge funds particularly around operational efficiency, system performance and resource utilization. Before embarking on a virtualization, firms must evaluate the benefits – tangible, intangible and strategic benefits – to determine if virtualization will deliver true value to their firm. They must also fully understand potential pitfalls including potential I/O bottlenecks and licensing challenges.

Over the next years, the deployment of virtualization by hedge funds will continue to expand as firms look to capitalize on the benefits associated with server consolidation, development and testing and disaster recovery. Working with external consultants to evaluate virtualization is one option to help minimize complications and speed time to value. Alternatively, firms can look to build the expertise in-house by sending professionals through training and certification programs.

## A PENNY FOR YOUR THOUGHTS: PARTNERSHIP, SHAREHOLDER AND TAX ACCOUNTING REDEFINED

When analyses of operational risks are performed, reviews of important accounting areas such as investor income allocations or fee calculations are often overlooked, or even worse, inaccurate. This situation is further compounded by the prevalent use of spreadsheets and the time it takes to gather financial documents from disparate groups and units to manage and allocate funds, and prepare investor reports. This lack of attention causes investors to lose confidence – they realize that monthly reports are a potential exposure issue if information is incorrect, so they are demanding to see more overall control.

TKS Solutions' flagship offering Penny® lets hedge funds, fund of funds, investment firms, private equity firms, and management companies gain better insight into their internal accounting controls and functions, while also improving investor relations through faster customer service and reporting. Penny is one of the only solutions available that provides completely unified and integrated software for both shareholder and partnership accounting. Other existing software packages address only a small aspect of a fund's overall business, such as shareholder register or partnership records.

Penny was launched to customers in October 2006 and publicly launched in June 2007. As an integrated part of their accounting and investor services operations, Penny's clients have automated functions that were previously highly manual and error prone. It is significantly more cost effective than traditional accounting systems, eliminating long deployment times and extensive training, offering unique back-loading features and integration capabilities. Penny complements existing accounting systems and feeds to and from vendors such as Advent Geneva®, MSPA® and CCH's ProSystem®.

Penny manages and supports four comprehensive areas to streamline partnership, shareholder and tax accounting:

- **Penny Shareholder:** Penny tracks stock par values and additional paid-in capital, and handles the complexities of rounded NAVs, corporate income allocation and both share series accounting and share equalization.
- **Penny Partnerships:** Penny tracks investments by contribution, automatically allocating investment results to investors, calculating estimated and finalized returns as well as management, performance, and administration fees.
- **Penny Management:** Penny manages everything from paying bills and recording organizational expenses to charging costs across companies and reporting to the principals.
- **Penny Tax:** Penny simplifies complex tax jobs including calculating layered realized gains, applying tax specific investor allocations, and creating investor supporting schedules.

Penny offers firms the following modules to support their specific needs:

- General Ledger
- Accounts Payable
- Management Company Accounting
- Hedge Funds/ Private Equity Accounting
- Tax Accounting

For more information on Penny, ask your Eze Castle Integration client relationship manager or visit the Penny website at:

[www.PennyItWorks.com](http://www.PennyItWorks.com)



### UPCOMING EZE CASTLE INTEGRATION EVENTS

Eze Castle Integration is committed to hosting educational seminars that keep our clients well-informed on technology trends and industry movements. Following are details on two upcoming breakfast seminars in New York City.

February 26<sup>th</sup>, 2008

#### **“Leveraging Virtualization Technology to Simplify Management, Improve Availability & Reduce Costs”**

Virtualization technology has ushered in a new era for computing and is rapidly transforming the IT landscape by allowing firms to reduce infrastructure costs, respond faster to business needs and increase system availability.

This seminar will outline how hedge fund and investment firms can leverage virtualization technology for business gain. Speakers include experts from VMware, Dell & Eze Castle. [Click here to view the complete invitation.](#)

**Date:** Tuesday, February 26<sup>th</sup>, 8:30 a.m. – 10:30 a.m.  
**Location:** New York Hilton, 1335 Avenue of the Americas, NYC  
**RSVP:** Kristin Wolf at 617.217.3029 or [kwolf@eci.com](mailto:kwolf@eci.com)



March 19<sup>th</sup>, 2008

#### **“Accelerating Business Critical Applications: A look at WAN Optimization”**

Slow application response and long data recovery windows are unacceptable. Yet the prevalence of data-intensive applications coupled with remote offices spanning continents is taxing hedge fund networks and slowing application performance.

Wide Area Network (WAN) Optimization, also known as Application Acceleration, provides a solution by cost-effectively improving the performance of business applications. This seminar will include presentations from Expand Networks and Eze Castle.

**Date:** Wednesday, March 19<sup>th</sup>, 12:00 p.m. – 1:30 p.m.  
**Location:** The Roosevelt Hotel, 45 E 45th Street, NYC  
**RSVP:** Kristin Wolf at 617.217.3029 or [kwolf@eci.com](mailto:kwolf@eci.com)

## DISCOVERING ELECTRONIC MESSAGING ARCHIVING: THE LAWS AND REGULATIONS THAT MAKE ARCHIVING MISSION CRITICAL

BY: MARK KENNEY, PRODUCT MANAGER, EZE CASTLE INTEGRATION

In a world where communications and data storage are primarily performed electronically, businesses are scrambling to find a proven, reliable way to track and retain the constant flow of data. Many hedge funds and investment firms are realizing they lack a structured archiving system that will properly organize and store their communications. To prepare for today's corporate laws, SEC guidance and data discovery rules, a comprehensive solution that systematically saves and protects data and enables easy access and retrieval in the future is vital for a financial services firm now more than ever.

### The Changing Legal Landscape

Email and instant messaging are fundamental electronic communication mechanisms within the finance industry. The Radicati Group, a technology research firm of Palo Alto, California, reports that the amount and size of emails being sent now has dramatically increased compared to previous years, but only 14 percent of all corporate email accounts are currently being backed up and archived for future access. Much of a company's business-critical information is discussed within emails; and instant messaging has become a standard for trading deals in the banking and securities industries.

Accordingly, email and other communication channels are used more and more in various legal and regulatory proceedings, even providing the grounds for prosecuting criminal cases. Incidents involving big name corporations, such as Intel and Oracle-SAP, and their inability to produce crucial emails and other documents in court, have brought attention to the importance of archiving company records. The hedge fund industry has always been the victim of a number of lawsuits brought against fund managers and their partners, officers and directors. Investors in hedge funds and certain government regulators jump on the chance to sue, for reasons such as misrepresenting a fund's performance, failing to disclose the risks of an investment in a fund, or mismanaging the fund's assets.

Given these factors, it's no wonder the demand for strategic archiving has increased. Gone are the days when it was up to end users to maintain their own email accounts and IT departments took weeks to track and find emails. As organizations' dependency on technology grows, so too do the capabilities of the technology that supports them. Technology vendors have expanded the capacity of their storage units beyond email archiving to accommodate the multiple channels of information exchange employees are using.

### Federal Rules for Civil Procedure

On December 1, 2006, amendments to the Federal Rules of Civil Procedure (FRCP) that address issues of Electronically Stored Information (ESI) went into effect. Essentially, the rules have become the de facto for eDiscovery, governing when and how information is collected, preserved, and produced in connection with legal discoveries in US federal courts.

The new rules have several direct implications on how a company maintains its ESI, as well as the processes for its retrieval. ESI includes not only the assumed documents, spreadsheets, etc, but also email, IM, photos, chat room conversations, and wireless email and text messages. The amendments specify that all ESI is

a formal category of discoverable information and requires litigants to be prepared to collect and maintain data and metadata in its native format, or some other reasonably useable form. When records are subpoenaed, parties now must produce all relevant ESI or provide a description and location of all such data, and preserve it for the duration of the litigation. The IT team gains responsibility for providing details on their information systems locations, content, management and policies to lawyers, courts, etc.

The impact of these new rules is extensive and significant. Ensuring messaging information and all other records concerning electronic activity are easily accessible is a top priority for organizations across the US, including hedge funds and investment firms. Courts are not willing to wait weeks for companies to retrieve electronic data from inefficient storage sources, such as tapes. Firms that cannot provide requested information quickly, risk being held in contempt of court. There is a strong incentive to implement proactive, cross-functional data management processes and policies; failure to do so can result in penalties and sanctions.

### The Significance for Hedge Funds & Investment Firms

If a hedge fund or investment firm has not done so already, they should immediately take proactive steps to align their business with the new obligations. Becoming familiar with the changes and the impact these changes will have on the organization is the first step. From a technology standpoint, understanding all the sources of data in the enterprise and evaluating the effectiveness of current technology and its related processes is the next step.

Establishing procedures that are compliant to legal and SEC guidelines is not a simple undertaking and can be costly and time-consuming. Archiving email and instant messages is a small component of overall compliance within a fund, but can be a burden because of the electronic and public nature of the information exchanged. Because of this burden, many funds turn to outsourced providers. It is no longer just small companies outsourcing their IT; larger organizations find that outsourcing is a better way to deal with their quickly expanding archives.

A vendor with seasoned, proven archiving services is essential to find if your firm decides to go the outsourcing route. When evaluating a potential archiving solution, investment managers should look for one that includes three core components: message archiving, message storage and straightforward message retrieval. All data should be stored in the correct format for a specified amount of time and should allow for "good faith" destruction of data.

As previously stated, in accordance with the FRCP amendments, records must be preserved in their native format or other usable way for the duration of litigation. To protect against potential disasters and to ensure discoverable data is not lost, all emails and IMs should be duplicated at a secure third-party facility and be indexed appropriately. Arguably the most necessary in the event of a subpoena, message retrieval, or "discovery", should be obtainable via searchable queries from a secure website and be easily performed through a standard web-based interface.

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## DISCOVERING ELECTRONIC MESSAGING ARCHIVING:

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Without archival discovery functionality, a fund would need to restore its data from tape, and then manually scan all of the data so that the relevant messages can be retrieved. Using retrieval technology allows users to easily execute a search through a simple interface and generate reports utilizing the retrieved data. Firms should select an archival system that allows them to search and retrieve information based on a wide range of criteria including date, time, sender, receiver, type, status, group, or indexed entities in the header, body, or any attachment. The ability to easily sort and retrieve only the necessary information helps provide quick access to relevant data and avoids disclosure of irrelevant, sensitive, or proprietary information.

### Conclusion

It is no secret that electronic files are vital components to corporate litigations; the “electronic paper trail” often makes or breaks a case. Even if an organization is not currently a part of any litigations, the damaging consequences of not being prepared for one makes it mandatory that companies be in compliance with the FRCP’s guidelines. If not just for legal reasons, firms must implement an archiving system to better manage critical business

information that is transferred through various communication channels, employee to employee. With no better alternative, archiving processes and technology are an essential business function, too beneficial to ignore and too critical to operate without.

### About Eze Archiving

With Eze Archive services, all email and IMs, including Bloomberg Mail and Bloomberg IM, are easily archived. With Eze Archive, messages are always available and accessible to authorized employees through a protected website.

As more and more communications and business transactions are made through e-mail and instant messaging, it is vital to keep these communications stored and easily accessible. Eze Archive uses the latest information searching and sorting mechanisms, including Natural Language Processing (NLP) which understands the nuances of sentence structure.

[Please CLICK HERE to learn more.](#)

## BUSINESS CONTUNITY PLANNING: WATCH & LEARN

Business disruptions occur with or without warning, and the results can be predictable or unknown. Statistics on the impact of downtime on businesses are startling. According to DRI International ([www.drii.org](http://www.drii.org)), 75 percent of U.S. businesses have experienced some type of interruption and 80 percent of small businesses that experience significant business interruptions go out of business within five years. Price Waterhouse Coopers (PWC) estimates are even harsher; they approximate 98 percent of all companies that experience a computer/server disaster with no pre-existing survival plan go out of business within 18 months.

Investment firms are increasingly designing Business Continuity Plans (BCP) that incorporate all aspects of their businesses. The primary objectives of a BCP is to minimize potential financial loss, allow for continued service to clients and partners, and diminish negative effects of disruptions on a firm’s strategic plans, operations, market position, and reputation.

Effective business continuity planning helps minimize the uncertainty associated with business disruptions by creating the framework for investment firms to maintain and recover business processes when operations are unexpectedly disrupted. Business continuity planning helps ensure the continuity or rapid recovery of operations when adverse unexpected events, such as natural or man-made disasters, strike.

[To hear more about the four steps to creating a Business Continuity Plan, please CLICK HERE to hear our webcast.](#)

## EZE CASTLE RECENT NEWS

### Eze Castle Integration Teams with Iron Mountain Digital to Provide Backup and Recovery Solution

December 2007 – Eze Castle Integration partnered with Iron Mountain Digital to offer its newest service, Eze Vault powered by Iron Mountain. Eze Vault combines Eze Castle’s premier IT management services with Iron Mountain Digital’s award-winning and secure data backup and recovery infrastructure, allowing firms to easily backup and protect critical information.

The Eze Vault service provides continuous online backup of critical files and databases so data is always protected off-site and available for fast recovery should a virus, data corruption or other failure occur. Eze Vault is professionally managed by Eze Castle engineers who are available 24x7x365 to handle recovery efforts.

Eze Vault key features include:

- Fully Automated and Continuous Backup – All client data is stored in one of Iron Mountain’s highly secure underground facilities and monitored 24x7x365 through the Service Operations Center.
- Rapid Recovery – Automatically recovers data from corruption or unapproved changes based on the last data backup file, providing up to 100 recovery points a day.
- Highly Secure Environment – Encrypts all data at the source and integrates into Iron Mountain’s secure underground storage facility.
- Complete Protection of Open Files and Databases – Offers built-in support for open file and database backup without complex plug-ins, third-party tools or custom configurations.

[To learn more. CLICK HERE.](#)