



BEARbytes

inside

page 3
Information Lifecycle Management -

Moving from Data to Information

page 5
BEAR Facts - Tech Tips from BEAR Data Systems

UltraScalable data protection for enterprise environments - IBM TotalStorage Solutions with Cisco Systems

page 7
Achieving 100% Uptime Using Disk-based Data Protection

Important in the Event of Disaster Recovery

page 8
A Special Guest Feature

Going to the Longhorn LUA'U - Part I

page 10
Application Oriented Networking

A grander role for networks

page 13
Enacting a Multi-Layered Email Security Strategy

Information Lifecycle Management

Moving From Data to Information

PUT IT IN THE SERVER ROOM. FEEL IT IN THE BOARDROOM.

Meet the IBM eServer™ p5 system – the game-changing UNIX® server that can bring instant agility to your business. With advanced IBM Virtualization Engine™ technology options, the eServer p5 system is the only UNIX server with breakthrough Micro-Partitioning™ capabilities. It can automatically balance resources among virtual partitions in milliseconds! On demand. It configures and adapts on the fly! Add apps. Add users. Add capabilities. At any time. And gain business agility just like that. You need to learn more. More about all the benefits of eServer p5 systems at ibm.com/eserver/boardroom

5 reasons why IBM eServer p5 systems with Power Architecture™ technology rule in UNIX computing.

<i>Flexible, fifth-generation POWER™ processors.</i>	<i>Capacity on Demand.²</i>	<i>Runs IBM AIX 5L™ and Linux.³</i>	<i>Advanced system utilization.</i>	<i>Virtual servers as small as 1/10 of a processor.¹</i>
--	--	--	-------------------------------------	---



@server™

The IBM eServer p5 system delivers agility, company-wide.



1-800-718-BEAR
www.Bdata.com

Information lifecycle management (ILM) is a sustainable storage strategy that balances the cost of storing and managing information with its business value. It is built on the premise that the value of information is a dynamic factor. ILM seeks to find balance and efficiency among online, near-online and offline storage.

Why ILM?

With ILM, important and constantly accessed information is kept on high-performance primary storage systems. Infrequently accessed information is moved to less expensive storage - tape, optical and ATA-based systems.

Since tape technologies are becoming more efficient and ATA RAID arrays can deliver high capacity at lower costs, IT managers can implement several tiers to hold their data. Backup is one example of an ILM storage tier that almost every company already has. ILM also encourages the use of new technologies such as continuous backup, mirroring and snapshots to make data protection more extensive and data restoration much faster and less painful.

HSM, which automatically migrates infrequently used data to less expensive storage, is an example of a technology that hasn't been widely adopted in the open-systems space but may see much stronger growth in the near future. In the days of

bigger budgets, IT managers could just keep buying bigger and bigger storage systems. Now, with data growth going out of control and budgets static or decreasing, HSM will become more attractive.

ILM is a more three-dimensional model, pooling all available storage resources on a network into a single, large repository. These resources are organized into storage classes, each with its own value proposition (eg. cost vs. performance). Programmed policies then monitor all information stored in this pool. When conditions change such that the requirements of a policy are met, the affected data is moved to the storage class specified. Instead of using the tiered approach of HSM, ILM can move data to and between any device in the storage network. These devices may include enterprise-class disk arrays, NAS and CAS filers, tape and optical disk libraries, and even off-site storage.

Almost all ILM policies will define an HSM-like tiered approach to data management. There are few applications that have data sets that need to be moved from secondary storage back to primary storage at predetermined times. For example, old medical records may need to be retrieved prior to a patient's visit, but this is an event-driven access requirement and cannot be programmed into a global policy.

Benefits of ILM - Cost Savings

The introduction of storage networking allowed IT administrators to centralize the management of diverse

storage resources, using common tools from a single console to handle tasks like resource utilization, adding and removing capacity, provisioning and data protection.

ILM extends that to centralize the management of data created and used by perhaps hundreds of applications and users. ILM's big benefit is cost savings. Having policies that manage where data is stored will certainly reduce costs. The cost of implementing ILM can easily be justified by the cost savings in the storage devices themselves. In general, the cost of storage is directly related to data access and transfer performance: the faster the device, the more expensive it will be.

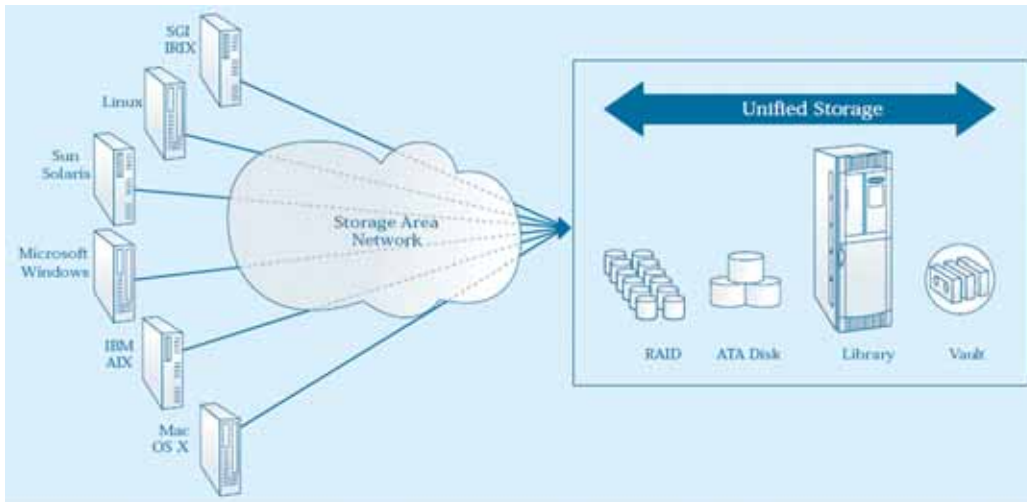
Almost always, the capacity requirement for older data grows much faster than the need for capacity for new data. The exceptions are new and rapidly expanding businesses, where active data is created in greater volumes than older data.

Once the organization understands the dynamics of its data — what percentage is active, less active, and inactive — and how that will change over time, it can determine savings by automatically migrating data to the appropriate storage devices as the data ages. Growing the lower end of the storage spectrum instead of the high end, as capacity requirements increase, can

PRIORITIZING DATA AND STORAGE

ILM calls for IT managers to use different storage technologies to suit access and protection needs of their data. Some examples of technologies that fit into ILM planning:

- **Backup** - Produces copies of data for restoration
- **Continuous backup** - Tracks data on a transaction level and allows IT managers to roll back data corruptions and errors
- **HSM (hierarchical storage management)** - Automatically moves infrequently used data to less-expensive (but also less-accessible) media
- **WORM (Write Once Read Many)** - Data is preserved in an un-editable, un-deletable format
- **Mirroring and data replication over WAN** - Allows IT managers to create copies of critical data at secondary sites in case of disaster



save organizations an enormous amount of capital.

Also, by storing inactive or “fixed” content on reliable secondary media like tape or optical disks, the costs of continually backing up that data can be eliminated. As compared to an environment where all data is stored on

primary storage, backup windows and associated data protection hardware / software expenditures can be reduced by as much as 80 per cent. Copies of this older data still need to be stored off-site for disaster recovery purposes at lower cost than critical and active data.

Summary

ILM can extend the value of storage networks to data management. Data movement tasks now performed manually can be programmed to occur automatically at times defined

by the organization. Resource utilization can be improved when ILM pools like systems into virtual storage classes, reducing the need for new storage acquisitions.

Before implementing ILM, users should understand the effects it will have on their organization and storage networks. Data management will be replaced with policy management. There is a lot of up-front data analysis that needs to be performed. The ILM architecture needs to be evaluated, designed and tuned to minimize performance hits from centralizing data access. The cost of the ILM solution should be balanced against potential savings, taking the scalability of the solution into account.

The Problems with ILM

1. Definition and management of data movement policies

Effective ILM relies on the definition and management of data movement policies. Someone needs to examine every application, and every type of data created and/or used by that application, and make decisions on how that data is used by the organization and where it should be stored at various points in its lifecycle.

In the complex environments that would most benefit from ILM, this analysis can be an overwhelming challenge. Policy management also becomes an on-going activity, as the addition of new applications and changing data access requirements will create the need for new policies.

2. Implementation

When taking control of the storage-networking environment, some ILM solutions do not recognize or assimilate existing storage partitions. This means that all existing data will need to be moved from the devices it currently resides on. The device can then be added to the ILM storage pool, and the data copied back. For organizations that are feeling enough data management pain to make them look at an ILM solution, this conversion process may be huge. Other ILM solutions will handle this assimilation in the background, eventually moving all data and resources into its domain.

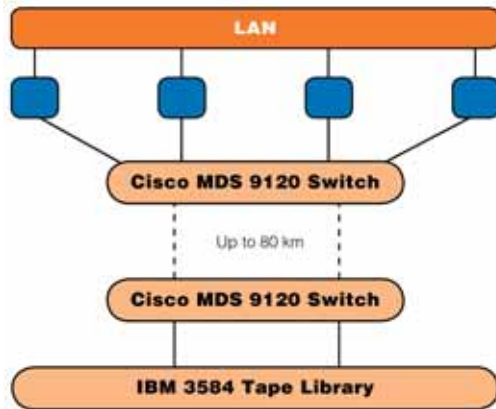
3. Architectural

One of the benefits of storage networks is the centralizing of device management while communication between application servers and their assigned storage resources remains decentralized, via a switched network. But

by pooling all storage network resources into a single virtual repository, ILM creates the need for a virtual file system that controls the entire storage network and keeps track of where everything is stored. This means that the ILM controller becomes a single, central point for all data access requests. In large, complex systems, the ILM controller may become a major bottleneck. This may then limit the scale of an ILM implementation, and thereby limit its value proposition. The ILM controller also becomes a potential single point of failure for the entire storage network. Data protection programs, such as nightly and weekly backup, will also be complicated by relying on the ILM controller to feed the backup application with the data that needs to be backed up.

BEAR Facts - Tech Tips from BEAR Data Systems

UltraScalable data protection for enterprise environments - IBM TotalStorage Solutions with Cisco Systems



supports up to 6,881 tape cartridges and 192 Ultrium tape drives. The IBM TotalStorage Ultrium™ 2 Tape Drive is designed to support up to 35MB/sec native data transfer rates (70MB/sec with 2:1 compression) and the use of the IBM TotalStorage LTO™ Ultrium 200GB Data Cartridge. IBM Multipath Architecture is designed to simultaneously attach heterogeneous servers and applications to LTO logical library partitions, including mixed Ultrium drives and media. The power of the UltraScalable Tape Library can be maximized by managing it with industry-leading tape

consolidate heterogeneous server storage. The 9120 and 9140 switches are designed for high-availability applications with hot-swappable, redundant power supplies and fans, and the ability to automatically restart failed supervisor processes. Virtual SAN (VSAN) capability allows more efficient SAN utilization by creating multiple isolated environments within a single SAN fabric.

This enterprise data protection solution combines IBM® TotalStorage® UltraScalable Tape Library 3584 and Cisco® MDS 9120 and 9140 Multilayer Fabric Switches to enable multiple heterogeneous Microsoft® Windows NT®/Windows® 2000, Novell®

management solutions such as IBM Tivoli® Storage Manager or other industry-recognized storage software. These solutions offer highly automated, centrally

Cisco CWDM Extended Distance Solution

The Cisco Coarse Wave Division Multiplexing (CWDM) Extended Distance Solution is designed to transmit multiple 1Gbps and 2Gbps Fibre Channel and Gigabit Ethernet traffic streams over a single, shared fiber-optic cable. The CWDM solution consists of a CWDM Chassis, which accommodates one or two CWDM Optical Add Drop Modules, up to 16 single-mode LC/SC fiber cables and CWDM small form-factor pluggables (SFPs). Up to eight wavelength-specific SFPs may be configured for each module. CWDM Extended Distance Solutions can help reduce TCO by maximizing the utilization of campus and metropolitan area fiber networks.

NetWare®, OS/400®, Sun Solaris™, HP-UX and Linux servers to share a common remote tape library. It can be configured to meet specific requirements with longwave transceivers for campus solutions or CWDM transceivers and multiplexers for metropolitan area solutions, as required.

BUSINESS VALUE

- Protect and manage valuable business data efficiency and reliability at distances up to 80 kilometers.
- Reduce costs and simplify storage management with commonly managed and shared tape storage. These costs can be more than four times the initial purchase cost of the hardware.
- Reduce backup time by transferring only the changed data over a high-speed Fibre Channel storage area network (SAN).
- Eliminate the need to manually transport tapes to a safe site, with remote tape vaulting.

IBM TotalStorage Ultra

Scalable Tape Library 3584

The IBM TotalStorage UltraScalable Tape Library 3584 is a flexible midrange-to-enterprise solution that is designed to handle backup, archive and disaster-recovery data storage needs with ease. The UltraScalable Tape Library

scheduled, policy-managed backup and archive facilities to protect data in distributed enterprises.

Cisco MDS 9120 and 9140 MDS Fabric Switches

The Cisco MDS 9120 and 9140 Fabric Switches are designed to help simplify SAN management and reduce total cost of ownership (TCO). The 9120 and 9140 switches provide 20 and 40 1Gbps and 2Gbps Fibre Channel switch ports. Intelligent network services help to improve the security, performance and manageability required to

Source : IBM Corporation





NetApp redefines value for midtier enterprise storage.

FAS3000 series delivers 2X price/performance.

The NetApp FAS3000 series delivers up to twice the price/performance of competing products in its class and supports more users per system for greater storage consolidation opportunities.

With a single architecture for all tiers of data, all NetApp systems support file services, FC SAN, IP SAN, and multiple network configurations. Scaling your storage network with NetApp is simple, seamless — and painless.

Read what customers are saying about NetApp, and download a free lab report at www.netapp.com/go/san.

© 2005 Network Appliance, Inc. All rights reserved. NetApp is a registered trademark and Network Appliance is a trademark of Network Appliance, Inc. in the U.S. and other countries. All other trademarks are the property of their owners.


NetApp[®]

Simplifying Data Management

BEAR 
DATA SYSTEMS INC.

1-800-718-BEAR
www.Bdata.com

Achieving 100% Uptime Using Disk-based Data Protection

Important in the Event of Disaster Recovery

Organizations are increasingly setting goals for business continuity that approach “100% uptime,” where data is constantly online and accessible. A key component of near 100% uptime is the protection of data despite incidents such as software malfunction, system failure, or the accidental deletion of data. Managing data protection for the enterprise has become a strategic and challenging issue for companies, accounting for a significant percentage of overall spending for IT organizations.

Despite the recent increased demands for more effective data protection, backup and restore solutions have remained largely unchanged, with the continued usage of tape-based technology as the medium for secondary storage. The reliance of existing backup and restore solutions on serial access tape-based technology is the primary reason for the inability of these solutions to meet the increased data protection

demands of organizations. Traditional backup and restore solutions account for nearly 30% of the total cost of data ownership, a staggering amount when you consider that these solutions:

- Fail to backup data that it is intended to protect more than 20% of the time
- Fail to restore data 27% of the time from apparently successful backups
- Do not protect nearly 30% of a corporation’s critical data. This data often resides in remote offices or with mobile workers and is costly to bring into a centralized data center. This distributed data, however, is critical information and the amount of this data is growing rapidly.

While these numbers may have been historically acceptable they are no longer good enough. It is time for businesses to expect more from their backup and restore solutions. Avamar’s Axion solution is the first complete disk-based solution that takes full advantage of what disks can offer without the limitations of tape. With Axion, companies can fully protect all their data, even data distributed across remote offices and laptops, at a lower and more controllable cost than traditional backup and restore solutions.

And Axion delivers much more effective disaster recovery capabilities than traditional approaches by providing offsite replication of backup data over an existing network infrastructure. Axion also ensures the backup data is retained online for rapid recovery in the event of a man-made or natural disaster; such as lost tapes, power outages and more. Axion’s capabilities are especially important because companies can be assured they can restore protected data immediately and accurately, when needed.

www.avamar.com

AVAMAR
THE NEW WAY TO
BACKUP & RESTORE™
www.avamar.com

100%
DATA INTEGRITY

10x
FASTER THAN TAPE

1/2
THE COST

Network Scene with Dr. Dean

Going to the Longhorn LUA'U - Part I

By Dr. Dean Chopin, MCDBA, MCSE, MCSA, CCNA

"Experience teaches us that it is much easier to prevent an enemy from posting themselves than it is to dislodge them after they have got possession."

- George Washington

Our first president's sage words ring as true and topical today as they did in the 1700s. In the late 1900s, before anyone realized an operating system battlefield even existed, lead by kernels instead of colonels, Microsoft posted itself. Dislodging Microsoft after it had possession, as many a challenger has found to their dismay, is as difficult as Washington's rumination on battle strategy predicted it would be.

Professing disdain for Microsoft has become a cherished pastime for techies. Sometimes Microsoft makes it so easy. Suspend your disbelief long enough to read this article, though, and maybe you'll be surprised to find some new things Microsoft is introducing that you like.

Linux, UNIX, and Mac OS are just a few from an ever-growing list of alternatives to a 100% Microsoft

environment. The table will always have plenty of room. Microsoft keeps valiantly, and with renewed success, extending the utility of its command-line components. Nonetheless, I know a lot of extremely smart colleagues who will never turn back from Linux. For pure scripting joy, Linux is the place to be. The good news is, a robust network thrives with both approaches represented. Linux and Windows can coexist in our computer world. They can be good separately, but even better together.

When I envisioned this article, I intended it to be an overview of the software development cycle for the NT-W2K-W2K3-Longhorn path. After further evaluation, though, since my goal is to help CIO's, and CTO's -to find a comfort level with migrating very soon to the next wave of technology from Microsoft, I revised the thrust of this piece. Our focus today then, will be Longhorn, the Microsoft server juggernaut slated for mid-2006 release.

"We ought not to look back, unless it is to derive useful lessons from past errors and for the purpose of profiting by dear bought experience." George Washington

George never had to weather upgrading from NT to W2K or W2K3, but his point is still salient. When it comes to system migration delay is costly, a past error capable of teaching a valuable lesson. To extract maximum Return On Investment (ROI) from moving to a new server solution, a wait-and-see attitude may be ill-advised. Sooner you get the next iteration up and running, the longer you'll be able to use it. It's that simple. Since we know that within three or so years, at most, new technology will come streaking down the pipeline.

So let's talk Longhorn:

Longhorn Laundry List

First, why call it Longhorn?

Whistler and Blackcomb are picturesque burgs in Canada. Windows XP and Server 2003 were given the nom de guerre Whistler, and Windows products coming after Longhorn have been anointed Blackcomb. Longhorn is a bar between the two cities. Hence, Longhorn.

Here, in alphabetical and certainly not valuation order, are some of likely candidates for the Longhorn hit parade:

Ad Hoc Networks

You have a meeting in the conference room. Everyone's carrying a portable computing device of some kind. Why not network everyone during the meeting, then deactivate the "ad hoc" network afterwards, at will? Microsoft responds to that query in Longhorn by creating an easy way for the group to share PowerPoint presentations, graphics, text documents, spreadsheets and more. This dovetails with Longhorn's healthy advances in the WIFI arena. True ease in wireless terms means better connectivity and communication anywhere, any time.

Aero

The deluxe Aero Glass GUI, likely fully operable if you buy brand new high-power hardware, is going to make computing a much more intuitively visual exercise. Even Aero Express, Aero Glass' junior sibling, kicks out Aero-style graphics that existing XP machines can deliver.

If you like, Longhorn lets you hang onto your Windows 2000 GUI. But you'll be sneaking over into Aero land sooner than you think.

Avalon

The look and feel of computing takes a healthy leap forward with Avalon graphics, the subsystem that makes things like Aero possible. Avalon

opens the door to the untapped splendor modern 3D cards can pump out. To put it simply, Avalon adds texture. LCD screens are going to come alive with images that possess real form and substance.

Fast Search

We're all able to find things quickly out on the vast Internet, so why does it take so long to search for a single file on your own hard drive? Turns out there was no reason. The coding just needed to catch up with the Internet reality. In Longhorn, Microsoft brings the Internet's lightning speed to the previously notoriously slow task of searching your intranet and local drive.

Some interfaces will look familiar, some won't. Computer Darwinism means you jettison interfaces that people avoid, and nurture the ones people choose when they click. Fast Search is a result of keeping what works and taking it to a higher level.

We're talking extremely quick searches. Fast Search works for the Internet too, and since it will be right there on Windows desktops before users even jump onto the Net, currently popular internet search engines may see their traffic take a giant plunge.

Microsoft has also added new filter features to move beyond traditional rigid hierarchical storage models. To blend your computer time

seamlessly with your real-life habits, in Longhorn you can organize files into what Microsoft calls Lists. May not sound dramatic, but it is.

Hardware Requirements

Suggested firepower for a Longhorn machine will be a 3 GHz processor, operating in a true 64 bit environment, with at least 512 MB of RAM. Full-bodied graphics inherent in the Aero GUI will need a DirectX9 level graphics card. Plus, per usual since W2K, if your graphics card isn't supported by a Windows Hardware Quality Lab (WHQL) driver, forget about it, it's time to upgrade.

Most Windows XP boxes will be able to host Longhorn. Some Longhorn features may not work at their optimum potential, however.

Hot Patching

On the consumer side of Longhorn, Microsoft has introduced hot patching. Administrators will be able to push out updates for everything but the kernel while the server keeps running. No reboot! This includes drivers, one of the most frequently added bits of software around. In Longhorn, hot patching shows Microsoft is committed to being uptime-supportive.

Image-Oriented Setup

For years now we have used those third-party products to create and then image a template machine for each department with the requisite software installed to meet that department's needs, and then loaded that image as a replacement for the OS and applications resident on workers' hard drives. Images provide predictability. Images save time. With Longhorn, Microsoft has started to integrate imaging components into Windows.

Indigo

Indigo creates a new communications subsystem, liberating Web content from the dreaded duo of Distributed Component Object Model (DCOM) and Internet Information Services (IIS). In like manner with web architects who create Flash-free and, thereby trouble-free, web pages, Microsoft hits a home run with this programmer-friendly way to turbocharge web content creativity.

IPv6 Ready and Able

Current Windows versions permit running solely IPv6 by disabling TCP/IP in Network Connections. The problem with taking that step this early is that most software do not use IPv6 yet. In fact, that may be the case for some time ahead

during the transition phase from IPv4 to IPv6. As more applications and services become IPv6-capable, Longhorn's ability to run in either mode will be more and more valuable.

IPv6 support is integrated into the unified IPv4-IPv6 TCP/IP stack that comes with Longhorn. Microsoft goals for this component include improved ease of use with anti-virus software and firewalls. The company is moving toward simple diagnostic and troubleshooting tools to render early use of IPv6 more accessible to newbies (which is just about everyone). Everything out of the box in Longhorn supports IPv6, from DHCP and DNS to remote access services. While IPv4 will continue to be supported, IPv6 will be enabled by default. Given the option between both protocols, Longhorn favors IPv6 addressing.

For the bold among us, run Longhorn with IPv6 alone, IPv4 disabled, in our brave new IP world.



Dr. Dean Chopin is a network solutions architect, consulting at Fortune 500 companies for BEAR Data

Systems, Inc. Prior to that, he was a Professor of IT and served as an executive at Aztech and Logical Solutions. He earned his undergraduate and graduate degrees at Pepperdine University.

Application Oriented Networking

A grander role for networks

Using network devices to help with integration, Application Oriented Networking has arisen in response to an increasing use of XML messaging (combined with related standards such as XSLT, XPath and XQuery) to link

miscellaneous applications, data sources and other computing assets.

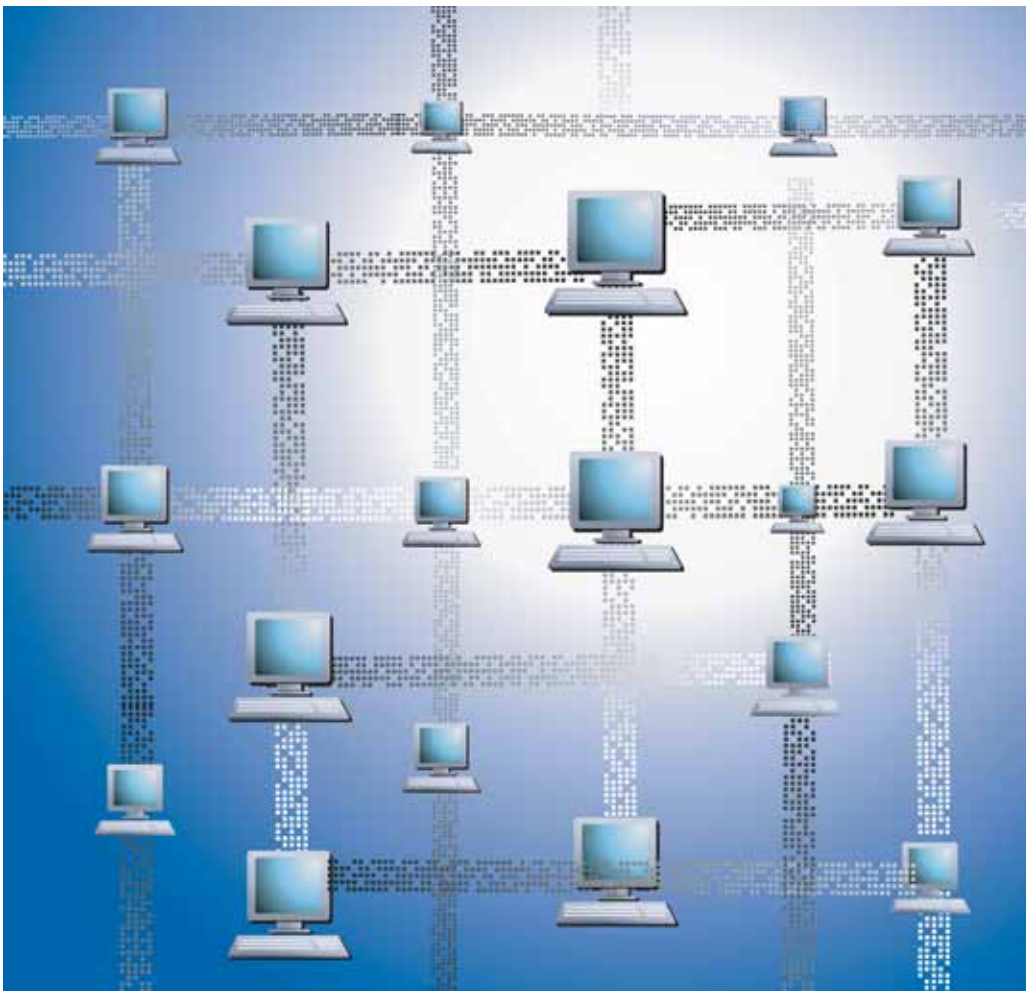
Many of the operations required to mediate between these different participants, or to monitor their exchanges, can be built into network devices that are optimized for the purpose. The rules and policies for performing these operations, also expressed in XML, are specified separately and downloaded as required. Network equipment vendor Cisco has adopted the AON acronym as the name of a family of products that function in this way.

AON products will allow networks to better understand what kind of data they're transmitting and apply rules such as visibility and security levels based on that. They will let the network better understand application-to-application messages, such as those coming from business applications like enterprise resource planning, supply chain, and other customer data systems.

The first AON products - a combination of hardware and software - will be modules for data-center switches and branch office routers. One touted benefit of AON tools is to give managers better visibility, such as being able to see events like a purchase order request or a payment as they happen in real time on the network.

Security is another key reason for adding intelligence to networks, being able to embed security features such as firewalls and intrusion detection, identity-based networking and network admission control into the network so it can defend itself from attacks.

AON needs to work with the key business software applications, so Cisco has recruited partners to help launch AON. IBM plans to integrate its WebSphere software into AON, and over the next year, SAP will integrate Business One into



AON to better serve its small and midsize customers. Tibco Software is also planning to integrate its messaging software.

Network enabled Application Integration

Application Oriented Networking is the ability of the network to understand and, if necessary, act on messages as they are in transit. Messages are the way software applications talk to other applications. AON lets the network understand and speak the “language of applications.”

By speaking their language, the network can provide more value, making the dialogue between the applications more secure, more optimized and more flexible. AON addresses this need for better collaboration between applications and systems. AON addresses not just translation functions, but also security, performance and other issues with collaborative applications.

By using the network to more effectively facilitate the translation of different application languages, AON helps businesses

and organizations better coordinate how their applications work together. AON saves companies time and money by performing application translation automatically within the network. It also boosts operations by providing a more dependable way of directing information to the right applications and to the right people or partners.

AON is, therefore, really the logical evolution of the network to do more and more tasks to improve communications. It takes the functions of the router to the next level by having it not only examine the data packets that flow through it but also having it look inside some of those packets to see what the messages say.

The network offers a ubiquitous system, connected to every application and computer. When computers are repetitively performing specialized tasks, such as message routing of XML traffic, it makes sense to use custom silicon to provide a different level of scalability, just as what has been done with packet-level processing. And since it is so pervasive, it is clearly a suitable medium for taking on this role of coordinating application communications.

Business Benefits

One of the most important business issues that AON addresses is helping customers align their IT resources to better respond to changing business needs. IT cannot do this while a lot of its information is “siloeed” within various applications scattered throughout the organization.

AON boosts an organization’s flexibility by making it possible for an organization to pick and choose how it

AON is, therefore, really the logical evolution of the network to do more and more tasks to improve communications. It takes the functions of the router to the next level by having it not only examine the data packets that flow through it but also having it look inside some of those packets to see what the messages say.

wants its applications to interact and what information it wants them to share. It can help them their IT infrastructure more “future-proof” by allowing change to take place without affecting other systems. This happens either because AON can compensate for a change in message protocol or message format or because AON can intelligently route information to wherever it is needed at any point in time.

AON also addresses the issue of visibility by making it easier for organizations to “see” more of what’s going on, both in their IT infrastructure and in their business processes. It will also help enforce application-level security policies. By being able to look at application messages within data packets, the network can more closely inspect traffic for malevolent messages.

AON reduces costs by removing complexity and by helping customers make more efficient use of their IT resources. It brings about a greater optimization of network resources as well by caching and compressing information, in addition to routing important messages to the most available server based on the rules and policies set by IT or by the business. It can also control quality-of-service in the network based on information it sees in the messages.



The problems are out there – and they're not going to go away by themselves. Lucky for you, there's a new solution from the storage experts. We'd like you to meet our StreamLine™ SL500 tape library. It's the perfect problem solver for any growing backup system, offering modular, accessible storage that's much less expensive than disk. The rack-mounted, enterprise-class SL500 will consolidate your current storage environment, and then grow with you. You'll decrease management complexity and decrease your headaches. The best part? It starts at around \$14,000. For more information about the SL500, visit www.Bdata.com or call 1-800-718-BEAR.



© 2004 Storage Technology Corporation, Louisville, CO. All rights reserved. StreamLine, StorageTek and the StorageTek logo are trademarks and registered trademarks of Storage Technology Corporation.

Enacting a Multi-Layered Email Security Strategy

There's a war going on out there, between email systems administrators and hackers, viruses and spam. And who knows what threat will emerge next. Over 450 new viruses are discovered each month, according to IDC Research. The Gartner Group estimates that more than 80 percent of computer viruses enter corporate and other networks through email, and that resolving and dealing with the typical infection costs organizations up to \$500,000

per incident. Less destructive, but potentially equally disruptive, is the flood of unwanted email known as spam.

Spam-related threats include open relays that can be exploited by unscrupulous senders to route large volumes of spam through an organization's message network without their permission and often without their awareness. Yet another virulent threat is directory harvesting, in which spammers employ public or known email addresses to steal other valid email addresses from a corporate or service provider mail server. The spammers then either sell these email addresses to other spammers or use the lists themselves.

Beyond viruses and spam are even more menacing security threats. Denial-of-Service (DoS) attacks are designed to bring a network to its knees by flooding it

with useless traffic. Simple Mail Transfer Protocol (SMTP), Post Office Protocol (POP), and Internet Message Access Protocol (IMAP) ports are subject to the same DoS attacks that impact web servers.

At the same time, businesses are also facing increasing regulations that govern email traffic. Often, these rules call on vertical industries like finance and healthcare to devise their own requirements to document transactions, archive communications, protect privacy, and ensure honest business practices.

Enterprises covered by these regulations must either comply or face possible civil

Other Effective Strategies Against Email Threats

Restrict user privileges

The fewer the system privileges on a user's desktop, the fewer opportunities there are for viruses and spyware to take over. The biggest reason companies have spyware problems is the user privileges are set too high. IT may also opt to block certain types of attachments, such as executable or Zip files, and prevent access to certain Web sites using software to

block access to adware and spyware heavy sites, such as gambling sites.

Apply patches immediately

Installing security patches and updates in a timely fashion is critical, regardless of how much anti-virus protection is provided.

Switch to alternative email packages

While not guaranteed to be shield against viruses, non-standard software is less likely to be targeted by virus writers.

Use an outside service

If you want a multi-tiered defense without having to purchase individual products and

implement them, an outside anti-virus and anti-spam service may be the answer.

Internet service providers may offer anti-virus and anti-spam filtering services to corporate clients. One major advantage is the ability to offload some of the administrative chores. Anti-virus services use signature-based scanning in combination with other approaches to optimize their success rates and they clean up the email before it ever reaches their customers' servers.

and, in some situations, criminal liability. Finally, in extreme situations, such as natural disasters, companies must disaster-proof their message network. This is to ensure that even if a damaging event occurs, the key management can continue to communicate and maintain day-to-day operations.

Build a multilayered defense

In the face of all these scenarios, how can a company shore up its servers and desktops against the rising tide of email threats?

There are several approaches to anti-virus and anti-spam protection. But it should be kept in mind that none of them, by themselves, will be 100 percent effective. So using two or more is a useful strategy.

Effective known techniques for blocking spam include maintaining blacklists of spammers' Internet addresses and employing the challenge / response strategy. This strategy attempts to identify and catch spammers by asking a suspicious sender to resend the message. The assumption here is that an automated spam program will not reply. Another common option involves Bayesian filters, which learn to recognize spam from samples that an IT administrator or an end user feeds it. The filter can then intelligently use probability scores to decide whether a particular email is likely to be spam or not.

Signature-based scanning is rapidly becoming the most common approach for identifying viruses. But this approach does not help when there is a new created virus on the loose. The "zero hour" problem - the time lag between the initial release of a new virus and the point

when an anti-virus software vendor can issue a patch update - is the biggest problem with signature-based products. This is especially so since the gap can be as long as eight hours.

Companies relying solely on pattern-based anti-virus protection are particularly vulnerable to new viruses during that time. One technique that attempts to close this gap is blocking technology that shuts down access to certain systems if it detects any initial virus activity.

Yet another approach to blocking viruses is heuristics scanning. Heuristic scanning detects viruses by analyzing a file's structure, behavior and other attributes instead of looking for a pattern match in the code. The bottom line, say security experts, is that two or more defensive technologies, whether in different products or combined in one, are always likely to be better than one.

And just as using two types of anti-virus or anti-spam software can increase the odds of catching threats, so too can locating defensive products at different points on the network. Firewalls, SMTP gateways, HTTP gateways, email and file servers, and desktops are all potentially vulnerable points to be individually defended. The main point of a multilayered defense is to cover all of the potential points where a virus could enter.



BEAR Data Systems opens San Francisco office



BEAR Data Systems is proud to announce the opening of its new office in San Francisco, CA. Customers can call upon the services of account managers and a team of experienced engineering resources in San Francisco and surrounding areas.

Contact Information:

BEAR Data Systems, Inc.

425 Washington Street, Suite 150, San Francisco, CA 94111
 Phone: 1-800-718-BEAR Email: info@Bdata.com

BEARbytes

Copyright (c) BEAR Data Systems, Inc.
 All rights reserved.

Headquarters:

BEAR Data Systems, Inc.
 1291 Fifth Avenue
 Belmont, CA 94002
 Main : (650) 591-4700
 Fax : (650) 591-4702
 Phone : 1-800-718-BEAR

Regional offices:

San Francisco

BEAR Data Systems, Inc.
 425 Washington Street
 Suite #150
 San Francisco, CA 94111
 Phone : (415) 788-1504
 Fax : (415) 788-1511

Bakersfield

BEAR Data Systems, Inc.
 2005 Eye Street,
 Suite #9
 Bakersfield, CA 93301
 Main : (800) 718-BEAR
 Fax : (661) 859-1018

San Diego

BEAR Data Systems, Inc.
 6540 Lusk Blvd., Suite C166
 San Diego, CA 92121
 Main : (858) 824-2920
 Fax : (858) 824-2921

Powered by Power Quill.

<http://www.powerquill.com>

Printed in the U.S.A. Product names may be trademarks of their respective companies.

WHITE PAPER

IBM TotalStorage for SAP: Solutions for a Dynamic Landscape

Executive Summary

The rapid increase in amounts of data stored in business-critical information systems, combined with a shortage of IT resources, has created a need for more scalable, flexible storage in large enterprises that rely on SAP software to automate key operational processes. Drawing on a long track record of partnering with SAP, IBM has responded with a suite of SAP-specific service solutions designed to help reduce the time and costs associated with managing storage in the SAP environment.

IBM's comprehensive approach to SAP system storage needs addresses the requirements for high performance, scalability, maximum security and reliability and low total cost of ownership. IBM also recognized the importance of sharing data across platforms in order to reduce data duplication, increase data availability and improve network response time. IBM TotalStorage service offerings for SAP solutions include the following:

- Virtualization solutions from IBM to help improve flexibility in the storage infrastructure.
- The IBM TotalStorage Monitor for SAP solutions is designed to provide early warnings on usage and performance trends and prompt timely actions that can help avoid large-scale problems and identify opportunities to improve resource utilization.
- The IBM TotalStorage Toolkit for Administrators helps simplify and automate the process of optimizing an IBM TotalStorage DS8000- or DS6000-based storage system.
- IBM FlashCopy solutions are designed to be able to handle large volumes of business-critical data and help SAP customers maintain high application-server availability to help minimize the impact on revenue-generating applications. Working with SAP, IBM has tested several backup/recovery and high-availability scenarios designed to maintain data consistency and minimize user downtime.
- IBM's e-business Infrastructure for SAP relies on flexible storage components to drive maximum business value.

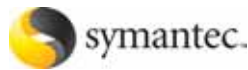
This White Paper discusses the features and benefits of each service offering for SAP customers, and specifically for SAP administrators.

Read the complete white paper at: http://www.bdata.com/pdf/IBMSAP_TotalStorage.pdf

Source: IBM Corporation 

BEAR Data Systems, Inc.
1291 Fifth Avenue
Belmont, CA 94002

Please call 800-718-BEAR or visit www.Bdata.com for information about the below products:



storage made simple

powered by cisco.

Let BEAR Data Systems show you a better way to access, manage, and protect growing information resources across a consolidated network infrastructure with Cisco® Storage Networking Solutions.

Optimize your operations today. Call BEAR Data Systems at 800-718-BEAR or info@Bdata.com. Or log onto www.Bdata.com.

