



BEARbytes

inside

page 3

Unified Storage -

Why companies are moving beyond the SAN vs. NAS debate

page 6

BEAR Facts - Tech Tips from BEAR Data Systems

Simplify backup and ensure robust disaster recovery

page 8

IP Telephony : Part 2

Network Architecture Requirements to enable the converged enterprise

page 11

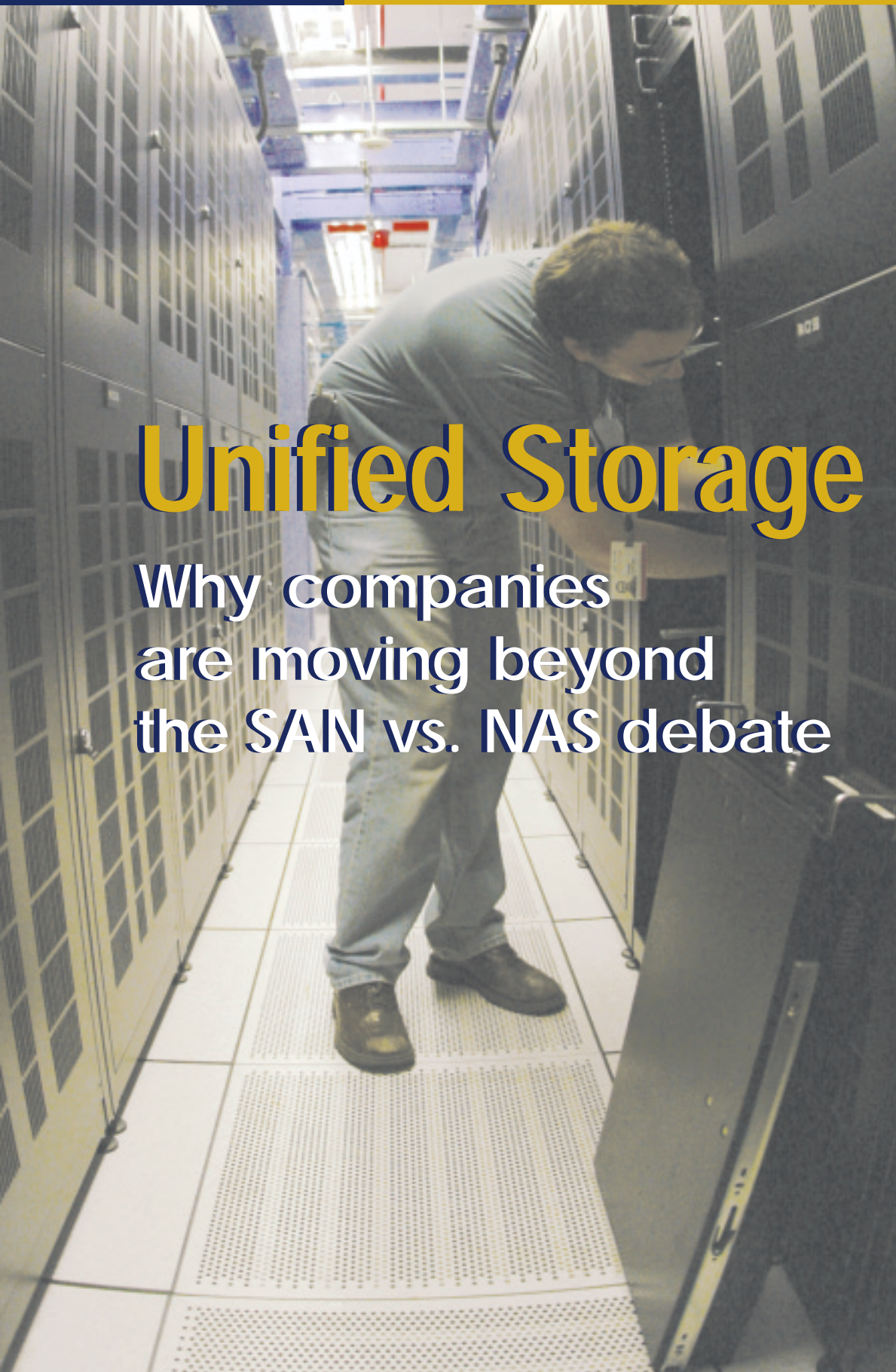
WiMax - The next generation of Broadband Wireless Access Technology

page 14

IPv6: The Internet Protocol for the future

Unified Storage

Why companies are moving beyond the SAN vs. NAS debate



WE'D TAKE A VICTORY LAP, BUT THESE THINGS ARE HEAVY.

IBM eServer™ p5 systems recently earned thirty #1 results in key computing performance benchmarks! Talk about cleaning up. eServer p5 systems with POWER5™ technology finished first in select high-performance computing, transaction processing, Java™ business application or file server application tests. In fact, an eServer p5 system is the only 16-way server in the Top Ten TPC-C™ Results by Performance list (which includes 32-way and 64-way systems) and it has the best price/performance of this group.² Learn more. More about these benchmark results at ibm.com/eserver/benchmarks

5 reasons why IBM eServer p5 systems with Power Architecture™ technology can help your business become more productive.

*Flexible, fifth-generation
POWER™ processors.*

Capacity on Demand.³

*Runs IBM AIX 5L™ and
Linux.⁴*

*Advanced system
utilization.*

*Virtual servers as small
as 1/10 of a processor.⁵*



eserver®

The IBM eServer p5 system, numero uno in any language.

BEAR 
DATA SYSTEMS INC.
1-800-718-BEAR
www.Bdata.com

Compare benchmark results only submitted to the appropriate organizations on July 12, 2004, and are under review. Benchmark comparisons are based on published information up to 16-way systems. TPC-C results current as of July 12, 2004, and all other results current as of July 12, 2004. For full details, see www.benchmarksonline.com. TPC-C results of 300044.28 ops/sec, 4.20 ops/sec, configuration available as of 12/20/04, up to a 16-way 1.2GHz POWER5 IBM eServer p5 (model 580) General Purpose Server (model 580) 1 on AIX 5.2.1. Source: www.bearing.com. *Provider as applicable. **Prices listed are POWER5 standard configurations. IBM, the eServer logo, and the eServer logo are trademarks of International Business Machines Corporation in the United States and/or other countries. Linux is a trademark of Linus Torvalds in the United States, other countries, or both, and all associated trademarks are trademarks of their respective owners in the United States, other countries, or both. TPC-C is a trademark of the TPC. IBM, the eServer logo, and the eServer logo are trademarks or service marks of either © 2004 IBM Corporation. All rights reserved.

Storage professionals have never stopped looking for cheaper and less complex technologies. Many analysts see the confusing and costly divide between competing technologies - Storage Area Networking and Network Attached Storage - becoming meaningless as the industry goes for a unified solution. That solution will ride on the back of iSCSI, the Internet-enabled version of Small Computer System Interface that helps link various data stores together.

The need for both SAN and NAS

SAN (Storage Area Network) builds on the server-attached model through the creation of a network of storage devices. This allows data to move more efficiently without adding more load to the

Although the NAS-SAN convergence has begun, the trend will increase with the emergence of iSCSI, the Internet-enabled version of Small Computer System Interface that helps link various data stores together.

communication network. Leveraging Fibre Channel (FC) connectivity, SANs provide a more robust performance for storage management while allowing servers to be physically separate from their storage devices. FC SANs transmit data over Fibre Channel Protocol.

A NAS (Network Attached Storage) device is a self-contained, autonomous storage appliance connected directly to a network. SANs operate at a block level, while a NAS is a file oriented storage solution. A NAS communicates via NFS (network file system) or CIFS (common internet file system) protocols, which are run over the IP protocol.

A NAS is very simple to set up and maintain. The thin server technology used by most NAS devices is easy for network administrators of any skill level to understand and is very reliable. However, a NAS is not a replacement for SANs. As more NAS devices are added to a network, their sheer number can become unwieldy. While some NAS devices have the ability to scale to several gigabytes in size, a well-designed Fibre Channel SAN can scale to accommodate many terabytes worth of storage. As NAS use proliferates throughout a network, an IT manager has no option but to add more NAS units.

Some applications, such as database systems and Microsoft Exchange, expect direct access to block storage, and so these are not very easily supported via NAS. A SQL Server platform, for example, reads and writes database records directly from disk by using the SCSI protocol, and so it would need to access storage via DAS or SAN. Other applications simply access files through volume managers, and so could go directly to storage or retrieve those files via a NAS processor. Print-serving, for example, has moderate performance and capacity requirements, so this application is often supported on NAS. For these applications, the decision to use file or block access is largely a matter of convenience.

Because NAS uses common file system protocols, it is better suited for cross-platform support for Windows, Unix, and other operating systems. With NFS or CIFS client software loaded on each workstation, any user can access a shared NAS resource. This is less easily accomplished in SAN (whether Fibre Channel or iSCSI) environments.

Why unified storage?

NAS and SAN have to co-exist if organizations are to utilize their storage capacities to the optimum. Unification can also

help meet the requirement of 100 percent uptime, as it aims at the most optimum utilization of storage with efficient backup.

With NAS-SAN convergence, there is a flexibility to move applications between NAS and SAN, and re-purpose disks as required. Customers can drastically reduce the implementation time by going in for this concept in place of two separate storage set-ups; the same skill-sets can be used to manage both NAS and SAN together. Storage utilization will be optimal, and the cost of managing storage will come down, resulting in a lower Total Cost of Operation.

The discussion of SAN and NAS convergence centers on the simplicity of managing storage. Five hundred GB of storage used to be considered a lot of capacity for a NAS server. But today 10 TB is not outrageous, and many companies are going up as far as 100 TB. The focus today has to be about simplicity of storage management. With 100 TB instead of 500 GB, companies need to manage all of their storage smarter. Administration has to be done on a macro level.

How are storage vendors achieving convergence?

One sign of the push to merge NAS and SAN is the growing popularity of NAS gateways. These are devices without disks of their own that can

connect SANs with Ethernet networks. The primary drawback of NAS gateways are the limited compatibility of these products.

Aside from NAS gateways, another approach to bridging NAS and SAN technologies is to allow for both block and file level data access in the same device. This is a route Network Appliance has taken with its unified storage products. These new product offerings from Network Appliance bring Fibre Channel, iSCSI, NFS/CIFS under one management interface. While there are other ways of achieving convergence within a single chassis, they might need separate management interface for SAN, NAS or even iSCSI components.

“I continue to see large-scale uses of both SAN and NAS at most Fortune 500 companies. Infrastructure costs of these technologies continue to decrease due to the use of lower cost drives. The use of cross-platform tools will be heavily relied upon to successfully manage the resulting heterogeneous environments,” says Matthew Clark, Manager of IT Computing Infrastructure for Qualcomm Inc.

Still another means to connect the SAN and NAS worlds is through technology that essentially creates a distributed file system for SANs. For instance, IBM's SAN File System is designed to tie together servers in multiple locations over an Internet Protocol network and then allow the SAN to look and behave like a local file system. This does not depend on

where the data actually resides. Software keeps track of descriptive information, or metadata, such as physical locations, file sizes and access permissions that accompanies the actual content within the files

Although the NAS-SAN convergence has begun, the trend will increase with the emergence of iSCSI. Like its Fibre Channel predecessor, iSCSI offers a new means to access storage over a network.

Like Fibre Channel, iSCSI is a block storage protocol. Whereas Fibre Channel encapsulates SCSI commands, status and data in Fibre Channel framing, iSCSI performs the same encapsulation in TCP / IP. In a pristine iSCSI environment, both hosts and storage targets have Ethernet or Gigabit Ethernet interfaces, and the IP network serves as the SAN infrastructure.

Today, iSCSI device drivers and iSCSI network adapters provide host connectivity, but the mainstream SAN storage targets are Fibre Channel-attached. This requires a high performance protocol gateway to bring iSCSI hosts to Fibre Channel targets.

Another possible catalyst for the convergence of SAN and NAS solutions is the evolution of Ethernet bandwidth on the same playing field as Fibre Channel. That is when all these prospects will get really interesting.





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[®]

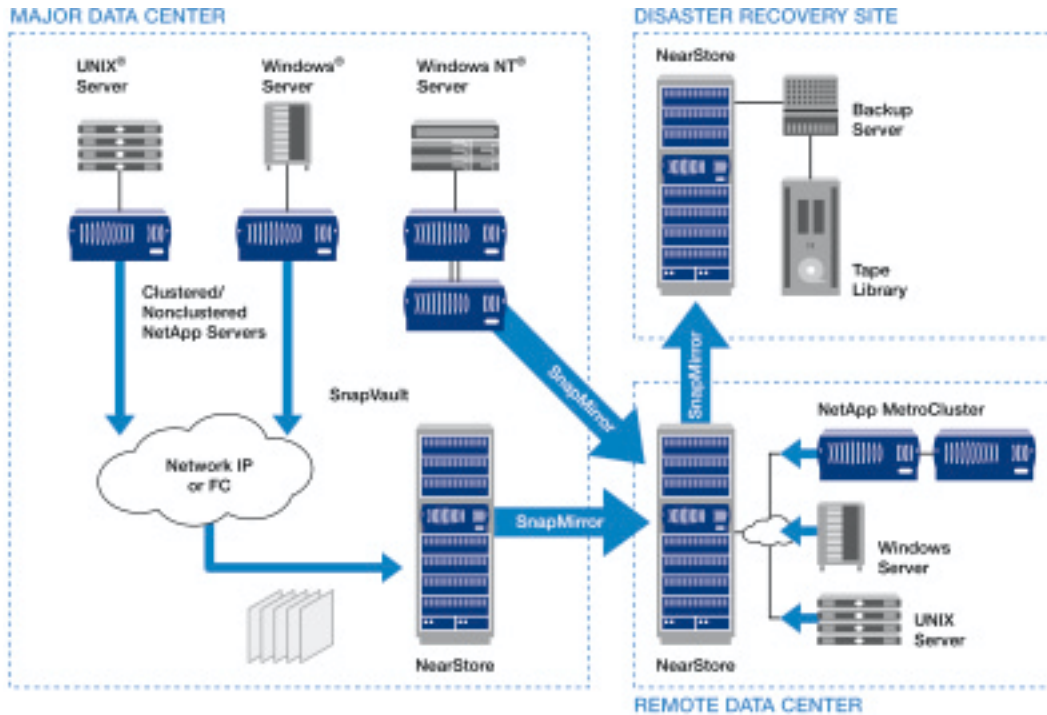
Simplifying Data Management

BEAR 
DATA SYSTEMS INC.

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

BEAR Facts - Tech Tips from BEAR Data Systems

Simplify backup and ensure robust disaster recovery



This data protection solution enables you to:

- Simplify backup tasks
- Streamline recovery processes
- Enhance enterprise-wide data protection
- Ensure rapid data recovery in the event of a disaster
- Reduce infrastructure and operating costs

Two Solution Modules for Comprehensive Protection

To meet a variety of customer requirements around recovery point objectives (RPOs), recovery time objectives (RTOs) and service-level agreements (SLAs), the NetApp data protection solution includes an online backup and recovery module as well as a disaster recovery module.

Online Backup and Recovery

Focused on meeting enterprise-wide data protection needs, the NetApp online backup and recovery solution includes:

- SnapVault™ backup software for automated, heterogeneous, changed data backup
- DataFabric® Manager software to manage data

backup and recovery within a heterogeneous, dispersed environment from a single administrative console

- SnapMirror® replication software for the highest possible data access and fastest recovery for mission-critical applications

Disaster Recovery

Targeted to meet site-specific data protection needs and minimize downtime associated with catastrophic events, the NetApp disaster recovery solution includes:

- Snapshot™ technology, which enables near-instantaneous, transparent, online backups by storing multiple read-only versions of each data volume
- SnapRestore® restoration software for quickly reinstating individual files or a file system to a predetermined earlier state in time
- SnapManager® to uniformly manage and administer customized Snapshot processes for restore and recovery needs
- MetroCluster to extend failover capability from within a data center to a remote location and to replicate data from a primary to a remote site

- MultiStore™ combined with SnapMirror to offer enhanced disaster recovery by partitioning NetApp systems to facilitate server consolidation, resource partitioning, and simplified data movement and migration
- SyncMirror™ software to create a second copy of data that is always up-to-date and accessible
- NearStore®, a disk-based nearline storage system that combines the award-winning NetApp Data ONTAP™ operating system with an array of ATA-based disk drives
- Fabric Attached Storage (FAS) servers that support both Ethernet and Fibre-Channel environments, enabling NAS and iSCSI SAN deployments as well as Fibre Channel SAN solutions.

SOURCE: Network Appliance

THE RESILIENT INFRASTRUCTURE: A GUIDE FOR THE FEARLESS.



For today's enterprise, the only constant is change. And keeping up with change is the ultimate challenge for a business faced with an endless series of paradoxes: making information both secure and available; being reactive and proactive simultaneously; responding quickly to both new threats and new ideas. The solution? A resilient infrastructure that lets you respond as rapidly to opportunity and innovation as you do to threats and disruptions; and where the elements that help keep your company up, running and growing — security, storage and recovery — are firmly in place. This is the ideal that has brought together Symantec and VERITAS to form a single company with a single goal: to help you build a fearless enterprise. For more information visit www.symantec.com/RI.

BE FEARLESS.



Symantec, the Symantec logo, VERITAS, and the VERITAS logo are U.S. registered trademarks of Symantec Corporation or its subsidiaries. Copyright ©2005 Symantec Corporation. All rights reserved.



NOW
AVAILABLE
FROM



IP Telephony : Part 2

Network Architecture Requirements to enable the converged enterprise

The primary benefit of QoS policy is that it allows an enterprise to make a one-time investment in infrastructure to prevent large recurring payments on more unnecessary bandwidth.

A converged network - one that integrates voice traffic and data traffic on a single physical network - requires a stable IP architecture, which can take advantage of speed, adaptability, resiliency, security, and quality of service. Once these network prerequisites are completed, a converged enterprise stands to reap substantial rewards, including reduced costs, increased efficiency and morale, and new and expanded opportunities for revenue generation.

Speed

A switched Local Area Network (LAN) is absolutely essential to the deployment of future technologies, including IP Telephony. A switch operating at 100 Megabits per second

is providing 100Mbps to every connected end point, be it a phone, desktop, firewall or server.

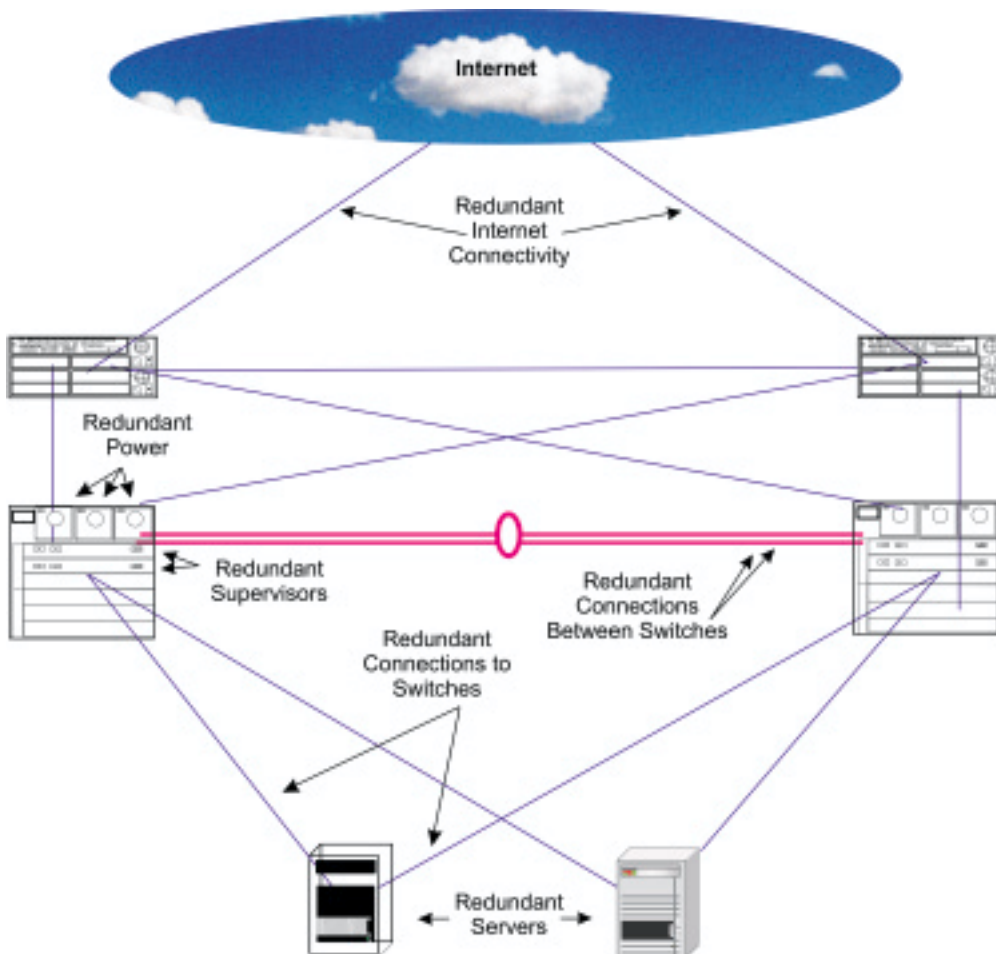
It is also important that the Wide Area Network (WAN) is scaled to provide necessary bandwidth. In traditional point-to-point technologies, like fractional T1, there is a firm maximum to allowed bandwidth. Technologies like Frame Relay, ATM, MPLS, and Virtual Private Networks allow network traffic to use more or less bandwidth as the need arises. Because of advances with IP in carrier networks, these new technologies also commonly offer higher throughput at lower prices than their traditional counterparts.

Adaptability

A network that is adaptable and scalable for an unpredictable future is very important. Toward this end, many modern network devices are built to support modular interfaces, improved processing power and software upgrades. Any network should support the standards of today (Ethernet, IP, multicast), and have the capacity to meet the future (10 Gigabit Ethernet, IPv6, etc).

Resiliency

The network supporting an enterprise's mission-critical applications should be capable of running without interruption.



A versatile network should comprise of devices that are internally stable and reliable, but that also have a backup system in place in case of disaster.

It is becoming common in networks to apply redundancy to augment inherent reliability. A chassis-based switch, for instance, will commonly support redundant power supplies or even redundant supervisor modules (the intelligence of the device). This architecture can help an enterprise to roll out a zero-downtime network without maintaining (or paying for) two of each network device.

It is also possible to eliminate or reduce the incidence of single points of failure through multiple connections between devices. A single mission-critical server might, for instance, connect to two switches, to insulate the server from a network failure. Two switches might connect to each other with two cables to prevent a link failure. Some companies even employ redundant connections to the Internet, as email and web applications have become so critical to productivity.

Security

Border security is the first line of defense against the loss or destruction of network information. Border security includes the implementation of firewalls and access control lists (ACLs) to limit which parties can access which resources. Firewalls provide the essential first layer of security but cannot be called a complete security policy. Network- and host-based Intrusion Detection Systems (IDS) also play a fundamental role in security. An intrusion detection system scans every packet entering the network for matches against a library of known exploits. If a packet is part of an exploit, the IDS can respond automatically and also warn an administrator of the attempted breach.

Quality of Service

While local area networks may be deployed with internal speeds of hundreds or thousands of Megabits per second, it is often far too costly to deploy a wide area network of more than a fraction of a Megabit per second. In this case, we must protect various types of traffic from each other.

Voice and video traffic are extremely sensitive to latency and "jitter." (Latency is the time packets take to arrive at their destination. Jitter is when some packets arrive much faster or slower than the



Some companies even employ redundant connections to the Internet, as email and web applications have become so critical to productivity.

average.) If a voice stream is slowed by even a quarter of a second, the conversation is noticeably affected. Data traffic, on the other hand, is not typically as sensitive to delay: The average end user may not perceive a full second delay in a loading web page or file transfer. Therefore voice and video traffic should receive a higher Quality of Service (QoS) than data traffic on the same link. This allows a small, cost-effective link to carry voice and video in real time, while file transfers use the remaining available bandwidth.

The primary benefit of QoS policy is that it allows an enterprise to make a one-time investment in infrastructure - a more intelligent, QoS enabled router - to prevent making a very large recurring payment on more unnecessary bandwidth.

Too much data growth. New compliance requirements. Need to store everything forever.
Why did they say 20TB of disk would solve my problem? I only need 10TB. Who can predict tomorrow?
Must do more with less. If I go upstairs
with a really big invoice, I'm history.



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.

WiMax - The next generation of Broadband Wireless Access Technology

With the deregulation of global telecom and the opening up of telecommunication and Internet services, carriers and service providers have begun to operate on a variety of frequencies. New and lucrative broadband access markets have emerged across the world, and a variety of broadband initiatives based exclusively on wireless networking solutions are being launched. In this scenario, WiMax — Worldwide Interoperability for Microwave Access — promises to be the silver bullet for the last mile problem faced by ISPs and telcos. It could just be the right solution for connecting rural and remote areas to broadband services.

The Technology

WiMax or 802.16, just as the Wi-Fi family of standards, is a wireless networking standard but with improved range and bandwidth. While Wi-Fi enables wireless access within offices or cafés, a WiMax base station can cater to thousands of users spread across 30 miles, transferring around 70 Mbps.

WiMax is available in two standards: IEEE 802.16-2004 for fixed point-to-point and point-to-multipoint wireless

access, similar to the airborne version of Digital Subscriber Line (DSL) or cable-modem services; and IEEE 802.16e for mobile wireless access from laptops and handhelds. This is comparable to a faster version of third-generation telecommunications technology. Already, 802.16e-enabled laptops are expected to be available from Intel Corp. by early 2007. Both these standards, being overseen by the WiMax Forum — a consortium of 230 companies for market development, will have technologies available in licensed and unlicensed frequency bands below 11 GHz.

Disaster Recovery

WiMax will be effective for disaster recovery—the wireless link would serve as either the primary or the backup connection as two land lines are likely to be cut simultaneously.

The Advantage

WiMax, for which the base stations can be mounted on homes or buildings, will be effective even when obstacles such as trees and buildings exist as the signals bounce off buildings or other obstructions. The base station, too, can interpret the signals even if they are distorted.

Backhaul to the Internet is provided via wireless 802.16 point-to-point links or by traditional wired backhauled. It can also deliver broadband Internet and extended services such as Internet telephony without cables. This will also make the service cost effective due to lower infrastructure investments.

The Application

WiMax, which offers an alternative to land lines, will have special significance for disaster recovery. The broadband service will be effective in mirroring the office network, thereby providing the primary or the backup connection. With backhaul services similar to broadband wireless access (BWA) services at better speed and coverage range will help expand the user base.

WiMax will also enable high-speed mobile component, and Intel is supporting Alvarion, Proxim Corp. and Redline Communications manufactured last-mile fixed products for the carrier market.

Already, pre-WiMax BWA services are in use, providing a cost advantage. With the mobile version of WiMax, not only would costs see a downward trend but also enhance mobile connectivity.

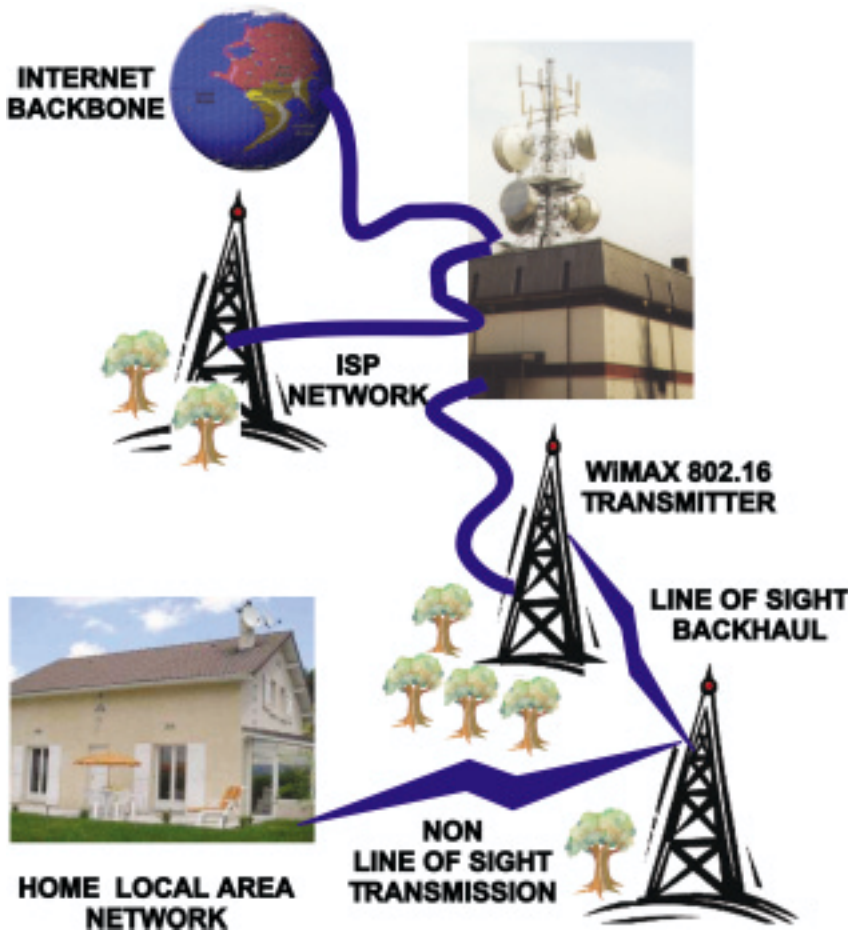
WiMax is attractive as a prospect as it is expected to lower subscriber-unit costs, extend coverage range by 40-50% — depending on the frequency used — and provide faster speeds.

The Impact

WiMax, which is likely to be deployed as a carrier technology first, will offer enterprises access to inexpensive broadband with speeds ranging from T1 to T3 line. Deployment of WiMax will be quicker as it is airborne and will also help counter existing last mile monopolies. As WiMax provides for quality of service, services such as voice over IP would be supported. WiMax-certified products could also be available for campus-area networks.

The cost of equipment for fixed connections would come down from about \$800 today to \$300 to \$400 in 2006 or 2007.

WiMax is expected to provide better local-loop services at competitive prices, thereby



opening up the arena for a cross-section of service players – from telcos to cable operators. While this would also expand the user base and connect remote areas, the rural networking itself may happen only in 2009, after economies of scale kick in.

WiMax Forum

WiMax Forum, a non-profit trade organization founded in April 2002 by vendors of wireless access equipment and telecommunication components, aims to lay the groundwork for industry-wide acceptance and implementation of the IEEE 802.16—WiMax—standard. Representative of a cross-industry group, it includes chip-set manufacturers, component makers and service providers. The Forum aims to promote and certify the compatibility and interoperability of WiMax-based products. WiMax Forum-certified products, which indicate that a product complies with certain stated standards, will support both fixed broadband and portable applications using broadband.

BEA Launches New Vision, New Products

Liquid is the future of computing.

On June 9, BEA made one of the most important announcements in its 10 year history. From the NASDAQ Marketsite building in New York City, chairman and chief executive officer Alfred Chuang unveiled the company's new "Think Liquid" branding campaign, along with its new AquaLogic™ product family. Both campaigns confirm BEA's industry leadership in Service Infrastructure, an emerging category of enterprise software.

The new group of AquaLogic products and tools enables Web services to be composed once and leveraged anywhere. Using this new technology, business will be able to:

- Successfully deploy SOA to speed the delivery of new business services
- Manage services throughout the SOA lifecycle, regardless of underlying technologies
- Contain Web services sprawl with a framework built from the ground up for SOA
- Leverage a services infrastructure to squeeze out development and maintenance costs.

According to CEO Chuang, there is a tidal shift from siloed enterprise software in which corporations would typically run infrastructure and applications from one vendor, whether it's BEA, Sun, IBM or HP, to more heterogeneous approaches.

"The days of business silos and software smokestacks are

coming to an end," declared Chuang.

With BEA's new Think Liquid concept and AquaLogic products, BEA moves beyond siloed software stacks to a new world order that is open, flexible and ultimately much better integrated, and able to support J2EE, .NET, SAP, Oracle and IBM in more ways than were previously possible.

Now's the time to dive in and learn more! To find all the latest information on this exciting technology development, including releases, data sheets, white papers etc., please visit: www.bea.com



Liquid is the future of computing.

A solid foundation has always been essential. But what good is strength and permanence at the expense of flexibility and adaptability?

Well, now there is a new type of infrastructure software that allows information, processes, and services to stream across the enterprise.

A solution that has been reimagined to address how business flows today, from a partner that understands how fluid business will be tomorrow.

Introducing a new product family called AquaLogic,[™] only from BEA—a software company unlike any other. Not just because of the solid foundation our software provides, but because of the fluid and independent thinking behind, within, and surrounding our products. It's time to start thinking liquid.

Visit us at bea.com/think_liquid

© 2006 BEA Systems, Inc. All Rights Reserved. BEA is a registered trademark and AquaLogic and Think liquid are trademarks of BEA Systems, Inc.

BEAR
DATA SYSTEMS INC.
1-800-718-BEAR
www.Bdata.com


Think liquid.[™]

IPv6: The Internet Protocol for the future

Even foresight has its limits - the task force working on the Internet Protocol (IP) in the 1970s provided for something like 4.3 billion IP addresses (via a 32-bit address space) in the current version of IP on which the Internet runs—IPv4. But the growth of the Internet has boggled even the most prescient minds, and as IP-enabled devices extend to the realm of the mobile phone and home appliances, 4.3 billion seems like a hugely embarrassing underestimation.

The problem is compounded by an inequitable distribution of addresses, with the US having about 70 percent. About a decade ago, an announcement by the Internet Engineering Task Force (IETF) stating that the world would run out of IP

addresses near about the year 2010, created a furore everywhere. The solution suggested by the IETF was an evolution to IPv6 (also called IPng, for 'Next Generation'). With a 128-bit address space, IPv6 would provide for 3.4 times 10 raised to the power of 38 addresses - it's a number way beyond anything planet Earth will ever need.

But back then, the IPv6 protocols were still being perfected. So network engineers came up with ingenious workarounds to enable the re-use of addresses. One is DHCP, the Dynamic Host Configuration Protocol, wherein a few addresses are dynamically assigned to a large number of hosts of which only a tiny subset are online at any given point in time. The other is NAT or Network Address Translation. Using NAT boxes, all the nodes and devices within an organization appear to be a single device to the rest of the network and utilize a single IP address.

With NAT in full flow, the shortages of addresses kind of faded, and so did the urgency to move to IPv6. But like any workaround, NAT had its limitations and also created a new set of problems. Both NAT and DHCP don't really matter if all one wants to do is a bit of Web browsing and e-mailing. Today, more and more businesses and individuals demand a unique presence on the Net which is 'always-on, equally-connected and easily-reachable' without

being tied down to a single service provider. This means unique IP addresses. Further, the 3G mobile world and IP-enabled devices demand unique IP addresses to ensure true end-to-end, bi-directional communication — something not possible when hundreds of devices are hiding behind a single IP address using a NAT.

The growth of the Internet has boggled even the most prescient minds, and as IP-enabled devices extend to the realm of the mobile phone and home appliances, 4.3 billion IP addresses seem like a hugely embarrassing underestimation.

Of course with IPv6 it's not just a matter of addresses. In developing the evolutionary protocol, IETF has ensured that many of the inadequacies of IPv4 have been done away with. In the area of security, there's now innate support for IP Security (IPSEC), and a robust authentication header for data packets that provides almost infallible authentication and integrity checks, preventing host masquerading attacks. Another major feature is address auto-configuration, allowing mobile devices quick acquisition and transition of addresses, and plug-and-play connectivity for an unlimited number of devices in a network. With autoconfiguration, mobility and the ability to identify each device individually, the application development opportunities are mindboggling. Best of all, IPv6 migration can be gradual and co-existence with IPv4 can be indefinite.



BEAR Data Systems opens San Diego office

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

Contact Information:

BEAR Data Systems, Inc.

6540 Lusk Blvd. Suite C166, San Diego, CA 92121

Phone: 1-800-718-BEAR Email: info@Bdata.com

Upcoming events



Oracle Open World

Sep 17-22, 2005

San Francisco, CA

BEAWorld 2005

Sep 27-29, 2005

Santa Clara, CA



BEARbytes

Copyright (c) BEAR Data Systems, Inc.

1291 Fifth Avenue

Belmont, CA 94002

Phone: 1-800-718-BEAR

All rights reserved.

Powered by Power Quill.

<http://www.powerquill.com>

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



Need Tape Backup Media ASAP?

No Worries – We've Got You Covered.

We're Steelhead Data. We provide tape backup media for enterprise environments. That's all we do. Our selection includes all major media types and brands:

- LTO-1, LTO-2, LTO-3
- SuperDLT, DLT IV
- AIT-1, AIT-2, AIT-3, AIT-4
- 3570 3590 & 3592 Enterprise
- Datasafes, media cases & cleaning cartridges

Best of all, we work with B2B companies on a Purchase Order basis. Just set up your account and go - it's that easy. Let Steelhead Data fulfill your next tape media order. With a friendly staff, great pricing, and some of our unique customer friendly programs, such as Late Shipping from the West Coast (8pm EST) and Media Refresh, having a great source for tapes will now be worry-free.



www.steelheaddata.com

888-351-2476

BEARbytes provided by BEAR Data Systems, Inc.

Sooner or later your business will need a serious IPC network.



The good news is you don't need to be a large corporation in order to implement a serious IP network. BEAR Data Systems can now offer you SMB Class Solutions which encompass an entirely new line of tools and support. Such as integrated Cisco business communications solutions that can merge voice, data and video into a single platform. So you can reduce long distance and conferencing expenses, eliminate expensive phone moves, and lower the cost of maintaining systems and networks. BEAR Data Systems can implement an IP Communications system offering you & your employees instant access anytime, anywhere.

Contact BEAR Data Systems today at www.Bdata.com or call (800)718-BEAR to find out how you can build more benefits on a Cisco SMB Class IPC solution.