TO REACH
A HIGHER STATE
OF EFFICIENCY,
EFFECTIVENESS
AND ALIGNMENT,
YOU SHOULD
FIRST FIND
YOUR CENTER

YOU ALREADY HAVE

Recently, IBM® has been talking about a new era. The era of on demand business. An era in which your business is more responsive, variable, focused and resilient. Where you're able to respond–in real time–to customer demands, market opportunities and external threats.

Working with our customers and business partners, we've developed a vision for enabling on demand IT capabilities. It's a practical vision that can more closely align your IT resources with your business processes and goals. Across the enterprise, and with customers and suppliers. A key component of this vision is providing the ability to effectively manage IT resources. Not only across homogeneous environments as we do today, but also by extending these capabilities across heterogeneous ones in the future. And it will be done by weaving IT management disciplines together in a kind of fabric. Virtualization and the intelligent management capabilities found on your mainframe today are the key components that will make the fabric stronger.

IBM

@server

@server®

A FABRIC LIKE NO OTHER.

If your business is like most, your IT infrastructure grew organically. Needs arose, and solutions were implemented to accommodate them. So now you may have a variety of servers running various operating systems and infrastructure middleware. And a variety of server-specific applications and business processes to go with them.

IBM's vision for enabling on demand business involves moving away from server-based management of resources. Extending resource-management capabilities enterprise-wide so that IT resources can be shared by business processes according to business objectives. Enabling, to put it simply, an on demand operating environment.

In this on demand operating environment, you will need to connect applications and data regardless of where they reside. And share those resources across the enterprise using a common set of interfaces and behaviors. This will form an enabling layer of connectivity, or interoperability, that can be thought of as a global fabric for infrastructure management.

@server®

IT'S A VIRTUAL, VIRTUAL, VIRTUAL, VIRTUAL WORLD.

Virtualization is an important component in this on demand operating environment. IBM eServer® zSeries® mainframe systems have robust virtualization capabilities that can be leveraged to support and strengthen a global fabric for infrastructure management. Like the capability to provision hundreds of virtual servers, for example. And to dynamically share and manage a common set of resources across multiple applications according to your business priorities. This means by further extending key mainframe virtualization capabilities into a global fabric, future zSeries systems will have design points to enable self-managing infrastructures that align IT resources to top business priorities. Automatically.

Today IBM is clearly moving in this direction with technologies like the IBM Virtualization Engine™–technology inspired by the mainframe. Our future vision is to further heighten the virtualization capabilities of the mainframe and to extend them across mixed server environments.

THE NEED FOR SPEED. A 16-way z990 running z/OS can process up to 11,000 secure sockets layer (SSL) handshakes per second.[1] Very handy for doing business in a Web environment.

HERD THE BIRD.
Through a feature that lets you create virtual server farms, the zSeries is designed to let you run hundreds of copies of Linux on the same machine.

ⓔ server®

SIMPLE. INTEGRATED. BETTER.

Simplifying your infrastructure is a key step in the creation of an integrated, on demand operating environment. Why? Because a complex infrastructure can be inefficient. And expensive. With more people managing more things, instead of innovating and being productive.

A simplified infrastructure starts with storage and server simplification. Using virtualization capabilities to help consolidate workloads and reduce server sprawl. This can provide substantial savings on space, cooling and management staff. Further simplifying your infrastructure can help provide increased business flexibility. It's done by using software solutions that can automate and integrate your business processes and the underlying infrastructure. This allows you to transform and re-use core business assets. IBM middleware (DB2®, WebSphere®, Tivoli®, Rational®) can help enable this kind of integration, and provide enterprise-wide access to important customer data.

Through the use of key open and industry standards, zSeries systems can work hand-in-hand with other server environments to form a strong foundation for enterprise-wide integration. Which can allow you to use your data and applications to address new business challenges. And make better business decisions.

COST ZAPPER. The zSeries Application Assist Processor (zAAP) is a dedicated processor for Java® applications. Available for zSeries 990 and 890 servers, it can help increase productivity for Java workloads, while helping to lower the costs associated with running them.

FULL STEAM AHEAD. Variable pricing structures allow for cost-effective growth and help give Princess Cruises the flexibility to upgrade its mainframe capacity without necessarily increasing fees for IBM licensed software running on its zSeries 900 server.
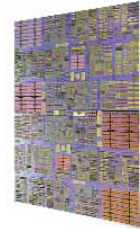
WHEN MORE REALLY IS LESS. More servers mean more cabling—and greater space, power and cooling demands; the tendency toward decentralization means infrastructure is spread across greater distances. More servers and more contact points mean less security.

@ server ®

RESILIENCY IS A MATTER OF SURVIVAL.

Being on demand means staying on. For businesses, downtime is not an option. To begin with, the costs can be staggering. From tens of thousands, to millions of dollars per hour. As a practical matter, continuous availability and near-transparent disaster recovery are a matter of survival. Of course, the level of resiliency required varies across the infrastructure. An on demand operating environment can allow the most appropriate action to be taken. All based on its priority to the business it supports.

Today many enterprises use eServer zSeries resiliency solutions to support their most critical applications. zSeries–along with the IBM TotalStorage® resiliency family of offerings–offers a comprehensive set of highly-integrated automated products and solutions designed to work closely together to help address specific business resiliency needs. To better participate in a heterogeneous environment, zSeries plans to extend current solutions to better embrace standardization, interoperability and granularity of control.

Our vision for the future involves leveraging existing technology concepts, like Parallel Sysplex®, into the on demand operating environment to enable greater business resilience capabilities spanning the entire environment–at near zero downtime. So multiple-point solutions for disaster recovery, for example, evolve into enterprise-level solutions for resiliency with business process recovery.

SOFTWARE BY THE "SLICE." Why pay for the whole loaf, when you only need a piece of bread? You can align your IBM software usage to the LPAR usage of your server–so you only pay for the IBM software that you use. It's a good way to help manage costs while taking advantage of new applications on your mainframe.

Manufacturing	Package Shipping Services	Airline Reservation Center	Credit Card Sales Authorization	Retail Brokerage
$26,761	$28,250	$90,000	$2.6MM	$6.5MM

[*DOWNTIME BY THE HOUR*] *A million here. A million there. Pretty soon you're talking about some real money.*[3]

@ server®

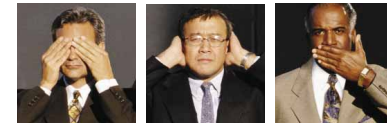## PEACE OF MIND. NOW DELIVERED IN AN ATTRACTIVE METAL BOX.

MyDoom. Sasser. Barely a week goes by without the media announcing a new virus. Or significant financial losses resulting from electronic fraud. Simply put, the need for security is greater than ever. For one thing, your mission-critical services and key business assets are now open to the outside world. And your reputation as a business is dependent on the confidence that customers have in your ability to protect yourself.

So how do you protect your data, your transactions, and the reputation of your business? It starts with automated user identification, authentication, auditing and administrative capabilities. And advanced data encryption. All of which are available on the IBM eServer zSeries. Intrusion defense is also an emerging critical requirement for resilient business operations. Monitoring events, correlating information, recognizing patterns leading to threats and acting to ensure ongoing operation of the enterprise, based on customer needs. IBM eServer zSeries systems are designed to help with these objectives as well.

The next level of security involves taking an integrated approach to securing your infrastructure across heterogeneous platforms. This approach will use a common set of criteria and standards that meet the highest levels of certification. All in the interest of helping enable a security-rich, on demand operating environment that can provide peace of mind for you and your customers. Today's zSeries capabilities provide a strong foundation for providing this next level of security.

BACKUP, BACKUP AND MORE BACKUP. Redundant system design offers China-Trust Commercial Bank (CTCB) on demand availability and business continuity in the event of a disaster. The Parallel Sysplex configuration also helps CTCB provide highly reliable, responsive service during normal operations. The new system uses load balancing to spread work across server resources—helping relieve bottlenecks and maintain high availability for important applications and heavy ATM transaction activity.

SEE NO EVIL, HEAR NO EVIL, ETC. The cost of corporate denial-of-service attacks in the US reached $65,643,000 in 2003. Coincidentally, corporate denial of denial-of-service attacks rose as well.[2]
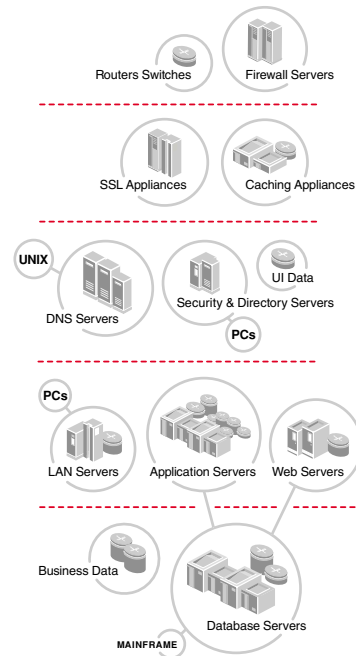
@server®

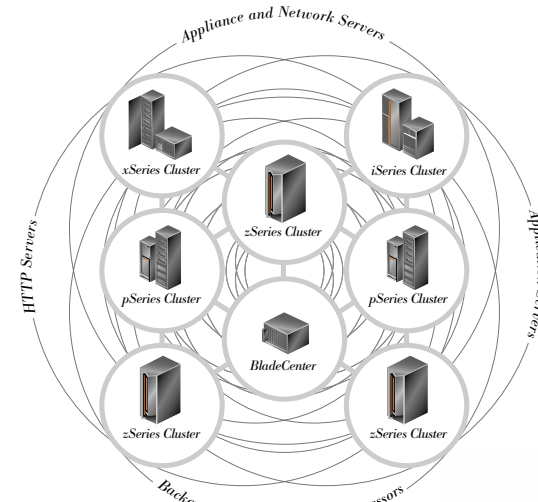## A HIGHLY-REFINED CIVILIZATION VS. THE WILD, WILD WEST.

In the on demand world, it's not just about managing workloads. It's about moving toward dynamic workflows that you can manage across the enterprise. To make this happen the scope of management must change. This requires enabling the ability to manage multiple servers with multiple–and different–workloads. zSeries mainframes are capable of doing this today. It's done with capabilities like z/OS® Workload Manager, z/VM® Resource Manager and Intelligent Resource Director, which deliver the ability to manage multiple applications running on z/OS, Linux®, z/VM and UNIX®. Application and systems management tools, like OMEGAMON™, are also available to help enable smooth running of sub-system software and applications.

Managing business performance objectives end-to-end is a critical component of meeting enterprise-wide Service Level Agreements across distributed, multi-tiered, heterogeneous environments. So in the near future, the scope of these workload management capabilities is planned to be extended even more. Through integration of the Workload Manager with Enterprise Workload Manager, the goal is to be able to absorb capacity spikes and adjust workloads instantly. So your business can be more responsive and more on demand.

[*BEFORE . Operational silos.*]

Routers Switches
Firewall Servers

SSL Appliances
Caching Appliances

UNIX
DNS Servers
Security & Directory Servers
UI Data
PCs

PCs
LAN Servers
Application Servers
Web Servers

Business Data
Database Servers

MAINFRAME

[*AFTER . An ON DEMAND operating environment.*]

Appliance and Network Servers

xSeries Cluster
iSeries Cluster
zSeries Cluster
pSeries Cluster
pSeries Cluster
BladeCenter
zSeries Cluster
zSeries Cluster

HTTP Servers
Application Servers

Backend Transaction and DB Processors

THE GOOD, THE BAD, AND THE MANAGEABLE. Distributed systems can be like the wild west. Lawless and unpredictable. An IBM zSeries system at the heart of your on demand business infrastructure can help make things more manageable.

IBM

@server®

THE FUTURE MAY BE UNWRITTEN, BUT IT'S EXTREMELY WELL PLANNED.

The IBM eServer zSeries systems of today are the product of 40 years of continuous innovation. Innovation that enables on demand business and inspires developments throughout the eServer product line. Now, IBM has developed a series of roadmaps intended to help strengthen your ability to implement a global fabric for infrastructure management. These roadmaps incorporate open and industry standards, heterogeneous end-to-end support, business process linkages and autonomic computing. And they extend and further integrate resource management disciplines, like availability, security and workload management, enterprise-wide, across the heterogeneous environment.

SHARE THE JOY. GaVI, a joint technology venture between three of Germany's largest insurance companies, consolidated their various mainframe environments to four eServer zSeries in two data centers. As a result, they no longer need separate machines in three locations – each with their own software license, maintenance contracts and support costs. The consolidation has delivered their projected cost savings, seeing results within a year.

INFORMATION VAULT.
Designed from the ground up to help thwart intrusion into the system, IBM zSeries systems are some of the most secure servers in the world today.
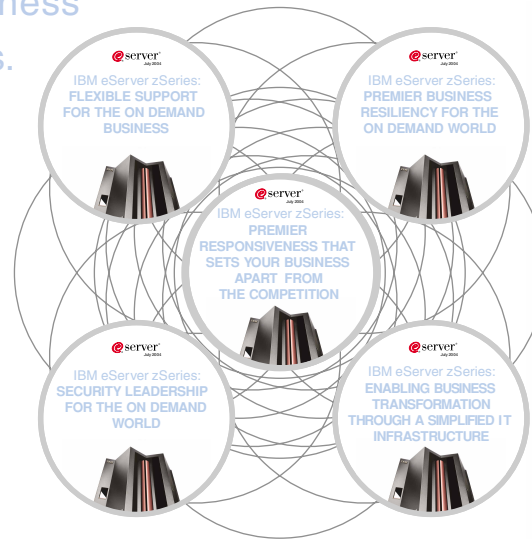
@ server ®

THE PATH TO ON DEMAND BUSINESS STARTS HERE.

And we're here to help. With the kind of experience that can only be provided by a vital community that encompasses IBM and thousands of IBM Business Partners, Solution Providers, Independent Software Vendors and Systems Integrators. IBM Global Services alone has 180,000 people with expertise in a wide variety of industries. And IGS works hand-in-hand with the hardware and software experts at IBM to help provide a seamless implementation of your on demand IT solution. We are also here to reinforce our commitment to the platform. A commitment that rests on 40 years of innovation and is newly expressed by sponsoring initiatives like our PartnerWorld® for Developers program, which is designed to build valuable skills in the zSeries community.

Get in-depth information about IBM eServer zSeries mainframe systems and on demand business. It's all in our "Value Anthology," an informative series of white papers on topics including business resiliency, security, flexibility and responsiveness. Visit **ibm.com**/zseries/ondemandbusiness for your copy today.

IBM eServer zSeries:
FLEXIBLE SUPPORT FOR THE ON DEMAND BUSINESS

IBM eServer zSeries:
PREMIER BUSINESS RESILIENCY FOR THE ON DEMAND WORLD

IBM eServer zSeries:
PREMIER RESPONSIVENESS THAT SETS YOUR BUSINESS APART FROM THE COMPETITION

IBM eServer zSeries:
SECURITY LEADERSHIP FOR THE ON DEMAND WORLD

IBM eServer zSeries:
ENABLING BUSINESS TRANSFORMATION THROUGH A SIMPLIFIED IT INFRASTRUCTURE

VALUE ANTHOLOGY. A series of white papers on topics including business resiliency, security, flexibility and responsiveness.

e server®

A FEW LAST WORDS

"The mainframe is–by a wide margin–the industry-leading platform in such areas as availability, capacity utilization, system management, mixed workload management, security and backup/recovery capability, along with partitioning and virtual hosting."

International Technology Group

"IBM's z/Architecture, building upon its predecessor architecture and their decades as enterprise application workhorses, provides the server environment that most fully supports today's on-demand computing imperatives."

D.H. Brown Associates, Inc.

"Combining zSeries' and Information Builders' capabilities is a natural…leveraging the highly reliable mainframe and its data to provide holistic views of information, dynamically as businesses need it."

Gerald Cohen
President and CEO
Information Builders

"In today's on-demand world, business and society need applications to perform flawlessly, to achieve lightning-fast response and continuous availability. Equally important, critical applications need total security and disciplined management. The IBM zSeries continues to be at the forefront, helping customers meet those needs and manage their businesses more effectively."

Nick Donofrio
Senior Vice President
IBM, Technology and Manufacturing

"Suddenly, the mainframe is stunningly attractive."

The Clipper Group

ON DEMAND BUSINESS™   IBM®