Delivering business results and bottom-line savings: System z and zEnterprise

Flexible, simple, reliable, efficient

ENTER »

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Why clients choose zEnterprise

With industry leading security and reliability along with extraordinary efficiency and flexibility, customers are choosing zEnterprise for a wide range of reasons

2

Flexible

Meet today's business needs and prepare for the unpredictable future with IBM zEnterprise

3

Simple

Reduce the number of servers to make management easier and reduce costs

4

Reliable

Your data is your most valuable asset. Protect it and keep it working for you with zEnterprise

5

Efficient

With near 100 percent utilization possible, zEnterprise helps you get the most out of your IT investment

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Get more flexibility and less complexity with zEnterprise

Database consolidation is much more than just a way to save on resources or maximize the use of underutilized systems. Consolidation is a way today's data centers can shift from siloed, proprietary environments to a simplified infrastructure, using whatever applications—customized or off-the-shelf—required.

In today's business and economic environment, the challenge for IT is clear: improve responsiveness, reduce costs, and boost productivity. One of the most effective ways to meet this challenge is to exploit the unique capabilities of System z® and zEnterprise®. The unparalleled ability for zEnterprise to support diverse applications, architectures and technologies translates

into faster time to value, productivity gains, more capacity when it is needed, greatly improved flexibility and resource savings for both business and IT-oriented projects. The best TCO characteristics can be obtained from consolidating many servers with low CPU utilization and taking advantage of the virtualization capabilities of zEnterprise.

Less sprawl, more speed. Consolidating a sprawling network of distributed infrastructures into a single platform reduces complexity, improves performance, and lowers costs.

Those advantages extend to the development environment, with improved support of central applications, seamless integration of multiple environments, and disruption-free processing, for end-to-end debugging,

regardless of platform. For a real world example, see how Allianz Insurance consolidated from 60 servers to one zEnterprise (in 48 hours) and saved more than a million dollars using Red Hat Linux and zEnterprise.

Simplification that saves. With zEnterprise you can build, deploy and manage a range of applications, including popular technologies like Web 2.0 and Java. Sharing the zEnterprise infrastructure enables them to run more efficiently, saving you money and management effort, and reducing time to market. For a real-world example, see how System z is helping VietinBank experience improvements in operational and energy efficiency that are delivering significant cost savings.

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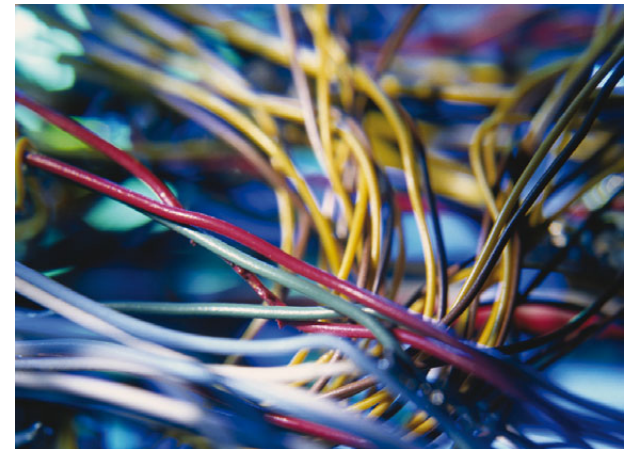| 1. Why clients choose zEnterprise | 2. Flexible | 3. Simple | 4. Reliable | 5. Efficient |

Drive innovation forward

Do you need a data processing engine capable of driving advanced analytics for decision support?

Is the high cost of managing your IT infrastructure holding you back?

- Spending more and more on operations, process and people costs to manage your IT environment?
- Battling complexity, inefficiency and security vulnerabilities associated with distributed x86 systems?
- Facing high energy consumption and lack of available floor space but still need to achieve the same or higher output?
- Spending too much time on the physical management of network resources, storage resources, server resources, rather than focusing on strategic projects?

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1. **Why clients choose zEnterprise**

2. **Flexible**

3. **Simple**

4. **Reliable**

5. **Efficient**

More platform choices

Smarter computing

Forward-thinking IT leaders are building infrastructures that are designed for data, tuned to the task, and managed in the cloud—smarter computing infrastructures.

IBM zEnterprise servers and software are an excellent foundation for smarter computing solutions because they are capable of precisely meeting today's demanding business requirements.

- You need to select a platform that is fit for purpose—just right for the application you are running.
- You need to look beyond the performance and the platforms you've always used and see how IT choices can help you drive opportunities for innovation.
- You need to implement new business services rapidly, enable growth of services without increasing costs, and drive additional revenue opportunities.

Improve service delivery and enable innovation by creating an enterprise cloud through deep integration of IBM zEnterprise and IBM middleware.

Deliver superior economics to the business by consolidating workloads with IBM zEnterprise and Linux on zEnterprise.

Create actionable insight within the transaction by integrating real-time data modeling and analytics with IBM zEnterprise and IBM middleware.

5

IBM

Respond to emerging trends

In today's business environment, you need to **manage for value, position for the future** and **effect change**. To meet these challenges, you need to be prepared to respond to the emerging trends that are placing tremendous pressure on IT shops.

- Savvy, **web-oriented consumers**, accustomed to the interactive, personal experience delivered by entertainment and social networking sites, expect the same experience from all their web transactions.
- **Advanced analytics** are fast becoming a staple of business decision making. Demand for ad hoc, "what if?" queries and an intense focus on risk management are driving the need for real-time processing of vast amounts of data.
- True **globalization** of your IT solutions is required for a globally integrated enterprise to succeed in global markets—accessing capabilities, knowledge and assets from wherever they reside.

To meet the demands of this increasingly challenging business environment, your business relies on a new generation of IT workloads. These workloads are functionally diverse and demand a range processing requirements and growing amounts of processing power.

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A new era for data centers

Many IT managers are investigating consolidation and virtualization as a way to reduce costs, increase server utilization, simplify infrastructure and increase organizational agility.

Linux on IBM zEnterprise is now a mainstream choice for this consolidation. According to Enterprise Management Associates (EMA) research, "Linux on System z® is growing at 72 percent per year. The reason for this rapid growth is reduced people costs, simplified infrastructure, and robust disaster recovery."

- Support hundreds of thousands of concurrent users on a single trusted and robust source of data.
- Implement virtualization without sacrificing database performance.

- Reduce licensing costs, up to 97 percent for example, by switching to Linux.*
- Reduce power and cooling costs by up to 90 percent by reducing your hardware footprint.*

* Distributed server comparison is based on IBM cost modeling of Linux on zEnterprise vs. alternative distributed servers. Given there are multiple factors in this analysis such as utilization rates, application type, local pricing, etc., savings may vary by user.

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Accelerate time to value

Data centers are prime targets for consolidation and virtualization

Organizations are facing enormous challenges in the data center environment today, issues around the ability to keep up with exploding IT growth. In the last ten years the average IBM customer has added six times their server capacity, sixty-nine times their storage capacity and they're finding it challenging to keep up.

A typical data center lasts 15 to 30 years. Years of incremental technology deployments—often department-by-department or project-by-project—have turned data centers into massive environments with thousands of dedicated servers running at very low utilization rates. These servers are consuming ever increasing amounts of power and floor space, and creating management complexity.

By consolidating and virtualizing the data center you can get the most out of your CPU resources, floor space, power, software licensing and support staff. IBM zEnterprise allows you to do more with your existing resources without having to expand into new facilities with raised floors.

Benefits:
- Double the capacity of your existing datacenter.
- Lower total cost of ownership from a standardized environment.
- Meet today's capacity needs, scale to meet tomorrows.
- Reduce time for server provisioning from weeks to hours.

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Do more with less

Simplify and optimize your existing IT infrastructure

Consolidation

Companies and IT organizations are under pressure to cut costs.

Server consolidation is not just about reducing the number of servers. It's about integrating, simplifying and optimizing the existing IT infrastructure across heterogeneous applications and data.

zEnterprise technology can help you realize significant cost savings while supporting industry-leading security and availability.

Why zEnterprise?

zEnterprise offers you an architecture-independent approach to server consolidation that spans the following four areas:

- Centralization to reduce the number of IT data centers
- Physical consolidation of software or hardware
- Data consolidation
- Consolidation of multiple application architectures into a single pool of virtual resources

IBM zEnterprise and the Enterprise Linux Server (ELS)

zEnterprise delivers unique business value for virtualization, operational flexibility, scalability, workload management, efficiency, business continuance, reliability and security. The IBM zEnterprise platform—and in particular, the Enterprise Linux Server (ELS)— offers a compelling option that offers both highest levels of availability and extraordinary cost-efficiency.

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Consolidation and virtualization

An industrial strength solution

IBM zEnterprise virtualization

During spikes in demand, the zEnterprise platform can quickly redistribute system resources. zEnterprise virtualized solutions are designed to offer flawless execution and avoid the cost of slow response times or system crashes.

A single zEnterprise server can scale up to hundreds of millions of transactions per day, or scale out to manage hundreds to thousands of virtual servers.

Benefits

- Lower operating costs through more effective asset utilization.
- Reduced business risk, increased agility and responsiveness, faster time to market.
- More robust data serving with single view of data and insight derived from real-time analytics.
- More business value from existing applications and business process assets.

IBM zEnterprise running Linux with Oracle Database and Middleware Solutions

IBM zEnterprise offers unique breakthrough capabilities for your business applications. Designed for data with virtualization at its core, zEnterprise ensures the demands of Oracle application databases are satisfied with the processing power and speed to meet your growth objectives, while reducing your IT spending. Linux for zEnterprise offers an excellent choice for running Oracle database, middleware and applications.

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Invest in the future

Reduce IT costs and focus on growth

IBM zEnterprise is transforming today's most competitive organizations by offering them the **power, speed and processing efficiency** to help reduce costs.

Payment Solution Providers (PSP) is consolidating its entire IT infrastructure on the IBM System z with IBM information management software to support key business operations such as credit card processing and payment switch technology. PSP selected the IBM mainframe to run PSP Atlantics Payment Switch technology and offer it to clients as a license or cloud service.

Benefits:

PSP expects to improve operating efficiencies and lower IT costs up to 35 percent.

"At the end of the day, when you look at the cost of ownership, we have 35 percent more in PSP's pocket than someone else's pocket. So who is laughing last?"

—Danny Gurizzan, Executive Vice President, Payment Solution Provider

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Stay competitive

Garanti Bank chose an IBM System z solution to provide services to more than 950,000 clients and process more than 200 million transactions a day.

IBM provided Garanti Bank with a solution based on two IBM System z Enterprise Class servers running he core banking systems on an IBM Customer Information Control System (CICS) Transaction Server using IBM DB2® for z/OS® software. The servers are clustered using IBM Parallel Sysplex technology to help Garanti Bank to safeguard and recover critical information and reduce possible downtime in the case of a systems failure.

The adoption of IBM's System z reinforced Garanti's strategy to deliver fast and secure banking services 24 hours a day, ensuring fast, scalable, robust, flexible, cost-effective and secure environment across different channels — banking branches, ATMs, POSs, Internet and mobile channels.

"24×7 banking now is a must… Our use of technology is what keeps us ahead of the competition in attracting and retaining customers— and IBM zEnterprise is at the heart of that."

—Tufan Alatan, Executive Vice President, Garanti Technology

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1. **Why clients choose zEnterprise**

2. **Flexible**

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4. **Reliable**

5. **Efficient**

A modern data engine

Having fast answers to business questions has never been more important to an organization's success and growth. With System z and zEnterprise, organizations of all sizes can proactively deliver timely, accurate and secure information to improve business performance.

As a modern data engine, zEnterprise delivers critical business information at the speed and quality your organization requires. And, with System z and zEnterprise, you can depend on the high availability, scalability and performance needed to ensure today's powerful business analytics tools, applications and processes are running optimally.

Delivers data for applications across the enterprise

- A single centralized database supports virtually all access methods with real time operational data
- Massive scale allows access from vast numbers of users simultaneously without degradation in service levels

- Unmatched security and availability capabilities enable access 24×7 and protect data on the network or at rest

Create new business opportunities

- Integrates data serving, data warehousing and business analytics in a single solution
- Integrates operational data and advanced analytics for actionable insight
- Uses best fit technology for each query to maximize performance and delivery of information

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Why zEnterprise for cloud computing?

The world is changing

A new reality is emerging for organizations of every size around the globe: cloud computing. Cloud is a profound evolution of IT with revolutionary implications for business and society, creating new possibilities and enabling more efficient, flexible and collaborative computing models.

A vision for growth

IBM offers the only platform on the market today that seamlessly supports three key enterprise needs—**consolidation, virtualization and cloud enablement** by enabling rapid, on-demand delivery of new IT Services with the industry's strongest security and the compelling economics.

Invest in growth

IBM is focused on helping customers keep up with growth, manage costs, and remain flexible and responsive. Enterprise cloud computing can help by combining virtualization, automation, and standardization to deliver services faster and in a flexible fashion.

The IBM zEnterprise system is transforming today's most competitive organizations by offering them **more power, speed and processing efficiency**, resulting in immediate cost reductions.

"Shifting our operations to IBM's System z will enable us to create a reliable base for business growth. With the new infrastructure we can grow our business and provide 24×7 services and support for our clients."

—Ruslan Stepanenko, CIO, Comepay

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Gain visibility, control and automation

System z virtualization and the shared everything approach combined with industry-leading security and availability provide a very efficient cloud deployment model for multi-tenancy environments. For Linux workloads, zVM integration with IBM Tivoli cloud solutions allows customers to automate and manage virtual images and their applications. Because of the efficiency of the hardware, firmware and virtualization, a single Linux IFL can typically host 30 - 40 VMs running Linux.

The security features of System z allow service providers to host different customers in the same image. Or, customers can keep each set of hosted solutions on separate Linux images so they can host many customers with a single processor and use workload management to ensure that SLAs are met. System z scalability allows service providers to host thousands of images supporting millions of transactions per day.

"To Transzap's surprise, after conducting a TCO study and reviewing the roadmap they realized that zEnterprise would enable them to gain competitive advantage in terms of system availability, security, and scalability and enable long term cost savings through the virtualization of Oracle licenses."

—Peter Flanagan, CEO of Transzap, Inc.
Link to case study

To view this video on YouTube click here

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A centralized "out of the box" approach

Many organizations are consolidating x86 servers using virtualization. One excellent centralized option for this consolidation is IBM zEnterprise, particularly for Linux-based workloads. Built on proven IBM technology IBM Enterprise Linux Server is ideal for this kind of consolidation.

Now you have an affordable option

zEnterprise technology has evolved. Now, with the IBM Enterprise Linux Server (ELS), you have an affordable option for consolidation of modern workloads.

Suitable workloads can run in a modern environment but with the traditional benefits expected from a mainframe– reliability, scalability and security. Scalability and centralized resource management are also inherent in the platform.

Many x86 workloads are excellent candidates for consolidation into a centralized virtual environment.

Recommended "best fit" workloads:

- Business critical applications: WebSphere®, SAP, Oracle E-Business Suite
- Development and test of WebSphere/Java applications
- Data services: Cognos®, DB2, InfoSphere®, Oracle, Informix®, Builders WebFOCUS
- Email and collaboration: Lotus Domino®, Lotus® Collaboration products, Web 2.0
- Network Infrastructure: FTP, NFS, DNS, etc., Business connectors: WebSphere MQSeries®, DB2 Connect™, CICS® Transaction Gateway
- Security Services: Firewall, proxy and more.

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An affordable high-end server option

Significant savings instantly

Linux can help reduce energy consumption through server consolidation, virtualization, IT optimization, load balancing, Cloud computing and more efficient resources management.

Make your IT life easier

With consolidation and virtualization of distributed applications to a centralized server, the distribution of IT costs can change. It has never been more important to understand the total cost of ownership. Centralization helps reduce distributed server sprawl and can help reduce the cost of software licenses, administration, maintenance, power as well as security and reliability.

Combining the proven IBM System z technology and the flexibility of Linux in an IBM Enterprise Linux Server can provide significant savings almost instantly.

Understand the potential and how to achieve the savings

- An Integrated system of multiple technologies for optimizing the deployment of multitier workloads;
- A single point of control for management and administration
- Reduced operational overheads—power and facilities, labor, software licenses—by up to 80 percent*

* Distributed server comparison is based on IBM cost modeling of Linux on zEnterprise vs. alternative distributed servers. Given there are multiple factors in this analysis such as utilization rates, application type, local pricing, etc., savings may vary by user.

IBM

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Drive down the cost of doing business

The Enterprise Linux Server is a standalone System z computer that includes all of the required components to create a centralized and virtualized foundation for consolidating today's enterprise workloads. The Enterprise Linux Server offers the core foundation for businesses that are beginning the transformation to cloud computing, while providing the extensibility into cross enterprise cloud services.

The foundation for cloud computing begins with a highly virtualized and efficient platform built on System z computers. By using the Enterprise Linux Server, you can deploy System z server technology to add existing capacity to the mainframe or to purchase a complete hardware and software solution package. With this solution offering, IBM provides a highly virtualized

Linux foundation to support data center consolidations onto efficient, centralized platforms. The System z platform is built on a shared platform with security as a central design point.

Insurance giant Allianz, based in Germany, effectively migrated applications from 60 distributed systems to one Linux on IBM System z computer in 48 hours at its Australian data center. Allianz Insurance expects significant savings from avoiding the purchase of additional hardware that requires extra labor, software licenses, and floor space. The unique ability of System z to host many application services on one system has helped the System z computer to achieve one of the industry's lowest application costs per user. Minimal application costs are important for organizations who rely on multiple applications to run their business.

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A foundation for cloud computing

For many customers, achieving data center efficiency is just the beginning. These businesses want to harness the value of cloud computing to deliver highly optimized and automated workloads and processes.

Enterprise cloud computing solutions built on System z can bring significant value to the enterprise. A common use case for cloud computing is to support the application development life cycle. In particular, the testing of applications can be a lengthy and costly exercise in the enterprise. Here's where cloud computing solutions can help.

By using test clouds in your enterprise, you can define a standardized set of middleware images for application hosting purposes by focusing on those environments that are the most efficient, such as Linux on System z. Making these standard images available as a "test cloud" service allows application developers to access a self-service portal that details the available services.

Benefits of an application development test cloud environment can include:

- Reduction of capital and licensing expenses by using on-demand provisioning of virtualized test resources (by as much as 50 to 75 percent).
- Decrease in operating and labor costs by using automated provisioning and configuration of test environments (by as much as 30 to 50 percent).
- Ease of innovation and faster time-to-market through improved test provision which can reduce the overall test cycle time (from weeks to minutes).
- Improvement of quality by helping to reduce defects that result from faulty configurations and poor modeling (by as much as 15 to 30 percent).

Link to more information

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IBM

Flexible

Naturally, your system is configured to suit today's business priorities. But what about tomorrow? Enterprise Linux Server (ELS) responds and adapts instantly to constantly changing demands. With ELS you can reconfigure in minutes. There's no physical disassembly or unplugging of machines. It's all done via software, virtually.

You're not limited by the physical infrastructure. So there's no need for extra wiring, new routers or additional disk subsystems. And if it's a short term configuration, you can quickly and easily revert back to your original settings for business as usual.

Because ELS responds to changing demands fast, downtime is dramatically reduced while availability increases. The faster you can reconfigure, the less time you spend managing your IT systems, leaving you free to focus on other important aspects of your business.

ELS is equipped with Linux, supporting open source solutions for a broad range of applications and workloads such as Web 2.0 development. With this industry recognized operating system installed as standard, there's no need for any additional staff training.
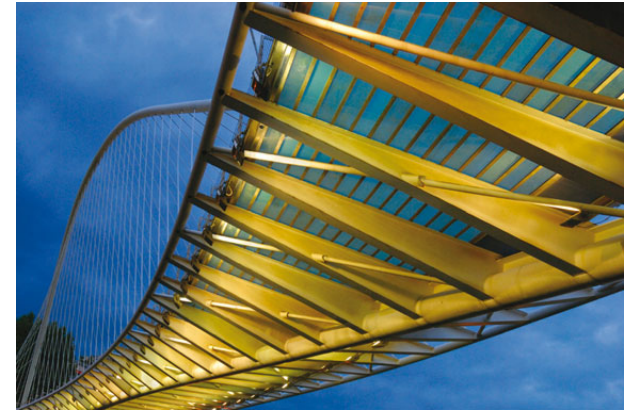
"Above all, the biggest benefit of the new infrastructure is the improvement in performance that it delivers. The combination of the z10 processors and the XIV grid architecture gives us 50 percent better performance than our previous infrastructure—which means we can run 50 percent more workload for the same price. As a result, we can deliver more, faster online services and better value for tax-payers' money, without increasing the IT budget."

Tim Simpson, IT Support Manager at Dundee City Council

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Flexible

Computacenter opts for Enterprise Linux Server

Computacenter, a leading European provider of IT infrastructure services, recently added the IBM Enterprise Linux Server to its solutions portfolio. They also use an ELS server to run proof-of-concepts, staging and load testing for clients who want to explore the possibilities of moving to Linux operating systems on System z technology.

IBM studies have found that the ELS platform can reduce total cost of ownership for Linux environments by up to 80 percent compared to a traditional distributed x86 server landscape.[1] Since the IFL processors are much more powerful than x86 processors, and the virtualized

System z environment offers much higher average processor utilization levels, a single IFL can handle workload equivalent to up to 28 x86 servers.[2] This has significant implications for software such as Oracle, which is licensed on a per processor basis: consolidating from x86 servers to a single IFL could potentially reduce licensing costs by as much as 97 percent.[3]

Besides the benefits in terms of software licensing and manageability, consolidating Oracle and Linux environments to a single

ELS server offers significant advantages in terms of flexibility. When a new test or development environment is required, there is no need to procure a new machine, find space for it in the data centre and sort out the cabling, networking and configuration. Instead, IT staff can instantiate a new z/VM Linux environment and install the Oracle software within a few minutes. This rapid provisioning can significantly reduce the lead time for new IT projects, helping to increase business agility.

"IBM ELS has the potential to provide the best of both worlds—combining the traditional availability and serviceability of a System z server with the openness and flexibility of Linux. Consolidating on the ELS platform provides us and our clients with a way to cut costs while increasing agility and contributing significantly to Green IT objectives."

—Paul Casey, Datacentre Platforms Practice Leader, Computacenter

Link to case study

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Flexible

First National Bank of Namibia
First National Bank of Namibia Ltd selected IBM System z10 servers to help the bank localize its banking systems and operations and to meet regulatory requirements and support the bank's growth. The deal marks the first deployment of System z technology in Namibia and forms part of FNB Namibia's project to localize its core banking systems and operations in Namibia.

FNB Namibia joins a growing list of companies in emerging economies relying on IBM System z to build their infrastructures. For example, the commercial bank in India—Housing Development Finance Corporation Limited Bank, deployed a System z server as part of $10-million dollar, seven year project. Other growth markets where new IBM System z servers are being deployed include China, Korea and Russia.

These business and government entities are turning to System z to help modernize their IT systems in banking, retail and other key sectors to compete in an interconnected world. IBM System z servers provide one of the world's highest levels of security and are unmatched in reliably managing high levels of transactions.

"FNB Namibia's investment in the latest, industry-leading IBM mainframe systems and software has helped us to build a dynamic core banking platform as well as meet all regulatory requirements. Importantly, the project to localize Namibia's banking infrastructure has brought technological advancement, knowledge transfer and created jobs for Namibian professionals."

—Advocate Vekuii Rukoro, Group Chief Executive Officer of FNB Namibia Holdings

Link to press release

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Flexible

Malaysia's HeiTech selects IBM zEnterprise

HeiTech is one of many new clients who are making a bold move to fundamentally change how their data centers are managed. The zEnterprise is the fastest enterprise server in the world and its performance will accommodate HeiTech's business growth across the region and will be used to run workloads for HeiTech's customers across a range of industries including banking, finance and public sector.

The new system will provide HeiTech Padu with a competitive differentiator in the market place and is further validation of its approach to managing service delivery.

The IBM zEnterprise System will support HeiTech's business growth plans over the next five years especially as it takes its services to other countries in the ASEAN market. To do this, HeiTech will collaborate with IBM to offer this solution to interested customers in Indonesia, Thailand and Singapore. In Malaysia the system will be used to manage the huge databases of HeiTech's existing public sector customers.

"With the current economic climate and other threats, it is now more important than ever for organizations to maintain operational effectiveness and flexibility while benefitting from one of the most powerful, secure and robust IT infrastructures on the market. The IBM zEnterprise opens up the possibility of hosting entire workloads on a single, highly integrated system and is set to support HeiTech's customers which are running some of the most demanding and mission-critical applications on the planet."

—Dato' Mohd Hilmey Mohd Taib, Executive Chairman of HeiTech

Link to press release

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Simple

Fewer servers, simpler management, reduced costs

Consolidation of distributed physical servers with IBM ELS means fewer components, which results in less complexity, less management time, less licensing requirements and less expenditure.

Because ELS provides a truly centralized environment, it's much more economical and resourceful compared with traditional server systems. Yes, because it's an IBM mainframe it can handle the most challenging workloads.

Increasing capacity is almost effortless, instead of buying additional disk storage, you can simply add another IP address on the network.

The ELS offers huge capacity to enable large scale consolidation that can drive up to:

- 80 percent reduction in energy consumption and costs*
- 80 percent reduction in floor space*
- 80 percent reduction in management*

ELS solutions are all about transforming data centers into more efficient places that are easier to manage—and supporting cost savings of up to 89 percent over five years.

* Distributed server comparison is based on IBM cost modeling of Linux on zEnterprise vs. alternative distributed servers. Given there are multiple factors in this analysis such as utilization rates, application type, local pricing, etc., savings may vary by user.

"As the trend towards cloud-computing and the management of virtual servers as a pool of resources continues, organizations need to be aware that there is an alternative to filling datacentres with blades, and that some organizations have been able to achieve significant cost savings, improved performance and higher levels of reliability by choosing System z as a platform for server consolidation."

—Gary Barnett, Partner and CTO, Bathwick Group

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Simple

Primerica Selects an IBM zEnterprise
Primerica, the largest independent finan-cial services marketing company in North America with more than 2.4 million client accounts, has selected IBM zEnterprise to run its core business applications.

The zEnterprise—which runs both Linux and the z operating system—helps reduce the time it takes Primerica agents to open insurance and other types of financial accounts from days to minutes by enabling smart phones to upload client records directly to the mainframe server.

Primerica's new zEnterprise includes a range of microprocessors dedicated to run z/OS® as well as specialty microproces-sors such as the System z Integrated Information Processor (zIIPs) for processing database workloads and the Integrated Facility for Linux (IFLs) for processing Linux workloads.

With the new zEnterprise server at its core, Primerica has developed a complete infra-structure based on workload optimized systems. The zEnterprise manages data on agents, commission statements, clients, life insurance policies and financial accounts.

"…We are poised to take advantage of upcoming features of the new zEnterprise System, including the ability to manage workloads on select POWER and System x Servers as if they were a mainframe. This will further simplify our IT architecture and reduce costs. Demonstrating the open nature of the platform, the new zEnterprise is helping with a seamless transition as a newly public company."

—David Wade, CIO of Primerica

Link to press release

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Simple

Bank of New Zealand (BNZ)
BNZ was close to reaching capacity in its data center and needed to determine how to maximize space while keeping costs under control.

BNZ purchased one IBM z10 system for use in production as well as one System z system for use as a disaster recovery machine. Both servers exclusively run Red Hat Enterprise Linux, IBM WebSphere Application and IBM Process Server, along with customized JAVA applications written by BNZ.

The combination of z/VM and Red Hat Enterprise Linux enabled BNZ to virtualize and consolidate a largely distributed Sun environment, down to just one box and run it in manner that didn't present significant change for administration staff.

After just three months the project was ahead of schedule and on budget, and BNZ was already able to consolidate its servers and reduce its frontend systems data center footprint by 30 percent.

"Deploying IBM mainframes with Red Hat Enterprise Linux to address our carbon footprint and cost savings concerns was a very big deal... We managed to substantially reduce our front-end power consumption by nearly 40 percent..."

—Lyle Johnston, Infrastructure Architect, Bank of New Zealand

Link to press release

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Simple

Russian Railways overhauls data hubs with System z

Russian Railways is improving the efficiency of one of the world's largest, most vital rail networks—managing the movements of 1.3 billion passengers and tons of freight each year. At the heart of the transformation is a handful of powerful IBM System z servers, each packing the computing power of 1500 ordinary servers.

The overhaul will simplify the software infrastructure to consolidate data centers and adopt automation software by centralizing the management of data into new computing hubs, restructuring the collection of information on the railroad's field operations, and integrating new automation software to help the railway strategize how to deploy its assets.

The first step is to do away with the railways' distributed data centers. Currently there are 17 of these regional branches, each managing the data for a subsidiary railway—an arrangement that made sense back when the regional railways made a lot of operational decisions on their own.

But now these centers just slow down operations, making it harder to monitor activity in real time. It's also a managerial nightmare. Eventually, there will be just three data hubs, located in St. Petersburg, Moscow, and Yekaterinburg, which sits on the border between Europe and Asia.

"Rail networks in Russia have been using IT for more than fifty years, but in recent years technology has left the industry behind. Now we have access to the most powerful and intelligent hardware and software available to consolidate our large-scale IT infrastructure. This is increasingly important to us as we are integrating our operations and moving towards a centralized company structure."

—Valeriy Vishnyakov, Director of the Main Data Center at Russian Railways.

Link to press release

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1. **Why clients choose zEnterprise**

2. **Flexible**

3. **Simple**

4. **Reliable**

5. **Efficient**

Reliable

Built on affordable IBM technology

It's all about trust. Your data is a vital part of your business, possibly your most valuable asset. So you need to house it on a server you can truly rely on. ELS is the most secure commercial server available, built using groundbreaking technology from a company who you know you can trust: IBM. Powerful encryption will ensure your data, and therefore your business, is protected 24×7.

With its built-in protection, reliability is a given for the ELS. Unlike distributed systems—where you might have a cluster with one machine backing up another and an additional failover machine—peace of mind comes included in the price.

In addition, you can rely on three years IBM Maintenance and Support included in the price. So if you do have an issues you know exactly who to call—one point of contact. Figuring out who to call for an issue with a distributed system can be complicated and time consuming endever.

"Supporting super-reliable access to business-critical applications with Linux on IBM System z… We knew being the first in Malaysia to move to SUSE Linux Enterprise Server on System z was a move not without its risks. But after attending a number of seminars run by IBM we decided the potential benefits far outweighed the risks."

—Nurul Ashikin Binti Subli, Deputy IT Director at JPN

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| 1. Why clients choose zEnterprise | 2. Flexible | 3. Simple | 4. Reliable | 5. Efficient |

Reliable

Supporting super-reliable access to business-critical applications with Linux on IBM System z

The National Registration Department of Malaysia custom-built an innovative application (SAL – Sistem Pengurusan Permintaan Statistik dan Cabutan Data or Statistics and Data Extraction Request Management System) to automatically manage requests for statistics and data extraction, but found its existing infrastructure lacked the power to reliably support it.

Access issues, slow response times and crashes led to high numbers of user complaints, leading to some employees refusing to use the system. This prevented critical information being distributed, uploaded and downloaded for those who needed it urgently.

By selecting a new IBM System z running the z/OS operating system to handle existing workload, JPN was also able to activate an IBM Integrated Facility for Linux (IFL) engine to provide a highly available environment for new SUSE Linux Enterprise Server workloads.

The entire project was completed on time, within four months, and with the technical implementation conducted in just two weeks. And, since the implementation, JPN has experienced no major issues in its SUSE Linux Enterprise Server on zEnterprise environment.

"We knew being the first in Malaysia to move to SUSE Linux Enterprise Server on System z was a move not without its risks. But after attending a number of seminars run by IBM we decided the potential benefits far outweighed the risks. A general governmental policy encouraging the use of open source software also encouraged us to break new ground, harnessing the advantages of Linux whilst gaining the superfast processing power of IBM System z."

—Nurul Ashikin Binti Subli, Deputy IT Director at JPN

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| 1. Why clients choose zEnterprise | 2. Flexible | 3. Simple | 4. Reliable | 5. Efficient |

Reliable

Atos Origin relies on ELS

Atos Origin is a major international services provider, employing 50,000 professionals in 40 countries. The company recently developed new systems to help rail support companies deliver travel information, and to improve service delivery to its customers in the insurance industry.

These systems are hosted on the IBM Enterprise Linux Server, enabling a highly available, secure and reliable environment for Atos Origin's virtualized Linux workload.

"ELS runs Linux environments approximately twice as fast as the previous generation and offers around 40 percent more capacity, enabling us to expand our Linux footprint, without increasing costs.

With a traditional distributed approach—even using the latest virtualization-enabled x86 processors—you end up with a lot of unreliable boxes to manage.

With the ELS, we can run hundreds of environments within a single physical footprint, and easily deliver the 24×7 availability our customers demand."

—Colin Clews, Technologies Manager, Atos Origin

Link to case study

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1. Why clients choose zEnterprise

2. Flexible

3. Simple

4. Reliable

5. Efficient

Reliable

EFiS EDI Finance Service AG consolidates IT environment with ELS
EFiS EDI Finance Service AG successfully consolidated its environment while deploying hundreds of Linux instances to support its performance requirements.

The consolidated IBM System z successfully streamlined the data center to optimize maintenance and management processes and effectively reduce costs. By retiring unnecessary and underperforming hardware, the company was able to double processing speeds and optimize its IT operations.

The virtualized IBM System z environment offers much higher than average processor utilization levels, so a single IFL processor is able to handle workloads equivalent to a large number of x86 servers. This is particularly significant for software which is licensed on a per processor basis, as is the case for many of the company's business-critical applications.

As a result, the company was able to enjoy instant savings by moving these applications to the SUSE Linux Enterprise Server solution.

In addition, the implementation enabled the company to optimize its fully realized disaster recovery plan.

"We have decided to adopt System z because of its high scalability, guaranteed high security and that it ultimately will be cheaper to manage only one machine instead of many distributed servers."

—Armin Gerhardt, Chairman, EFiS Corporation

Link to case study

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1. **Why clients choose zEnterprise**

2. **Flexible**

3. **Simple**

4. **Reliable**

5. **Efficient**

Efficient

Maximum utilization. Unparalleled consolidation

The IBM Enterprise Linux Server (ELS) is highly efficient, especially compared with traditional system based on distributed servers. The typical utilization rate for an Intel server is less than five percent, while ELS is capable of supporting nearly 100 percent utilization. Built on proven zEnterprise technology, at an affordable price point, ELS is built for maximum utilization, making it the perfect system for a shared cloud environment.

Virtualization is an inherent part of the ELS design. It's not just an added feature. It's in the machine's DNA. This powerful virtualization enables unparalleled consolidation on a massive scale. Imagine having the capacity to consolidate hundreds of servers onto one. The reductions in space used, management complexity, and even the amount of copper cabling required are significant.

Increased efficiency means less waste. Not just by eliminating unnecessary power and cooling requirements. With ELS you'll spend less time managing your IT systems. For instance, the machine accomplishes load balancing dynamically to ensure available resources are available at any time. And with a virtualized environment, automation and provisioning are easier and faster. With ELS, you can increase efficiency and spend more time concentrating on your business.

"The difference—one System z server with the size of a refrigerator, compared to a room full of x86 servers—there is not any choice when a realistic analysis is done."

—WinterGreen Research, Inc.[4]

1. Why clients choose zEnterprise

2. Flexible

3. Simple

4. Reliable

5. Efficient

Efficient

Facing business challenges in the software as a service segment

Founded in 1999, Transzap, Inc., offers its customers in the global oil and gas industry a comprehensive suite of financial software tools. As a small business with tens of billions of dollars in client transactions flowing through their systems each year, Transzap needed an economical, reliable platform to provide clients with high availability while enabling the capacity to accommodate growth within their software as a service business model.

Transzap knew that they wanted to implement virtualization to improve their scalability and business flexibility, and started investigating IBM System z offerings.

They were particularly excited to discover the Linux on System z platform, as they had previous experience running their business applications on Linux operating systems.

Transzap decided to consolidate on an IBM System z platform to provide the stability and scalability needed to accommodate triple digit volume growth, enabling them to focus on the business of software innovation.

Even as a small business, Transzap reaps big benefits from IBM System z. The IBM System z solution helps Transzap to serve more than 69,000 users across 6,800 companies, providing higher levels of uptime for their customers, while offering peace of mind through 24×7 world-class hardware support.

"We were certainly aware of the reputation for the Fortune 500 traditional customer base for IBM mainframes… We were also highly doubtful that we could ever fit within the price portion To Transzap's surprise, after conducting a TCO study and reviewing the roadmap they realized that System z would enable them to gain competitive advantage in terms of system availability, security, and scalability and enable long term cost savings through the virtualization of Oracle licenses."

—Peter Flanagan, CEO of Transzap, Inc.

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IBM

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Efficient

Payment Solution Providers (PSP)
Payment Solution Providers (PSP) is consolidating its entire IT infrastructure on the IBM System z with IBM information management software to support key business operations such as credit card processing and payment switch technology. In addition, PSP expects to improve operating efficiencies and lower IT costs up to 35 percent.

PSP selected IBM System z to run PSP Atlantics Payment Switch technology and offer it to clients as a license or cloud service. The IBM server will also support new business opportunities for PSP's card processing business.

By running on the IBM System z, PSP's Atlantics Payment Switch can process up to 5,000 transactions per second (TPS). This ensures PSP has the transaction power needed to meet spikes in demand in its PSP Card Services division created by holidays like Christmas.

The IBM System z will allow PSP to dramatically simplify its infrastructure and lower IT costs per client transaction by reducing the number of servers needed as well as costs associated with power and cooling, database licensing, administrative staff and compliance.

"The HP, Oracle infrastructure simply couldn't support our growing business. By teaming with IBM, we are actively pursuing new clients and opportunities, confident that our technology can keep pace and hold operating costs to a minimum. Further, selecting the IBM mainframe gives PSP instant credibility with potential clients thanks to its well-known security and reliability."

—Danny Gurizzan, Executive Vice President of Operations, Payment Solution Providers (PSP)

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| 1. Why clients choose zEnterprise | 2. Flexible | 3. Simple | 4. Reliable | 5. Efficient |

Efficient

Dundee City Council provides more online services faster

Dundee City Council worked with IBM to upgrade to two powerful IBM System z10 servers, and introduced the IBM XIV Storage System to replace a mixed storage environment. The new infrastructure runs a range of Linux applications and Oracle databases—supporting key systems such as social services 24x7. As a result of the new infrastructure Dundee is able to provide more online services faster. Using System z and Linux, Dundee City Council is providing better value for taxpayers' money without increasing their IT budget.

Benefits:
- Improvements in performance by more than 50 percent, providing capacity for growth without increasing IT costs.
- Very rapid provisioning of virtualized server and storage resources, enabling the IT team to respond more quickly to end users' needs.
- Excellent availability and disaster recovery capabilities: in the event of a disaster at the main site, all systems can be restored at another location within 20 minutes.
- Reduced Oracle licensing costs, as numerous virtual Linux servers can run on each IFL processor.

"Running Linux on the System z platform is a cost-efficient approach, especially for software like Oracle, which is licensed on a per-processor basis. We can run 60 virtual machines on just four System z processors—whereas an equivalent x86-based architecture might require several processors for each server! So the savings can be considerable."

—Tim Simpson, IT Support Manager at Dundee City Council

Link to case study

IBM

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| 1. Why clients choose zEnterprise | 2. Flexible | 3. Simple | 4. Reliable | 5. Efficient |

For more information

To learn more about IBM zEnterprise solutions, please contact your IBM marketing representative or IBM Business Partner, or visit the following website: **ibm.com**/systems/newtosystemz

Additionally, financing solutions from IBM Global Financing can enable effective cash management, protection from technology obsolescence, improved total cost of ownership and return on investment. Also, our Global Asset Recovery Services help address environmental concerns with new, more energy-efficient solutions. For more information on IBM Global Financing, visit: **ibm.com**/financing

[1] Comparison is versus x86 Blade servers without virtualization, reflecting a current-day consolidation. Reductions will vary by the number and age of the x86 servers being consolidated.

[2] Ratio of z10 BC processor cores to x86 processor cores will vary depending on the age and speed of the x86 processors and the workloads being run on them.

Please Recycle

[3] Comparison is versus 196 Sun X2100 2.8GHz x86 servers without virtualization, reflecting a current-day consolidation on z10 BC IFLs with z/VM Virtualization.

[4] WINTERGREEN RESEARCH, INC.: Advantage Mainframe: Mainframe ROI Shows Ten Times Cost Advantage Over Distributed Servers For Large Data Centers, 2007 to 2013

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