RE-THINK
the Impossible

IBM zEnterprise – Freedom through Design

IBM

The inefficiencies of traditional computing get in the way

More than 70%
of budgets on average is spent on ops and maintenance – and this percentage is growing[2]

2/3 of companies
go over schedule on their project/ solution deployments[3]

IT complexity is doubling
every two years at its current pace[1]

"Our IT systems have become complex and difficult to manage, and as a consequence IT is increasingly finding itself in the position of being a barrier to innovation rather than an enabler of it."

1 Enterprise Systems Journal, "5 Best Practices for Reducing IT Complexity")
2 IDC Analyst Matt Eastwood, IDC Directions Presentation, 2011
3 IBM Market Intelligence Time-To-Value Study, National Analysts, November 2011

IBM

Top 10 Things
you did not know System z can do…

Re-Think the Impossible

Transactional Processing

10

Before…

Mainframe used for batch and online transaction processing only

Today…

- Transactional processing has included web services , business rules, etc

- Millions transactions per day with less than 1 second response is the norm

- Transactions that can be developed and deployed in a private cloud

Less than **1 second** response time

New! CICS Transaction Server for z/OS V5.1 and tools

IBM

Transactional Processing

10

Garanti Technology

Second largest bank in Turkey, used System z with CICS and DB2 for z/OS to deliver over 200 million transaction/day of banking services 24/7

0.06 second response time

200 million transactions

IBM

Security

Before…
Mainframes were reliable and secure

Today…
- System z is 99.999% reliable and to our knowledge has never been hacked

- It is the ONLY server with EAL5+ security

- Hardware cryptography built into each general purpose CP and IFL, and via the new Crypto Express4S coprocessors

- Supports Elliptic Curve Cryptography (ECC), an emerging public-key algorithm – most advanced security in the marketplace

- Supports key ANSI and ISO standards for the banking and finance industry

New! InfoSphere Guardium V9.0

New! IBM Secure zSecure Suite V1.13.1

IBM

Security

Fiducia IT AG

With more than 800 banks, 10,000 branches, 22,000 ATMs and 63 million accounts, Fiducia used System z and IMS to develop a data security and integrity system required by the banking industry

70 million transaction a day with no data lost

Less staff required to manage and secure vs. distributed
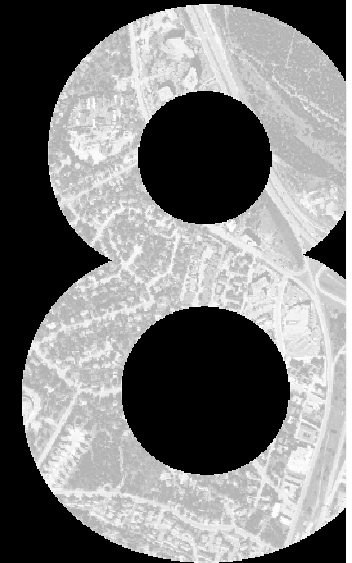
Integrated Service Management

Before…

- Servers were managed independently

- Management of applications was siloed

Today…

- zEnterprise Unified Resource Manager can now manage both System z and distributed workloads

- Tivoli service management solutions extend the management out to the entire enterprise with a single point of control

- Enhanced Service Management Visibility for decreased Enterprise costs

New! OMEGAMON Family V5.1 and
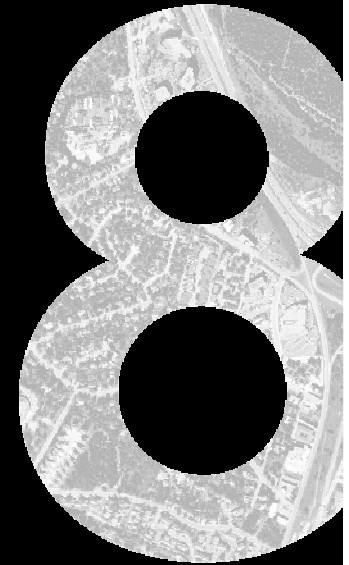GDPS Active Active

IBM

Integrated Service Management

Electronuclear
automates its backup, archive and recovery
processes from a single point of control

Reduced payroll processing from 20 to 5 days

90% reduction of month-end closing time

IBM

Virtualization

7

Before…

- Mainframe was a virtualized system within itself

Today…

- zEnterprise can run hundreds of workloads deployed over fewer cores in a single system

- More than 3,000 applications are available for Linux on System z

- Application and Linux optimization enabled by full exploitation of zArchitecture extensions

New: z/VM 6.3 Preview

Less than **$.70/day** for a virtual server

IBM
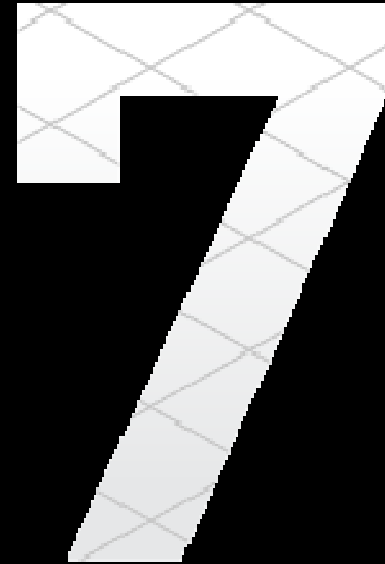
Virtualization

Bank of New Zealand

Used Red Hat Enterprise Linux on System z to reduce their carbon footprint, and address datacenter cost and capacity concerns

7

Reduced power consumption by **40%**, heat output by **33%**

One administrator per 200 virtual servers

IBM

Mobility

Before…

Access to data was restricted to desktop terminals and in the data center

Today…

- Build and connect new mobile web, hybrid and native applications to back end systems through Worklight Studio and Rational Developer on System z

- Manage and secure mobile devices, data, applications, and services throughout the lifecycle through IBM Endpoint Manager for devices to security on the mainframe

- Extend and transform business capabilities to the mobile space to redefine the customer experience through System z software

New! IBM Worklight Studio with Rational Developer for System z

New! WebSphere MQ mobile pack

IBM

Mobility

The Revenue Department of Thailand
used Linux on System z with Worklight to develop an
application for citizens to send their taxes via mobile

Easy method for citizens to file taxes

Modern Application Development

Before…

- Development on System z was assembler and procedural languages

- All developers were in one location

Today…

- Rational tools provide a single unified platform for development - Develop once, distribute to appropriate platforms

- Team collaboration, sharing of code and resources all available through Rational tools

- Compliers optimized for the technology avoiding recoding of applications and optimal performance

New! Enterprise PL/I for z/OS and C/C++ compilers

New! IBM Continuous Integration for System z

IBM

Modern Application Development

ITERGO

Developed a strategic GUI-based COBOL development environment for core insurance software which attracted new COBOL developers and enabled a significant increase in development productivity

More than 200 developers using Rational Developer for System z

Integrated Appliances

Before…
Appliances were built manually and often with multiple vendors

Today…
- System z appliances today

    - DataPower XI50 - provides XML hardware acceleration, streamline and secure valuable SOA applications

    - zEnterprise Analytics System - comprehensive data management system consisting of hardware, software and services

    - IBM DB2 Analytic Accelerator - System z and Netezza technologies for complex analytic business needs

New! zEnterprise EC12 integrated DataPower XI50

Integrated Appliances

Zavod za zdravstveno zavarovanje Slovenije (ZZZS)

Replaced its electronic insurance cards with a secured online system that enabled direct access to health insurance information for citizens, medical staff, and insurers

Grown from **400,000 to 1.7 million transactions per day**, with full availability of services and data around the clock

IBM

Data Warehousing

Before…

Data was designed in a silo, mobility of data was not designed for maximum reuse and productivity

Today…

- DB2 10 for z/OS adds unique temporal capabilities to support business and system time within the database itself

- Integrated real-time scoring capability directly into transactional applications running on DB2 for z/OS

Future…

- Enhanced handling of very large tables/indexes

- Extended log record addressing capacity (1 yottabyte)

New! Real time scoring with DB2 10

New! DB2 11 QPP

IBM

Data Warehousing

3

Florida Hospital

Moved from a data mining to a full scale data warehousing on System z allowing doctors to share information quickly

High performance 24/7 system

Patients recovering significantly faster

IBM

Cloud Computing

Before…
Mainframes were built for Time Sharing

Today…

- zEnterprise –scalable, shared-everything design coupled with its unique ability to manage a heterogeneous infrastructure give organizations the ability to deploy a robust cloud solution for 50-70% less than a typical x86 scale-out architecture

- Heterogeneous cloud all managed by the Unified Resource Manager

- Linux on System z and z/VM environments running in seconds

Deploy a cloud solution for **50-70% less**

New! Automation and Orchestration Roadmap

IBM

Cloud Computing

Using, IFLs, City and County of Honolulu
migrated from a Windows environment to develop a
Cloud environment to offer Software-as-a-service to
other departments

Planning, deployment and maintenance of hardware
and services could be done in **hours vs. weeks**

IBM

Business Analytics

Before…

Analytics performed through batch data analysis

Today…

- IBM DB2 Analytic Accelerator - Fast, predictable response times for "right-time" analysis in a highly secured environment with 2000x faster queries

- IBM zEnterprise Analytics System – Broad analytics capabilities on a powerful warehouse foundation with IBM server and storage

- Cognos BI - query, reporting, analysis, dashboarding, realtime monitoring

New! IBM DB2 Analytic Accelerator V3, zEnterprise Analytics System 9700, and Cognos BI 10.2
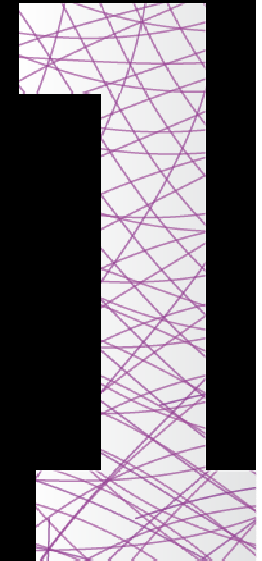
IBM

Business Analytics

Swiss Re

With 2.5 billion transactions, they use IBM DB2 Analytics Accelerator to develop analytical reports in minutes which previously took hours

More capacity allowing to shift workloads to Netezza technology

IBM

The Death of the mainframe was a bit premature

"
"I predict that the last mainframe will be unplugged on March 15, 1996."

– Stewart Alsop, March 1991

IBM

Re-think the impossible with the value of System z

- Most reliable and fastest system for mission critical workloads

- Most secure system with 99.999% reliability

- Most sophisticated data warehousing and analytics solutions with the fastest query performance in the market

- Unified platform for rapid development of applications

- Only system to enable x86, POWER, and System z applications under a centralized management system

- Ideal platform for a "cloud in a box"

IBM