The Modern Mainframe…
At the Heart of Your Business

Introduction

I Had a Dream Last Night…

- I dreamed that IBM introduced a new computing platform for the 21st century that would help me beat my competitors
  - ▶ Cuts the cost of computing in half
  - ▶ Green machine that uses less electricity
  - ▶ Requires half the operational labor to keep it running
  - ▶ Can run global business transactions while never going down
  - ▶ And it would be used at the core of the world's largest business

- The name of this revolutionary platform was…. System z

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Service Oriented Finance

We are a traditional bank with branch offices throughout the country.

Banking competitors and non-bank specialists are taking away our customers.

**Service Oriented Finance
CEO**

Service Oriented Finance

Our customers demand greater choice, and personal security and control in their banking relationships.

We need a next generation banking system!

Marketing

Service Oriented Finance

> **Our current IT infrastructure will be hard to change to meet these new business needs! It will cost too much as well.**

**Service Oriented Finance
CIO**

Requirements Driving Next Generation Solutions

- Specialization
  - ▶ Recognize different customer segments and their different needs
  - ▶ Extend access to different customer segments

- Regulation
  - ▶ Privacy and security
  - ▶ Risk management and audit

- Technology
  - ▶ Global connectivity
  - ▶ Service oriented architecture
  - ▶ XML
  - ▶ Virtualization

Examples of Specialization Requirements

- Extend access to online customers 24x7

- Extend sales reach via business partners

- Customer insight to determine optimal marketing segments

- Differentiate product offerings for different customer sets

- Launch specialized products faster

# Wachovia Bank - Extend Access Channels for Internet, Call Centers, and Branches

Business Need: Enhance ability to deliver new customer function across all applicable channels quickly, consistently and at a lower cost.

Technology State:
- Majority of customer, account and product data on the mainframe
- Business logic for the same service was redundantly contained in the application supporting each channel

Extend System z with WAS

Branch — ATM — Call Center — Internet — WAS — Corebanking

CICS & IMS Applications | DB2 Database

30,000 MIPS
15% Annual Growth

Solution
- Create Integration Hub with WAS on System z
- Aggregate 7,000 fine grained CICS and IMS transactions into 30 WAS applications
  - Improved efficiency managed MIPS growth to 15%
  - zAAP processors
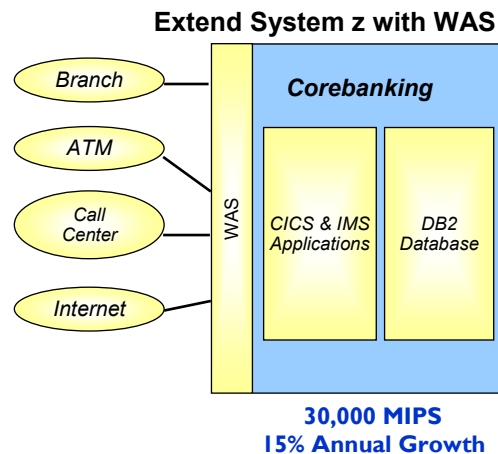
Regulations Demand Compliance in Business Processes and Applications

Basel II

- International accord for the handling of risk
- Requires the collection of 7 years of data
- Focuses on credit and operational risk
- Specifies the need for supervisory control

International Accounting Standards

- International Financial Reporting Standards
- Enables common understanding of financial reports
- Mandatory in EU, Australia, Russia and some ME and AP countries

Payment Regulations

- SEPA initiative to establish a single euro payments area
- Secure fast and efficient payments in the euro-zone
- Standard service levels to be enacted by 2010

Corporate Governance

- Systems Control Effectiveness
- Decision Support Evaluation
- Internal Control Assessments/ Reviews & Governance
- Financial Reporting Disclosure

Anti Money Laundering

- Many jurisdictions now have AML legislation in force (USA PATRIOT Act, UK Proceeds of Crime Act, etc).

Shifting Trends Favor the Mainframe Again

- Continuous availability is even more important in the web world
- Security and compliance are top of mind
- Server sprawl has driven up the cost of labor
- TCO pressure is driving customers to consolidate workloads on virtualized platforms
- Network economics favor consolidation once again
- Cost of power is increasing
- Growing use of Linux
- IBM has delivered dramatic mainframe price reductions

It's time to take a fresh look at the mainframe!

The Mainframe – At the Center of Next Generation Solutions

- Most core business systems already run on the mainframe at the heart of the business
  - ▶ Represent huge investments
  - ▶ Key to ongoing business operations

- The modern mainframe is designed to be extensible so it can play a central role in NextGen solutions

- The mainframe delivers superior qualities of continuous operations, rapid scale up, and security

- The mainframe achieves the lowest TCO for next generation solutions

Top Fortune 500 Banks Rely on Extending System z to Run Core Business

- Top 56 banks in the Fortune 500 list are IBM System z customers

- Impressive numbers from these 56 banks in 2006
  - ▶ Average revenue growth 16% (compound annual rate)
  - ▶ Average mainframe capacity 35,000 MIPS and growing
  - ▶ Each MIP generates an average of **$1.2M revenue** and **$140,000 profit**
  - ▶ These banks drive down IT cost to meet business requirements by extending their core business applications

- What about bank #57?
  - ▶ Mainly Unix and Windows servers, facing significant problems in managing these servers
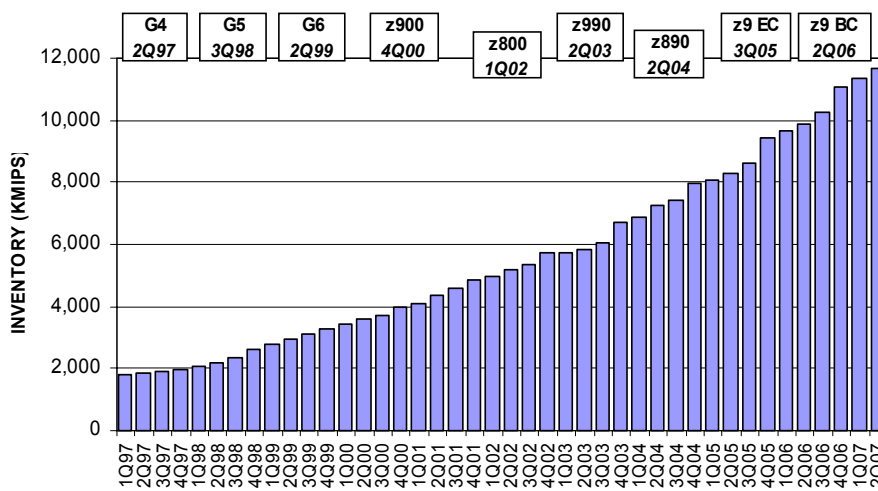 - ▶ Customers can only do transactions at their home bank

IBM System z Growth Milestones

- Six consecutive quarters of share growth

- Top 50+ Banks in the World

- Record High for Market Share: 37.1%

- Record Year for Specialty Engines

- Over 11 Million MIPS Installed

- 30% Total revenue driven through partners

- First Online Game Client: Hoplon Infotainment

- > 30% growth in Linux applications and tools
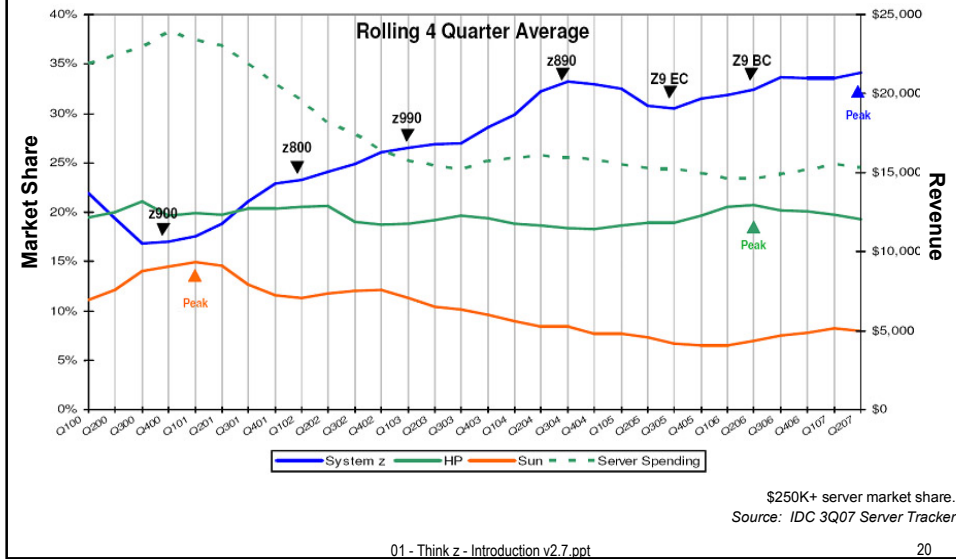
Source: IBM Finance, 1Q07 & CSI Finance '06

Customers Are Installing More MIPS

| G4 2Q97 | G5 3Q98 | G6 2Q99 | z900 4Q00 | z800 1Q02 | z990 2Q03 | z890 2Q04 | z9 EC 3Q05 | z9 BC 2Q06 |

INVENTORY (KMIPS)

12,000
10,000
8,000
6,000
4,000
2,000
0

1Q97 2Q97 3Q97 4Q97 1Q98 2Q98 3Q98 4Q98 1Q99 2Q99 3Q99 4Q99 1Q00 2Q00 3Q00 4Q00 1Q01 2Q01 3Q01 4Q01 1Q02 2Q02 3Q02 4Q02 1Q03 2Q03 3Q03 4Q03 1Q04 2Q04 3Q04 4Q04 1Q05 2Q05 3Q05 4Q05 1Q06 2Q06 3Q06 4Q06 1Q07 2Q07

CAGR 1997-2006 = 21%

Source: IBM STG Finance

The Mainframe Is Gaining Market Share

Rolling 4 Quarter Average

$250K+ server market share.
Source: IDC 3Q07 Server Tracker

The Value of Distributed Computing

- Rapid application development and deployment

- Separation from core business processes
  - ▶ Flexibility without impacting core business stability

- Focused and controlled investment for special purpose applications
  - ▶ Compute intensive, deep analytics

- Designed for high performance at low cost in a single application environment

Mainframe or Distributed – or Both

- Distributed Computing does not replace Mainframe Computing

- Side-effects of improper application of Distributed Computing
    - ▶ Proliferation of Servers
    - ▶ Spiraling Labor Costs
    - ▶ Difficult Security Environment
    - ▶ Data and process synchronization challenges

- These side-effects are causing a re-evaluation of the distributed computing model

When to Use a Mainframe

- Use a mainframe
    - ▶ To consolidate core business workload into a structured, cost contained environment

- Use a distributed system
    - ▶ To run individual applications, which are new, or subject to change in a less controlled environment

Agenda

15 minutes	Introduction to Next Generation Requirements	
45 minutes	*SOA – The foundation of your Next Generation Solution*	Using SOA to Build Your Next Generation Solution
40 minutes		Tools for Rapid Development and Deployment
15 minutes	*Break*	
30 minutes	*A Mainframe Primer – Clustering to achieve scale*	Mainframe Clustering
35 minutes		Continuous Availability
60 minutes	*Lunch*	
50 minutes	*Optimize customer relationships by consolidation*	Consolidating Data on System z
40 minutes		Consolidating Applications on System z
30 minutes	*Business demands on technology*	End-to-end Security and Compliance
20 minutes	*Break*	
30 minutes	*Business demands on technology*	IT service management
40 minutes	*Delivering Next Generation Solutions at the lowest cost*	