



# **Extending Your Mainframe for More Business Value**

Affordable Business Growth  
with System z

## **Quiz**

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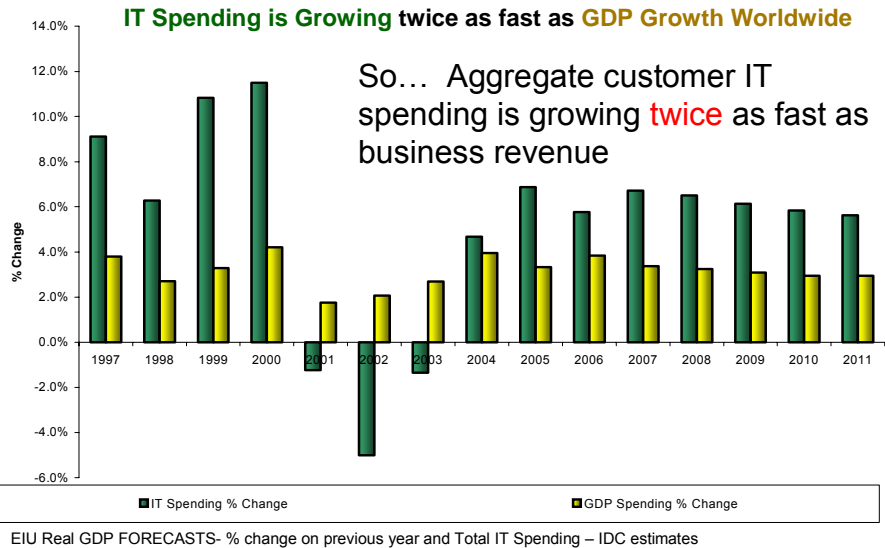
**How fast are IT costs growing?**

A: Slower than business revenue growth

B: About equal to business revenue growth

C: Faster than business revenue growth

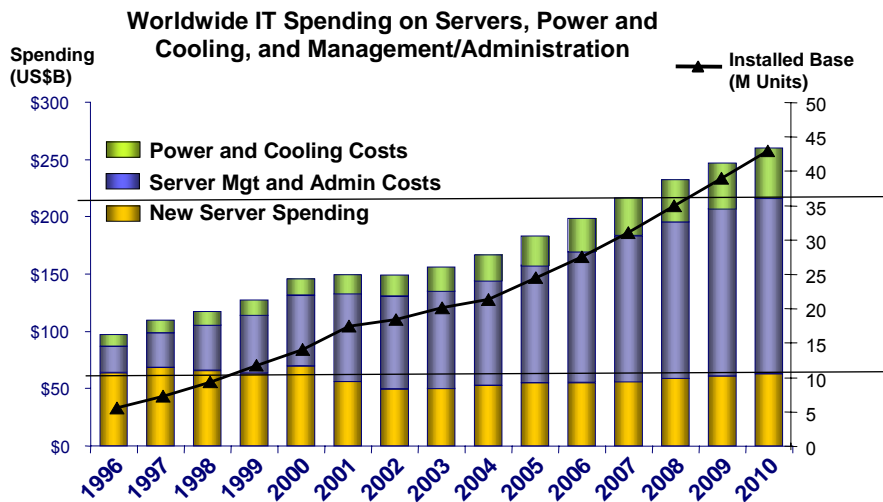
## Top Down Analysis: IT Spending Growth



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## Rising Operational Costs For Distributed Servers Are a Contributing Factor



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Source: IDC, 2006

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## Two Challenges

How can we

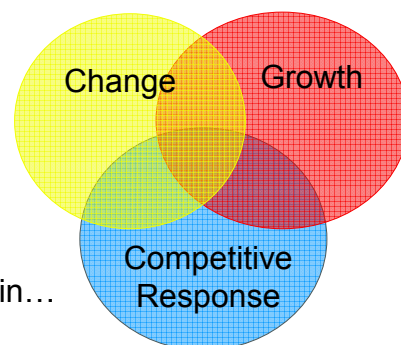
- Extend business capability quickly?

and

- Prevent I/T expenses from growing faster than business revenue?

## Extensibility, A Definition *from wikipedia*

- In software engineering, **extensibility** is a system design principle where the implementation takes into consideration future growth. It is a systemic measure of the ability to extend a system and the level of effort required to implement the extension.



System z Has Extensibility built in...

## Mainframe Extension Is a Winning Strategy

- Extension delivers new business capability *faster*
  - ▶ Building on the investments in I/T, data center and people skills
- Extension is a key cost-containment strategy
  - ▶ IT costs growing twice as fast as business revenue due to business imperatives and distributed deployments
- Mainframe extension can help reduce IT spending growth from **twice** business revenue growth to **equal or less** business revenue growth

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## A Growing Mainframe Customer is a Business to be Emulated

- A survey of 585 large or growing IBM mainframe customers:
  - ▶ Average business revenue growth **12.1%**
  - ▶ Average profit growth 21.9%
  - ▶ Average MIPS growth 24.3%
  - ▶ Average mainframe HW and SW spending growth **6.4%**
- These customers are extending their existing mainframes to deliver new business capability while constraining IT spending growth to **half** of business revenue growth

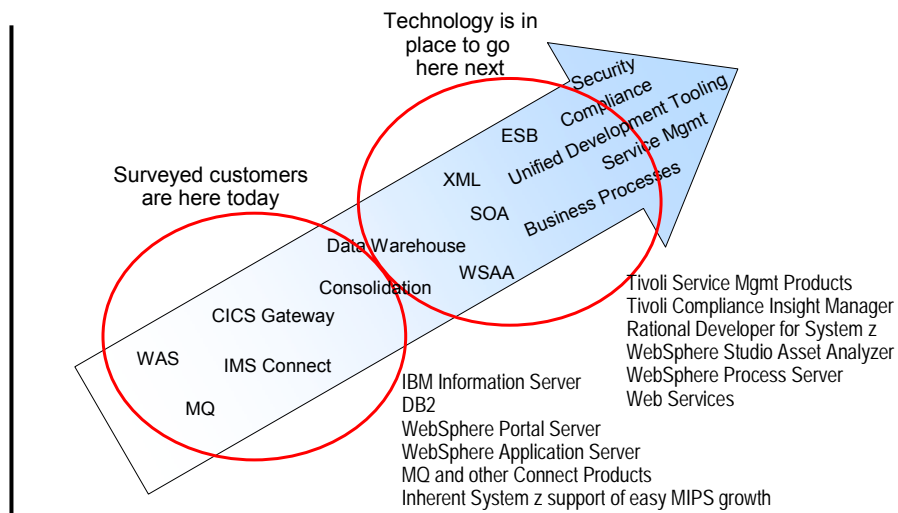
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## State of Mainframe Customers

- Impressive numbers from an IBM survey of top mainframe customers
  - ▶ 59 out of top 59 global 500 banks
  - ▶ 18 out of top 20 global 500 insurance companies
  - ▶ 7 out of top 9 global healthcare companies
  - ▶ 7 out of top 9 global retailers
  - ▶ All top US life, property, and casualty insurance companies in 2007 Fortune 500
  
- ▶ Average mainframe capacity 15,000 MIPS and growing
- ▶ Revenue is growing twice as fast as mainframe costs
  - Compared with “IT Spending is Growing twice as fast as GDP Growth Worldwide”

## Technologies Are in Place for Mainframe Extension Solutions



## Mainframe Extension Solutions Help Deliver New Business Capability Faster

- Organic Growth – Easy Growth of Existing Workload
- Extend Access Channels with SOA
- New Data Workloads on System z
- Deliver Business Insight with a Data Warehouse on System z
- Extend Connectivity with a Mainframe Communications Backbone
- Consolidate Workloads to Reduce Costs
- Extend IT Service Management
- Extend Data Security on the Mainframe
- Extend Development Team Productivity

Today we'll take a closer look at these extension solutions and the mainframe technologies behind them...

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## Mainframe Extension Solution – Organic Growth

- Easy Growth of Existing Workload
- Large enterprises grow at 10%+ annually
  - ▶ Top 25 Industry Leading Companies in the Fortune Global 500 grew 13% annually from 2005 to 2007
  - ▶ Top 59 Global Banks grew 22% annually in 2006
- Key growth areas
  - ▶ Expansion in geography and channels
  - ▶ Expansion in market segments
  - ▶ Mergers and acquisitions
- Growing pains and requirements
  - ▶ Business growth drives transaction growth
  - ▶ Need to seamlessly scale up workload capacity

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## Easy Organic Growth on the Mainframe

- System z designed to scale easily
  - ▶ Non-disruptive capacity on demand
  - ▶ System automatically uses new processor, memory, and storage capacity
- The cost of running incremental workload on the mainframe goes down as the total workload grows
  - ▶ Mainframe design and IBM pricing policies favor the addition of more workload
  - ▶ Special hardware pricing for qualified types of organic growth
  - ▶ Lower software costs per transaction as workload grows
  - ▶ Labor costs hold steady as workload grows
- **Customers have learned that organic growth on the mainframe can be the most cost efficient choice**

## Introducing 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

But we've invested a lot of money in our current IT infrastructure.



**Service Oriented Finance  
CIO**



## 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
  - ▶ Modern development tools for speed to value, flexibility, deployment, programmer productivity and reduced cost
- The mainframe delivers superior qualities of continuous operations, rapid scale up, and security
- The mainframe achieves the lowest TCO for next generation solutions

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## Mainframe Extension Solutions Achieve the Lowest Cost of Acquisition

Scenarios	Cost of Distributed vs. z	Distributed Cost Ratio
<b>Mainframe Extension</b>		
- Automobile Manufacturer	\$21.0M vs \$0.8M	<b>26.0x</b>
- WebSphere Case Study	\$5.3M vs \$3.0M	<b>1.8x</b>
- Major Retailer	\$8.3M vs \$7.0M	<b>1.2x</b>
- SAP Database Server	\$4.5M vs \$2.3M	<b>2.0x</b>
- Data Warehouse	\$10.4M vs \$3.7M	<b>2.8x</b>
<b>Linux Consolidation</b>		
- IBM IGS	\$901.9M vs \$521.2M	<b>1.7x</b>
- Brokerage Firm (Power)	\$12.7M vs \$7.8M	<b>1.6x</b>
- Brokerage Firm (Floor)	\$25.5M vs \$10.7M	<b>2.4x</b>
- Major Bank	\$46.9M vs \$19.9M	<b>2.4x</b>

**2.0X**

Note: Automobile Manufacturer was a special case

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# Introducing IBM's Latest Mainframe – the z10

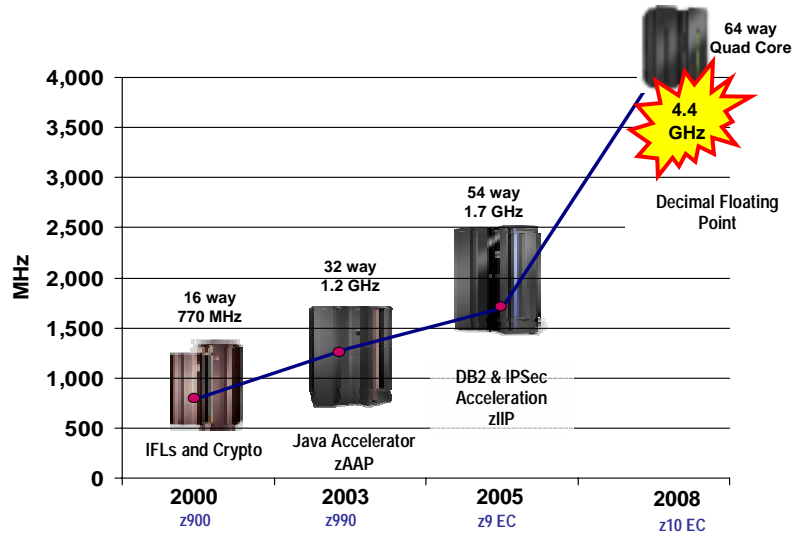
The new System z10 has breakthrough performance, scale and capabilities to help you extend your business.



IBM

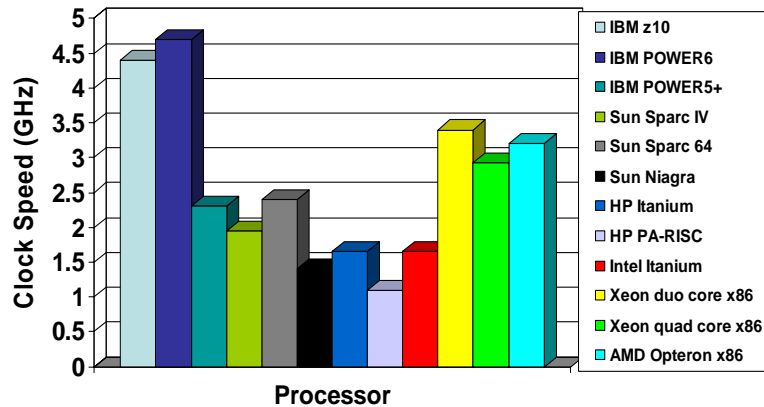


# z10 – Significant Performance Improvement



## IBM z10 and POWER6 Lead the Competition

Fastest Available Processor Technology



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## “Specialty Engines” Reduce Cost for New Workloads

- Special assist processors for System z
  - ▶ For Java workloads (zAAP)
  - ▶ For selected DB2 workloads (zIIP)
  - ▶ For Linux workloads (IFL)
- Attractive pricing
  - ▶ \$125K for a 920 MIP processor
  - ▶ No charge for IBM software running on zAAP/zIIP
  - ▶ IBM software running on IFL costs 120 PVU's
  - ▶ Free upgrade to next generation!
- Requirements
  - ▶ Max number of zAAP =< number of general purpose processors
  - ▶ Max number of zIIP =< number of general purpose processors
  - ▶ No limit on the number of IFL's



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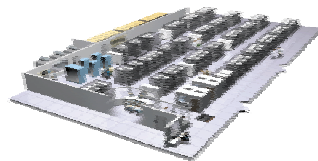
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## Which Workloads Can Benefit From Specialty Processors?

- What workloads can be run on a zAAP?
  - ▶ Java processing
    - Up to 85%
- What workloads can be run on a zIIP?
  - ▶ Queries received via DRDA Remote Access Protocol (**Data base server** scenarios)
    - Up to 40%
  - ▶ Parallel queries (**Data Warehouse** scenario)
    - Up to 80%
  - ▶ Some of index maintenance utilities
  - ▶ IPsec and XML processing
    - Up to 71% (inbound) and 90% (outbound) for IPsec
- What workloads can be run on an IFL?
  - ▶ 100% of **Linux** workloads

## An Inconvenient Truth!

### Equivalent CO<sub>2</sub> Emissions in one year



10,000 sq ft at 125  
watts/ft<sup>2</sup> @ \$0.09 per  
kWh

\$985K per year

**11,498 tons of CO<sub>2</sub>**  
per year

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368 Chevy Tahoes



==

9,424 refrigerators



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10,549 round trips  
NY to LA



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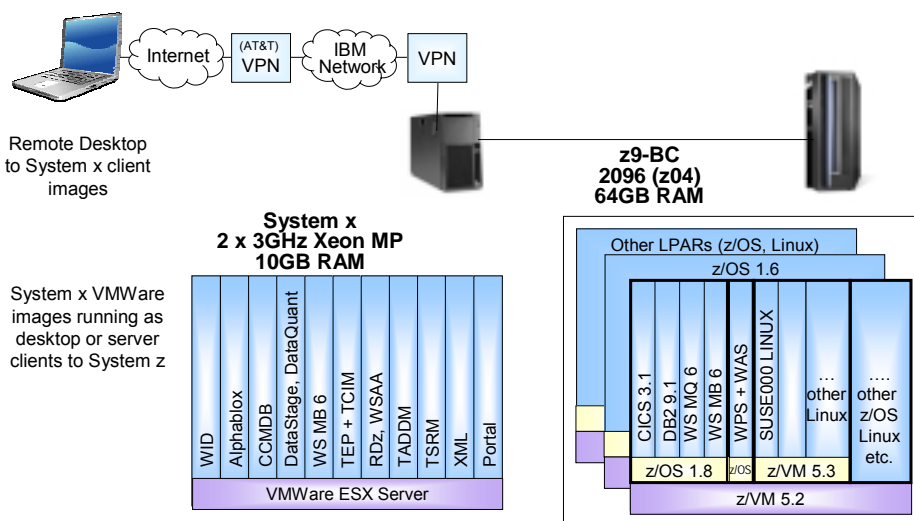
78,753 75 watt light  
bulbs running 8 hrs/day



## The Value of Mainframe Computing

- Mainframe Extension Solutions meet customer requirements at lowest TCO
- SOA can help you reuse your existing mainframe investments
- Consolidation is a proven way to save money and simplify operations
- Distributed architectures are not designed for high levels of mixed workloads
- Mainframe specialty processors and disaster recovery are a bargain
- Mainframes have a much lower environmental impact

## DEMO: Architecture



## Our Agenda Today

Agenda	
30 minutes	Affordable Business Growth with System z
45 minutes	Extend Access Channels with SOA
45 minutes	New Data Workloads on System z
15 minutes	<i>Break</i>
45 minutes	Deliver Business Insight with a Data Warehouse on System z
30 minutes	Extend System z as Your Universal Messaging Backbone
60 minutes	<i>Lunch</i>
45 minutes	Consolidate Workloads to Reduce Cost
20 minutes	Extend Data Security on the Mainframe
30 minutes	Extend IT Service Management
15 minutes	<i>Break</i>
45 minutes	Extend Development Team Productivity
20 minutes	Extending Your Investment in System z

