Thriving Amidst Change

Four Smart Ways to Reduce Costs and Deliver High Quality Service

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IBM

Some results from IBMs 2009 CIO Study

1. More than the private sector, Governments face tremendous transformation and service delivery challenges – information, communications and technology are crucial to both

2. Government CIOs are confronted with growing constraints – budgets, business models, security concerns, skills; many structural aspects of those constraints are unique to government

3. Government CIOs are expected to

    - Make innovation real

    - Raise the ROI of information and technology

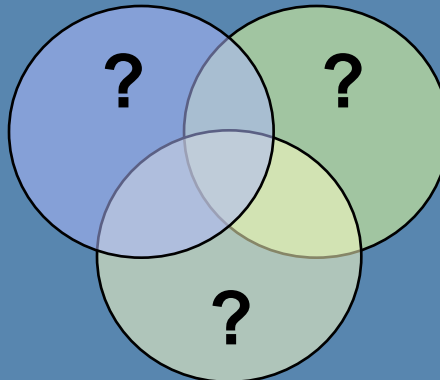   - Expand business (mission) impact

Dynamic Infrastructure:

Supporting multiple workload approaches……

Transaction/data processing

Scale
Flexible workload management
Fast transaction, I/O speeds
High quality of service
Security

Platforms

? ? ?

Basic web and collaboration

Scale
High throughput
Varying quality of service
Varying levels of security

Business applications (including web)

Scale
High quality of service
High memory requirements
Flexible infrastructure
Security

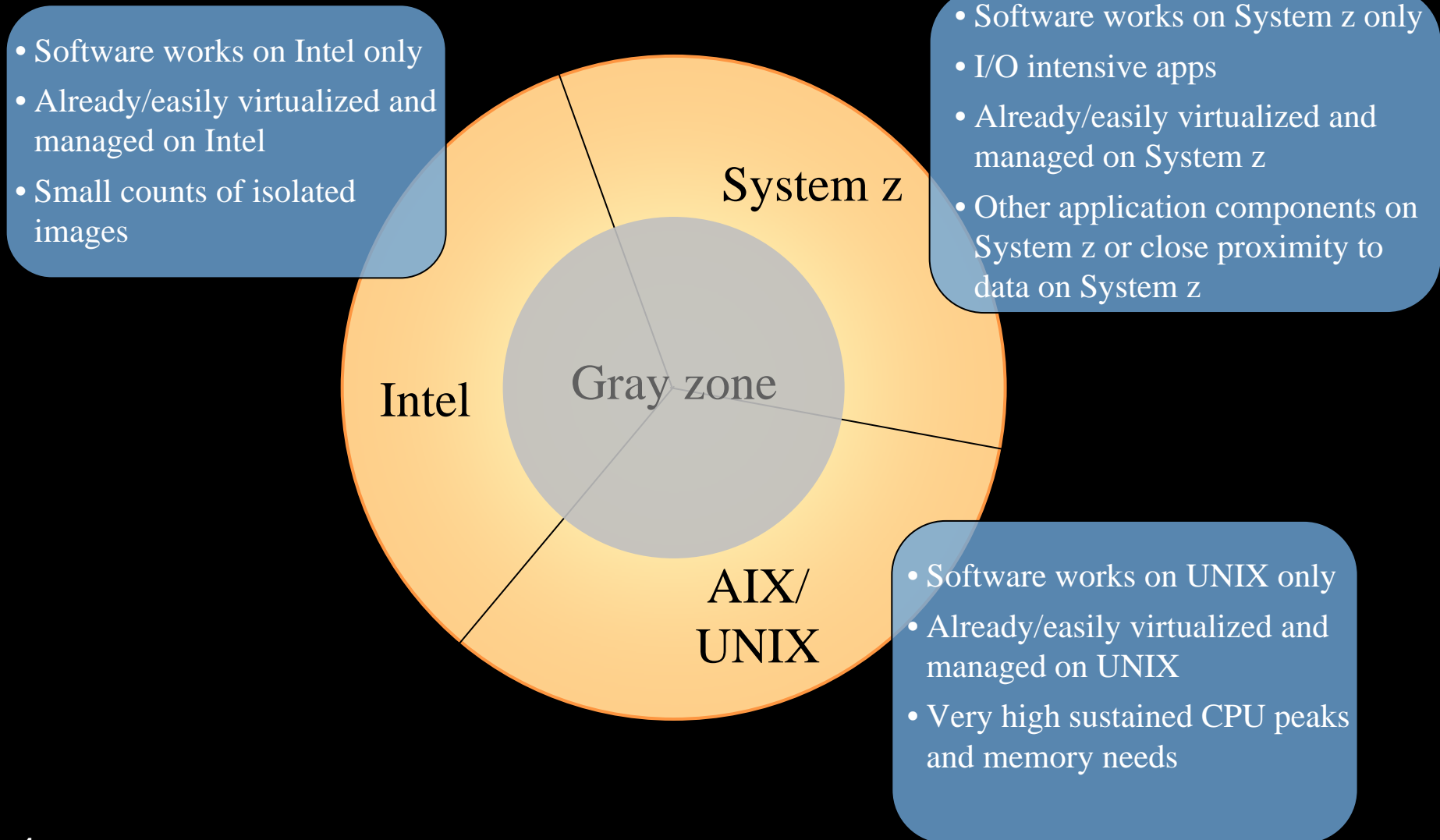**Business Analytics**

Scale
Compute intensive
High I/O bandwidth
High memory requirements
Varying levels of security

Static simulation/modeling

Compute intensive
High memory requirements
Lower QoS

Matching best platform for workload is crucial

Platform: Fit for purpose for today's applications & data

Intel
- Software works on Intel only
- Already/easily virtualized and managed on Intel
- Small counts of isolated images

System z
- Software works on System z only
- I/O intensive apps
- Already/easily virtualized and managed on System z
- Other application components on System z or close proximity to data on System z

System z

Intel

Gray zone

AIX/ UNIX

AIX/UNIX
- Software works on UNIX only
- Already/easily virtualized and managed on UNIX
- Very high sustained CPU peaks and memory needs

Based on insights from working with hundreds of customers, here are four smart ways to quickly manage costs and gain efficiencies

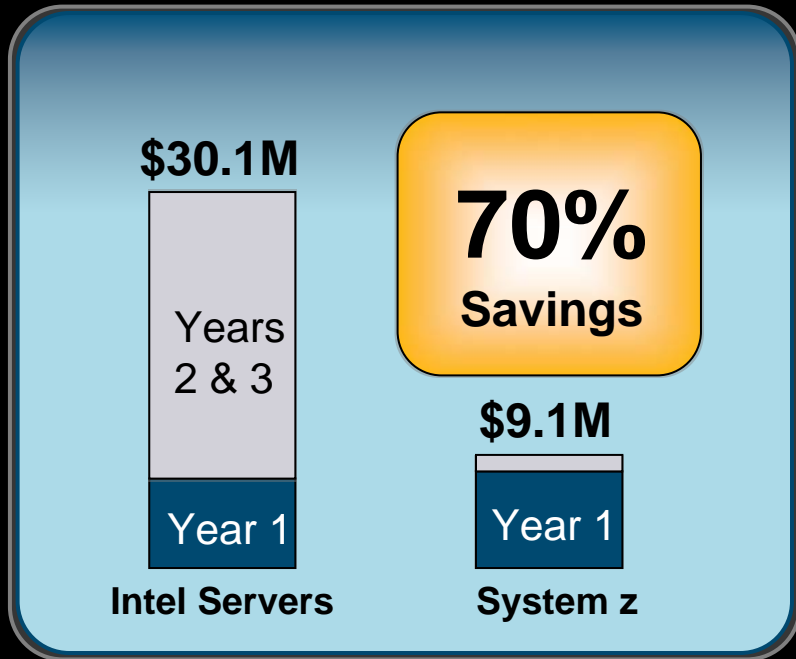| 1 | Consolidate applications and data |
2	Optimize deployment of applications and data
3	Reuse applications and data
4	Properly account for your costs

To achieve efficiencies quickly

Customer Findings

- Strategic platform selection key to faster success
- Platform strengths vary; one size does not fit all
- Leverage existing infrastructure
- Take advantage of recent technology advancements

In the right circumstances, System z has helped clients gain significant efficiencies, while improving service, all at very low risk.

1. Consolidate applications and data

Drive down costs of hardware, software and management while simplifying infrastructure

Top three reasons for savings

$30.1M

70%
Savings

Years 2 & 3

$9.1M

Year 1

Year 1

Intel Servers

System z

Consolidated 292 Oracle servers to one System z

System administration costs 90% less on System z

Subscription and support licenses were over 95% less on System z

A regional North American government organization

Additional benefits

Increased administrator productivity

Faster provisioning speed

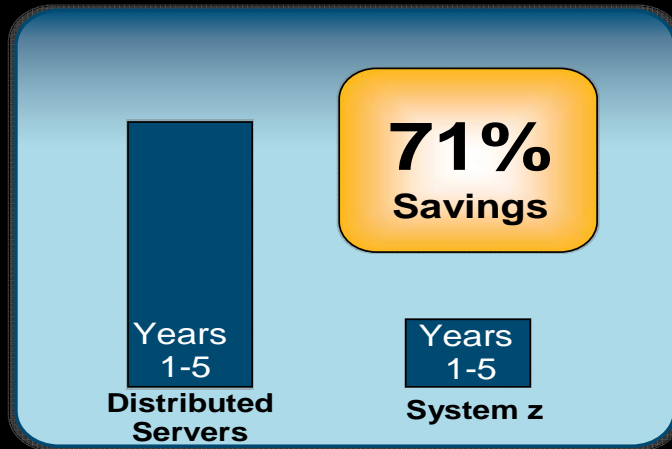**Simpler Infrastructure**

1. Consolidation

Datacenter on a truck

OR

2. Optimize deployment of applications and data

Deploying a portal application

71% Savings

Years 1-5
Distributed Servers

Years 1-5
System z

A large technology organization

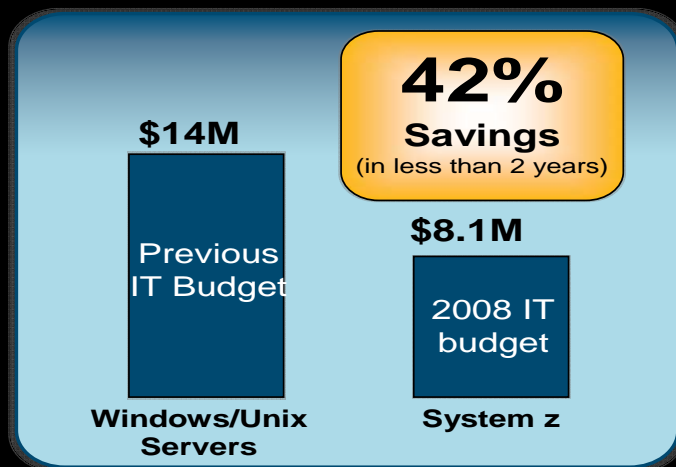## Top three reasons for savings

✓ 93% reduction in software licenses: 26,700 down to 1,800

✓ Greatly reduced labor costs due to less administration

✓ Hardware costs are dramatically less

42% Savings
(in less than 2 years)

$14M

Previous IT Budget

Windows/Unix Servers

$8.1M

2008 IT budget

System z

Top three reasons for savings

✓ Software and hardware licensing costs dramatically reduced

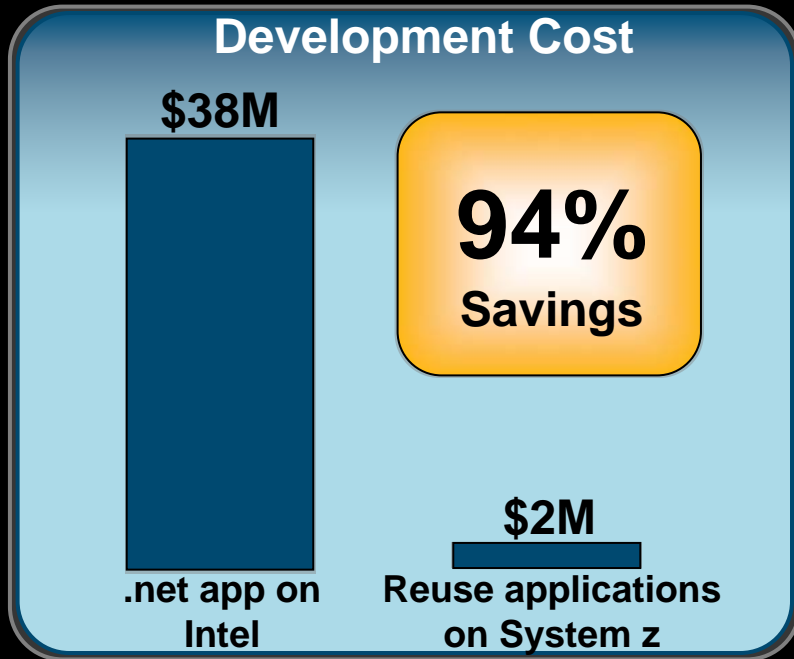✓ Software and hardware maintenance costs are significantly down

✓ Networking costs plunged, while infrastructure was drastically simplified

BALDOR

$1.8 billion Electric motors manufacturer

3. Reuse applications and data

Replacing existing legacy application with web-based customer facing application

Development Cost

$38M

94% Savings

$2M

.net app on Intel

Reuse applications on System z

A medium-sized financial services vendor

Top three reasons for savings

- ✓ Complexity of recoding from scratch all the business processes into .net framework

- ✓ Speed of implementing System z solution was less than 29 days

- ✓ Additional employees to test and maintain .net application versus none for System z

Additional benefits

Improved application functionality

Faster time to market

Quick implementation and reduced risk

4. Properly account for your costs

"False Economics": Over-allocation of Costs to System z

	Intel/UNIX Servers	Mainframes
Direct Costs Hardware, Software, Admin	**$** Correct allocation	**$** Correct allocation
Shared Costs Power, Facilities, Network, Mgmt overhead, etc.	🚫 Incorrect, zero allocated	**$** Correct allocation
	All of Intel/UNIX incurred costs are moved to mainframe	**+$**

Getting to "True Economics"

Core problem

- Difficult to assign shared costs to platforms
- Shared costs lumped in with mainframe costs
- Thus, mainframe costs tend to be overstated
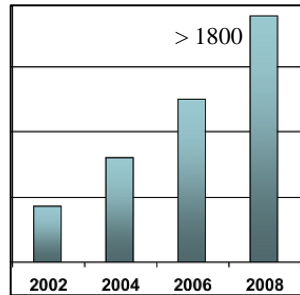- Platform decisions are made that waste cash

Pragmatic quick-return remedy

- Meter basic usage
- Identify largest cost distortions
- Incorporate information in decision making

System z – Thriving environment for today's and traditional applications

System z Linux: fastest growing server platform

- 77% increase in System z Linux MIPS in 2008

- Approximately 1,300 System z customers are now using Linux on z

- Linux is ~15% of the customer System z install base (MIPS)

- Linux engines sold per year ➡

	> 1800
2002	2004	2006	2008

Thousands of ISVs investing in System z platform

- Over 1,000 new applications, 150+ new ISVs in 2008

- Over 2,800 LINUX applications are supported on System z; 18% growth in 2008

- Over 1,500 ISVs building applications for System z

- Recent ISV investment includes:

KRONOS®   Information Builders

Chordiant. Optimizing the Customer Experience   INFORMATICA The Data Integration Company™   CSC

90% growth in mainframe education

Students educated:

- Over 50,000 worldwide, 5,000 more students in China by 2010

University adoption:

- 600 schools enrolled globally as of May 2009
- 90% growth in 2 years; 2,000% since 2003; continued flow of schools adding curricula
- 50%+ outside of US

Schools participating across North America, Latin America, Europe, Middle East, Africa, and Asia

System z – Thriving environment for today's and traditional applications

IBM key announcements: increasing benefits to today's and traditional applications	
Drive down costs and boost performance of data warehouses:	**InfoSphere Warehouse Accelerator (tech preview)**
Lowest cost, highest performing database in the industry:	**DB2 X for z/OS (tech preview)**
Simplify the integration of mainframe apps and data into modern applications:	**CICS v4.1**
Simplify cross-platform development and deployment:	**Multiple product releases from Rational**

System z: Complimentary Offers to help you to reduce costs

◆ *Cost and risk analysis: use of mainframe vs. alternatives*
- Off-site preparation and on-site information gathering
- Analysis developed over two weeks, concluding with a findings summary

◆ *Portfolio Review & Analysis*
- Reviews existing software portfolio under various growth scenarios
- Makes specific recommendations on ways to optimize software costs

◆ *True economics cost allocation assessment*
- Analysis of IT infrastructure costs and current cost associations
- Recommended steps for improvement provided within 10 business days

Note: Final acceptance of complimentary offers dependent on Agency and IBM Legal review

Summary

Typical Utilization for Servers

Windows: 5-10%   Unix: 10-20%   **System z: 85-100%**

System z can help **reduce** your floor space up to **75%-85%** in the data center

Thank You

System z can lower your total cost of ownership, requiring **as little as 30%** of the power of a distributed server farm running equivalent workloads

The cost of storage is typically **three times more** in distributed environments