



*Information on Demand –  
New Capabilities for  
Addressing the Challenges of  
Today's Economic  
Environment*



*Steve Mink*

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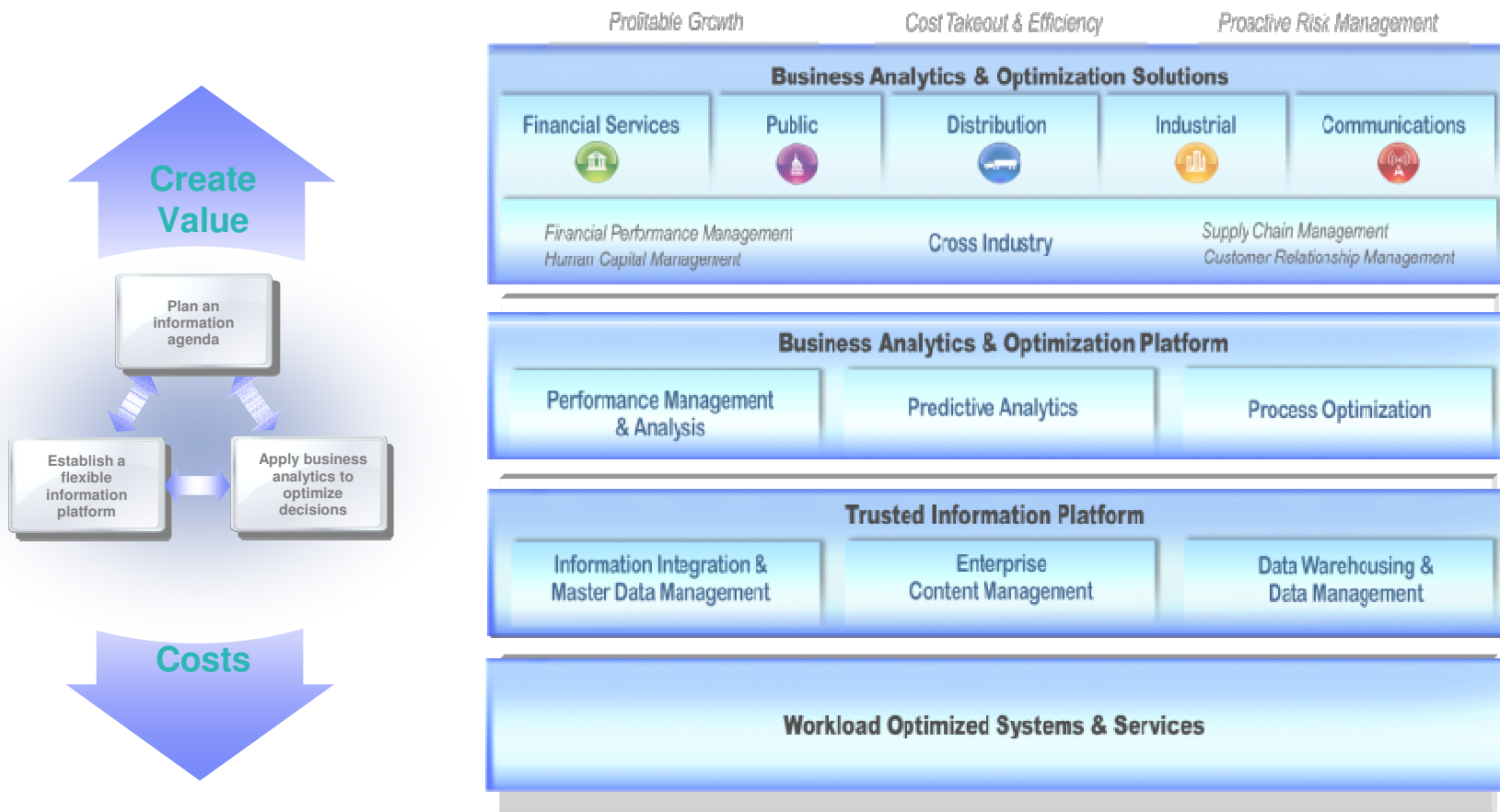
# The Information Challenge...



*Leveraging Information  
for Smarter Business Outcomes*

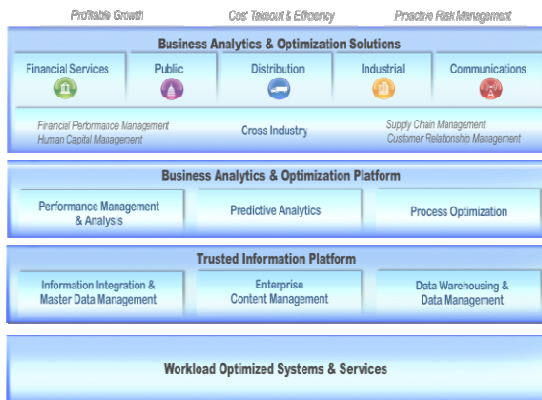


# Getting started with an information-led transformation



# Information-Led Transformation for System z

More new capabilities delivered in the past 3 years than at any point in the mainframe's history



and much more!

DB2 X for z/OS

Smart Analytics Optimizer

IMS 11

2010

Analytics

Content Integrator for z/OS

InfoSphere Warehouse for System z

FileNet Content Manager for System z

Cognos 8 BI for System z

Open Access DW Tools

Business Intelligence

Information Agenda

Data Studio pureQuery for System z

2009

InfoSphere MDM Server for System z

Optim Data Governance for System z

App Dev Tools

Information Server for System z

Content Manager 8.4

Data Archiving Test Data Mgmt

2008

Data Warehousing

IOD Launch 2006

pureXML

SOA

ETL & Data Quality

DB2 software

InfoSphere software

Cognos software

FileNet software

## System z: The platform for the future

**"you cannot think seriously about your longer-term IT architecture without thinking equally seriously about what today's mainframe environment has to offer"**



**CIO Magazine: Mainframe computing is set for a rebirth – September 29, 2009**

# Investing in Innovation

*Over 50 Billion Transactions  
Per Day run through IMS*

## IMS 11



### Direct distributed access to IMS Data

- Reduces processing costs up to 67%

### Easier Application Programming

- IMS DL/I knowledge not needed
- Java SQL support

*Generally Available  
October 30, 2009*

**Easier than Ever**



### On-line DB Reorganization

- 25% CPU Time Reduction

### New Enterprise Suite

- Repackaging of IMS middleware
- Easier to order and install

# IMS 11 Quality Partnership Program Results



- **12 Customers, 2 IBM internal sites, 30 vendors**
  - 6 customers running mission critical production prior to GA each running up to 80M transactions per day
  - 4 customers have entire enterprise in production on V11 prior to GA
  - 2 customers migrated with 100% availability using SHQ
  - Customer satisfaction scores higher than V10

***IMS 11...GA October 30, 2009 and  
already running over  
200 Million Transactions per Day***

## Customers Continue to Depend on IMS



20 TB of IMS data and 50 Million IMS transactions per day supporting bank tellers, online banking and ATMs



“Our customers bet their business on the services we provide. And we bet our service performance and availability on IMS.”

*Paul Gandolfo, Senior Technical Specialist, Telcordia*



8 DBAs manage 24 IMS systems which run over **70 million** banking transactions per day  
In over **550 banks**

***Analysts Agree!***



*“As IMS continues to evolve, it should be able to maintain a strong claim on the highly complex data management and high throughput workloads that it has historically served so well.”*

*Carl Olofson, IDC*



## DB2 for z/OS and System z value

- Resilience for highest availability on the planet
- System-level mixed workload management with full resource utilization
- Real-world scalability with performance
- Unmatched end-to-end security
- The most cost effective platform to manage and maintain



# System z With DB2 Scales Further Than Best HP Superdome Banking Benchmark

## Asian Bank

- IBM System z9 and DB2
- TCS BaNCS (Cobol)
- 15,353 Transactions/second
- 50 Million Accounts
- IBM benchmark for customer

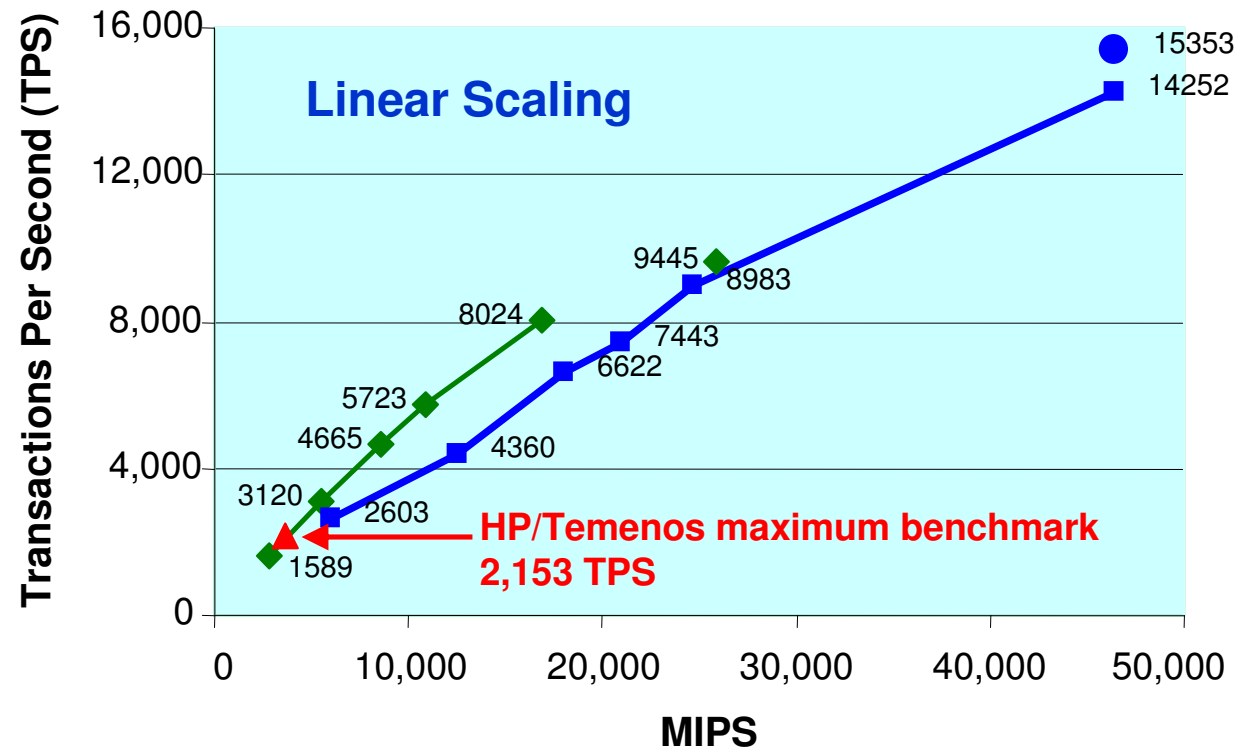
## Bank of China \*\*

- IBM System z9 and DB2
- TCS BaNCS (Cobol)
- 8,024\*\*\* Transactions/second
- 380 Million Accounts
- IBM benchmark for customer

## HP/Temenos \*

- HP Itanium
- Temenos T24 (Java)
- 2,153 Transactions/second
- 13 Million Accounts
- Largest banking benchmark performance claimed by HP

## System z and BaNCS Online Banking Benchmarks



\* SOURCE: TEMENOS BENCHMARKS; <http://h71028.www7.hp.com/enterprise/downloads/TemenosBenchmark.pdf>

\*\* SOURCE: <http://www.enterprisenetworksandservers.com/monthly/art.php?2976> Source: InfoSizing FNS BANCS Scalability on IBM System z – Report Date: September 20, 2006

\*\*\* Standard benchmark configuration reached 8,024 tps, a modified prototype reached 9,445 tps

# System z With DB2 Scales Further Than Best HP Superdome Banking Benchmark, with Java

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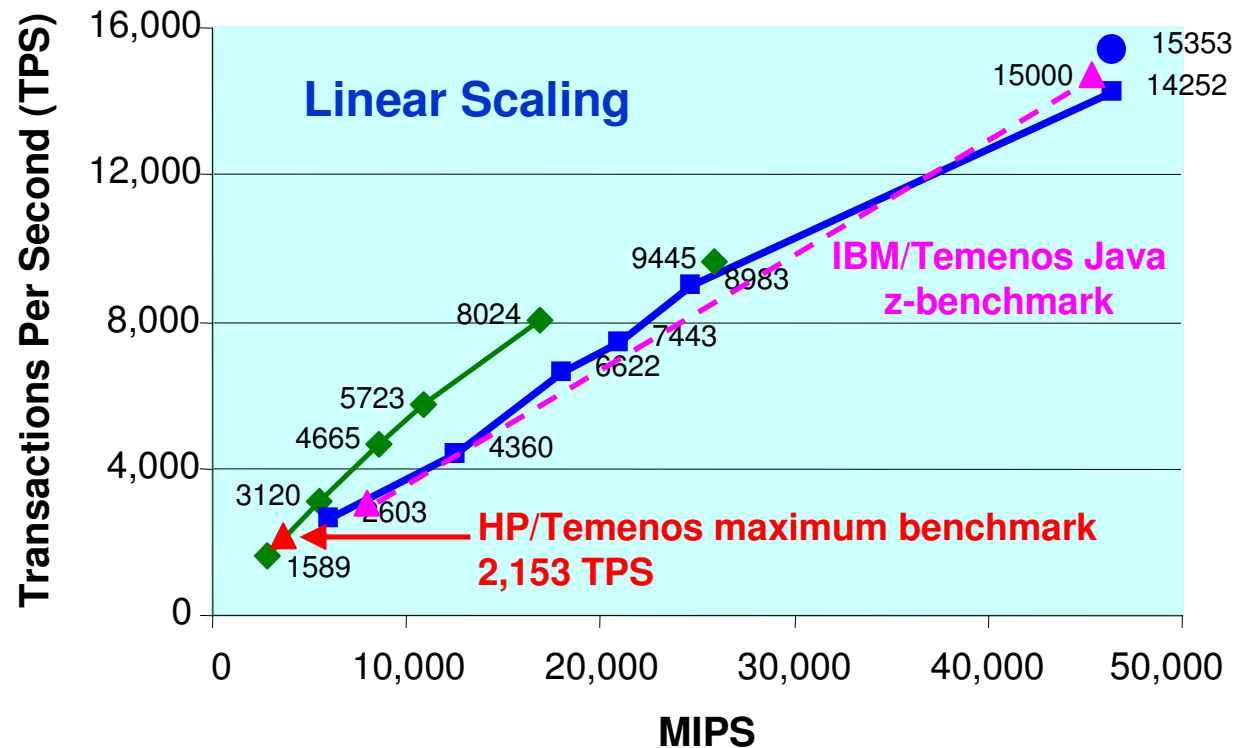
## IBM Benchmark

- IBM System z10, WAS, DB2
- Temenos TCB (Java)
- Result of preliminary Temenos TCB optimization prototype

## HP/Temenos \*

- HP Itanium
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## System z and Temenos TCB Online Banking Benchmarks



\* SOURCE: TEMENOS BENCHMARKS; <http://h71028.www7.hp.com/enterprise/downloads/TemenosBenchmark.pdf>

# If you are not on DB2 9, look what you are missing

<i>Availability, Scale &amp; Resiliency</i>	More Online Schema Changes		Business Flexibility
	Volume Level Backup & Recovery		Faster, Cheaper, Granular Recovery
<i>Compliance &amp; Security</i>	Database Roles & Trusted Context		Efficient Auditing & Compliance
<i>Easier Application Development</i>	PureXML		Streamlined Data Integration
<i>OLTP &amp; Warehousing</i>	Query Optimization		Highly Available, Secure Data
<i>Reduce Cost of Ownership &amp; Skills</i>	Index Compression		50% Disk Savings
	Utility CPU reductions		20% CPU decrease

# Watch for DB2 X, the most exciting release in 20 years

**Reduce Cost**

**CPU reductions**



**Save 10%-20%**

*Scalability*

Increase threads



Ten times threads

Simpler memory management

*Availability*

*Resiliency*

More Online Schema Changes



Business Flexibility

*Compliance & Security*

Granularity for administration



More Efficient Auditing & Compliance

*Easier Application Development*

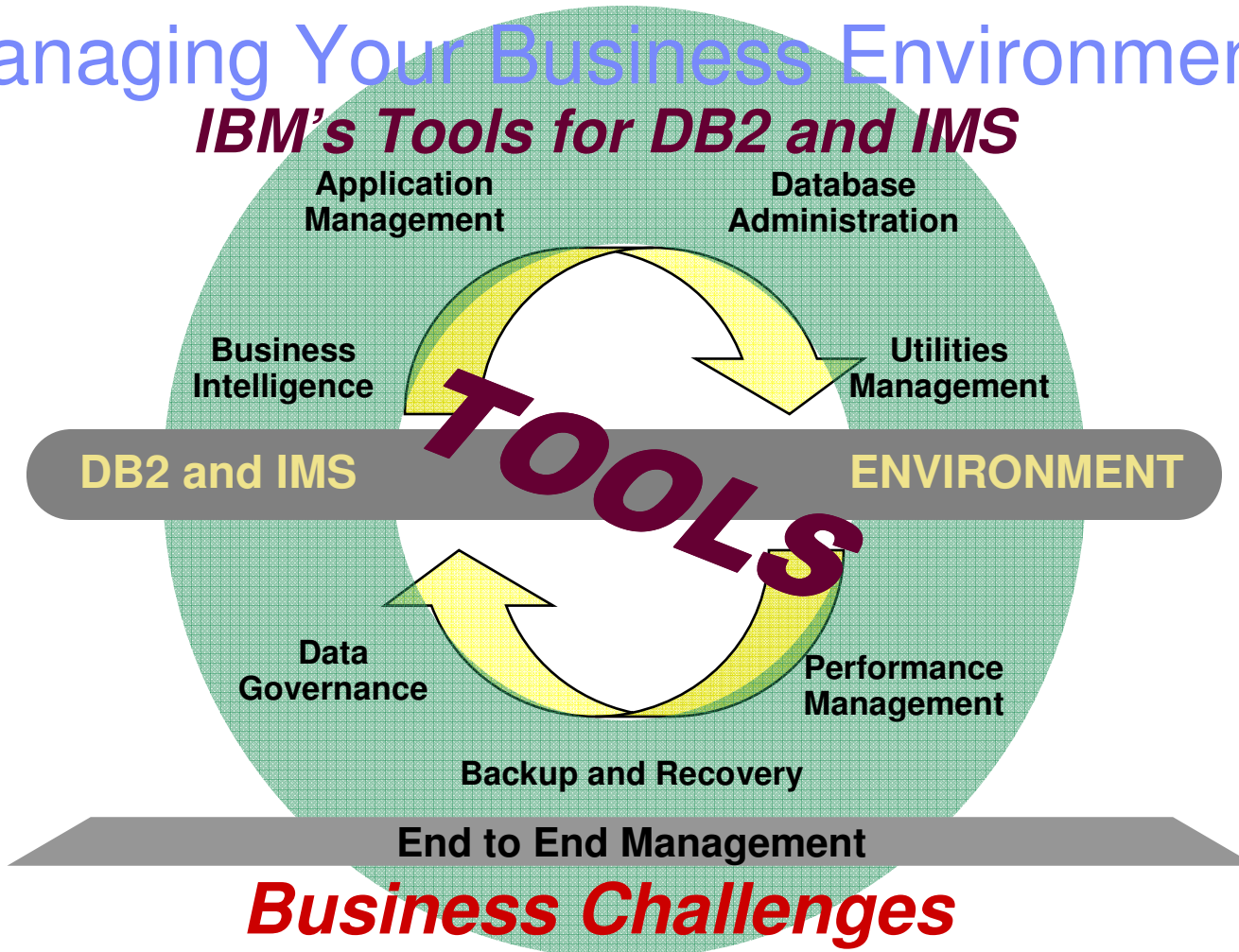
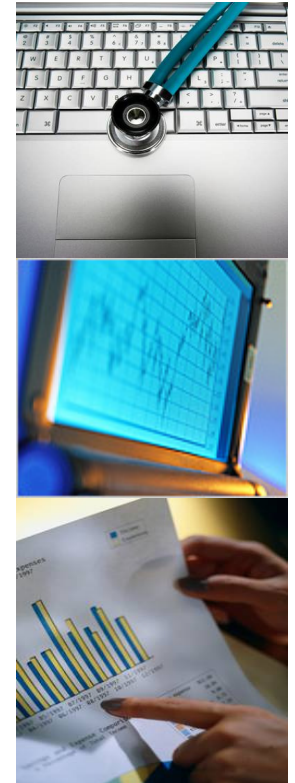
PureXML



Streamlined Data Integration

# Managing Your Business Environment

## *IBM's Tools for DB2 and IMS*



**ROI**

- Optimizing costs associated with maintaining existing applications
- Quickly responding to new business requirements and opportunities
- Ensuring that business and regulatory needs can be properly met
- Maximizing IT staff productivity to streamline business operations

**Resiliency**

# What's New in IBM's DB2 and IMS Tools?





*Investment and dedication to z clients cost savings*

## DB2 for z/OS Tools

-  ✓ Tivoli OMEGAMON XE for DB2 Performance Expert V4.20
-  ✓ DB2 Cloning Tool V2.2
-  ✓ DB2 Recovery Expert V2.2
-  ✓ Utilities CPU offload to zIIP

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## IMS Tools

-  ✓ IMS Cloning Tools V1.1
-  ✓ IMS Audit Management Expert V1.2
-  ✓ IMS Performance Analyzer V4.2
-  ✓ IMS Connect Extensions V2.1

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Best practices for DB2 and IMS

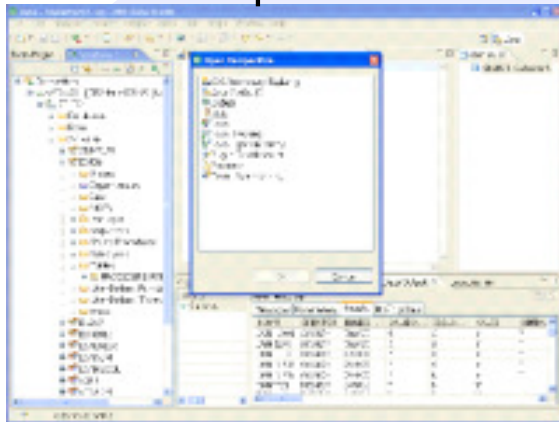


# Integrated Data Management Directions

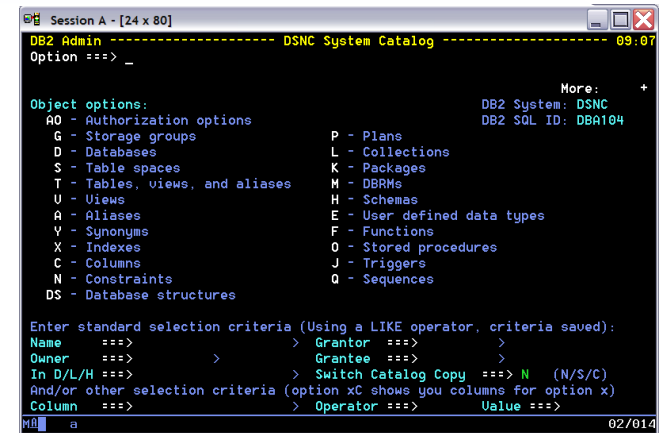
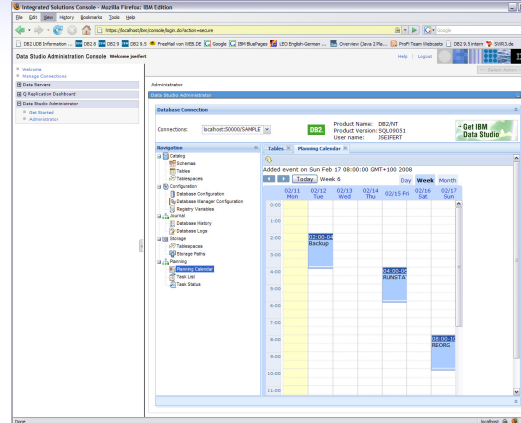
## Data Studio and Optim

## DB2 z/OS Tools

### Eclipse UI



### Web UI



### Develop and Deploy

- Heterogeneous
  - Design and Development
  - Configuration
  - Object Management
  - Change Management
  - Automation Planning
  - Data Governance

### Operate

- Web UI
- Stored Procedure focus
- Heterogeneous focus
  - Monitoring
  - Automation Management
  - Reporting

### z/OS Database Administration

- Deep DB2 z/OS function
- JCL focus
- ISPF UI
  - Application Management
  - Database Administration
  - Performance Management
  - Backup and Recovery
  - Data Governance

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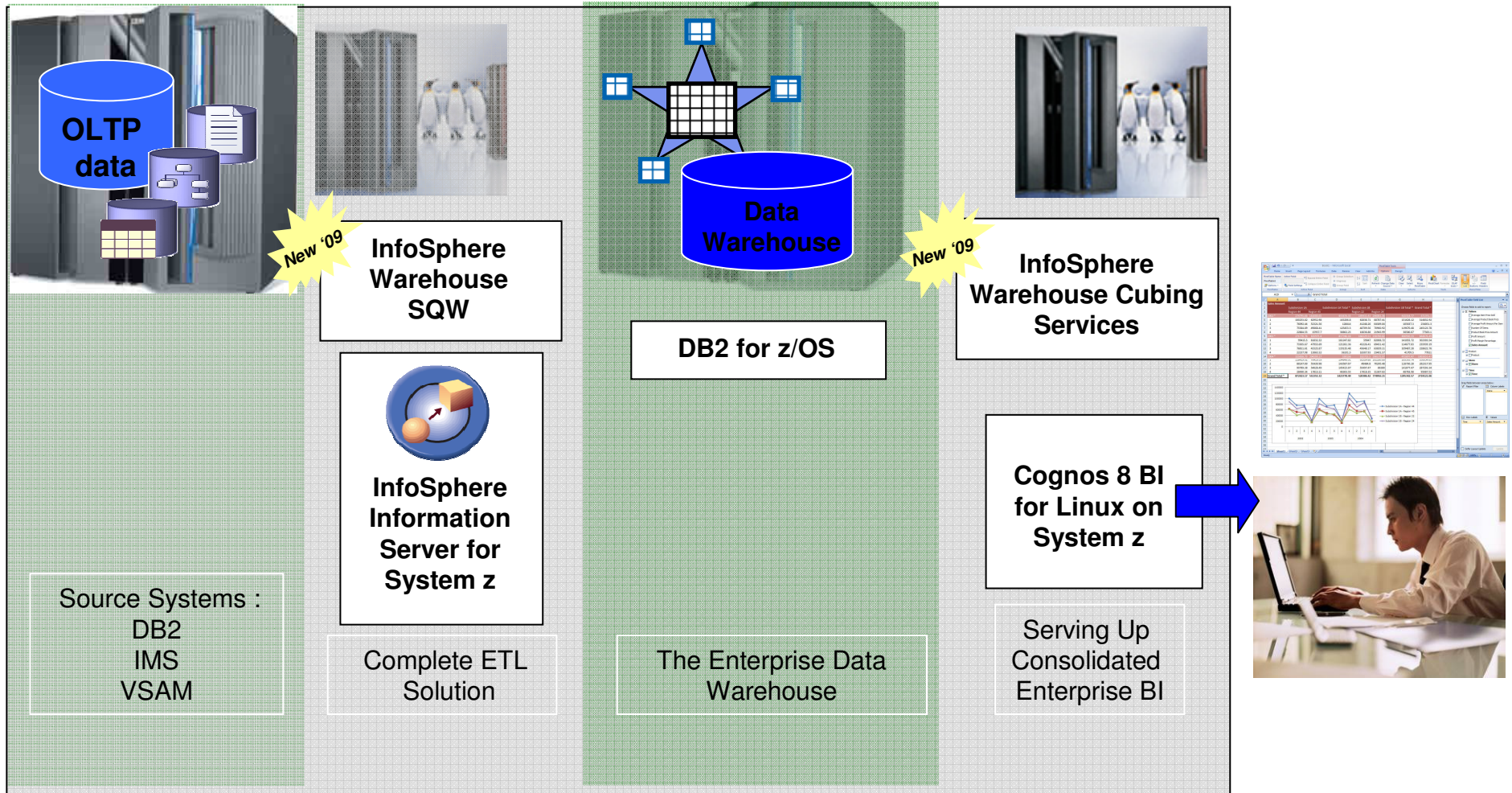
## Resurgence of Data Warehousing and Business Intelligence on System z

- **IBM has invested hundreds of millions of dollars to bring new state of the art capabilities and solutions to System z in support of customers' warehouse and BI requirements**
- A 2007 study by IDUG found that nearly 50% of IDUG respondents are already using DB2 for z/OS for data warehousing. 78% indicated a desire for more capabilities in warehousing, query and reporting.
- *Analysts Agree! IBM's Data Warehousing & BI breadth on System z is a game changer in the market.*  
*Donald Feinberg, Gartner*



**Gartner.**

# The Data Warehouse and BI Solution on System z

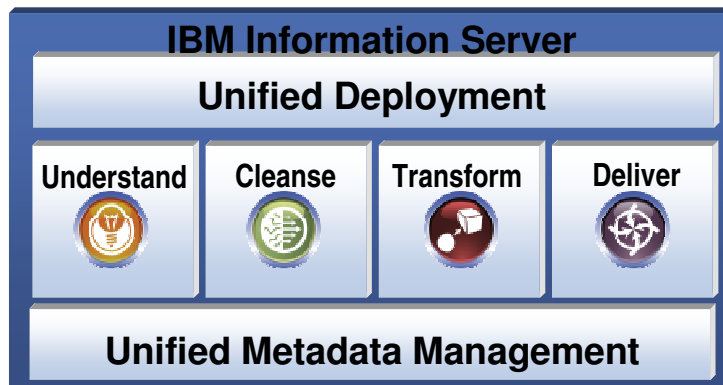


Combining the Reliability and Availability of DB2 for z/OS with Cost Effective Applications running on Linux for System z

# InfoSphere Information Server for System z

*Accelerating the delivery of trusted information*

Profile, cleanse, and transform information from heterogeneous data sources to drive greater business insight



- Significant cost savings on System z
- Scalable to any volume and processing requirements
- Fully integrated, auditable data quality
- Metadata-driven integration for increased productivity

# InfoSphere MDM Server for System z

*The first multi-domain, multi-function MDM product in the market*

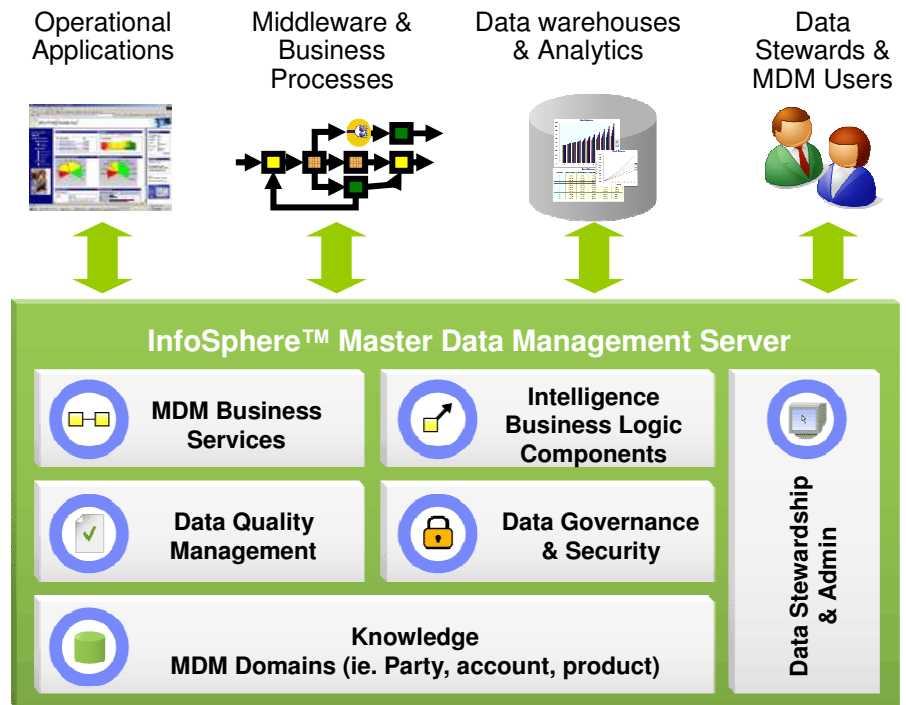
- **Packaged to address all types of MDM implementations**

- From small “registry” projects to strategic “transaction-hub” deployments
- Allows clients to grow as required by implementing existing functionality
- Significantly lowers client risk and time/cost to implement

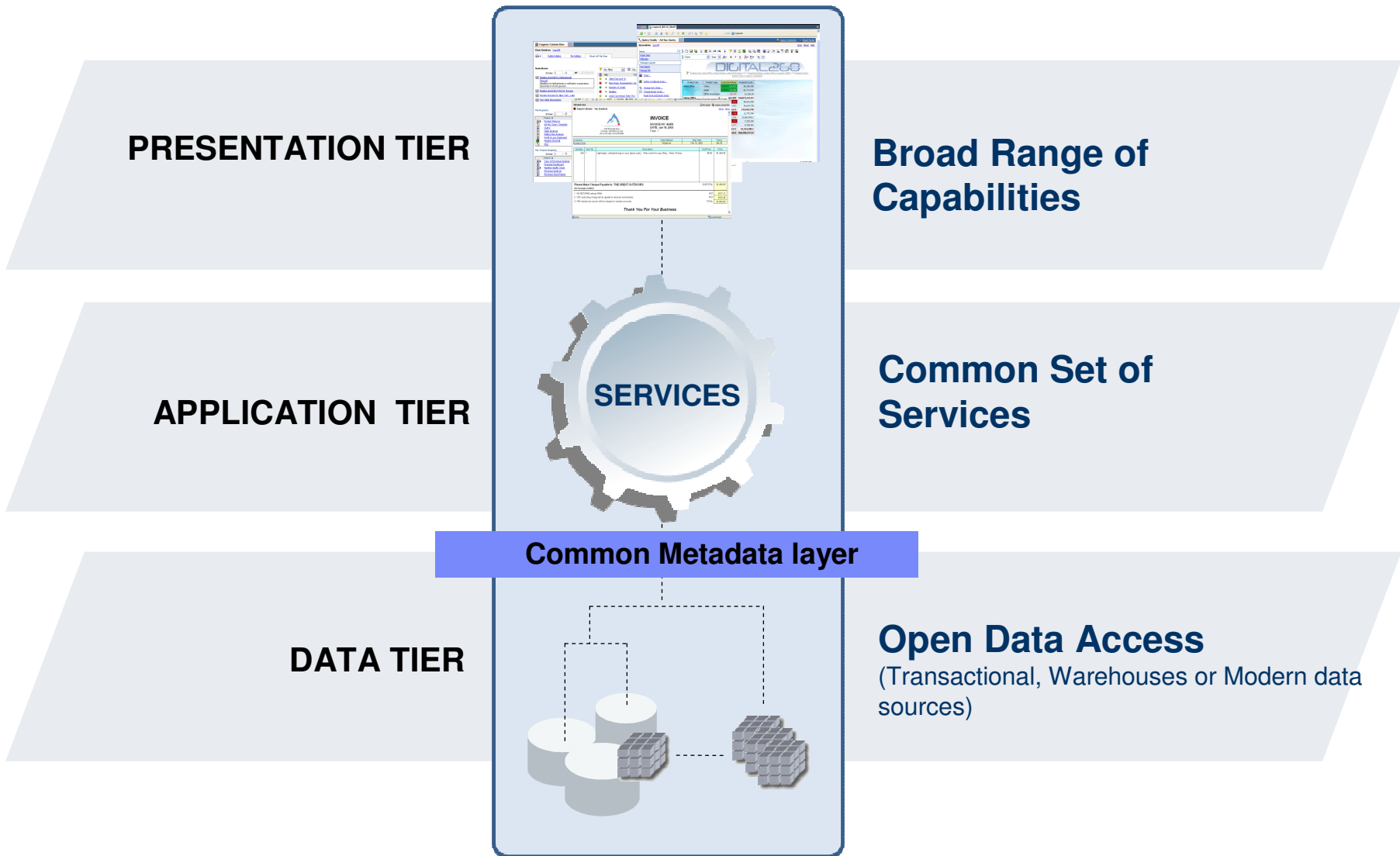
- **Enables a SOA Library**

- 800 pre-packaged business services
- Significant out of the box functionality
- Reduces total cost of ownership

- **Provides leading performance & scalability**



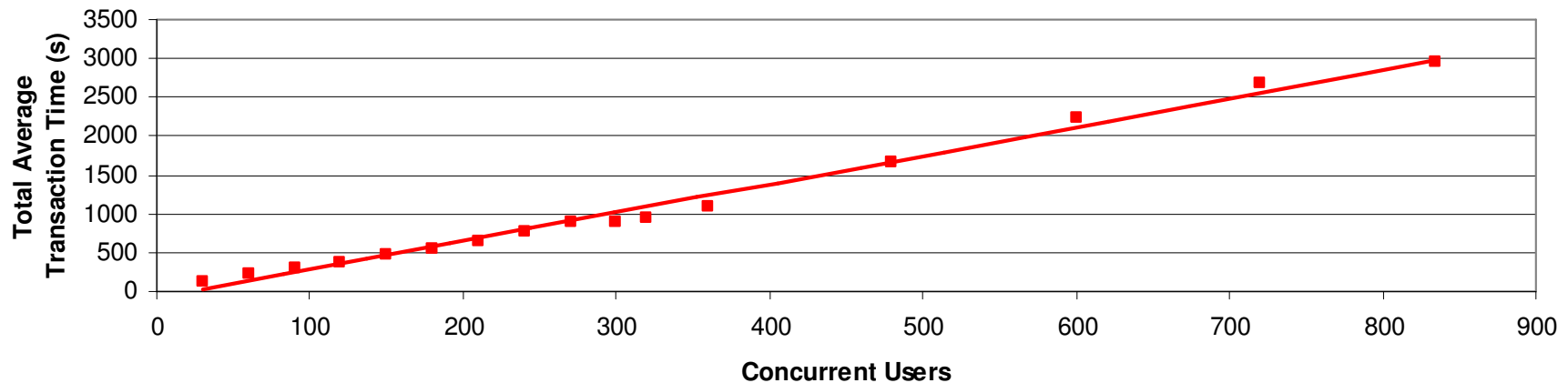
# The IBM Cognos 8 platform



## Proven that Cognos 8 BI for Linux for System z can: Scale Across the Enterprise

**Testing demonstrated IBM Cognos 8 BI for Linux on System z scales linearly to large user groups.**

**Linear Scalability  
IBM Cognos 8 BI for Linux on System z**



“Cognos, ...makes it easy for companies to deploy BI and PM to a broader user population, while minimizing the resulting workload for IT departments.”

- Nucleus Research, *Cognos Takes on the Rest of the Enterprise*, November, 2007

■ Testing was conducted on up to **90,000 named users**

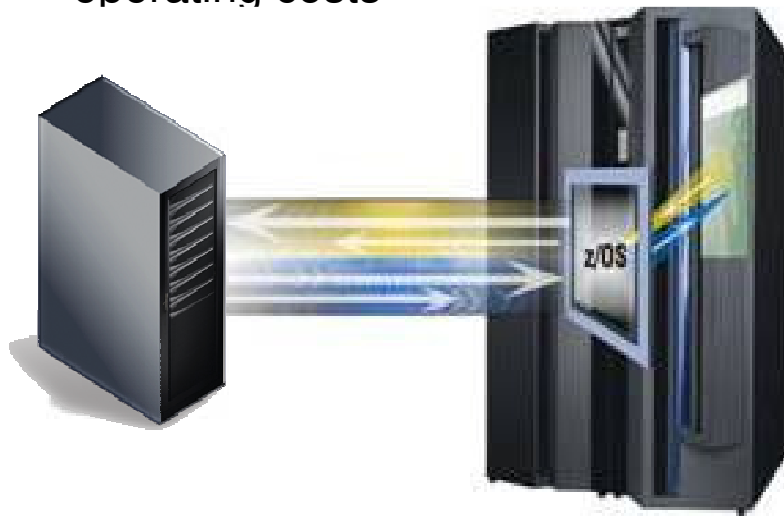
# IBM Smart Analytics Optimizer

*Technology Preview for System z*



## What is it?

- ✓ A high performance extension that easily integrates with IBM data systems, delivering predictable, order-of-magnitude faster, analytic query response times, while lowering operating costs



## How is it different

- ✓ Deep integration with IBM data management systems
- ✓ High performance query software, based on advanced data in-memory technologies
- ✓ Leveraging existing data system investment and values without any changes to applications
- ✓ For System z, extends gold-standard manageability, security, and availability to high-performance analytic applications

# System z Ecosystem

## Strong Growth continues in 2009



### In 2009 added:

- \* 142 new ISVs
- \* 850 + New or upgraded applications

### Total System z Ecosystem

- \* 1,625 + ISVs developing on System z
- \* 2,732 applications enabled on z/OS 1.8 and above
- \* 3,000 + applications available for Linux on System z
- \* 6,364 + total applications available for System z platform (Linux, z/OS, zVM, zVSE)





# Academic Initiative System z Milestones

- ✓ 608 schools, over 50,000 students in 61 countries worldwide
- ✓ 13 Student Contests in 13 countries with 14,672 students from 1,956 schools
- ✓ IBM Student Opportunity System (Student resume database)
- ✓ Entry Level Mastery Test (Validate student skills)
- ✓ Community involvement (Roundtables, partnerships, hiring)
- ✓ Access to Mainframes worldwide for teaching (6 University hubs)
- ✓ 30 Courses available (foundational to advanced), Ongoing faculty education
- ✓ More educators and students are embracing IBM Enterprise Systems
- ✓ Students are getting jobs



***“Master the Mainframe Contest’ helped me get a job at Bank of Montreal.”***

Elizabeth Bell, Georgian College



### 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

