Will It Run on System z?
Including the *new* IBM zEnterprise System!

Session: 7625

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SHARE in Boston

Agenda

- IBM middleware products available
  - System z
  - Linux on System z
- ISV applications/products available on System z
- Request new ISV applications & middleware products
- IBM ISV System z assistance
- Fit for Purpose systems
- *New* IBM zEnterprise System integrates many new applications via the BladeCenter Extension (zBX)

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DB2 Connect	IMS	System p*	System x	z10 BC
Domino*	Informix*	System z*	WebSphere*	z10 EC
				zEnterprise System
				z/VM*

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Performance is in Internal Throughput Rate (ITR) ratio based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput improvements equivalent to the performance ratios stated here.

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IBM Software Products for IBM System z

- ibm.com to start
  - Search for products

- Announcement Letters

http://www-01.ibm.com/common/ssi/index.wss

http://www-01.ibm.com/software/os/systemz/en_US/?pgel=ibmhzn&cm_re=masthead-_-products-_-sw-sysz

IBM Middleware Products - *Linux on System z*

The IBM Middleware Available on Linux: **find information on key offerings such as DB2, WebSphere, Informix, Lotus Domino, Rational, Tivoli, CICS**

- Product name and version
- Links to product pages
- Linux distribution and kernel support
- Related sources of additional information: announcement letters, product matrix, download Web sites, FAQs, release notes

IBM Linux Portal - IBM Middleware Available on Linux

IBM Middleware Available on Linux

The IBM Middleware Available on Linux matrix provides information regarding IBM Middleware availability on Linux. You can find information such as:

- Product name and version
- Links to product pages
- Linux distribution and kernel support
- Related sources of additional infomation

Use the link list below to search the matrix by IBM System and by IBM Brand.

IBM System x

- Information Management
- Lotus
- Rational
- Tivoli
- WebSphere
- All brands

IBM System z

- Information Management
- Lotus
- Rational
- Tivoli
- WebSphere
- All brands

IBM System i/p

- Information Management
- Lotus
- Rational
- Tivoli
- WebSphere
- All brands

Document Options

→ Using the IBM Middleware Available on Linux Matrix
→ Where's my product?

Last Update

March 05, 2010

http://www-03.ibm.com/linux/matrix/

Example of Tivoli Products in Matrix

Tivoli software	Version - Release	Hardware	Distributions	Dates/Dependencies	
IBM Change and Configuration Management Database	7.1.1	System z	- Red Hat Enterprise Linux (RHEL) 5.0 - Red Hat Enterprise Linux (RHEL) 4.0 - SUSE Linux Enterprise Server (SLES) 11.0 - SUSE Linux Enterprise Server (SLES) 10.0 - SUSE Linux Enterprise Server (SLES) 9.0	Announced: eGA: pGA: - Announcement letters	2008-04-22 2008-05-16 2008-06-13
IBM Change and Configuration Management Database	7.2	System z	- Red Hat Enterprise Linux (RHEL) 5.0 - Red Hat Enterprise Linux (RHEL) 4.0 - SUSE Linux Enterprise Server (SLES) 10.0 - SUSE Linux Enterprise Server (SLES) 9.0	Announced: eGA: pGA: - Announcement letters	2009-11-17 2009-11-20 2009-12-11
IBM License Metric Tool	7.2	System z	- Red Hat Enterprise Linux (RHEL) 5.0 - Red Hat Enterprise Linux (RHEL) 4.0 - SUSE Linux Enterprise Server (SLES) 10.0 - SUSE Linux Enterprise Server (SLES) 9.0	Announced: eGA: pGA: - Announcement letter search	2009-07-28 2009-07-31 2009-08-21
NEW! **IBM License Metric Tool**	7.2.1	System z	- Red Hat Enterprise Linux (RHEL) 5.0 - Red Hat Enterprise Linux (RHEL) 4.0	Announced: eGA: pGA:	2009-07-28 2010-04-09 2010-04-30

IBM Middleware Products - *Linux on System z*

- Are there IBM middleware products not available on Linux on System z today that you would like to run there?
  - If yes, name them and why run on System z?

- What IBM middleware products do you run on distributed Linux systems?
  - Do they access data on System z?

IBM – Working with customers and ISVs to build a robust ecosystem

Independent Software Vendors
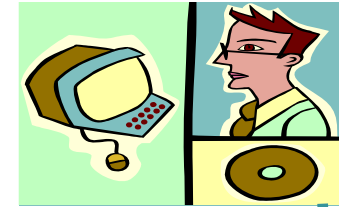
Customer is key!
Drives requirements into IBM

• Account Reps

Account Planning Database

• Client Project Management (CPM) process

Prioritized list of ISVs and applications

Team w/ ISV to enable on z
• System z for ISVs
• Chiphopper

Satisfied customers with the applications needed on the System z platform

ISV Products on System z - *Global Solutions Directory*

- Search the *Global Solutions Directory* for offerings from IBM Business Partners
- 1000s of providers
- Can tailor search to specific criteria, like **System z** and Linux
  - At all PartnerWorld levels
  - From all industries
  - Worldwide

http://www.ibm.com/partnerworld/gsd

Global Solutions Directory - Search

- System z platform search results

IBM Business Partner Application Showcase

- For companies with proven success specific to a specific industry

- Navigate to the IBM Business Partner Application Showcase from the Global Solutions Directory

  - *e.g.: Banking, Education, Energy, Financial markets, Government, Healthcare and life sciences, Insurance, Manufacturing, Media and entertainment, Retail, Telecommunications, Travel, Transportation, & Wholesale*

- Detailed selection by platforms, operating systems, etc. also available

Click on left nav bar from the Global Solutions Directory

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IBM Business Partner Application Showcase

- Banking Framework example

ISV Application on System z

- Are there ISV applications not available on System z today that you would like to run there?
    - If yes, name them and why run on System z?
    - Linux on z or z/OS?

- What ISV applications do you run on distributed systems?
    - Do they access data on System z?

- A vibrant community to help you make the most of your mainframe

- It is designed to be a comprehensive repository of information and support

- IBM Destination z brings together details of products and offerings available from IBM and IBM Business Partners as well as resources from members of the Academic Community

http://ibm.com/systems/destinationz

IBM Linux Integration Center

- The Linux Integration Center (LIC) helps customers deploy solutions that feature IBM Middleware and Linux.
  - Proof of concepts, best practices and initial deployment support
- Helps business partners who want to develop and deliver an integrated software solutions on Linux

http://www-03.ibm.com/linux/lic.html

Resources for Customers & ISVs – *Innovation Centers*

- **Technical and training resources:**

  - **IBM Innovation Centers**
    - 40+ WW centers
    - Remote connection to latest System z hardware and software
    - Training and one-to-one technical assistance to build and test your solutions
    - Linkage to IBM's sales support for sales opportunity assistance
    - Collaboration opportunities with IBM, other Business Partners, IT professionals and academia

http://www-304.ibm.com/isv/spc/

Resources to Assist ISVs – *Chiphopper Program*

- ***Chiphopper is a*** offering designed to help in porting, testing, and supporting your existing Linux® x86 applications on other IBM Systems and middleware platforms, including **System z**
  - Source Code Testing and Checking Tool analyzes Linux application to see whether it can be immediately ported to IBM's supported platforms; recommend potential fixes If any portability issues

- No-charge offering for ISVs provides assurance of assistance for up to 18 months after your port

(Chiphopper: named for its capability allowing ISV applications to easily move, or "hop," across various chips)

http://www-304.ibm.com/isv/eserver/advantage/

System z ISV Ecosystem

Dramatic growth responding to market demand

* **1,650 + ISVs** developing for System z Ecosystem

* **3,300 +** applications available for **z/OS**

* **3,000 +** applications available for **Linux on System z**

  - 550 new Linux applications added in 2009

  - 80 applications added in 1H2010

* **6,300 +** applications available for System z

Information Technology Today: Limitations
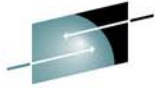
Information Technology today is limited by the technology and architecture configurations available
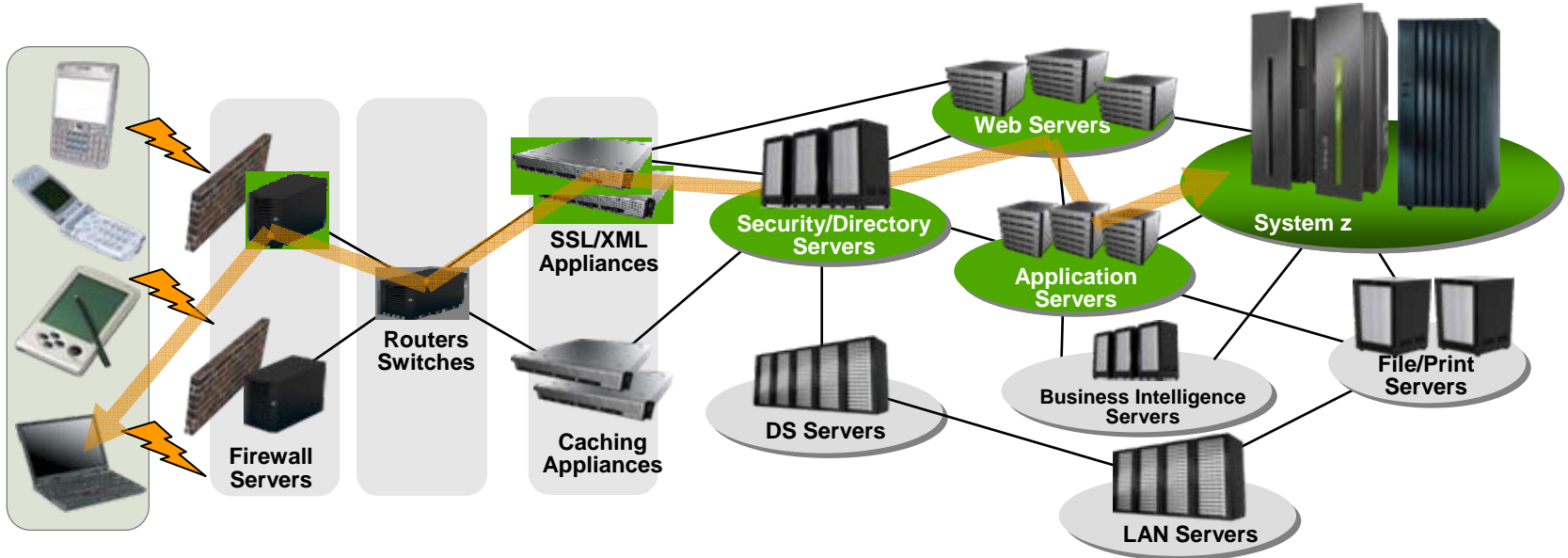
Complexity and Limitations of Today's Environment

- Many tiers/nodes of **independent resources** connected over corporate network

- System management information typically **not end-to-end view**

- Automation Policies **are limited** to tier/node boundaries

- **Redundancy is pervasive** for Operational staff, HW, Software and policies across architectures

- Managing this complexity now consumes the majority if IT budgets

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Fit for Purpose Highlights - Platforms for Workloads

Scale
Time Horizon
ISV Support
Deployment Model
Non-functional Requirements
Technology Adoption
System z
System x
Power
Geographic Considerations
Architecture
Environmental Constraints
Politics
Strategic Direction
Skills
TCO Model
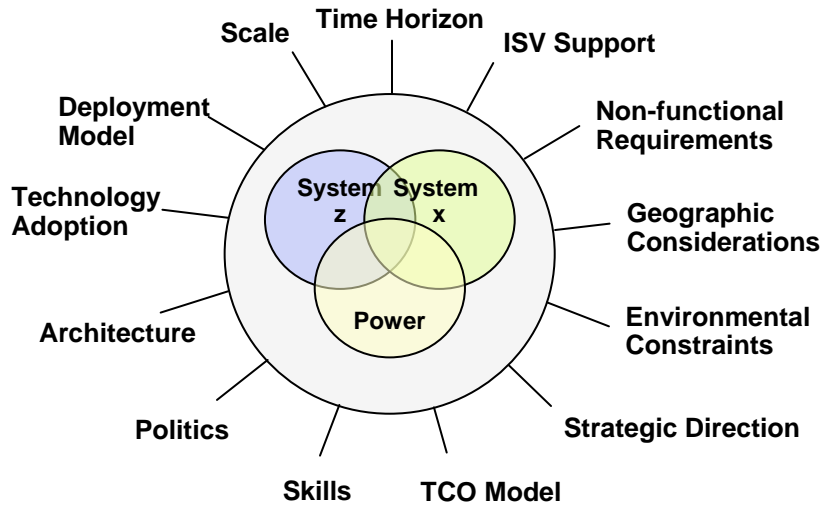
Local Factors Matter
- Skills
- Technology adoption
- Management
- Volume of servers
- Organizational

Platform capability

Local Factors

Local Factors

Platform A   Platform B
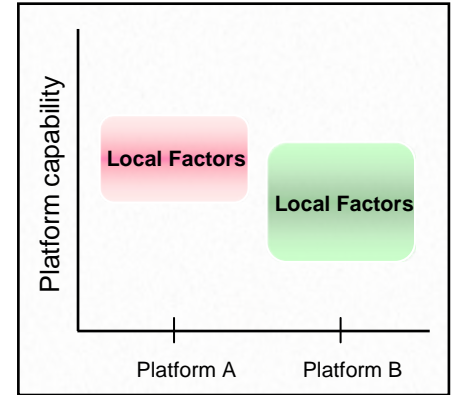
Infrastructure Size Matters
- Changes people dynamics
- Increases handoffs
- Affects testing, patching, etc
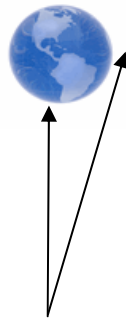
Apollo 13

Transaction Processing and Database

Analytics and High Performance

Business Applications

SAP

Web, Collaboration and Infrastructure

Despite the allure of a *"one size fits all"* server approach …

- Today's enterprise computing environments are multi-platform for a reason. They're optimized to run different workloads :
    - Database and Transaction processing.
    - Analytics.
    - Web-based interactions.
    - Enterprise applications such as ERP.
    - The myriad of x86 applications.

- While optimizing each of these workloads in its native environment is smart…

- Optimizing the way they work together in a smarter business infrastructure is smarter.
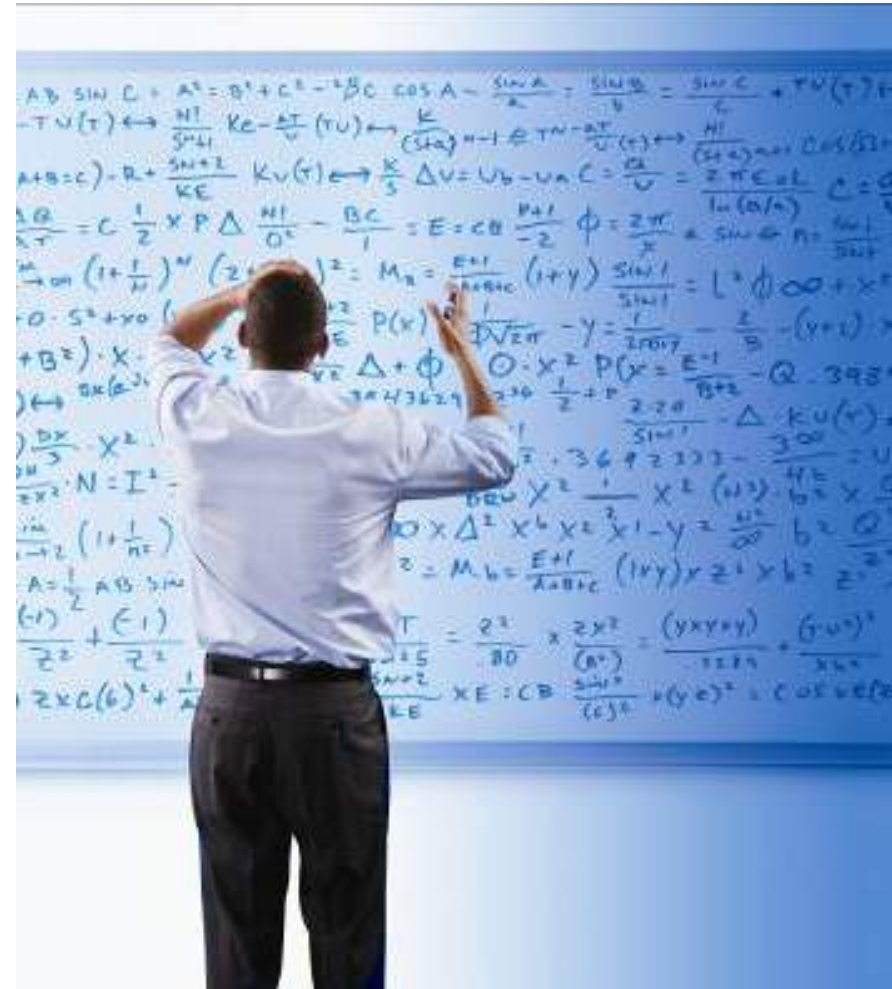
Independent analysis shows that a greater than average use of mainframe technologies delivers better business results than a primarily distributed environment

Cost of IT:

44% lower cost per credit card transaction

44% lower cost per ATM transaction

25% lower cost per mega watt hour produced

24% lower cost per hospital bed

20% lower cost per airline passenger

26% lower cost per new vehicle

25% lower cost per retail store

23% lower cost per barrel of oil

*"…in the long run the marketplace **rewards those that make the optimum use of the right computing resources in the right way** as evidenced by business performance"*

Dr. Howard Rubin, CEO and Founder Rubin Worldwide

Announcing the IBM zEnterprise System:
A New Dimension in Computing

Management integration   **Multi-platform integration**

Stack integration
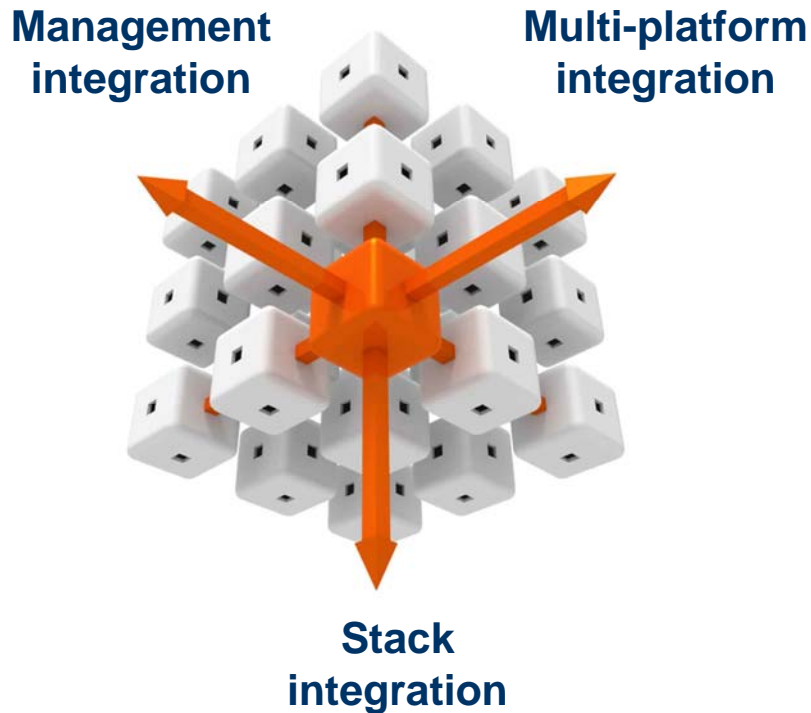
- A "System of Systems", integrating IBM's leading technologies to dramatically improve productivity of today's multi-architecture data centers and tomorrow's private clouds.

- The world's fastest and most scalable enterprise system with unrivalled reliability, security, and manageability.

- The industry's most efficient platform for large scale data center simplification and consolidation.

The IBM zEnterprise System:
A system of systems that unifies IT for predictable service delivery

Unified management for a smarter system:
zEnterprise Unified Resource Manager

- Part of the IBM System Director family, provides platform, hardware and workload management
- Unifies management of resources, extending IBM System z® qualities of service across the infrastructure

The world's fastest server:
IBM zEnterprise™ 196

- Ideal for **large scale data and transaction serving and mission critical applications**
- Most efficient platform for **large-scale Linux consolidation**
- Capable of massive scale up, over **50 Billion Instructions per Second (BIPS)**

Scale out to trillion of instructions per second:
zEnterprise BladeCenter® Extension (zBX)

- Selected IBM POWER7™ blades and IBM System x® Blades* for tens of thousands of **AIX® and Linux applications**
- High **performance optimizers and appliances** to accelerate time to insight and reduce cost
- Dedicated high performance private network

*Statement of Direction

The Heart of a zEnterprise 196 System

*The Ideal platform for deploying new **mission critical enterprise applications** in a modern cloud environment*

zEnterprise 196

5.2 GHz superscalar processor

Up to 96 Cores, 1 to 80 configurable for client use

Up to 3 TB RAIM memory

Over 100 new instructions

1.5MB L2 Cache per core, 24MB L3 Cache per processor chip

Cryptographic enhancements

Optional water cooling

Up to
40%
Improvement for traditional z/OS workloads

Up to
65%
Improvement in performance for new workloads through new compilers and zEnterprise Hardware

Up to
56%
Improvement in Linux Price/ Performance

Industry Leading Performance and scale, and all in the same energy envelope as a System z10

25

Realize Operational Advantage

An integrated system replaces operational silos to redefine the meaning of "System" and deliver significant operational savings.

- Fewer servers
- Fewer disks
- Fewer network devices
- Fewer switches

- Fewer access points
- Fewer points of failure
- Fewer security exposures
- Fewer software licenses

Large Scale Consolidation with zEnterprise …

Up to

90%

Reduction in energy consumption and floor space

Up to

90%

Reduction in Labor costs

Up to

90%

Reduction in SW costs when consolidating distributed licenses

"A large retail organization expects to reduce SAP network hops by a factor of 12 to 1"

26

Service Levels to Match Your Business Needs
Increased flexibility for your multi-tier, multi-architecture strategy

zEnterprise System

TCO Focus

TCA Focus

- ✓ Silo managed islands of computing
- ✓ Less dynamic than z virtualization
- ✓ Minimal resource sharing with z resources

Distributed Systems

- ✓ Expanded ISV support for enterprise applications
- ✓ Targeted for applications that interact with mainframe data and transactions
- ✓ Provisioned and managed by System z

Select IBM Blades in zBX

- ✓ Extreme consolidation of servers and networking
- ✓ Superior levels of virtual server provisioning, monitoring and workload management
- ✓ Industry-best virtual I/O bandwidth and reliability
- ✓ Fewer components and reduced complexity
- ✓ System z qualities of dynamic resource management and capacity-on-demand
- ✓ Seamless integration with z/OS backup and disaster recovery solutions

Linux on z/VM®

- ✓ Extreme scalability and performance for transaction processing and data serving
- ✓ High availability and cross-system scalability with Parallel Sysplex® and GDPS
- ✓ Leading policy-based capacity provisioning and workload management
- ✓ Pervasive, high-performance security support

z/OS

LOWER   SCALABILITY, SECURITY, DYNAMIC WORKLOAD MANAGEMENT   **HIGHER**

Workloads for zEnterprise

They are workloads that…..

- …rely on data serving in System z e.g. DB2 or ORACLE

- …need to leverage classic application strengths of System z:
  - High availability
  - High i/o bandwidth capabilities
  - Superior disaster recovery
  - Industry leading security
  - Consolidation effects

- …also have application components on Power or Intel servers but require a higher level of integration capability and efficiency

….and / or…..

- …currently reside in low utilization / development environments

- …can be made more efficient through consolidation of servers, storage, applications and/or databases

- …integrate using SOA and Middleware

- can be optimized by using the newest virtualization technology

….but also may…………

- …reside in complex IT environments involving multiple server architectures, ISVs or operating systems
- …require flexible development and test infrastructure
- …require simplified, integrated policy and management
- …need shorter end to end path length between co-existing apps
- …realize improved performance through reductions in network traffic

zEnterprise Workload Profiling Assessment Tool – Output Charts

Client 1

Client 2

- Client 1 profiled a classic multi-tier SOA workload
  - Their main pain points centered on rolling out new capacity on a state-by-state basis
  - Allocating resources for each new rollout and performing acceptance testing was identified as time consuming, error prone and delivering inconsistent results (e.g., in security)
  - They had no interest in establishing new business or IT capabilities
  - **This is a strong match**

- Client 2 profiled a two-tier critical business process based on SAP
  - Their main pain points centered on maintaining availability in light of unpredictable usage patterns and outages
  - Adjusting resources manually did not always allow for SLA attainment, failover and business continuity for the full workload was not possible, and business controls (e.g., for security and compliance management) were inconsistently implemented
  - **This is an exceptional match**

Top Take-Aways …

1. Find ISV and IBM products available on System z

    - Global Solutions Directory

    - IBM Products on z/OS

    - IBM Products on Linux Matrix

2. IBM ISV & Partner assistance for making application available on System z

    - IBM Linux Integration Center

    - IBM Destination z

    - IBM Innovation Centers

    - IBM Chiphopper Program

3. IBM Fit for Purpose Systems

    - IBM zEnterprise System "System of Systems" integrating IBM's leading technologies supporting diverse enterprise workloads & applications

Visit the IBM Booth at the Technology Exchange Info for more detailed information and demonstrations of ISV applications & IBM's zEnterprise System products