



Linux in a Private Cloud with Social Business on System z

David Via

Business Unit Executive

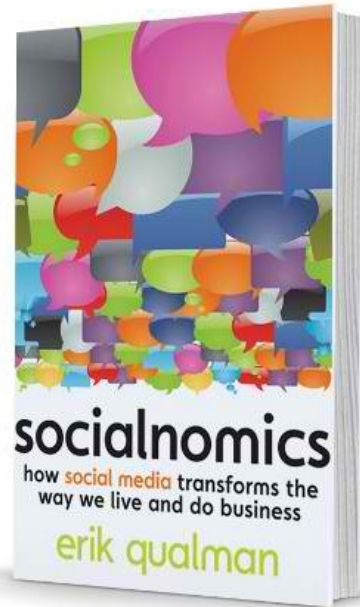
WW Messaging and Collaboration Sales

IBM Collaboration Solutions

Mike Wojton

Social Business for System z

ATS North America



- “How Social Media Transforms the Way We Live and Do Business” -- Erik Qualman

<http://www.youtube.com/watch?v=x0EnhXn5boM>



The world is changing, and becoming more...



Instrumented

smartphone shipments will
outpace PCs by 2012



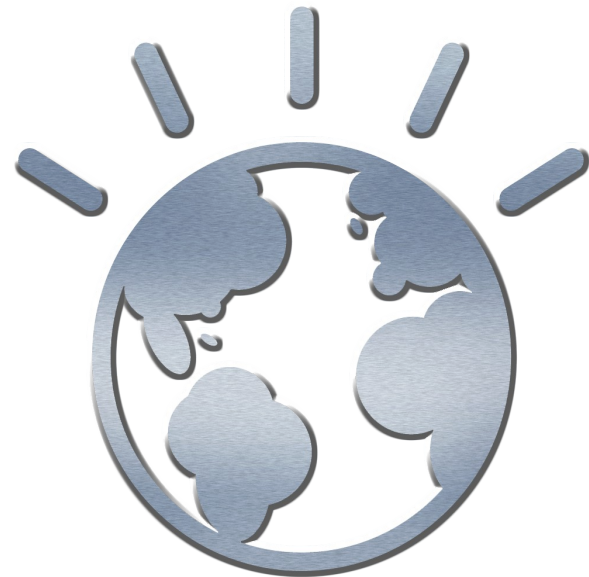
Interconnected

social networking accounts
for 22% of all online time



Intelligent

the social data analytics opportunity
will grow to 1 Zettabyte by 2011



These changes demand a new approach.



Analytics



Help clients turn data into information and information into insight that drives ***smarter business decisions***

Systems Thinking



Need to acknowledge that complexity comes from interconnected systems – a ***system of systems***

Collaboration



Enterprises can use social software to get closer to their customers, but must also transform internally, to become ***social businesses***



“Social Business? I'm still working on Web 2.0...”

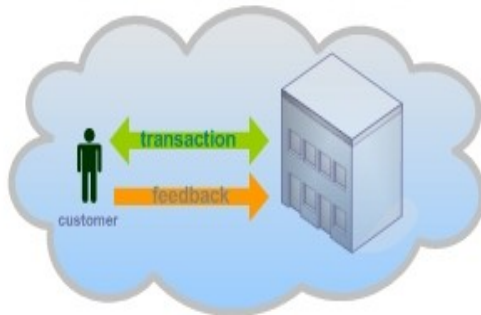
Web 1.0 was about **connecting computers** and making technology more efficient for computers.



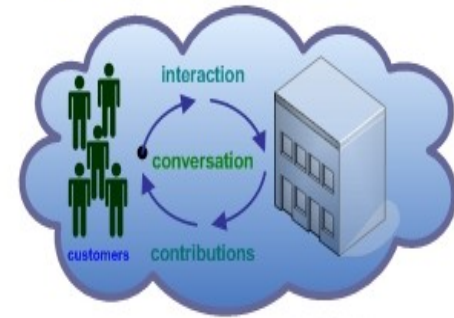
Web 2.0 is about **connecting people**, and making technology efficient for people.

Key Characteristics

- Is about communities and social networks
- Builds contextual relationships and facilitates knowledge sharing
- Is about people and the way they collaborate
- It is not a technology, not an industry, not a standard



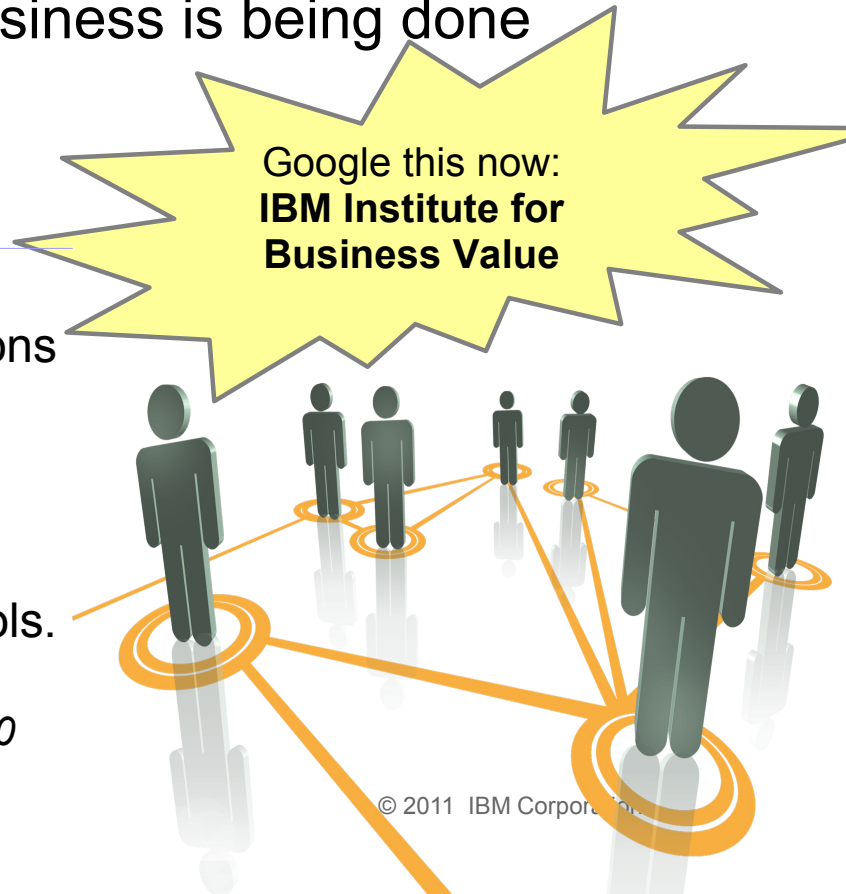
Web 2.0 changes the way in which organizations interact with customers and employees



Social Business capabilities address these new challenges – delivering business value.



On a smarter planet, people are transforming the way they interact... and this transformation is impacting the way business is being done



95% of standout organizations will focus more on “getting closer to the customer” over the next 5 years.

– IBM CEO Study 2010

Standout organizations are **57%** more likely to allow their people to use social and collaborative tools.

– IBM CHRO Study 2010



A Social Business embraces networks of people to create business value



*Engaged
Transparent
Nimble*



An organization's business network is a system of people that is fundamentally changing from the ground up...

Employees:

are using social media in all facets of their lives, including work.

Customers:

are leading the conversations that define brands.

Competitors:

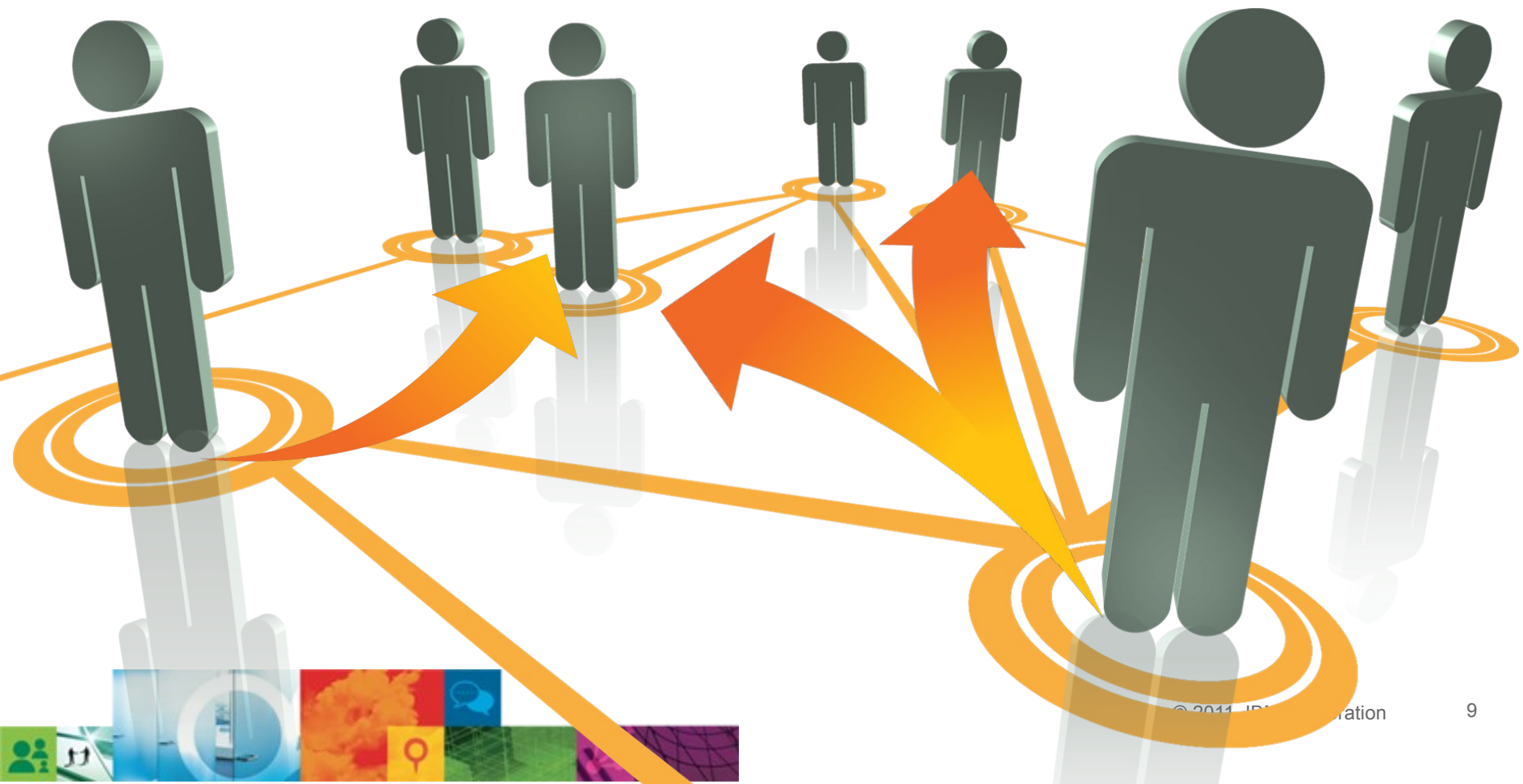
are crowd-sourcing ideas to bring new solutions to market.



Engaged



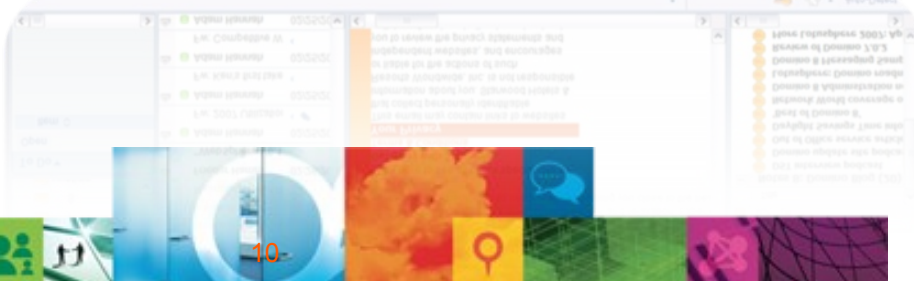
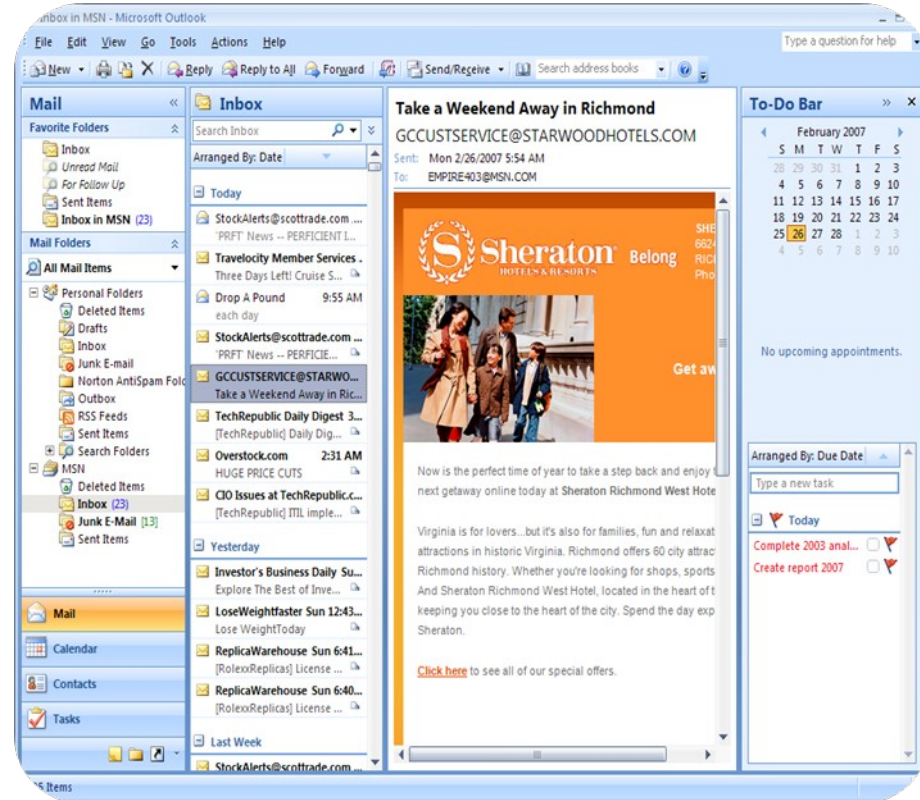
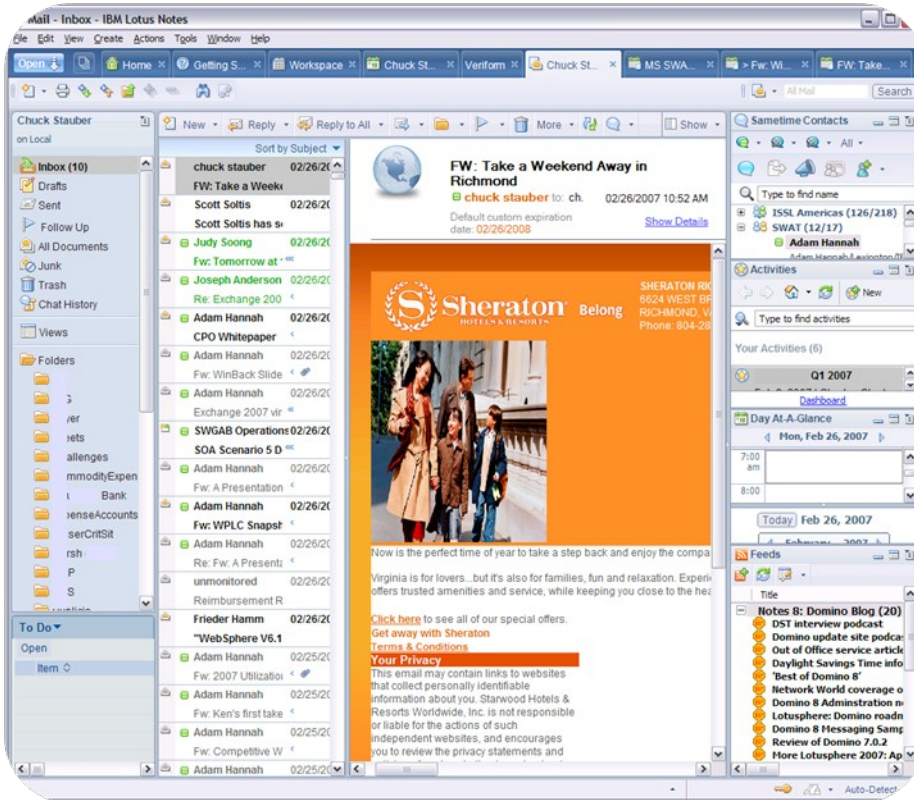
Connecting people – whether customers, partners or employees – as networks to drive innovation



Engaged



Engagement requires us all to get out of the inbox.






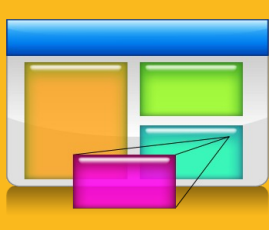
Engaged...



The Lotus Portfolio = IBM's Social Business Platform



   **Universal Access**  

 Messaging	 Communicating	 Connecting	 Integrating	Lotus[®]
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Open Standards Architecture

Business Applications 

Information Management 




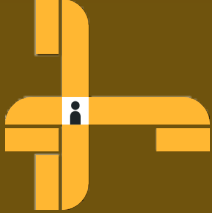
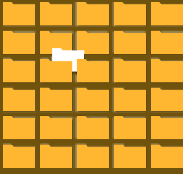


Engaged...



The Lotus Portfolio = IBM's Social Business Platform



   **Universal Access**  

					Lotus[®]
Notes & Domino	Sametime	Quickr	Connections	WS Portal	

Open Standards Architecture

Business Applications 

Information Management 

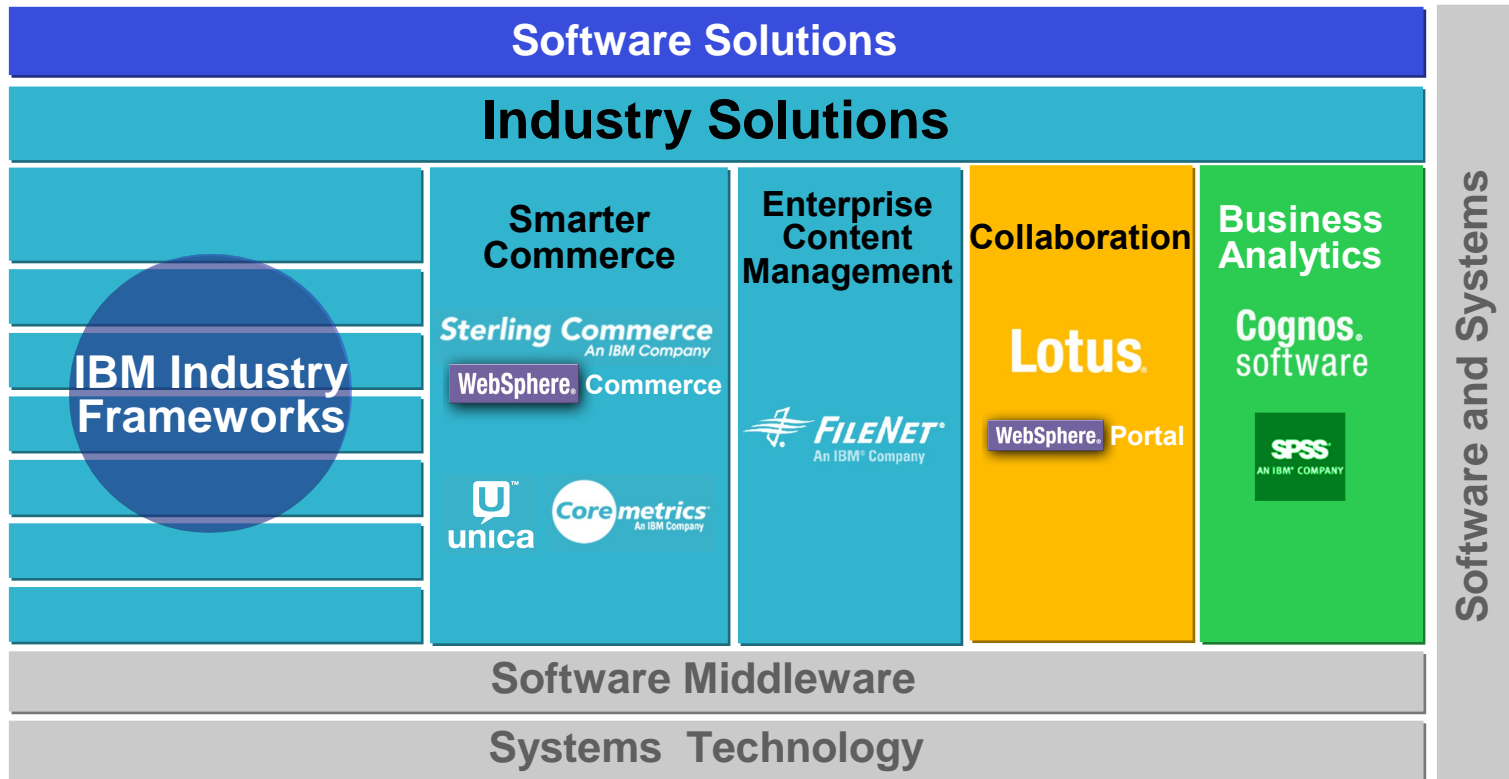


IBM's Software Solutions Group

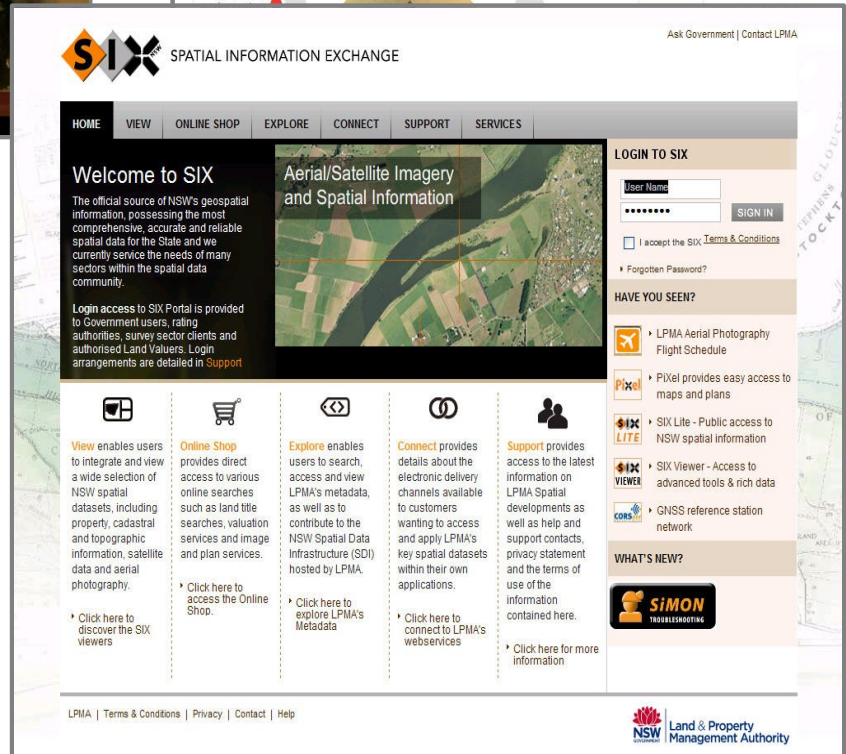
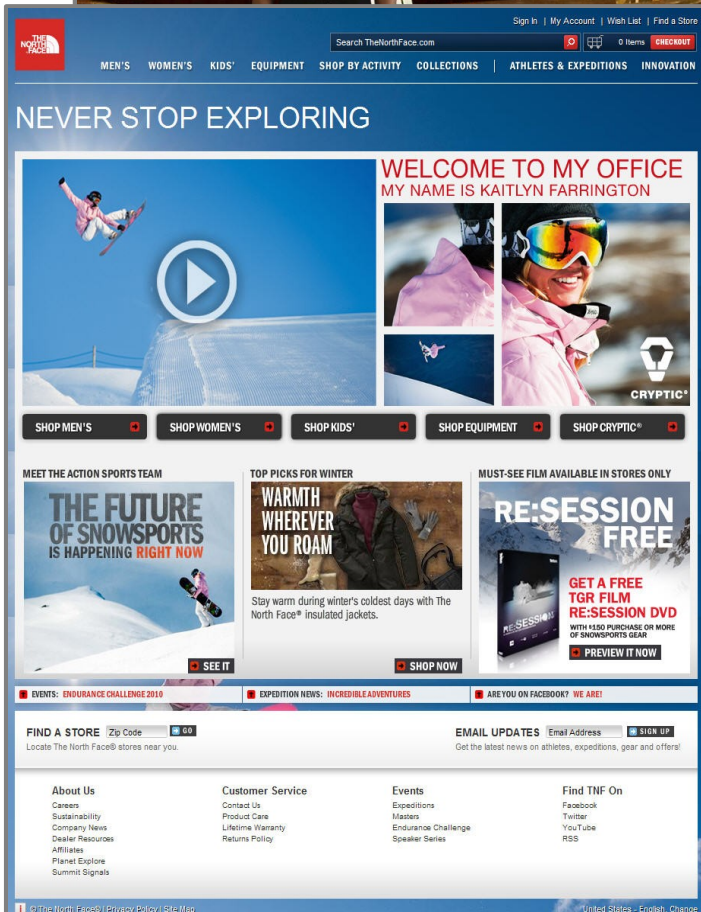
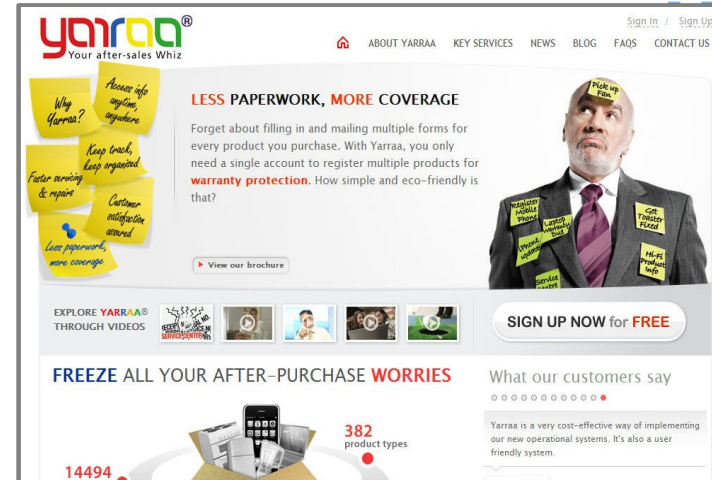
Engaging more of IBM...



Our Mission: To define and develop a new category of solutions software, leveraging IBM's Middleware portfolio, to deliver an industry-oriented value proposition to line-of-business users



...to help our customers be more engaged.



Portal + Social integration driving engaged communities



VT Living Inc. + Share | Welcome back AI

Home Merchandising Finance Logistics Vendor Maintenance **Renovations** This Community

Home Members News Work Learn Talk

Community for Renovations employees within VT Living Portal

Welcome to the Renovations Community!

Updates of most current information for visibility across community actions

Overview

Renovations is a community that is facilitated and moderated by VT Living Inc.

Owned and moderated by:
 Dan Misawa

Leave this Community

Community Updates

Share something...

Bill Ranney marked a task complete in New Products Activity
 ✓ Add product description
 Due date: March 1
 10:33 AM [Comment](#) [More Actions](#)

Betty Zachman shared a file
New Products Updates and Catalog Descriptions
 2.8 MB
 9:45 AM [Comment](#) [Recommend](#) [More Actions](#)

Amadou Alain created a blog post in the Community Blog
Upcoming events for supply chain managers
 I'd like to add you to my network contact list
 9:45 AM [Comment](#) [Recommend](#) [More Actions](#)

[View All](#)

Scorecard



Members



[View All \(23\)](#)

Most Active Discussions

- Sort by: [Relevance](#)
- ▶ What is Electronic Data Interchange or EDI? (2 replies) 10:13am
 - ▶ Implementing EDI in a Retail Supply Chain Environment (5 replies) 9:13am
 - ▶ Advantages of EDI (1 reply) Yesterday 4:25pm
 - ▶ Questions to ask an EDI vendor? (3 replies) Jan 27

[View All](#)

Upcoming Events

- Apr 7** EDI demo and tutorial
 Learn about EDI from Renovations experts
 Posted by Glen Cloud Feb 1 [Share](#)
- Apr 10** Supply Chain and Logistics 2011
 Annual Trade Conference in Orlando, FL
 Posted by Glen Cloud Feb 1 [Share](#)
- Jun 20** New Store Launch - Little Rock, AK
 Grand opening of new modern store
 Posted by Glen Cloud Feb 1 [Share](#)

[View All](#)

Instant communication with subject matter experts

Current view of open dialog around relevant business topics for the community

Real-time data to make fact based decisions

Dynamic content updated in real-time across multiple sites

Transparent



Removing unnecessary boundaries inside and outside the organization to allow your people and culture to reflect your brand and your values



Transparent...



IBM Workplace - My w3

http://w3.ibm.com/jct03001pt/wps/myportal?lang=en_US&self=true&format=json

W3 iGoogle WWERS OTR IBM Travel AMEX travel Triplt TeleNav Lotus Live! LLI Connections My Activities ibmURL Greenhouse Greenhouse Widgets TAP Widgets iNotes BlueMail FMS Collaboration Econo... Upgrade & Save index V2V WEDC pwd mgmt Quickr CIOs (.NSF) Quickr TAP (.NSF/Sh... Cattail Yahoo! facebook Twitter LinkedIn Dropbox Mac Rumors I, Cringely Local Fcst Local Radar Westline Fcst ANF Home ANF Trails cl: CAK cl: CLE eBay Geocaching Wellness For Life Mobicip XM On-line Netflix Mac Forum iPhone Forum Connections Forum GOM SSW - ICS USPS

IBM Workplace - My w3

Welcome back David Via Sign out - Edit Profile

My Links You & IBM Collaboration About IBM Support

David Via's IBM Workplace

Search Pages (w3)

My w3 Home Work Career and life Mail BI@IBM Mobile Sales SWG Technical Legal

You currently have (1) active alerts. Customize your My w3 page to make it work for you. Use this short video to learn how.

IBM at 100

Information-Based Medicine

In 2006, IBM helped create EuResist, a project that would help doctors prescribe more effective, tailored drug "cocktails" to HIV patients, using a database... More

Explore the Icons of Progress

Connect and share

VIA, DAVID M. Preparing content to present to Momentive on Thursday
15 hours ago clear
What are you working on now?

Share

Network Files Communities Activities

View: Status updates

Pogliani, Stefano Demonstrating Connections @Legrand in Limoges
13 Jul 2011 04:45 AM More

Add Comments

Handes, Michael B. Completed my first appearance on LIVE television - panel discussion on collaboration. 10 minutes or so. Will share the link o...
13 Jul 2011 04:39 AM More

YARDI, CHETAN A 13 Jul 2011 01:53 AM congratulations !

Coqan, Steve 13 Jul 2011 04:39 AM

Go to Lotus Profiles

Search

People search
Profiles by name GO

w3 search
w3 and ibm.com GO
Advanced Search

Lotus Connections search
Communities GO

Top searches: Show...

Top pages: Show...

For: US | Worldwide

IBM news

IBM 174.05 -0.94 View chart

Featured topics

2011: Our time to lead
Sam discusses our performance, priorities and opportunities in the next century.

A worldwide celebration of service
IBM invites you to participate in our year long global volunteer event.

w3: Redesigned for work
The new My w3 tab puts what you need front and center.

Quickivities

Essential Links n.Fluent Translation

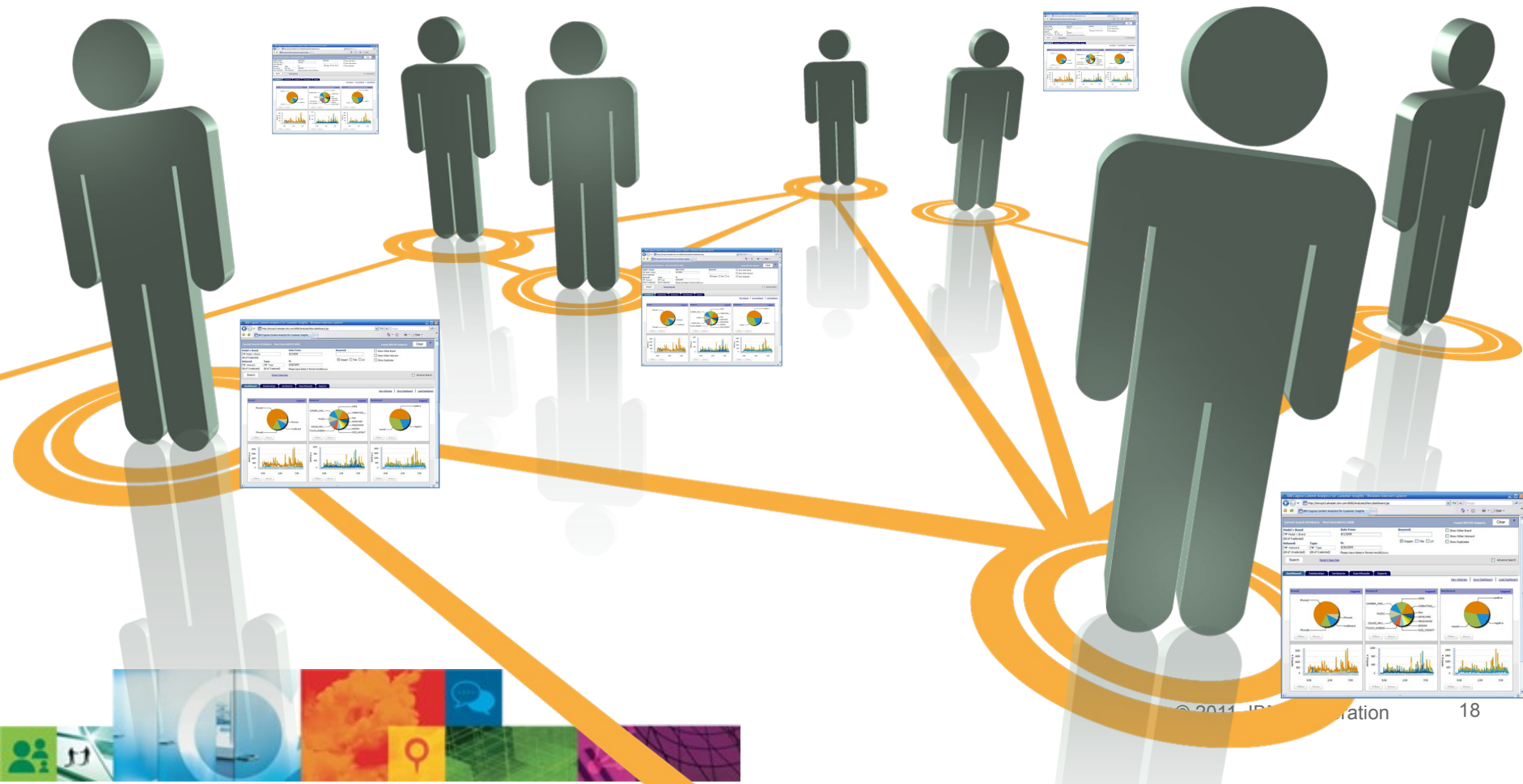
To launch an activity click on the icon. For more information about an item, position your mouse over the icon and a description will appear in this space.

Welcome

Welcome to My w3

Over the coming months My w3 will become a home page that helps you work more efficiently, find key information and expertise, and create stronger connections to the world of IBM.

**Leveraging these networks to speed up business,
gain real-time insight and make quicker and better decisions**



Nimble is having information available when and where you need it...

Social networking—blogs, mashups, activities

Sametime Instant messaging



Quicr content library



Documents, presentations, spreadsheets



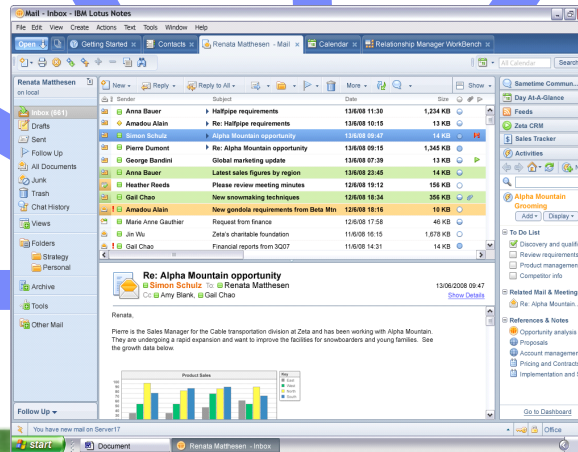
Feeds, My Widgets, Live Text



E-mail, calendar, contacts



Collaborative and business applications



Nimble

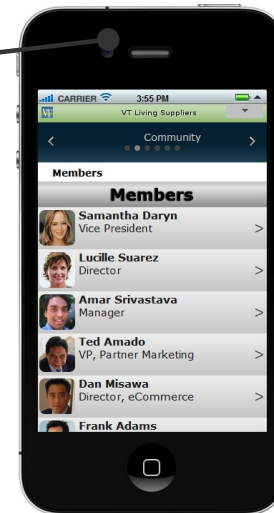
Access from mobile device and to multiple communication tools.

The screenshot shows the 'Community' page of the VT Living Inc. web application. The top navigation bar includes 'Home', 'Merchandising', 'Finance', 'Logistics', 'Vendor Maintenance', and 'Community'. The main content area is divided into three sections:

- Blogs:** A list of recent blog entries with titles, authors, dates, and vote counts.
 - VT Living "buddies" for new suppliers** (Ideation Blog) by Betty Zechman, updated May 6, 2 votes.
 - More soothing music in the VT living stores** (Ideation Blog) by Ted Amado, updated May 4, 0 votes.
 - Viral Marketing Idea - Dancing elephants** (Ideation Blog) by Samantha Daryn, updated May 4, 9 votes.
 - Becoming a supplier for VT Living** (Ideation Blog) by Heather Reeds, updated May 4, 0 votes.
 - Two legged Chairs Great for the Back?** (Ideation Blog) by WP Admin, updated May 4, 15 votes.
- Most Recent Documents:** A table listing supplier files.

Name	Modified	Modified By
Routing and Shipping Guides	04/30/2011	CSUITE\Administrator
EDI	04/30/2011	CSUITE\Administrator
Scheduling Forms	04/30/2011	CSUITE\Administrator
Co-Marketing materials	04/30/2011	CSUITE\Administrator
- Most Active Discussions:** A list of active discussions with titles, reply counts, and times.
 - What is Electronic Data Interchange or EDI?** (2 replies) 10:30am
 - Implementing EDI in a retail supply chain environment** (5 replies) 9:13am
 - Are there alternatives to EDI?** (1 reply) Yesterday 4:25pm
 - Advantages of EDI** (3 replies) Jan 27

Rich mobile experiences



Switch communication channels without losing your place...



Chat with an Investment Rep
 Anna Bauer
 Start Chat Call Me



IBM's journey...

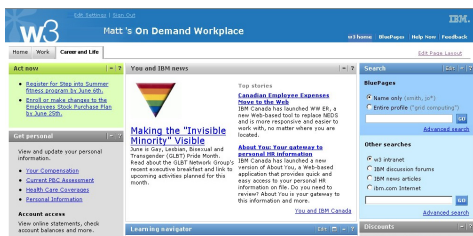
Our point of view is influenced by the journey IBM is on to provide our globally dispersed workforce solutions to dramatically shorten the distances between people, expose expertise, and free up the flow of intellectual capital and innovative ideas.

People to People



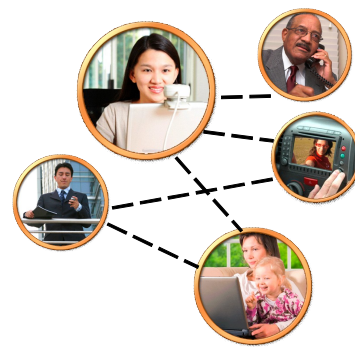
innovationjam™

People to Innovation



People to Information

People to Ideas



People to People



IBM's journey to Social Business



Policy

- IBM publishes **Social Computing Guidelines**
- Four **internal “jams”** are held with 500,000 participants



Integration

- BlueIQ is launched to **drive social software adoption**
- **Lotus Connections is integrated with w3**
- Employees can start communities outside the firewall to **collaborate with clients & partners**



Adoption

- **Profiles:** 100% of employees; 1 million+ searches/week
- **Communities:** 20,000 communities; 291,000 members
- **Activities:** 147,000 activities; 288,000 users
- **Instant Messaging:** 12 million per day
- **WikiCentral:** 1 million daily page views
- **Blogs:** 17,000 internal blogs from 75 countries
- **Media Library:** 11 million downloads



Being a Social Business enables us to create amazing technologies like... Watson.



JEOPARDY!  **The IBM Challenge**

Contestant	Score
Emily Dickinson	99%
Walt Whitman	60%
Barnard	10%



The tools and techniques behind the team



- Average size of the core team: just 20-25 people!
 - Internal interactions – Legal, Marketing, many other areas
 - External interactions – Advertising, Artists, Trial opponents
- Social Business tools at work...
 - **Wikis** for collaborating on code and concepts
 - **Web meetings** for sharing across geographic boundaries
 - **Team rooms** for managing content and process
- Lessons learned in driving adoption
 - Champions drive adoption (“The thought leaders use it.”)
 - Value drives adoption (“This works better than the old way!”)
 - Even in small teams, silos of information can form and behavior change takes time.



Social Business Success



Today's Demands on IT



32.6 million **servers worldwide**

- 85% **idle computer capacity**
- 15% of **servers run 24/7 without being actively used on a daily basis**



1.2 Zetabytes (1.2 trillion gigabytes) **exist in the “digital universe”**

- 50% **YTY growth**
- 25% of **data is unique; 75% is a copy**



Between 2000 and 2010

- **servers grew 6x ('00-'10)**
- **storage grew 69x ('00-'10)**
- **virtual machines grew 51% CAGR ('04-'10)**



Data centers have doubled their energy use in the past five years

- 18% **increase in data center energy costs projected**



Internet connected devices growing 42% per year



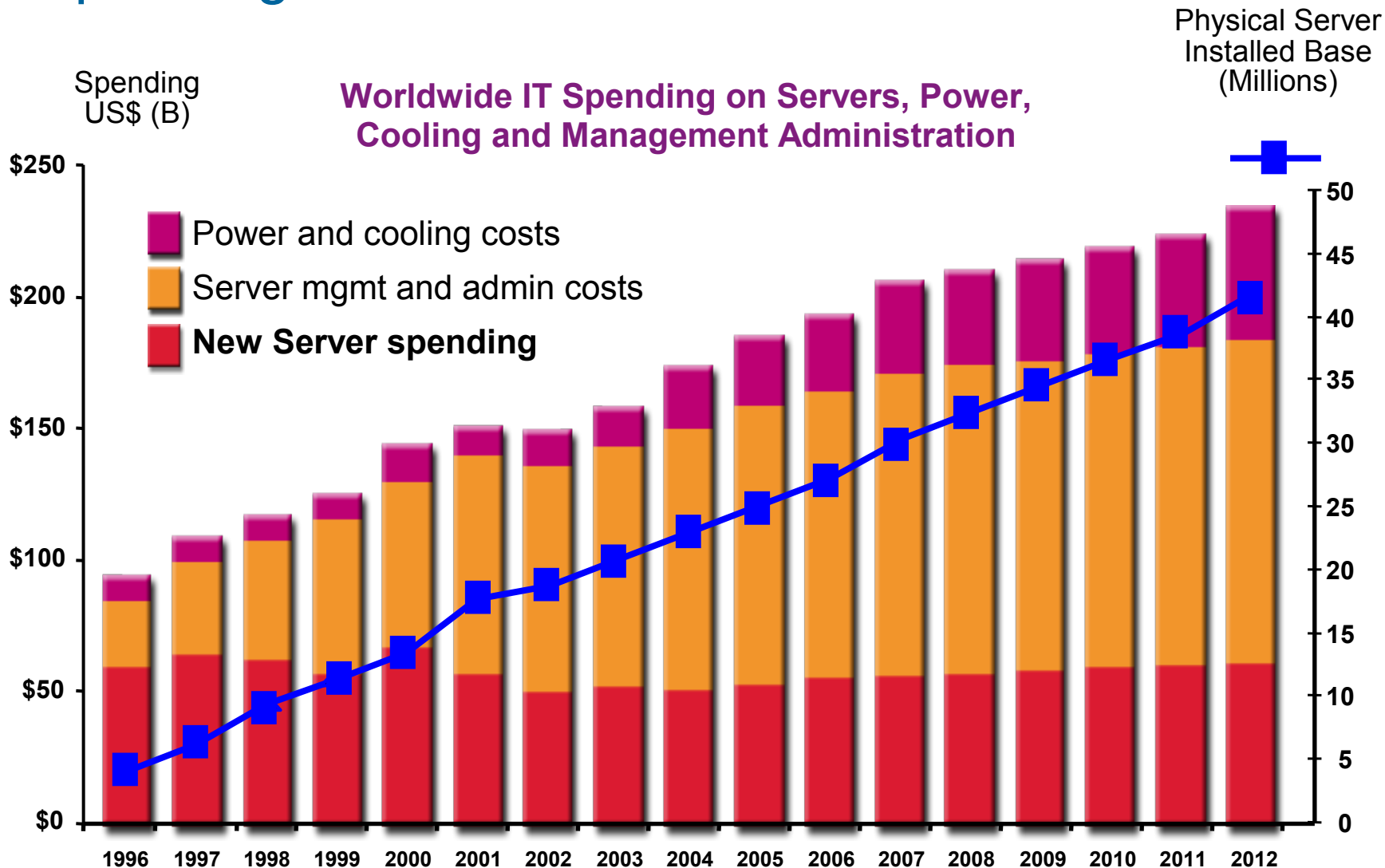
Since 2000 security vulnerabilities grew eightfold

... while IT budgets are growing less than 1% per year.

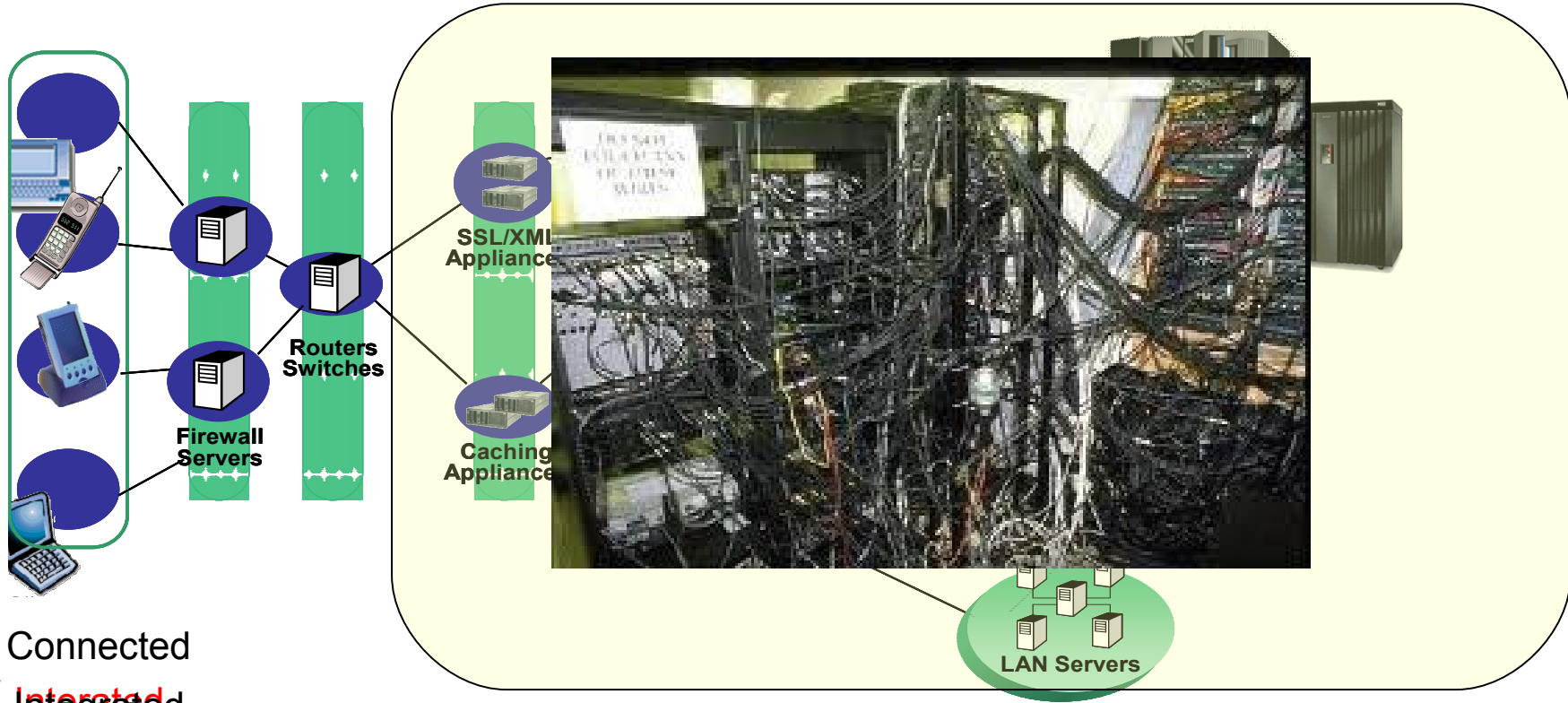


IT Operating Costs are Out of Control

Worldwide IT Spending on Servers, Power, Cooling and Management Administration



Islands of Computing



- Connected
- ~~Integrated~~
- ~~Flexible, Dynamic, and Responsive~~
- ~~Aligned with Business Objectives~~



It's ALL about the workload...



Unified Resource and Workload Management

zBladeCenter Extension

Private, secure networks

Firewall

Web Servers



zEnterprise

Storage

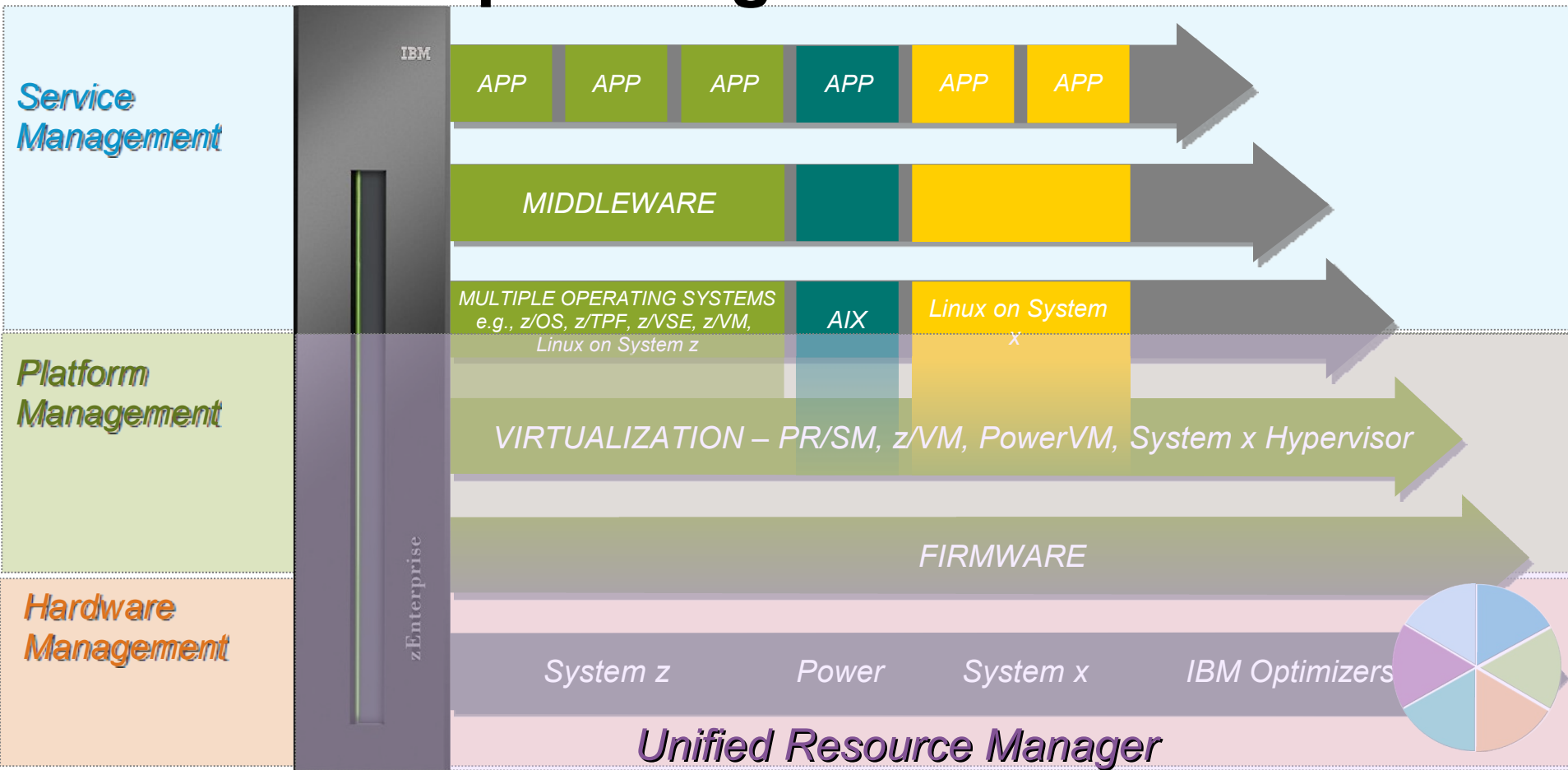
Application Servers –
z/OS – zLinux – AIX –
Windows, Linux x86

Database Server

- ✓ Connected
- ✓ Integrated
- ✓ Flexible, Dynamic, and Responsive
- ✓ Aligned with Business Objectives



Extending Service Management for improved governance



Focused, collaborative innovation
A "complete systems" approach



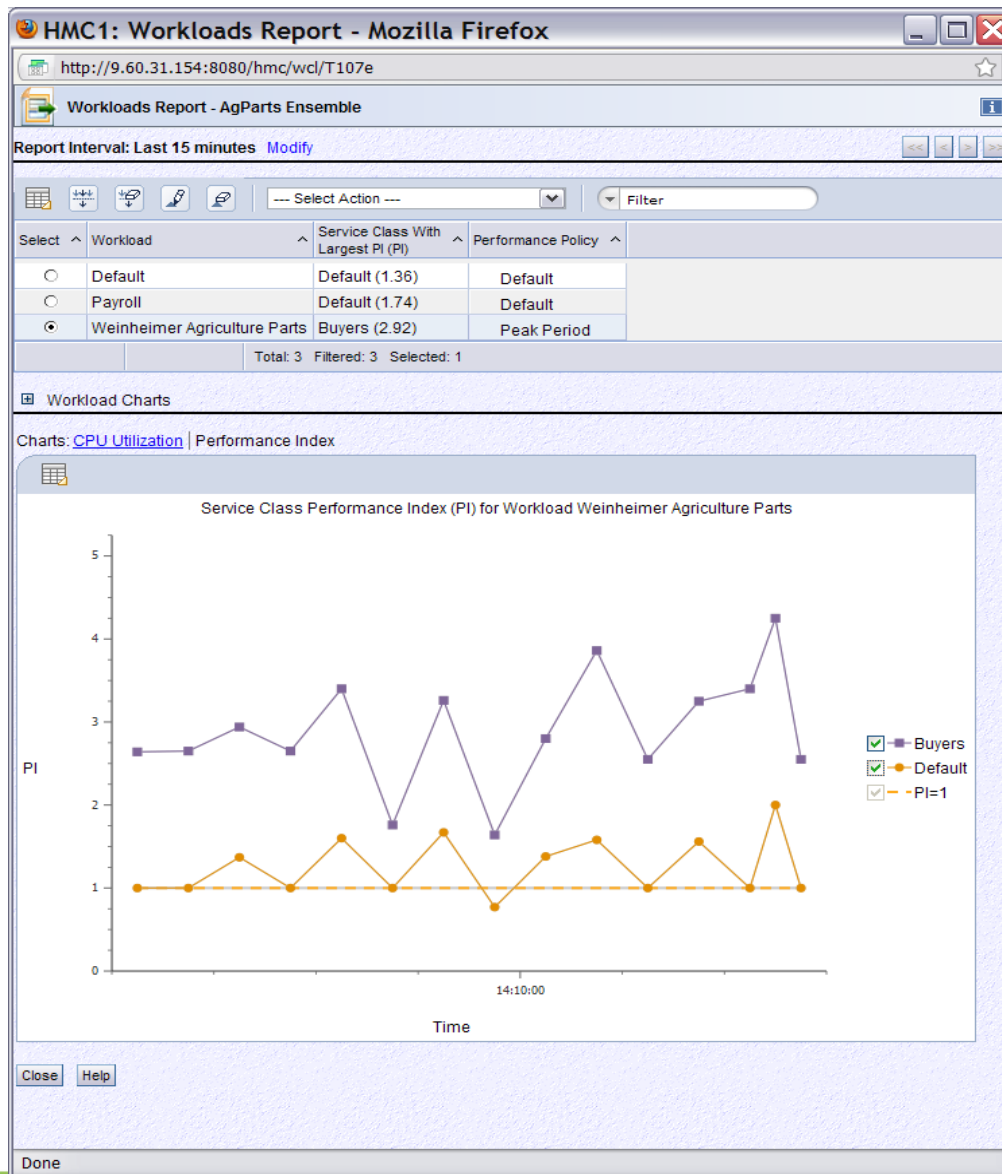
Operational Controls



Hypervisor Management and Virtual Server Management



Workload Reports



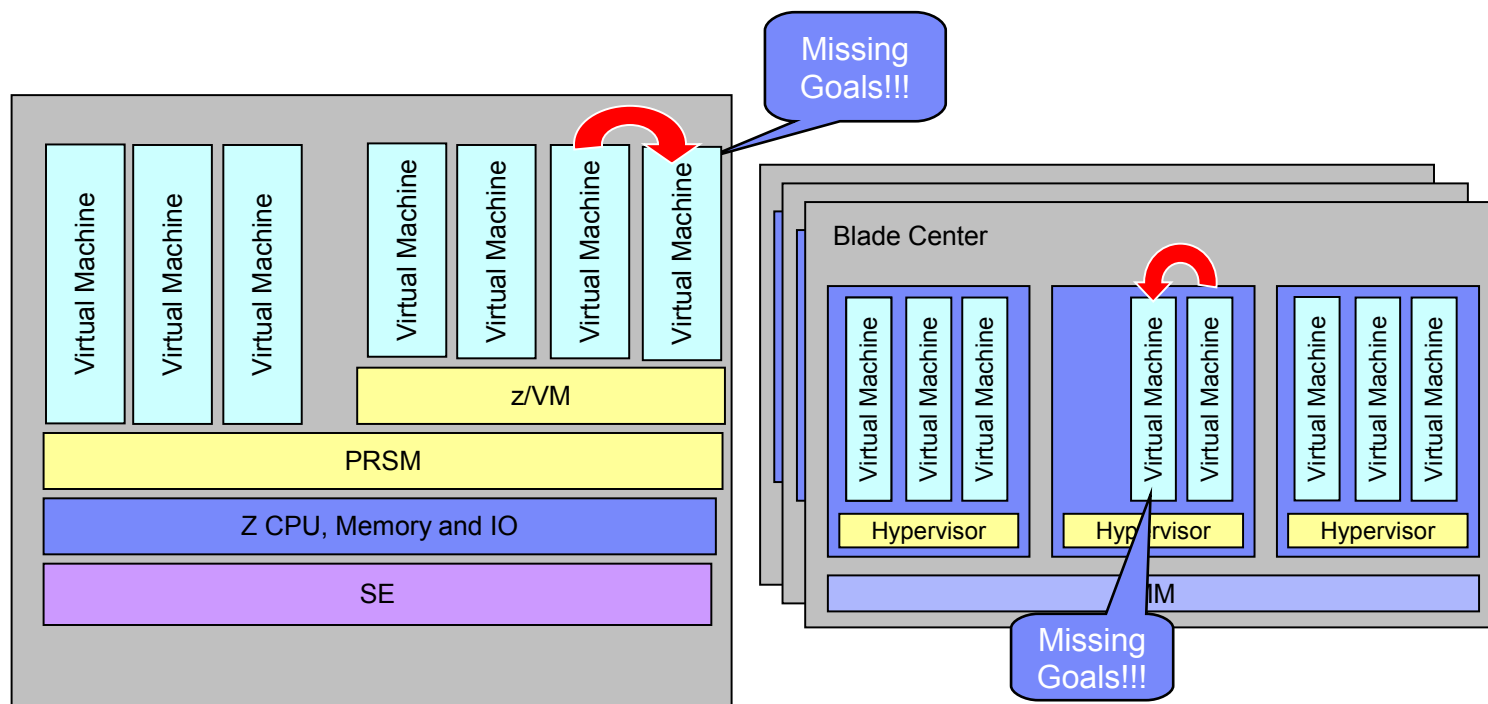
workload: A collection of virtual servers and optimizers that perform a customer-defined collective purpose. A workload generally can be viewed as a multi-tiered application. Each workload is associated with a set of policies that define performance, energy consumption, and availability goals.

service class: A group of work that has the same service goals or performance objectives, resource requirements, or availability requirements.

performance policy: A description of the performance objectives and importance of a workload.

performance index: A number that indicates whether the performance goal for a service class was achieved, exceeded, or missed.

Managing Resources across Virtual Machines

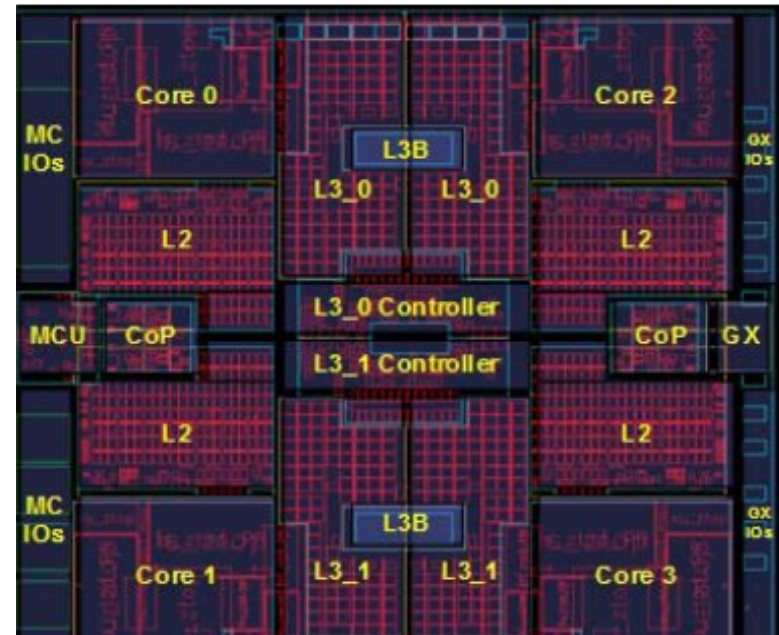


- Manage resources across virtual machines
- Detect that a virtual machine is part of Workload not achieving goals
- Determine that the virtual machine performance can be improved with additional resources
- Project impact on all effected Workloads of moving resources to virtual machine
- If good trade-off based on policy, redistribute resources
- Initially support CPU management, will extend to memory and other resources



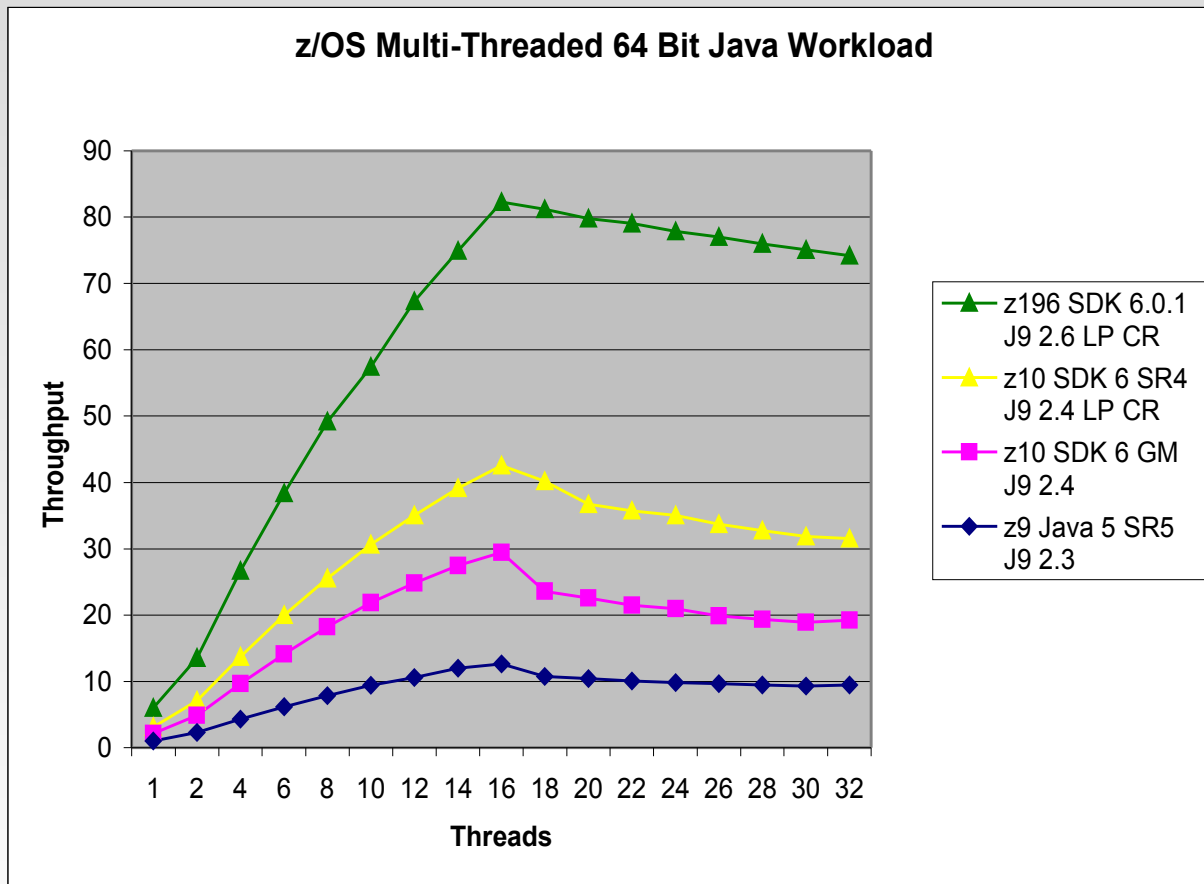
IBM Leadership Technology at the Core

- New 5.2 GHZ Quad Core Processor
Chip boot hardware/price performance
 - 100 New instruction – improvement for CPU intensive, Java[™], and C++ Applications
 - Over twice as much on-chip cache as System z10 to help optimize multi-tenant data severing environments
- Performance improvement for systems with large number of cores – improved MP ratios
- Data compression and cryptographic processors right on chip



Java SDK 6.0.1 Performance:

Aggregate HW and SDK Improvement z10, z196, Java6 to Java6.0.1



*~7x Improvement from
z10, z196, Java6
and Java6.0.1*

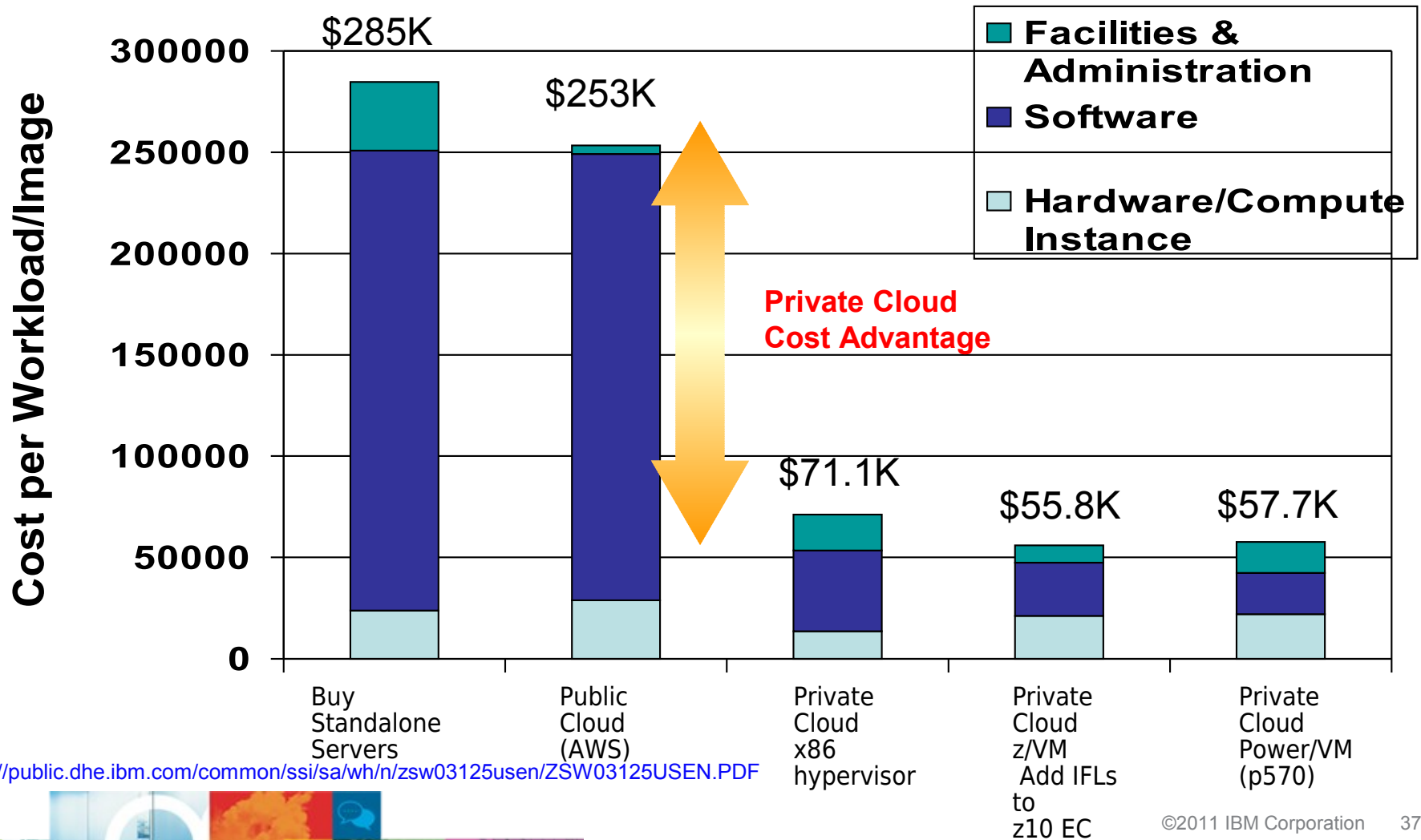
(Controlled measurement environment, results may vary)



Private Cloud Cost Advantage

Think about buy vs lease – both are valid

Cost Per Image for Linux Workloads (5 Yr TCO)





Tomorrow's Possibilities



BlackBerry on x86

SameTime Video on UNIX

Managed as a single Business unit of work

One single heterogeneous server

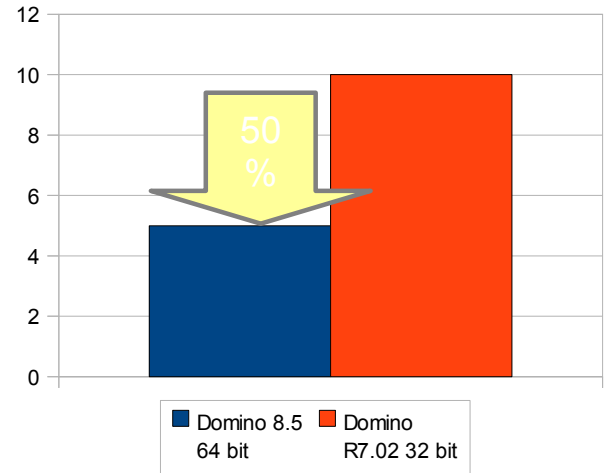
High Speed private virtual networks



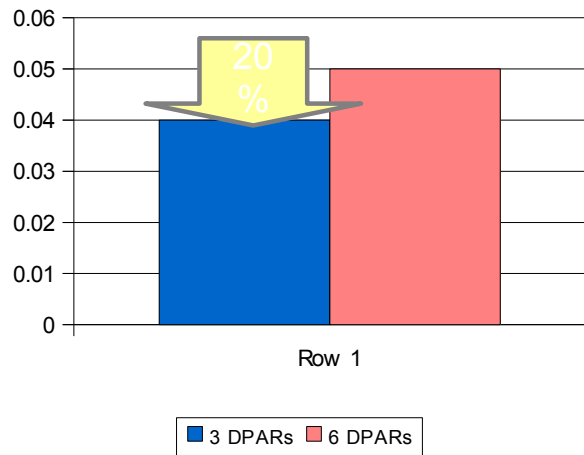
System z Advantages of Domino with 64 Bit



- Exploitation of the 3 TB of RAM on the z 196
 - Greater vertical scalability within 1 box
 - Four levels of h/w cache for improved memory performance
- Elimination of the 2GB virtual storage limits with the Domino 32 bit code
 - Dramatic vertical scalability of a single DPAR image



CPU Seconds per Active 15 Minute User

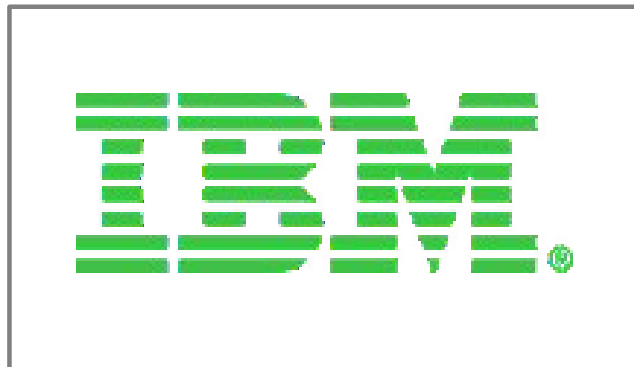


- Reduction of DPARs by 50%
 - 32 bit sized for 1500 active users per DPAR
 - 64 bit size for 3000 active users per DPAR
- Reduces administration CPU costs
 - Less servers to manage, monitor, and upgrade
 - More efficient use of resources growing vertically

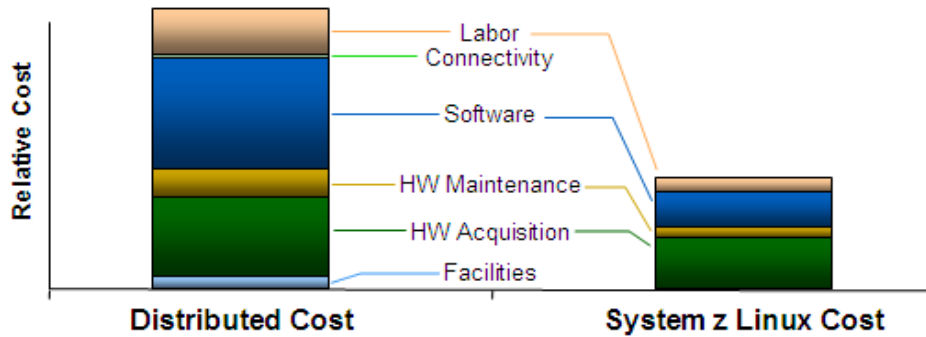
Overview of IBM's Deployment



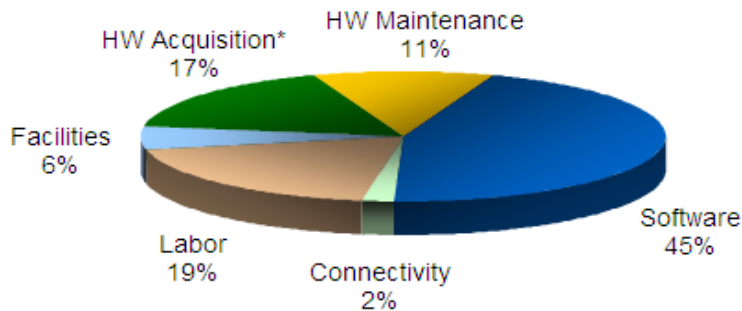
- Domino on Linux for System z is IBM's strategic direction
 - Part of Project Big Green
 - Application servers went first- Completed in 4Q 2009
 - +40K Domino application databases
 - Mail is ongoing within all Geos at different states
 - Currently worldwide over 160K IBMers are on Domino on Linux for System z
 - Not just Domino servers, but entire messaging infrastructure
 - Hubs, Admin servers, etc...
 - Designed to save
 - Space
 - Energy
 - Money



Operating Cost: Distributed vs. Mainframe



Potential Savings: Categories as a % of Gross Savings



* HW Acquisition compares server/disk refresh of distributed environment to the cost of acquiring new mainframes/storage

Dramatic Simplification

Unit	Distributed	System z Linux	% Reduction
Software Licenses	26,700	1,800	93%
Ports	31,300	960	97%
Cables	19,500	700	96%
Physical Network Connections	15,700	7,000	55%

Results will vary based on several factors including # of servers and work load types



IBM IT Transformation = Cost Savings

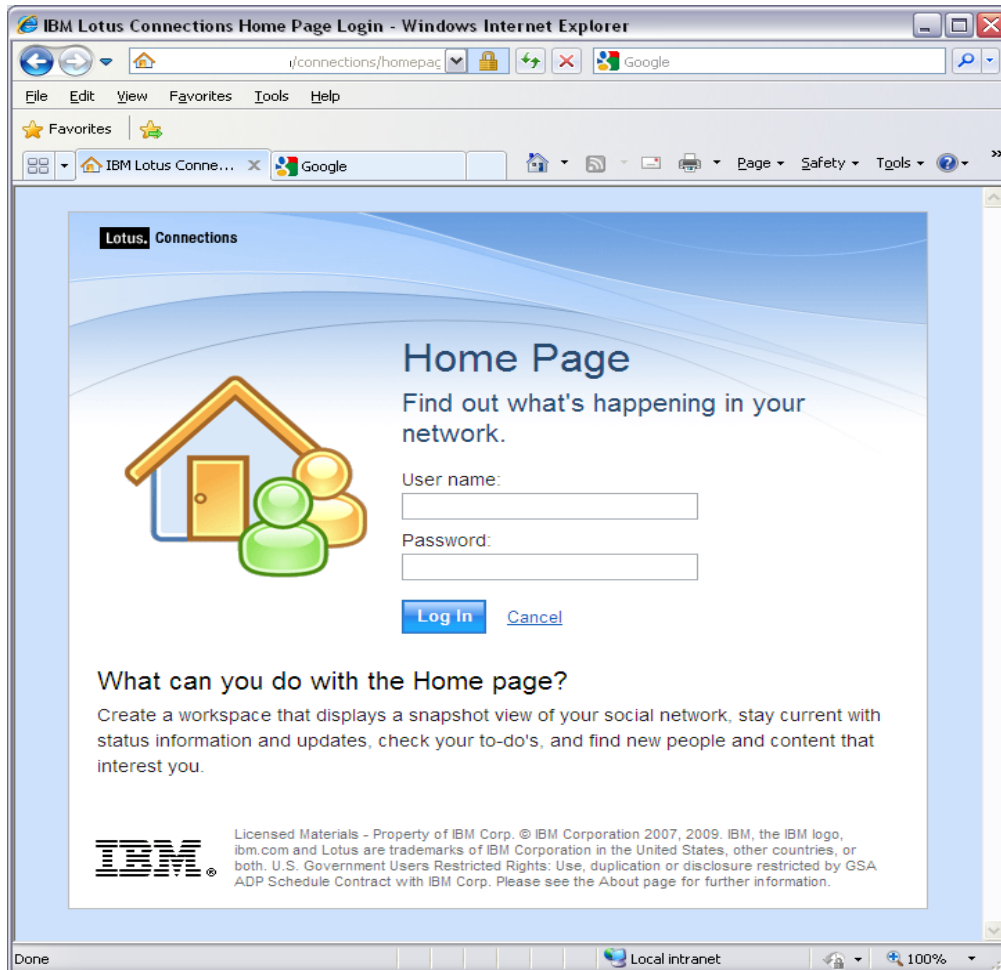
- Consolidated and virtualized over 3,900 server images onto 30 System z servers
- 80% less energy used
- 85% less floor space ... a 16,500 sq. ft. reduction
- Cumulative benefit yield of ***\$4.1B over the last 5 years***



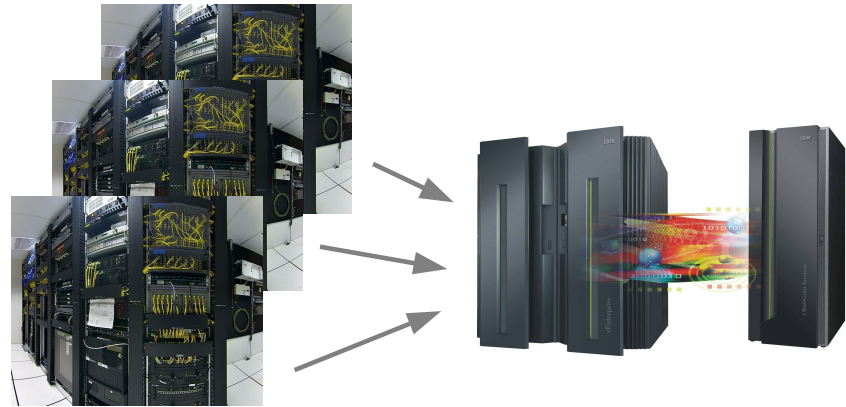
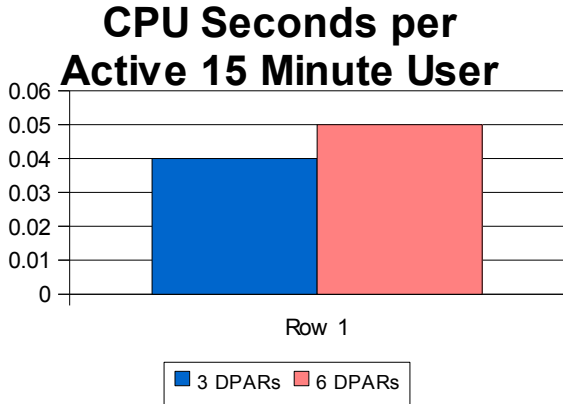
	1997	Today
Host Data Centers	155	7
Web Hosting Centers	80	5
Network	31	1
Applications	15,000	4,700



Connections in IBM is now on Linux for System z Virtual Images



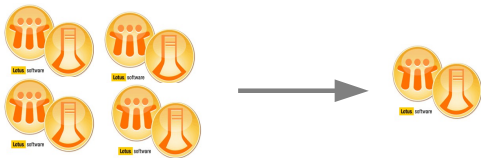
Customer TCO Case Study



Over 300 Physical Boxes to 2 existing z footprints
No increase in the z staff to support new workload
99% Reduction in Physical Devices

Forklift Upgrades: Fast, Easy, Upwardly Compatible

Over +350 Domino images to under 50
88% Reduction in Domino Images



Over +300 OS Images to 16
94% Reduction in OS Images



“One of the key advantages we see of running Linux on System z is as new generations of hardware technology are introduced, we’re able to basically do a forklift upgrade – we don’t have to re-certify applications as we have had to do on other platforms in the past.”
– IT Manager, Delivery Industry Company



Why Collaboration on zEnterprise



Domino is a OODBS product and Connections is a DB/2 & Portal product both with **very large** IO requirements.

- z is recognized as the platform with the best IO infrastructure
- Domino has been running as a mixed workload on a single box since 1997

Ability to virtualize with the lowest overhead cost and greatest scalability

- Hardware all the way through software virtualization integration

Vertical scalability vs horizontal scalability

- Lower cost to Customers the greater the vertical scalability

Lowest TCO

Admin, backup/restores, Capacity on Demand, growth without adding in support staff, vertical scalability, security, etc...



Addressing your Pain Points



- Weekly Patch Upgrades
 - People intensive
 - Outages when applying updates/synchronization issues
- Network Growth/bottlenecks
- Rapid Growth of server farm
 - Data Center floor space, cost, cooling
 - Remember the 40% of the CIO are looking at data center expansion in the next two years
- Reduce infrastructure cost and allow more of the IT budget for new Business/Competitive value
 - Administration People
 - Distributed Licensing fees
 - 100's of Distributed licenses versus 10's
- **Slow to respond to business needs**



System z improves IT efficiency across industries



44%

lower cost per credit card transaction



31%

lower IT spend per consumer loan



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



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THANK YOU !!!

Linux on IBM zEnterprise System

