



IBM Ambassadors for Linux and Open Source

# IBM Ambassadors for Linux and Open Source

Seminar: *IBM Systems and Technology Group (STG) 2007 Initiatives*

February 28, 2007

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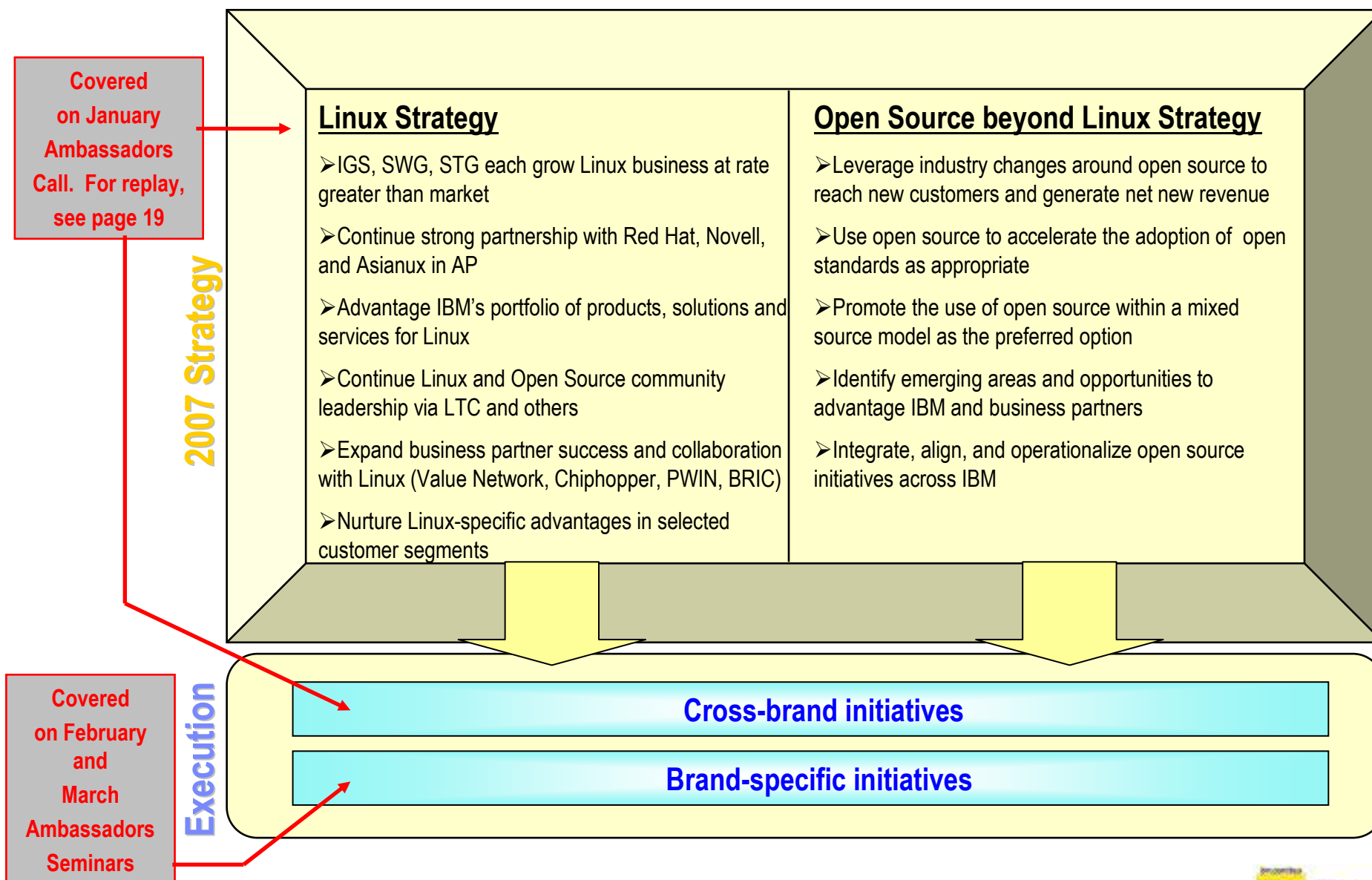




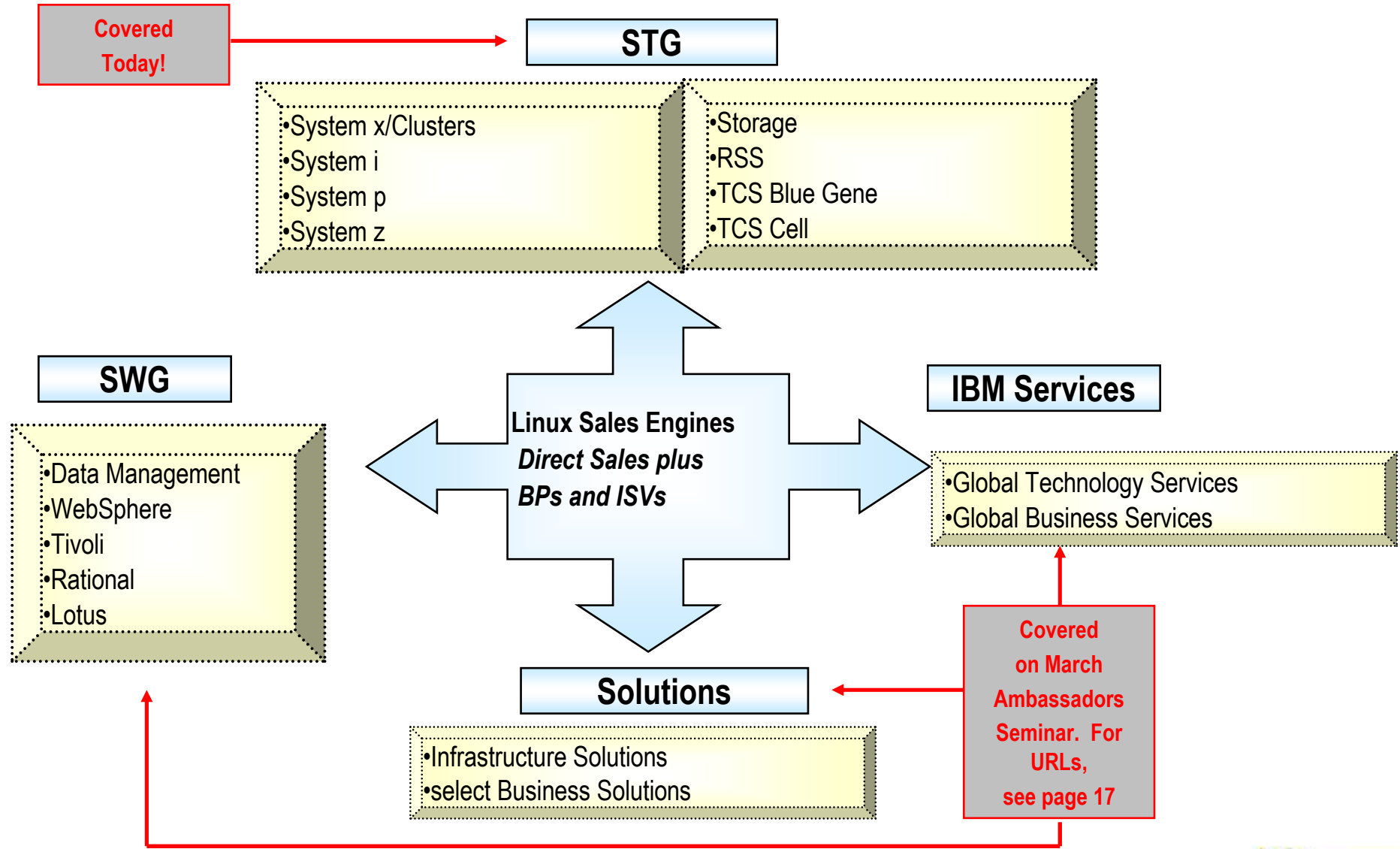
## AGENDA

Agenda Items	Time	Speaker
Welcome / Opening Remarks	11:00 - 11:05	Terese Johnson, WW Linux and Open Source Strategy Team Lead
System z	11:05 - 11:10	Frank Monez, Linux Initiative Manager, IBM System z
System p	11:10 - 11:15	Katalin Bartfai-Walcott, WW Linux on Power Principal/STSM Andy Wachs, Marketing Manager, Linux on System p
System x	11:15 - 11:20	Connie Blauwkamp, Manager, Infrastructure Solutions and Linux, System x and BladeCenter
Clusters	11:20 - 11:25	Amy Freeman, IBM HPC Clusters Offering Manager
Cell	11:25 - 11:30	Sinisa Nikolic, Global Sales Executive, Deep Computing
Storage	11:30 - 11:35	Charlie Andrews, Director of Product Marketing, IBM System Storage
Deep Computing	11:35 - 11:40	Dino Quintero, WW Technical Marketing Manager Blue Gene Solutions, IBM Deep Computing
System i	11:40 – 11:41	Terese Johnson for Craig Johnson, IBM System i Product Management
Retail Store Solutions	11:41 - 11:46	Uday Watwe, Manager, WW Retail Store Solutions Offerings
Questions and Answers	11:46 - 11:55	All
Closing Remarks	11:55 - 12:00	Terese Johnson

## Linux and Open Source beyond Linux continue to be critical to IBM!



## 2007: Driving Linux Growth Through 17 Engines





## System z in 2007

**Frank Monez**

Linux Initiative Manager, IBM System z

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# System z Linux 2007

## System z Linux 2007 Strategy

- Simplify the end to end Infrastructure – hundreds of virtual servers
- Consolidate workloads and databases from Unix and Windows
  - Web Servers
  - Internet News Servers
  - Domain Servers
  - File and Print Servers
- Expand the System Z Application portfolio by enabling key industry solutions on System z Linux
- Integrate System z Linux solutions with z/OS solutions - grow the z/OS base

## Key products/solutions/offerings

- Solaris/HPUX workload consolidation
- Oracle Database Solutions –
  - Consolidate Unix, Oracle databases to System z Linux + Oracle DB
  - Migrate and consolidate Sequel Server and disparate databases to System z Linux + Oracle DB
- Oracle Application Solutions
  - Team with Oracle to deploy Siebel, PeopleSoft, and EBusiness Suite on System Z
- SAP Application Serving
  - Red Hat and Novell
- Key Sector ISV's - IFLEX, ACI, Retek, etc.
- Exploit "Secure Linux" with Red Hat in Public Sector
- Virtual Network in a server – Hipersockets unique security
- LPARs that are totally isolated and dynamic
- Clone new Linux servers in minutes

## Value Proposition Themes for '07

- Energy
- Security
- Economics

## Key 2007 Activities

- Extend more of the Oracle Application Portfolio to zLinux
- Collaborate with Sectors to bring additional industry Solutions for System Z for Linux
- Joint sales efforts with Red Hat in BRIC countries
- Continue joint sales and marketing efforts with Novell
- Using 5IAB planning sessions, every acct should have a documented Linux strategy
- Offer TCO study to every Consolidation Opportunity



## System z Linux References 41 new references in '06, 55 planned for '07

- <http://w3-3.ibm.com/sales/ssi/apilite?apname=crmd&rtile=yes&crv=no&additional=summary&hitlimit=150&infotype=RFL%20CR%20RFS&cras hardware=%22System%20z%20System%20z9%20or%20zSeries%20running%20Linux%22%20OR%20%22System%20z%20System%20z9%20or%20zSeries%20running%20Linux%20-%20>
- External Customer Reference Database: [https://www-304.ibm.com/jct09002c/partnerworld/mem/sell/pe\\_crdbsplash.html](https://www-304.ibm.com/jct09002c/partnerworld/mem/sell/pe_crdbsplash.html)
- **Contact name/email for questions/assistance:**
  - Frank Monez – [fmonez@us.ibm.com](mailto:fmonez@us.ibm.com)
  - Nancy Scala – [scala@us.ibm.com](mailto:scala@us.ibm.com)



## System p in 2007

### **Katalin Bartfai-Walcott**

WW Linux on Power Principal / STSM

IBM System p

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### **Andy Wachs**

Marketing Manager, Linux on System p

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# Linux® on System p™ Strategy

## 2007 Linux on System p Strategy

- Gain foot-holds and grow volumes in targeted workload segments
- Win “Business Critical” deployments with targeted offerings
  - Use client-tiring structuring to target prospects by country, by enterprise name.
- Identify Country and Industry specific hot-spots for growth in targeted workload segments
  - Web tier
  - HPC: Bioinformatics, Seismic, Rendering, Government
  - Emerging ERP suites, Emerging BI
  - Security, Digital Media
- Drive Solaris™ & HP-UX to Linux OS migrations
- Aggressively grow in emerging / underserved markets
- Invest to build the market for POWER™ as an industry platform
- Simplify deployment and implementation of Linux on System p offerings

	Linux on Power: Key Initiatives
<b>Large Enterprise</b> Drive Linux-based Web Serving, HPC and Business Critical app. Solutions	<ul style="list-style-type: none"> <li>• Leverage LoP to drive mission critical workloads               <ul style="list-style-type: none"> <li>• Gain SOA beachheads with IBM WebSphere</li> <li>• Expand SAP footprints with SAP BI</li> <li>• Target Sun base with Sybase</li> </ul> </li> <li>• Linux consolidation play with 3 Web tier solutions using APV, p AVE, SCON Factory, Integrated stack for SUSE Linux offerings</li> </ul>
<b>Small/Medium Enterprise (SME)</b> Drive adoption of Linux in mission critical apps	<ul style="list-style-type: none"> <li>• SAP® mySAP w/ IBM DB2® play w/ SAP &amp; SWG</li> <li>• SAP mySAP with Oracle® joint play with Oracle</li> <li>• Sybase® ASE Migration, Risk Analytics &amp; Mobility and IQ plays</li> <li>• Oracle RAC joint play with Oracle</li> <li>• BladeCenter® JS21 Web Serving Farm play</li> <li>• Integrated Stack for Linux play with SWG</li> </ul>
<b>Emerging</b> Build value prop for Linux in a partition, and drive via sales incentives	<ul style="list-style-type: none"> <li>• High-end SCON play with SCON Factory, APV, Linux license/support promotions &amp; Migration offerings</li> <li>• HPC cluster w/ p5-575 into Research Labs &amp; Petroleum</li> <li>• p5-595 large scale SMP into Gvnt./Defense</li> </ul>
<b>Competitive</b> Intercept Solaris to Linux Migrations with Linux on Power	<ul style="list-style-type: none"> <li>• Joint road shows/account workshops w/ Sybase leveraging ASE migrations &amp; IQ solution</li> <li>• Joint road shows with Oracle leveraging Oracle RAC solution set, Rebates, Migration Factory</li> <li>• BladeCenter JS21 Web Serving Farm vs. Sun</li> <li>• High-end consolidation platform with APV, pAVE + SCON/Migration Factory offerings</li> <li>• BI competitive takeout with Sybase</li> <li>• Microsoft® takeout Sybase ASE – Replace SQL Server</li> </ul>



# Linux on System p Pilots to Production

## Overview

### WW Linux on Power advanced technical sales team

- Consultative approach to customer
- Pilot based engagements
- LoP Production and Purchase goals

### WW Implementation Focus

- Utilizing FTSS, ATS and Lab Services resources

### Focusing on System p established and named accounts

- Customers who expressed interest in Linux and who have System p but do not currently run Linux
- Customers who expressed interest in Linux on POWER and have System p but run Linux on other hardware architectures
- Customers who have “dark processors” available on high-end System p Servers

### Goals

- Establish Linux as enterprise O/S on System p
- Improve System p and POWER value proposition
- 25 accounts/engagements WW per quarter
- 100 P2P engagements WW in 2007

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## Mission and Value Add

- *Provide System p Linux technical expertise*
- *Help customers to successfully deploy production-ready Linux on POWER solutions*
- *Provide System p Linux and hybrid architecture assistance*
- *Drive Linux based System p platform implementation and additional LPAR sales*
- *Increase Linux on System p skill levels*

# Linux Consolidation ([press here](#))

## Web tier pain points

- Web and applications infrastructure consume too much floor space
- Infrastructure energy costs are escalating
- Number of infrastructure servers create management challenges
- Web servers are at less than 15 to 20% utilization
- Service Level Agreements are getting harder to meet

## Launch & Demand

- Linux Consolidation launch on February 14<sup>th</sup>
- Client Webinar & drive-to campaign (March 15)
- RoC
- Technical: Consolidation Test & White-Paper

## Solutions

- LAMP consolidation
- Integrated Stack for SUSE Linux Enterprise

Clients can consolidate **EIGHT** racks of 320 Dell PowerEdge 860 servers running 320 Linux LAMP apps into **ONE** rack of five System p5 560Q systems with optional Advanced Power Virtualization \*



**320 1U Dell PowerEdge 860 servers\*\*\*\***

- Dual Core Intel® Xeon™ 2.66 GHz, 4GB DDR2
- Eight 42U, 19 inch racks
- 640 integrated Ethernet adaptors
- 640 integrated 146GB disk drives
- 14 external 48 port switches



**5 p5-560Q systems in ONE rack**

- POWER5 1.8 GHz QCM, 96GB DDR2
- With optional Advanced Power Virtualization
- 50 integrated Ethernet adaptors **[92% fewer]**
- 30 integrated 300GB disk drives **[95% fewer]**
- Two external 48 port switches **[86% fewer]**

REDUCE floor space by an estimated 87% \*\*

REDUCE power consumption by an estimated 66%\*\*

REDUCE total cost of acquisition by up to 50%\*\*\*

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\* IBM demonstrated running four LAMP applications per 560Q core in a test documented in the IBM white paper "Consolidation Test of LAMP applications on an IBM System p5 560Q Express server," dated February 14, 2007 and posted at [http://www.ibm.com/common/ssi/cgi-bin/ssialias?infotype=SA&subtype=WH&appname=SS\\_PS\\_USEN&htmlid=PSW03009USEN&attachment=PSW03009USEN.PDF](http://www.ibm.com/common/ssi/cgi-bin/ssialias?infotype=SA&subtype=WH&appname=SS_PS_USEN&htmlid=PSW03009USEN&attachment=PSW03009USEN.PDF). Under this configuration, 64 LAMP applications can be run on a single 16-core 560Q using optional Advanced Power Virtualization, allowing 320 LAMP applications to be run on five System p5 560Q servers. This comparison is based on running a single LAMP application per Dell PowerEdge 860 server. Advanced POWER Virtualization is only standard on the IBM System p5 590 and 595 platforms. It is not available on the IBM System p5 185 platform.

\*\* Datacenter floor space usage was estimated as of January 29, 2007 using Alinean, Inc.'s ROI Analyst software. Power consumption estimates for five System p5 560Q servers and 320 Dell PowerEdge 860 servers were based on 2600W per 560Q (IBM Facts and Features at [www.ibm.com](http://www.ibm.com)) and 120W per Dell PowerEdge 860 (Dell Datacenter Capacity Planner as of February 5, 2007 at [www.dell.com](http://www.dell.com)). To these amounts, 40% was added as an estimate for HVAC (source: Alinean, Inc.'s ROI Analyst software).

\*\*\* As of February 3, 2007, the US List price of the five System p5 560Q servers (configured as shown above), optional Advanced Power Virtualization, OS, rack, and switches was \$979,913 (source: <http://www.ibm.com>) and the US List price of the 320 Dell PowerEdge 860 servers (configured as shown above), OS, racks, and switches was \$1,952,202 (source: <http://www.dell.com>). Prices are subject to change. Both the IBM and Dell configurations include one SUSE Linux Enterprise Server 10 with 3 year standard subscription and support license per server (source: *The reduction, if any, in floor space, power consumption, and overall total cost of acquisition depend on the specific customer, environment, application requirements, and the consolidation potential.*

\*\*\*\* Image is not a Dell PowerEdge 860.

# System p Application Virtual Environment for x86 Linux

## Statement of Direction

Allows software written for x86 Linux to just run on IBM System p servers running Linux

### ■ What is System p Application Virtual Environment for x86 Linux (pAVE-x86)

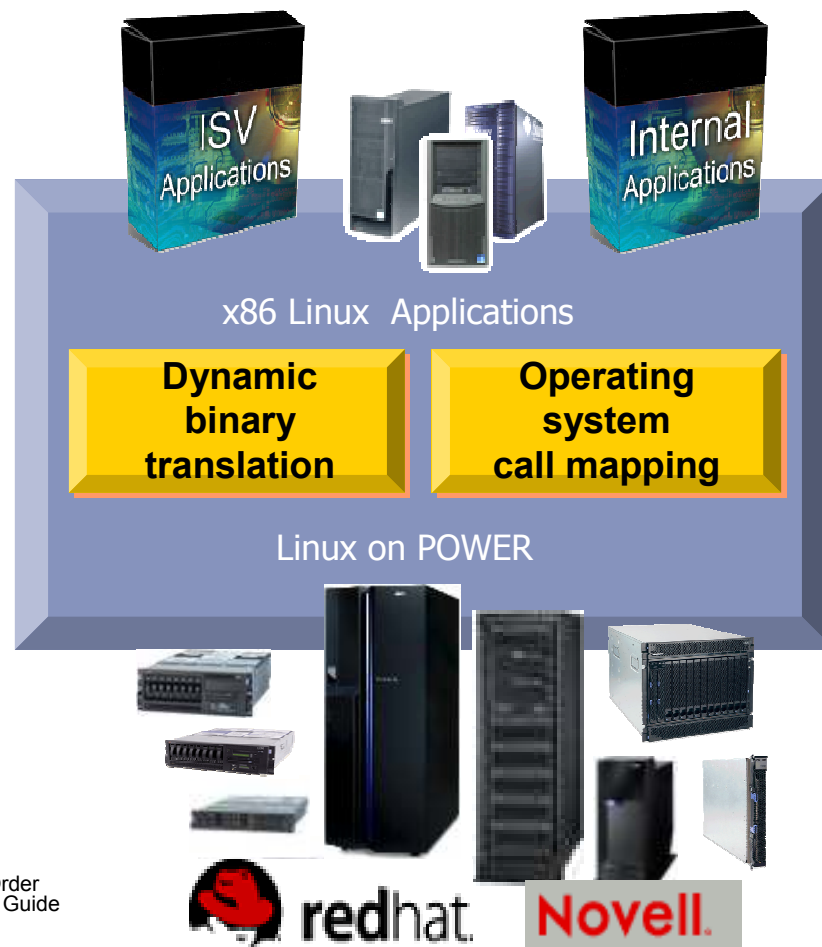
- ▶ Supports installation and running of existing 32-bit x86 Linux applications<sup>1,2</sup>
- ▶ Creates an x86 Linux application environment running on Linux on System p
- ▶ Extends value of IBM System p and BladeCenter JS21 to x86 Linux apps

### ▶ How does it work?

- ▶ Dynamically translates and maps x86 Linux instructions to POWER
- ▶ Mapping and caching techniques are used to enhance application performance within the pAVE-x86 environment

(1) No direct hardware access and no kernel access (2) IA-32 instruction set architecture (x86) \*

\* As defined by the 1997 Intel Architecture Software Developer's Manual consisting of Basic Architecture (Order Number 243190), Instruction Set Reference Manual (Order Number 243191) and the System Programming Guide (Order Number 243192) all dated 1997.

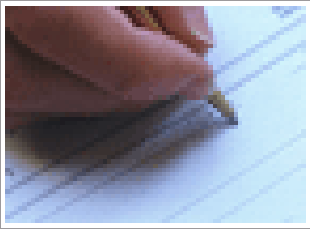


All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice. Any reliance on this statement of general direction is at the relying party's sole risk and will not create liability or obligation for IBM

# System p Linux Solution Offerings

➤ New for Feb Launch

## Business Applications



### Business Suites

- ✓ [SSA Global SSA ERP<sub>LN</sub>](#)
- ✓ [Solution Ed. Express for MySAP ERP](#)

### BI

- ✓ [Sybase IQ](#)
- ✓ [Solution edition for SAP BI](#)

### Industry Applications

- ✓ [Sybase Risk Analytics](#)
- ✓ [eFunds](#)

### SOA

- ✓ [SOA solutions using WebSphere](#)
- ✓ [IBM System p5 for SAP's Ent. SOA](#)

### HPC Infrastructure

- ✓ [Grid and Grow Express](#)

### Database & General

- ✓ [Sybase ASE migration](#)
- ✓ [OpenPower Consolidation Express](#)
- ✓ [Apache](#)
- ✓ [Email Security Express](#)
- ✓ [SAMBA3](#)
- ✓ [BladeCenter JS21 - Web Serving Farms](#)
- ✓ [Sybase Mobility Solution](#)
- ✓ [IBM DB2 9](#)
- ✓ [System p5 Solution Set for Oracle RAC](#)
- [ISSLE](#)

### Engineering & Sciences

- ✓ [GAMESS](#)
- ✓ [CPMD](#)
- ✓ [Bioinformatics for JS21](#)
- ✓ [Thermo Electron](#)
- ✓ [Waters Micromass](#)
- ✓ [Agilent GeneSpring](#)
- ✓ [CGG Geocluster](#)
- [Dot C Rendering](#)

## Operational Infrastructure



## HPC



## Developer SOA





## System x in 2007

**Connie Blauwkamp**

Manager, Infrastructure Solutions and Linux,

IBM System x and BladeCenter

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## System x and BladeCenter Strategy: Sell Linux based solutions

### *Leverage the Value Net and cloth hardware with Linux*

- **Strategic objective:**
  - 21% YTY revenue growth for Linux on x86
- **Strategy:**
  - Sell our competitive product line of Linux-enabled servers
    - Red Hat and SUSE are priority 1 Sys x OS's
    - Sell Asianux on selected systems in Asia
  - Sell more with Distributors and Resellers
    - Sell standalone offerings for Linux subscriptions and Linux ServicePacs
    - Drive Linux subscription renewals
  - Sell Linux-based solutions and leverage BP Value Nets
    - Solutions for Retail, FSS, Public, Industrial, Comms
    - SMB solutions: Business in a Box, ISSLE
    - Business apps such as SAP, Oracle, DB2
  - Continue Solaris to Linux migration tactics, including Trusted Linux program
  - Solutions focused selling with Red Hat and Novell, especially virtualization and security
- **Improve profitability – Sell Linux and Support**
  - Keep competitors away from your customers  
*Sell a Linux offering with initial hardware order.*
  - Increase your AUR and profitability  
*Sell Linux to every customer.*  
*Sell Remote Technical Support/ServicePac or SupportLine.*
  - Want a reason to go back and sell the same thing again and again?  
*Sell a renewal when the subscription runs out... and sell more hardware while you're there!*  
*Sell up and get your customer to commit for multiple years.*
  - Competitive and install opportunity: Beat LAMP solutions on Dell or white boxes  
*Sell Integrated Stack for SUSE Linux Enterprise.*

#### **Sell RHEL and SLES with System x/ BladeCenter**

##### External web pages:

Red Hat: <http://www-03.ibm.com/systems/x/solutions/os/linux/rhel.html>

Novell: <http://www-03.ibm.com/systems/x/solutions/os/linux/sles.html>

Contact: Pat Byers, [pbyers@us.ibm.com](mailto:pbyers@us.ibm.com)

#### **Integrated Stack for SUSE Linux Enterprise (ISSLE )**

##### External web pages:

<http://www.novell.com/ibmstack>

<http://www.ibm.com/linux/integration>

##### Contacts:

Omar Pena, IBM WW offerings manager, [omarpena@us.ibm.com](mailto:omarpena@us.ibm.com)

Brad Young, Novell program manager, [bryoung@novell.com](mailto:bryoung@novell.com)



## Sell IBM's Portfolio of Linux based solutions for System x and BladeCenter

### ■ Did you know?

- More than 50% of all BladeCenter® systems are running Linux workloads
- More than 30% of all System x™ systems are running Linux workloads

- |                        |                              |  |
|------------------------|------------------------------|--|
| ■ File/print workloads | ■ SAP with DB2               | ■ Security solutions                       |
| ■ Web solutions        | ■ SAP with Oracle DB         | ■ Systems Solution for Branch Banking      |
| ■ Databases            | ■ SAP BIA with SLES          | ■ Grid Medical Archive Solution            |
| ■ Middleware           | ■ Oracle applications        | ■ BladeCenter business express             |
| ■ High availability    | ■ Oracle DB                  | ■ Express Data Protection with TSM Express |
| ■ Grid solutions       | ■ Digital Video Surveillance | ■ Express Collaboration solution           |
| ■ Clustered solutions  | ■ VOIP                       |  |

### IBM Systems solution for BI accelerator from SAP

#### Sales kits:

- Internal Sales Kit: [http://w3-1.ibm.com/sales/systems/portal/\\_s.155/254?navID=f220s240&geoID=All&prodID=IBM%20Systems&docID=sxSAPBlaccIBMrk](http://w3-1.ibm.com/sales/systems/portal/_s.155/254?navID=f220s240&geoID=All&prodID=IBM%20Systems&docID=sxSAPBlaccIBMrk)
- Partner Sales Kit: [http://w3-1.ibm.com/sales/systems/portal/\\_s.155/254?navID=f220s240&geoID=All&prodID=IBM%20Systems&docID=sxSAPBlaccBPrk](http://w3-1.ibm.com/sales/systems/portal/_s.155/254?navID=f220s240&geoID=All&prodID=IBM%20Systems&docID=sxSAPBlaccBPrk)

**Contact:** Jan De Boer, IBM SAP Alliance, Worldwide Sales, [JANDB@nl.ibm.com](mailto:JANDB@nl.ibm.com)

### Oracle/Linux play

#### Sales kits:

- Internal Sales Kit: [http://w3-1.ibm.com/sales/systems/portal/\\_s.155/254?navID=f220s240&geoID=null&prodID=null&docID=xslxoracle.sk&docType=SalesKit&skCat=DocumentType](http://w3-1.ibm.com/sales/systems/portal/_s.155/254?navID=f220s240&geoID=null&prodID=null&docID=xslxoracle.sk&docType=SalesKit&skCat=DocumentType)
- Partner Sales Kit: [http://www-1.ibm.com/partnerworld/sales/systems/myportal/\\_s.155/250?navID=f220s240&geoID=All&prodID=xSeries&docID=xslxoracle.sk&docType=SalesKit&skCat=DocumentType](http://www-1.ibm.com/partnerworld/sales/systems/myportal/_s.155/250?navID=f220s240&geoID=All&prodID=xSeries&docID=xslxoracle.sk&docType=SalesKit&skCat=DocumentType)

**Contact:** Steve Fry, WW Sales Executive, IBM System x, [frys@us.ibm.com](mailto:frys@us.ibm.com)

## Key Linux Contacts



### IBM Sales Executives

WW RH - Brian Fullington, [bpf@us.ibm.com](mailto:bpf@us.ibm.com)

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NA East - Phil Carty, [pcarty@redhat.com](mailto:pcarty@redhat.com)



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AP - Greg Kieser, [gkieser@novell.com](mailto:gkieser@novell.com)





## Clusters in 2007

**Amy Freeman**

IBM HPC Clusters Offering Manager

IBM System x

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## Current strength - IBM System Cluster 1350

### ■ How customers use our clusters

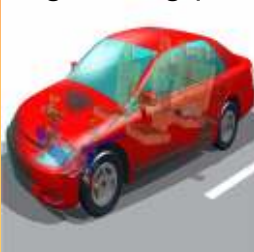




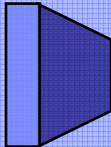
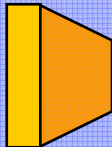
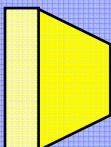
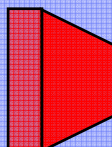
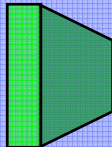
- Helping to *find cures* for hypertension, stroke, arthritis, Parkinson's disease and HIV/AIDS (Boehringer Ingelheim)
- Enhancing *manufacturing* processes (leading auto manufacturer)
- Speeding up *genetic analysis* (well-known Asia Pacific university)

### ■ IBM *Leadership* in high end clusters

- *Decades in HPC leadership* in the marketplace
- Continued *dominance of the Top 500* (November 2006):
- Over a decade of *experience in clustering solutions* around the globe



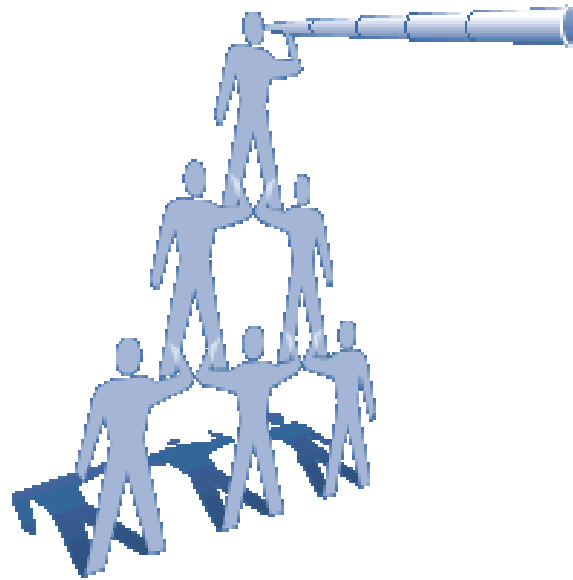
## Driving HPC Cluster Solutions using Building Blocks

Industry Applications	Computer Aided Engineering (CAE) 	Electronic Design Automation 	Petro/Seismic 	Financial Svcs 	Life Sciences 
<b>Validated and Tested Building Blocks</b>  <ul style="list-style-type: none"> <li>- Repeatable and customizable</li> <li>- Prescriptive guidance (implementation, sizing, marketing) to BPs and Sales</li> </ul>					



**System x and BladeCenter  
System Storage  
IBM System Cluster 1350**





## Cell in 2007

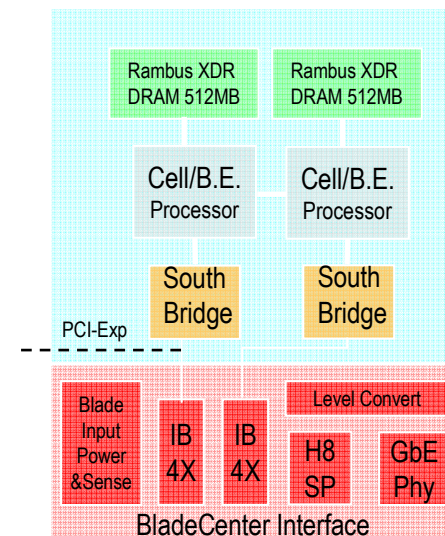
**Sinisa Nikolic**

Global Sales Executive, IBM Deep Computing

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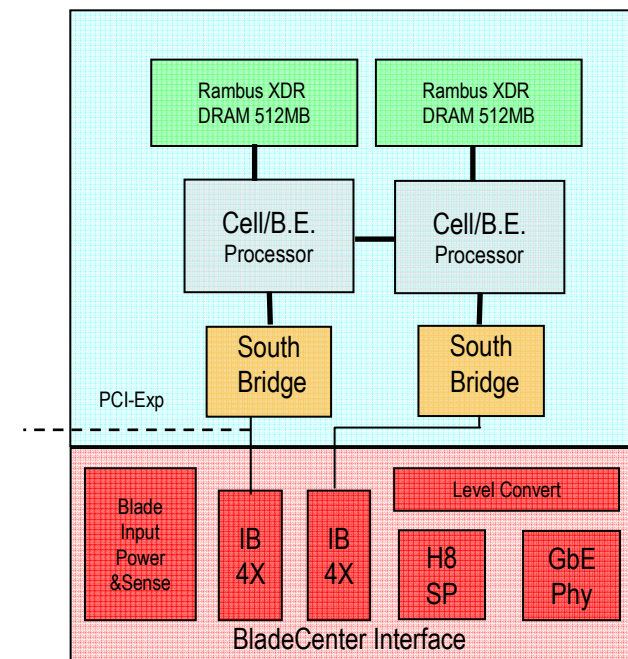
## Introducing IBM BladeCenter QS20...

- The first IBM system in a family of systems based on Cell/B.E. processors, a 64 bit Power Architecture with high bandwidth memory and multi-core technology
- Particularly suitable for rich media applications and/or workloads that require parallel processing, real time processing, pattern matching such as Rendering, Medical Imaging, Seismic, EDA, FSS, etc.
- Very high performance (up to 410 GFLOPS peak) double-wide blade for IBM BladeCenter
- Combining with System p, System x servers, it can significantly boost the overall system performance by speeding-up the floating point and graphics-heavy computation of HPC workloads
- Sold as part of 1350 Linux Cluster
- QS20 is currently best suited for early adopters, innovators, customers, and ISV's



# IBM BladeCenter QS20 Overview

- **Cell/B.E. Processor Blade (~410 GFLOPS peak)**
  - Dual 3.2GHz Cell/B.E. Processor Configuration
  - 1GB XDRAM (512MB per processor)
  - Blade-mounted 40GB IDE HDD
  - Dual Gigabit Ethernet (GbE) controllers
  - Double-wide blade (uses 2 BladeCenter slots)
  - Infiniband (IB) Option:
    - Qty 0-2 IB 4x Host Channel Adapters
- **Operating Systems**
  - Fedora core 5-based Linux® available at <http://www.bsc.es/projects/deepcomputing/linuxoncell/>
- **BC Chassis Configuration (~2.8TFLOPS peak)**
  - Standard IBM BladeCenter One
  - Max. 7 Blades per chassis (QS20 - 2 slots each)
  - 2 Gigabit Ethernet switches
  - External IB switches required for IB option



**Note:** Intermixing Cell Blades with other blades in same chassis is not supported; BladeCenter-H not supported;

## Find out more ...

- **QS20 sales kit**
  - <http://w3-1.ibm.com/sales/systems/portal/s.155/254?navID=f220s240&geolD=All&prodID=BladeCenter&docID=blQS20sk.skkit&docType=SalesKit&skCat=DocumentType>
- **Cell Broadband Engine resource center @ IBM developerWorks**
  - <http://www-128.ibm.com/developerworks/power/cell/>
  - <http://www-128.ibm.com/developerworks/power/library/pa-cellperf/>
- **Cell/B.E. forum**
  - [http://www-128.ibm.com/developerworks/forums/dw\\_forum.jsp?forum=739&cat=46](http://www-128.ibm.com/developerworks/forums/dw_forum.jsp?forum=739&cat=46)
- **Cell/B.E. technology @ IBM alphaWorks**
  - <http://www.alphaworks.ibm.com/topics/cell>
- **Barcelona Supercomputing Center**
  - <http://www.bsc.es/projects/deepcomputing/linuxoncell>
- **IBM Systems Journal – Online Game Technology**
  - <http://www.research.ibm.com/journal/sj>
- **Flash Animations, Movies etc**
  - <http://ehngsa.ibm.com/gsa/ehngsa/home/m/e/mengler/web/public/>



## 2007 Target Segments/Workloads and Offerings Focus

*Clients adopting Cell/B.E. technology have diverse offering needs*

Segment	Target Workloads	Target Clients
	Offering Focus	
A&D	Avionics, Signal processing, Terrain Rendering, Intelligence analytics	A&D prime contractors, Defense and Intelligence agencies
	Design Services and COTS & custom boards, Cell Blades for HPC	
Medical	Medical Imaging (CT, MRI, PET, US, DX, PACS); Molecular diagnostics	Medical Imaging OEMs, Medical Research Centers, & Pharma's
	Design Services and COTS & custom boards; Cell Blades for HPC	
Financial	Real time portfolio analytics, Risk management	Banking Insurance
	Software dev services, Cell Blades for HPC	
Petroleum	Seismic analytics, Reservoir simulation, Visualization	Seismic Processing Oil & Gas Exploration
	Software dev services, Cell Blades for HPC	
EDA	Imaging, manufacturing inspection, large scale visualization, virtual prototyping	EDA Providers
	Software dev services, Cell Blades for HPC	
Digital Media	Content creation, rendering, relighting, compositing, hosting, transcoding; Game consoles, DTV, STB, Printers, Cell Blades for rendering	Production Studios, Consumer Electronics OEMs
	Blades for DCC, DVS; Design Services for high volume CE segments	
Telecom	Wireless (SDR), Network security, Deep Packet Processing	Network Equipment Providers
	Board Design Services in support of chip sales; Chip Design Svcs	
Public	Simulation, Visualization, Signal & Image processing, Real time analytics	Government Labs, Universities
	Cell Blades as accelerator nodes to HPC applications	



Indicated focus segment for 2007





## Storage in 2007

**Charlie Andrews**

Director of Product Marketing, IBM System Storage

[andrewsc@us.ibm.com](mailto:andrewsc@us.ibm.com)

## IBM System Storage - Strategy

Intelligent Management. Protected Information. Smarter Insights.

### Leverage Information

- ✓ Capitalize on data sharing for collaboration
- ✓ Align storage investment, information value

### Mitigate Risk

- ✓ Comply with regulatory, security requirements
- ✓ Keep your business running continuously

### Optimize IT

- ✓ Automate and Simplify IT operations
- ✓ Optimize Performance, Functionality

### Enable Business Flexibility

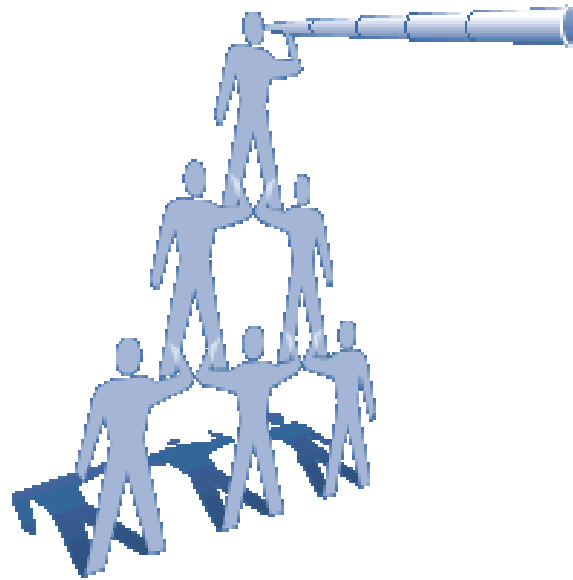
- ✓ Flexible, On Demand IT infrastructure
- ✓ Protect your IT investment

Get the most value from your information

## IBM System Storage and Linux

- IBM has the broadest portfolio of storage solutions in the industry
  - Disk subsystems: DS family FC disk, N series NAS solutions, and SAN infrastructure components
  - Tape subsystems: Industry leading TS1120 enterprise tape, LTO, and automation offerings
  - Storage Virtualization: SVC disk virtualization and TS7500 tape virtualization
  - Storage management software: TPC and Tivoli management software
- IBM System Storage has broad support for Linux across the portfolio, and is the perfect complement to any Linux solution
  - Add storage to every server opportunity
  - Match server brand with the right storage offerings
    - System x: DS4000, N series, LTO tape automation, SVC, and TPC
    - System z: DS8000, TS1120 and tape automation, and TPC
    - System p: DS4000, N series, LTO tape automation, SVC, and TPC
    - System i: DS4000, LTO tape automation, and TPC
- IBM storage and IBM systems go together
  - Expand revenue opportunities by including storage
  - Deliver complete systems that address clients' business needs
- More information available!
  - General storage information: <http://www-03.ibm.com/systems/storage/index.html>
  - Sales support information: <http://w3-1.ibm.com/sales/systems/portal/s.155/253>
  - Solutions that are "IBM System Storage Proven": [http://www-03.ibm.com/servers/storage/proven/all\\_solutions.html](http://www-03.ibm.com/servers/storage/proven/all_solutions.html)
  - Contact: Charlie Andrews, Director System Storage Marketing, [andrewsc@us.ibm.com](mailto:andrewsc@us.ibm.com)





## Deep Computing in 2007

**Dino Quintero**

WW Technical Marketing Manager, Blue Gene Solutions,

IBM Deep Computing

[dino.quintero@us.ibm.com](mailto:dino.quintero@us.ibm.com)

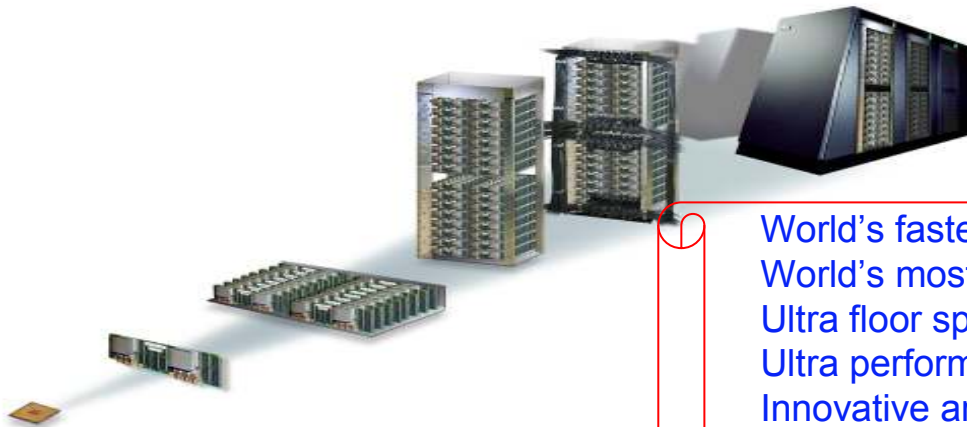
## IBM Systems Blue Gene® Solution

### Enabling breakthrough Science

- ☑ Addressing the most computationally challenging science problems
- ☑ Remarkably reliable and scalable
- ☑ Lower cost of ownership and window to the future of lower power

### Offerings

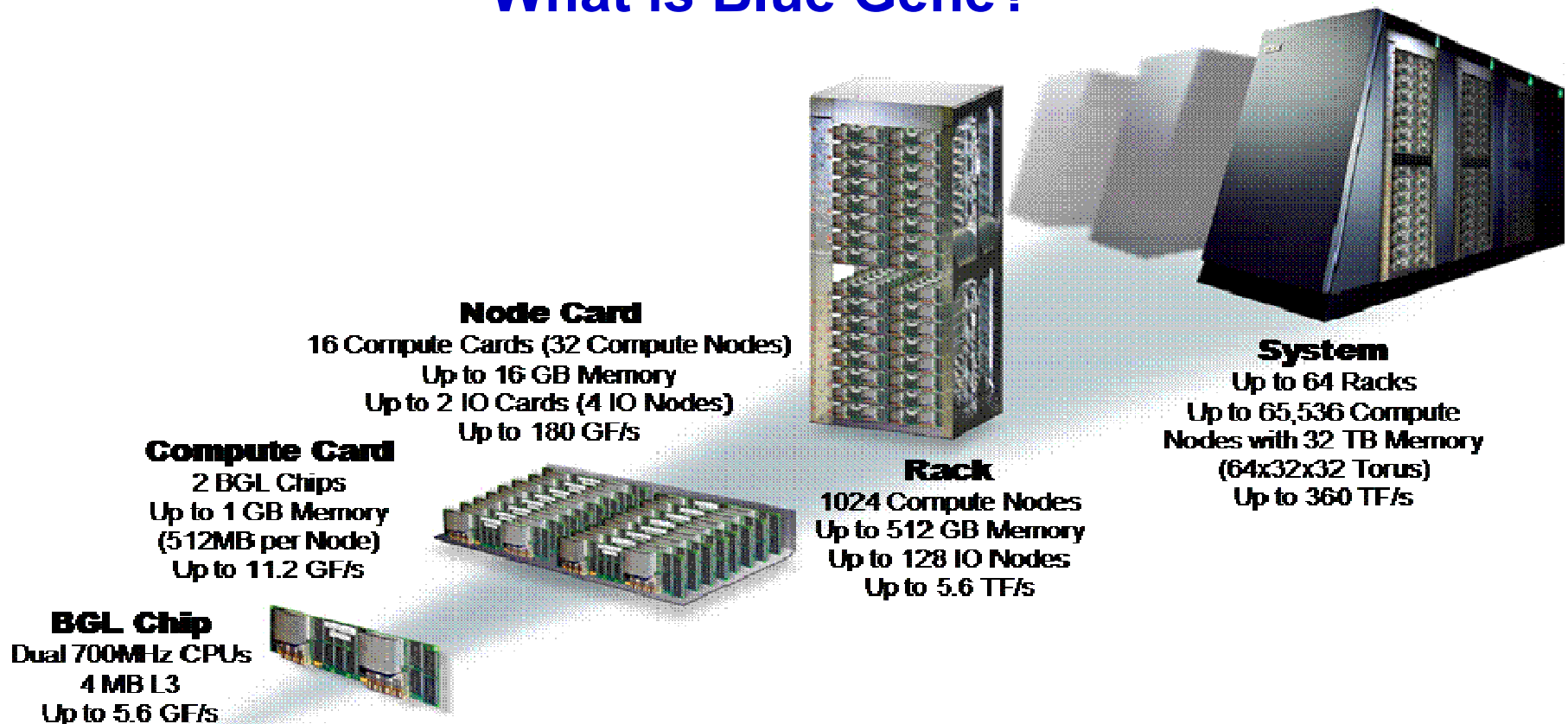
- ☑ IBM System Blue Gene Solution (new price actions)
  - on the 512 MB SDRAM-DDR model
  - and the 1GB SDRAM-DDR model
- ☑ Deep Computing Capacity on Demand (DCCoD)
- ☑ Application center of competency
- ☑ Strong demand continue
- ☑ Intending to announce the next generation solution



World's fastest supercomputer ([www.top500.org](http://www.top500.org))  
 World's most efficient supercomputer  
 Ultra floor space density  
 Ultra performance per kW of power  
 Innovative architecture and system design  
 Familiar programmer/user Linux-based environments

*Flexible and convenient access to Blue Gene technology for clients and developers via the Deep Computing Capacity on Demand Center (DCCoD)*

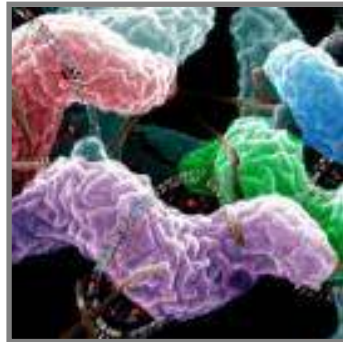
## What is Blue Gene?



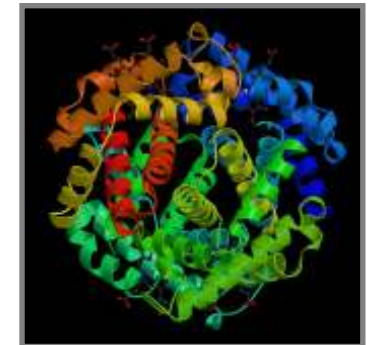
Blue Gene is an evolutionary, innovative technology which reduces "time to solution" for many computational science problems through **ultrascaleability** and **modularity** with the **lowest power consumption, smallest footprint, highest reliability and easiest manageability** in the industry.

# What is Blue Gene used for?

**Genome Sequencing**



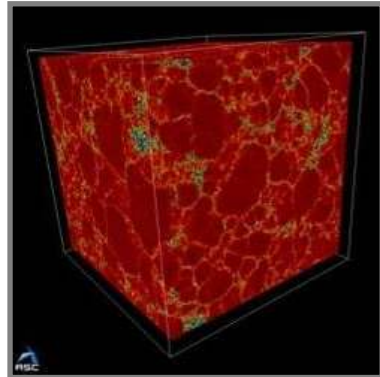
**Biological Modeling**



**Drug Discovery**

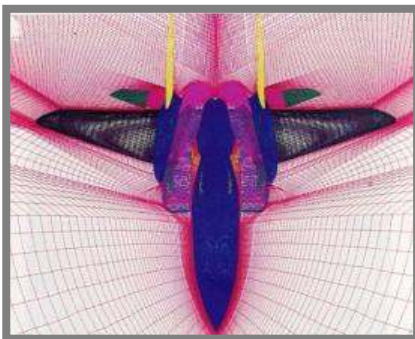


**Pandemic Research**



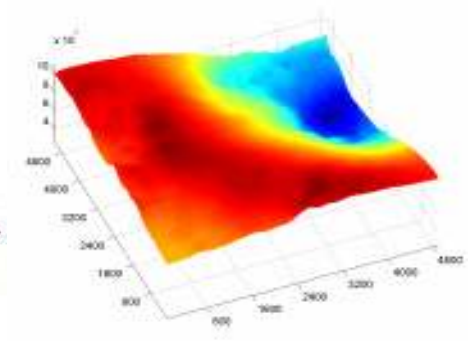
**Materials Science**

**Fluid Dynamics**



**Climate Modeling**

**Financial Modeling**



**Geophysical Data Processing**



## Top 10 reasons that you need Blue Gene



1. Ultra-scalability for breakthrough science
  - BG: up to 131,072 ways,
  - Cluster: typically 512-1024 ways or less.
2. Highest capability machine in the world (5.4X SGI/NASA Columbia Cluster)
3. Highest reliability, highest HPC MTBF/TF (10-100X), low maintenance staff
4. Low power (~4-10X), smallest footprint, lowest TCO (total cost of ownership)
5. Broad range of scientific applicability at superior cost/performance
6. High bandwidth for interprocessor communication (7.5X compared to typical clusters)
7. Low latency, high bandwidth memory system and interprocessor communication system
8. Familiar programming models: MPI, OpenMP, POSIX I/O
9. Reproducible, deterministic runs, easy to trace errors, and tune performance
10. Huge total memory bandwidth for data intensive applications such as search



## Call to Action

### How to identify, qualify and validate Blue Gene opportunities?

- ✓ Start with the science, focus on business value
- ✓ How would faster “time to solution” change your business?
- ✓ How much compute power do you have? How much do you need?
- ✓ How are you going to get there? What are the obstacles?
- ✓ Are your applications parallel? Are the scalable?
- ✓ Are there benchmark requirements?
- ✓ How much funding? When is it available?
- ✓ Who do you contact?

GES/Blue Gene	Deep Computing
WW: Pat Carey, Ralph Warmack	
AG: Bryan Hartlen, Ralph Warmack	Joe Lopez, Rajiv Bendale, Jim Gleason
EMEA: Gabriele Persch-Schuy	NE - Chris Cooper, Andy Grant SW - Philippe Bricard, Patrick Deniau
AP: Yasuo Kurita	Jeff Dunn, Subramanian Kannan

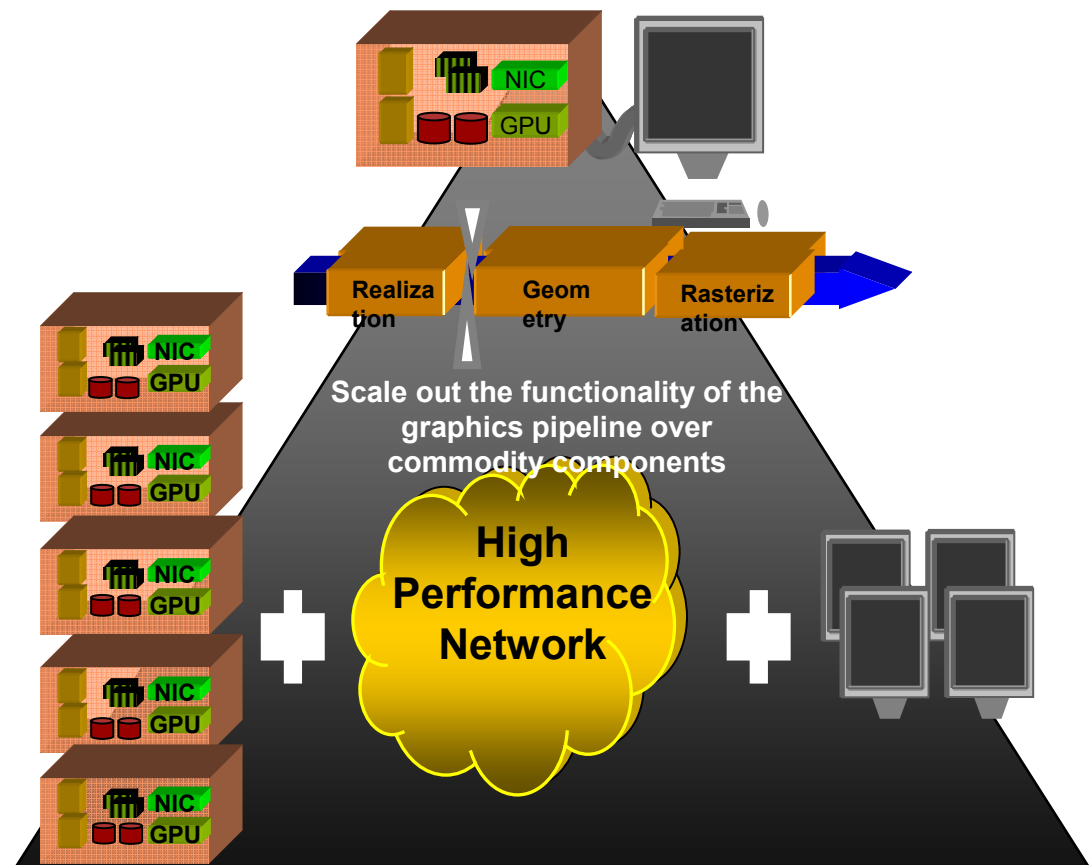
## What's new on the Web site and sales kit?

- **New** Blue Gene press releases, application enablement news, literature, newsletter sign up, events schedule:
  - <http://www.ibm.com/servers/deepcomputing/bluegene.html>
- **New** presentation on the Mayo Clinic and IBM Collaboration with IBM Blue Gene Solution (Blue Gene/L)
  - <http://w3-1.ibm.com/sales/systems/portal/s.155/254?navID=f220s240&geoID=AM&prodID=IBM Systems&docID=hpcbluegenesk.skit&docType=SalesKit&skCat=DocumentType>

# Deep Computing Visualization (DCV)

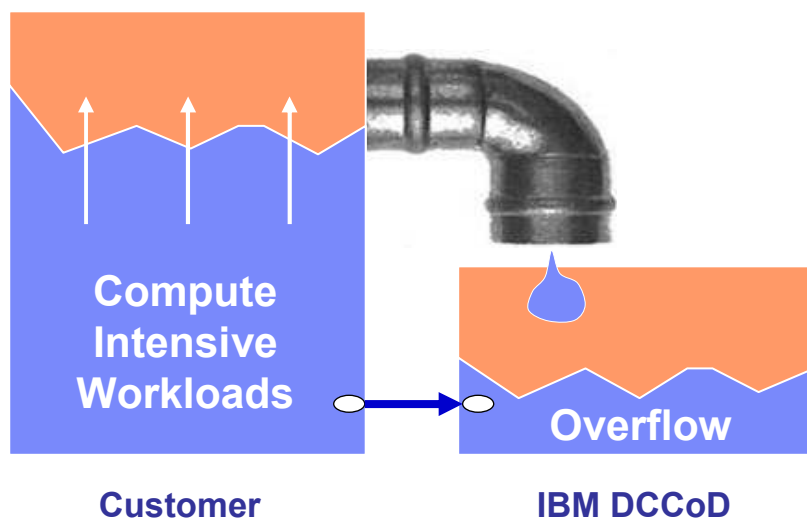
IBM's cost-effective, scalable, 3D visualization solution provides customers *more insight* into complex information, enables *better decisions* and *collaboration*

- IBM DCV integrated offering consists of
  - Rack-mounted clusters of IntelliStations
  - Cluster rendering software
  - Supports Linux™ or Microsoft® Windows® (new!)
- Enables local, large-scale and remote visual collaboration over networks
- Ideal for Petroleum, Aerospace, Auto, Govm't, Life Sciences...
- Sales Enabler / Deal Maker
  - Drags along servers, workstations and services
  - May be required to play



## IBM is the clear leader - on demand is in demand

- **Deep Computing Capacity on Demand - a flexible solution to provide compute intensive resources on a flexible basis**
  - **Dedicated** (1-3 year commitment)
  - **Variable** (weekly commitment)
  - **Dynamic** (hourly commitment)



- **IBM unique offering – “offsite computing”**
  - Rental/lease of hardware with space, power, cooling and asset management
  - Usage-based pricing
  - Enables rapid deployment, predictable costs
- **Four global DCCoD centers**
  - Locations: NY, Rochester, London (2)
  - Capacity: > 20, 000 processors
- **Choice of technology**
  - BladeCenter®, System x™ clusters, System p™, Blue Gene®
- **Value added services (e.g. Tivoli®)**
- **Flagship customers**
  - Investment banking, Insurance
  - Automotive, Aerospace, Petroleum ....
- **IBM grew DCCoD business 7x in 2006!**
- **IBM is the market leader (>60% share\*)!**
- **Testdrive a Linux® Cluster today**
  - Go to: [ibm.com/servers/deepcomputing/cod](http://ibm.com/servers/deepcomputing/cod)

\*Source: IDC Technical Utility Grid market forecast 2005-2010, November 2006



## System i in 2007

**Terese Johnson for  
Craig Johnson**

Product Management - AIX 5L, Linux, PHP, IBM System i

[johnsonc@us.ibm.com](mailto:johnsonc@us.ibm.com)

# System i - Innovate with System i Solutions

## Open source: PHP for i5/OS



### Zend Core and Zend Studio for i5/OS

- For System i customers needing an easy web application development and deployment environment.
- Zend Core and Zend Studio for i5/OS with 3 years of standard support are available at no charge from [www.zend.com](http://www.zend.com)
- Zend's products provide PHP applications with easy and fast access to i5/OS applications and data

#### •System i and PHP Sales Kit:

•IBMers: <http://w3-1.ibm.com/sales/systems/portal/s.155/254?navID=f220s240&geoID=All&prodID=IBM%20Systems&docID=systemizendphpsk.skit&docType=SalesKit&skCat=DocumentType>

#### •Business Partners : [http://www-](http://www-1.ibm.com/partnerworld/sales/systems/myportal/s.155/307?navID=f220s240&geoID=All&prodID=IBM%20Systems&docID=systemizendphpsk.skit&docType=SalesKit&skCat=DocumentType)

[1.ibm.com/partnerworld/sales/systems/myportal/s.155/307?navID=f220s240&geoID=All&prodID=IBM%20Systems&docID=systemizendphpsk.skit&docType=SalesKit&skCat=DocumentType](http://www-1.ibm.com/partnerworld/sales/systems/myportal/s.155/307?navID=f220s240&geoID=All&prodID=IBM%20Systems&docID=systemizendphpsk.skit&docType=SalesKit&skCat=DocumentType)

## Linux: System i IP Telephony



### System i IP Telephony is powered by 3Com

- Lower your traditional telephony costs and enhance productivity with IP Telephony
- Implement a complete IP telephony solution on one easy-to-manage system using the System i management tools you already know
- Extend the System i benefits of simplicity, integration, vertical growth and security to IP Telephony
- **New Capabilities:** Integrate IP telephony with existing collaboration and business applications. Improve employee productivity, increase customer satisfaction, and streamline operations.

#### •System i and IP Telephony sales kit:

•<http://www.ibm.com/systems/i/solutions/iptelephony/sales/>



## Retail Store Solutions in 2007

**Uday Watwe**

Manager, WW Retail Store Solutions Offerings

[uday@us.ibm.com](mailto:uday@us.ibm.com)

## Retail Store Solutions 2007

### – Retail Store Solutions Linux 2007 Strategy

- Linux isn't just for the enterprise anymore... IRES is a robust, secure Linux OS to manage store Point-of-Sale (POS).

### – Key products/solutions/offerings

- IBM Retail Environment for SUSE Linux (IRES) is a retail-optimized solution to manage retail store POS environments:
  - Improving security with Linux
  - Simplifying configuration and installation
  - Improving Systems Management
  - Offering High Availability configuration and installation scripts
  - Fully tested and supported on RSS hardware
  - 24 x 7 IBM support

### – Key 1Q07 Marketing Programs & Sales Plays

- Evaluate the value of IRES – talk to RSS about getting retailers to participate in an evaluation program of Linux to manage their store POS.
- Is your customer a retailer using Linux at the enterprise? Use the Linux vs. WEPOS value proposition work to drive more business on Linux at the store for POS
  - [w3retail.boulder.ibm.com/rss/rsscmt.nsf/vwAllContentLookup/Product+resources~~Software~~Retail+Environment+for+SUSE+LINUX~~Sales+support~~IRES+vs+WEPOS+2006](http://w3retail.boulder.ibm.com/rss/rsscmt.nsf/vwAllContentLookup/Product+resources~~Software~~Retail+Environment+for+SUSE+LINUX~~Sales+support~~IRES+vs+WEPOS+2006)

### – IRES Linux References

- Duty-Free Shops (DFS) in AP: [w3-3.ibm.com/sales/ssi/fcgi-bin/ssialias?infotype=RF&subtype=CS&htmlfid=ARAT-6CZPNG&appname=crmd](http://w3-3.ibm.com/sales/ssi/fcgi-bin/ssialias?infotype=RF&subtype=CS&htmlfid=ARAT-6CZPNG&appname=crmd)
- Grupo Sanborns in Mexico: [w3-3.ibm.com/sales/ssi/fcgi-bin/ssialias?infotype=CR&subtype=NA&htmlfid=0GLOS-6LL3KY&appname=crmd](http://w3-3.ibm.com/sales/ssi/fcgi-bin/ssialias?infotype=CR&subtype=NA&htmlfid=0GLOS-6LL3KY&appname=crmd)
- Matalan in UK: [w3-3.ibm.com/sales/ssi/fcgi-bin/ssialias?infotype=CR&subtype=NA&htmlfid=0GLOS-6EUF5&appname=crmd](http://w3-3.ibm.com/sales/ssi/fcgi-bin/ssialias?infotype=CR&subtype=NA&htmlfid=0GLOS-6EUF5&appname=crmd)
- Pep Boys in USA: [w3-3.ibm.com/sales/ssi/fcgi-bin/ssialias?infotype=RF&subtype=CS&htmlfid=SCHS-6HRTF7&appname=crmd](http://w3-3.ibm.com/sales/ssi/fcgi-bin/ssialias?infotype=RF&subtype=CS&htmlfid=SCHS-6HRTF7&appname=crmd)
- Scheels All Sport in USA: [w3-3.ibm.com/sales/ssi/fcgi-bin/ssialias?infotype=CR&subtype=NA&htmlfid=0GLOS-6VYPL4&appname=crmd](http://w3-3.ibm.com/sales/ssi/fcgi-bin/ssialias?infotype=CR&subtype=NA&htmlfid=0GLOS-6VYPL4&appname=crmd)

### – IRES Resources

- IBM: [w3retail.boulder.ibm.com/rss/rsscmt.nsf/vwAllContentLookup/Product+resources~~Software~~Retail+Environment+for+SUSE+LINUX~~Overview](http://w3retail.boulder.ibm.com/rss/rsscmt.nsf/vwAllContentLookup/Product+resources~~Software~~Retail+Environment+for+SUSE+LINUX~~Overview)
- Business Partner: [www-03.ibm.com/products/retail/products/software/ires/](http://www-03.ibm.com/products/retail/products/software/ires/)

### – Contact name/email for questions/assistance:

- Americas: Leon Milnes, [lmilnes@us.ibm.com](mailto:lmilnes@us.ibm.com)
- EMEA NE: Andrea Klein, [anklein@de.ibm.com](mailto:anklein@de.ibm.com)
- EMEA SW: Luigi Loda, [luigi\\_loda@it.ibm.com](mailto:luigi_loda@it.ibm.com)
- Asia Pacific: Errol Pereira, [pereirae@sg.ibm.com](mailto:pereirae@sg.ibm.com)
- WW: Uday Watwe, [uday@us.ibm.com](mailto:uday@us.ibm.com)



## Questions and Answers



## What's next...

- **PLEASE DON'T FORGET** to **MARK YOUR CALENDAR** for the IBM Ambassadors for Linux and Open Source Calls in March

For call details, charts, and replay files:

- **Monthly Call:** March 15, 11am-12pm U.S. Eastern time, 15:00 GMT

IBMers: <http://w3-1.ibm.com/sales/systems/portal/s.155/254?navID=f220s240&geolD=All&prodID=Linux&docID=lxeeambassador0207>

IBM Business Partners: [http://www-1.ibm.com/partnerworld/pwhome.nsf/weblook/pat\\_linux\\_learn\\_amb\\_kits\\_call3.html](http://www-1.ibm.com/partnerworld/pwhome.nsf/weblook/pat_linux_learn_amb_kits_call3.html)

- **Seminar: SWG and Services 2007 Initiatives;** March 28, 11a.m.-12pm U.S. Eastern time, 15:00 GMT

IBMers: <http://w3-1.ibm.com/sales/systems/portal/s.155/254?navID=f340s260&geolD=All&prodID=Linux&docID=lxeeseries0307>

IBM Business Partners: [http://www-1.ibm.com/partnerworld/pwhome.nsf/weblook/pat\\_linux\\_learn\\_amb\\_kits\\_sem3.html](http://www-1.ibm.com/partnerworld/pwhome.nsf/weblook/pat_linux_learn_amb_kits_sem3.html)

## ...and don't forget!

- **Submit your Linux questions and get them answered on the next call**
  - Send note to [linuxamb@us.ibm.com](mailto:linuxamb@us.ibm.com)
  - Put “Linux/Open Source Question” in subject line
- **If we didn't have time on the call to answer the question you sent us, check out the call web site for Q&A the week after the call...we post written answers to your questions!**
- **Don't miss the latest news on upcoming calls and events – click to**
  - IBM business partners, please send note to [linuxamb@us.ibm.com](mailto:linuxamb@us.ibm.com)
- **Missed a call? Listen to the replay! MP3 recordings (along with call charts and Q&A) of every call are available all year:**
  - IBMers: [http://w3-1.ibm.com/sales/systems/portal/\\_s.155/254?navID=f220s240&geoID=All&prodID=Linux&docID=lxambassadorcallsrk](http://w3-1.ibm.com/sales/systems/portal/_s.155/254?navID=f220s240&geoID=All&prodID=Linux&docID=lxambassadorcallsrk)
  - IBM business partners:  
[http://www-1.ibm.com/partnerworld/pwhome.nsf/weblook/pat\\_linux\\_learn\\_amb\\_program.html](http://www-1.ibm.com/partnerworld/pwhome.nsf/weblook/pat_linux_learn_amb_program.html)
- **Questions? Input? Feedback? Contact Jai Singh Arun – [jai@us.ibm.com](mailto:jai@us.ibm.com)**



## Sales Resources



## Sales Resources

- Linux Portal: [w3.ibm.com/linux/sales](http://w3.ibm.com/linux/sales)
- Systems Sales kit – [w3.ibm.com/sales/systems/linux](http://w3.ibm.com/sales/systems/linux)
- Extreme Leverage portal (SWG) - [http://w3-103.ibm.com/software/xl/portal/!ut/p/ s.7\\_0\\_A/7\\_0\\_LT?nb=ms&ni=linux&e=linux](http://w3-103.ibm.com/software/xl/portal/!ut/p/ s.7_0_A/7_0_LT?nb=ms&ni=linux&e=linux)
- Infrastructure Solutions Site: <http://w3.ncs.ibm.com/solution.nsf/TopPage?ReadForm&Enterprise+Solutions=infrastructure>  
[https://www.developer.ibm.com/partnerworld/mem/strategy/ebod\\_playbooks.html](https://www.developer.ibm.com/partnerworld/mem/strategy/ebod_playbooks.html)
- Business Solutions Site: [http://w3-03.ibm.com/services/bcs/news\\_pubs/features/2005/0225\\_ibm\\_solutions.html](http://w3-03.ibm.com/services/bcs/news_pubs/features/2005/0225_ibm_solutions.html)
- SWG Linux Sales Plays: <http://w3-103.ibm.com/software/xl/portal/viewcontent?type=doc&srcID=XT&docID=S358039E05582J75>
- Client - Business Partners - [http://www-1.ibm.com/linux/va\\_12.shtml](http://www-1.ibm.com/linux/va_12.shtml)
- IBM Business Partners and Linux Sheet - [http://w3-03.ibm.com/software/sales/saletool.nsf/salestools/Developer+Relations\\$ISVCentral](http://w3-03.ibm.com/software/sales/saletool.nsf/salestools/Developer+Relations$ISVCentral)
- Linux Speaker's Bureau - [http://w3.linux.ibm.com/marketing/speakers\\_bureau.php](http://w3.linux.ibm.com/marketing/speakers_bureau.php)
- IBM Ambassadors for Linux and Open Source:
  - <http://w3-1.ibm.com/sales/systems/portal/ s.155/254?navID=f220s240&geoID=AM&prodID=Linux&docID=lxambassadorcallsrk>
  - <http://www-1.ibm.com/partnerworld/sales/systems/myportal/ s.155/307?navID=f220s240&geoID=All&prodID=Linux&docID=lxambassadorcallsrk>
- Competitive Support
  - **Linux at IBM Competitive Advantage Site** - [http://www-1.ibm.com/linux/va\\_4067.shtml](http://www-1.ibm.com/linux/va_4067.shtml)
  - **Sun to Linux Business Partner Sales Kit** - [http://www-1.ibm.com/linux/va\\_4072.shtml](http://www-1.ibm.com/linux/va_4072.shtml)
  - **Solaris to Linux Business Partner Web Site** - [http://www-1.ibm.com/partnerworld/pwhome.nsf/weblook/pat\\_linux\\_learn\\_why\\_solaris.html](http://www-1.ibm.com/partnerworld/pwhome.nsf/weblook/pat_linux_learn_why_solaris.html)
  - **SMBA Web Site - Linux Spotlight** - [https://www.developer.ibm.com/partnerworld/mem/strategy/smb\\_offerings\\_sol\\_linux.htm](https://www.developer.ibm.com/partnerworld/mem/strategy/smb_offerings_sol_linux.htm)
- Linux Technology Center (LTC) On Demand - <http://ltc.linux.ibm.com/ltc/ondemand/index.html>
- Linux Centers of Competency -- <http://www-1.ibm.com/linux/ltc/centers.shtml>
- Linux Integration Centers: --<http://lic.austin.ibm.com/>

# IBM Ambassadors for Linux and Open Source -- Key Contacts

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IBM benchmark results can be found in the IBM System p5, eServer p5, pSeries, OpenPower, RS/6000 and BladeCenter Performance Report at [http://www.ibm.com/systems/p/hardware/system\\_perf.html](http://www.ibm.com/systems/p/hardware/system_perf.html).

All performance measurements were made with AIX or AIX 5L operating systems unless otherwise indicated to have used Linux. For new and upgraded systems, AIX Version 4.3 or AIX 5L were used. All other systems used previous versions of AIX. The SPEC CPU2000, LINPACK, and Technical Computing benchmarks were compiled using IBM's high performance C, C++, and FORTRAN compilers for AIX 5L and Linux. For new and upgraded systems, the latest versions of these compilers were used: XL C Enterprise Edition V7.0 for AIX, XL C/C++ Enterprise Edition V7.0 for AIX, XL FORTRAN Enterprise Edition V9.1 for AIX, XL C/C++ Advanced Edition V7.0 for Linux, and XL FORTRAN Advanced Edition V9.1 for Linux. The SPEC CPU95 (retired in 2000) tests used preprocessors, KAP 3.2 for FORTRAN and KAP/C 1.4.2 from Kuck & Associates and VAST-2 v4.01X8 from Pacific-Sierra Research. The preprocessors were purchased separately from these vendors. Other software packages like IBM ESSL for AIX, MASS for AIX and Kazushige Goto's BLAS Library for Linux were also used in some benchmarks.

For a definition/explanation of each benchmark and the full list of detailed results, visit the Web site of the benchmark consortium or benchmark vendor.

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## Red Hat Enterprise Linux Available from System x



RHEL 4 Offering	\$**	HVEC Option	PID	Feature Code*
RHEL AS Standard Red Hat Support 1 yr	\$1499	39Y5305	5639-RXS	4395
RHEL AS Premium Red Hat Support 1 yr	\$2499	39Y5308	5639-RXS	4396
RHEL AS Standard 1 yr (sell with IBM Support)	\$799	39Y5306	5639-RXS	4393
RHEL AS Standard 3 yr (sell with IBM Support)	\$2159	39Y5307	5639-RXS	4394
RHEL ES Standard Red Hat Support 1 yr	\$799	39Y5310	5639-RXS	4399
RHEL ES Standard 1 yr (sell with IBM Support)	\$399	39Y5312	5639-RXS	4397
RHEL ES Standard 3 yr (sell with IBM Support)	\$999	39Y5314	5639-RXS	4398
**Local pricing may vary				* US and Canada

RHEL 4 Cluster Node Offering	\$**	HVEC Option	PID	Feature Code*
RHEL HPCC 1-2 Socket Standard 1 YR (no IBM Support)	\$79	39R7026	5639-RXS	4403
RHEL HPCC 1-2 Socket Standard 3 YR (no IBM Support)	\$225	39R7030	5639-RXS	4404
RHEL HPCC 1-4 Socket Standard 1 YR (no IBM Support)	\$159	31R1770	5639-RXS	4640
RHEL HPCC 1-4 Socket Standard 3 YR (no IBM Support)	\$449	31R1772	5639-RXS	4641
RHEL HPCC Media Kit	\$99	31R1768	5639-RXS	4405
**Local pricing may vary				*US and Canada

# SUSE Linux Enterprise Server

## Available from System x

Novell

SLES 9 or 10 Offerings	\$*	SW MTM US SEO	Canada SEO	PID	US Feature Code	Canada Feature Code
SLES 1-32 socket 1 Year	\$349	48153QU	42C6551	5639-S1X	0001	D2WD
SLES 1-32 socket 3 Year	\$870	48153RU	42C6552	5639-S1X	0002	D2WE
SLES 1 socket 1 Year	\$175	48151QU	42C6553	5639-S1X	0003	D2WF
SLES 1 socket 3 Year	\$438	48151RU	42C6554	5639-S1X	0004	D2WG
BladeCenter Chassis 1 Year	\$2443	4815CQB	42C6555	5639-S1B	0001	D2UB
BladeCenter Chassis 1 Year	\$6090	4815CRB	42C6556	5639-S1B	0002	D2UC
BladeCenter T Chassis 1 Year	\$1396	4815TQU	42C6557	5639-S1B	0007	D3AH
BladeCenter T Chassis 1 Year	\$3480	4815TRU	42C6558	5639-S1B	0008	D3AJ

SLES 9 or 10 HPCC Offerings	\$*	HVEC Option	PID	US Feature Code
SLES HPCC 1-8 socket 1 Year	\$100	31R1438	5639SLE	3008
SLES HPCC 1-8 socket 3 Year	\$189	31R1440	5639SLE	3009
* Local prices may vary				

## IBM Linux Support Options

Either IBM Remote Technical Support ServicePac or Support line can be chosen.

	RTS/ServicePac*	SupportLine
<b>How sold</b>	Have xSeries part numbers and can be ordered by the sales channel or via the web	By generating a Support Line contract via IGS.
<b>System Coverage</b>	Priced and purchased for each unique System x servers.	Covers a customer's servers as a group of systems.
<b>Which do I lead with?</b>	Lead with RTS/ServicePac when the deal includes less than 25 servers.	Lead with a SupportLine contract if deal includes 25 or more servers.
<b>Average Pricing</b>	1 CPU ~ \$300 2 CPU ~ \$500 4 or more CPU ~ \$700	Priced per server and is based upon the number of servers.

- Comparison above describes the RTS/ServicePac offering in USA. Comparisons will vary by geo/country.
- VMware support is extra.