오픈소스와 함께하는 Business 혁신 - IBM 오픈소스 정책

Linux® and Open Source:
Innovate to Grow Your Business

최연미
한국 IBM

- Business Challenges and Benefits
- Open Computing and Innovation
- IBM's Leadership in Innovation
- Integrated Portfolio of IBM Solutions
- Linux and Open Source Ecosystem
- Why Linux Solutions from IBM

- **Business Challenges and Benefits**
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Market Pressure

Business Efficiency

- Process integration
- Cost
- IT Asset Utilization

Business Continuity

- Reliability
- Performance
- Security
- Disaster Recovery

Open Movement

- Feasibility
- Innovation
- Standards

Technology Substitution

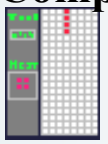
- Commoditization
- Blades
- Virtualization
- Clusters & Grids

Open Innovation and Business Value

Innovating on Linux

Open Source (beyond Linux)
Freely Innovate on Standards

Deep Computing



Virtualization

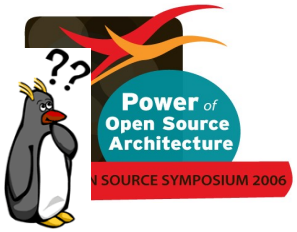
Grid Computing

Powered by

Business Benefits

- *Business flexibility*
- *Business resilience and security*
- *Value net optimization*
- *IT optimization*
- *Reuse & Leverage existing IT Assets*

Linux at IBM



Linux is Transforming & Innovating Customers' Businesses

Openness
- Flexibility
- Resilience
- Collaboration
- Avoid vendor lock-in
- Maximize freedom of action

Price/Performance
- Real Cost savings
- Improved performance with Linux
- Optimized across a value chain
- Reduction of system maintenance cost,
- time, and effort
- Increased IT staff efficiencies1

Reliability & Security
- Better scaling of applications
- Greater ability to meet dynamic
- workload requirements1
- Highly secure Linux OS saves costs
- on antivirus software
- Increased system power & performance

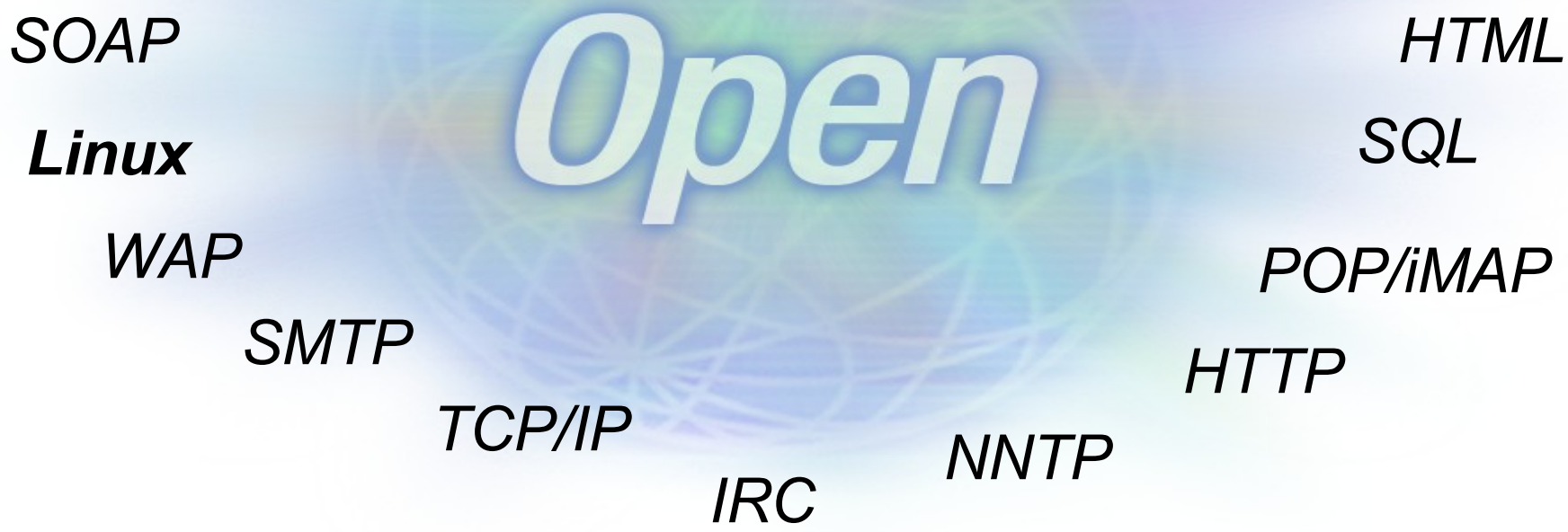
Drives Innovation
- Rapidly solve business issues
- Accelerate technological advancements
- Stimulate economic growth
- Enable new business models

[1] *Beyond TCO – The Unanticipated Second Stage Benefits of Linux, Pund-IT Group, 2005*

The Value of Open Innovation

"Companies that innovate on top of open standards are advantaged because resources are freed up for higher-value work and because market opportunities expand as the standards proliferate."

-From "An IBM Prospectus" IBM Annual Report 2004



Power of Open Source Architecture
OPEN SOURCE SYMPOSIUM 2006

Linux at IBM

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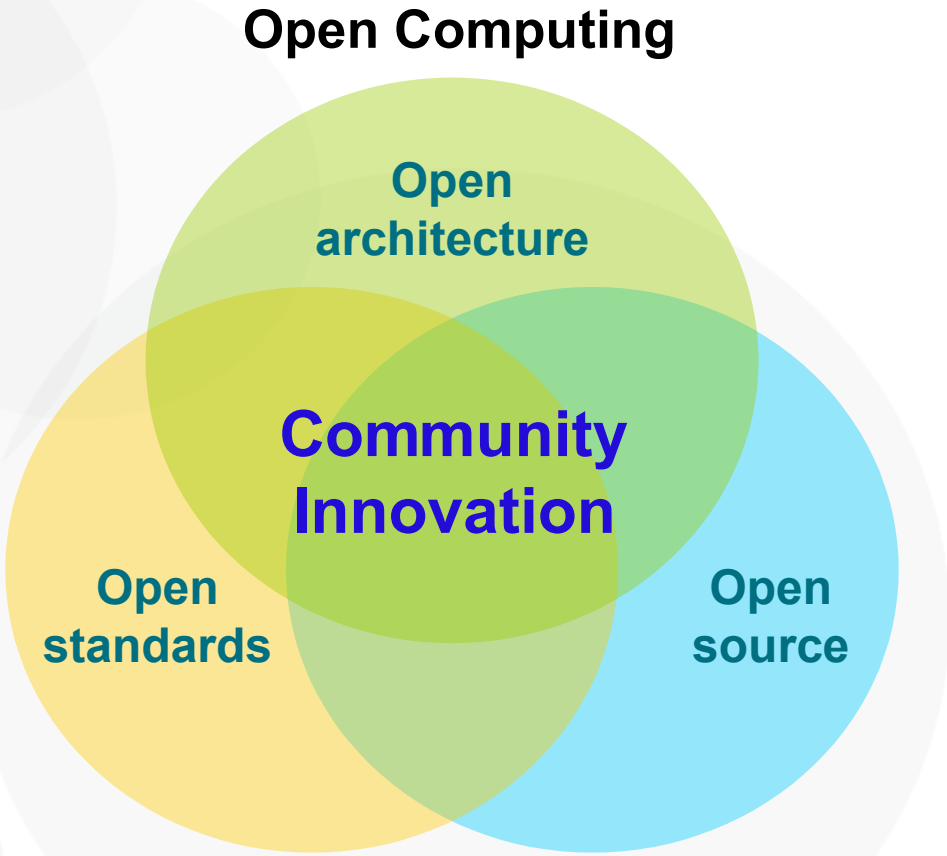
Open Source is part of Open Computing

- Open standards
  - **Improving data sharing by simplifying integration of disparate technologies**
  - **Promoting interoperability by using open published specifications**
- Open architecture
  - **Increasing collaboration by easily extending business processes – e.g. SOA**
  - **Innovating on top of common hardware specifications**
- Open source
  - **Promoting collaborative innovation by leveraging community development**



Open Source Fuels Innovation

- "*Open source is **a method of tapping a community of experts to develop useful things.** It began in software, but applies broadly, and is anything but anti-capitalist. **It can raise quality at reduced costs, and vastly expands opportunities for profit. In a sense, open source fuels innovation much the way science fuels technology.** Science is created by communities of experts, whose fundamental discoveries are typically made available to all, including individuals and companies that are able to capitalize on the new knowledge in novel ways. For IBM, the open-source model is familiar territory, given our long track record in the sciences.*"

Sam Palmisano, President and CEO, IBM

12/2/05 http://www.msnbc.msn.com/id/10296176/site/newsweek/

Customers use both Open Source and Private Source

- ***Private Source***

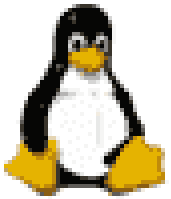
- ***Open Source***

- Creating software that is private source and innovative - intended to differentiate the vendor and deliver value to the client.

- Creating, maintaining, and enhancing software through open, collaborative communities driving evolution of standards and innovation.

The Industry is Seeking a New Equilibrium

IBM's contributions to Open Source goes back 7+ years

eclipse	The Apache Software Foundation	
IBM Contributes Eclipse Platform	**IBM Leads and Contributes to Apache Community Projects**	**IBM Invests and Participates in Open Source Projects**
Leading Open Source Development Tools Community	**Leading Open Source Web Server Community**	**Leading Open Source Operating System Community**
IBM -Tools Leadership	**IBM- Web Application Server Leadership**	**IBM- Linux Server Leadership**

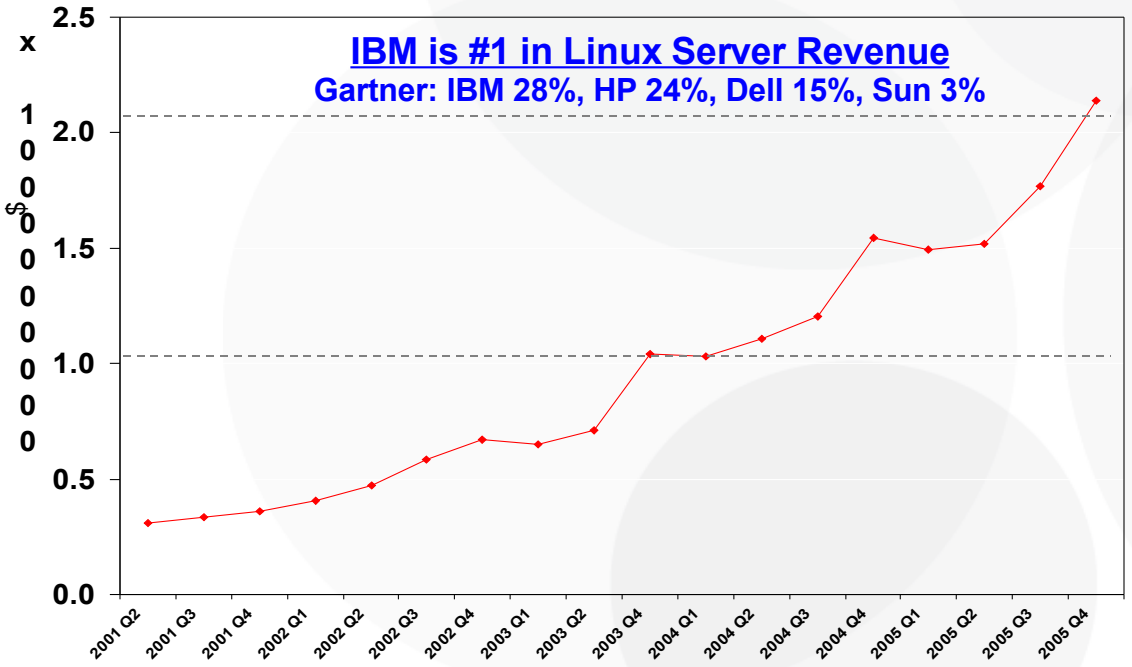
Power of Open Source Architecture
OPEN SOURCE SYMPOSIUM 2006

Linux is the first example of how Open Source Software can rapidly mature to become a key IT and business enabler

- Industry Linux Server Revenue Growth Continues to Outpace all Platforms

Worldwide Linux Server Revenue (All Vendors)

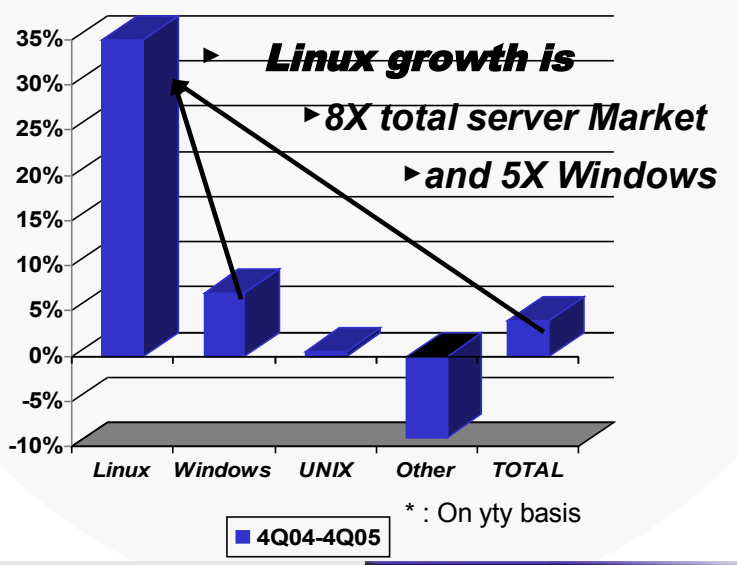
9th Quarter in a row of over $1B in revenue
4Q '05, first $2B quarter!



Source: Gartner Quarterly Statistics, Server Market 4Q05

WW Server market (FY2005)				
OS Family	2005 Revenue		Revenue Growth	Unit Growth
Linux	$	6,916	**35%**	**45%**
Windows		18,619	7%	11%
UNIX		16,251	0%	-4%
Other		9,896	-9%	-26%
	$	51,683	4%	13%

Source: Gartner Group Q405



* : On yty basis

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Innovation at IBM

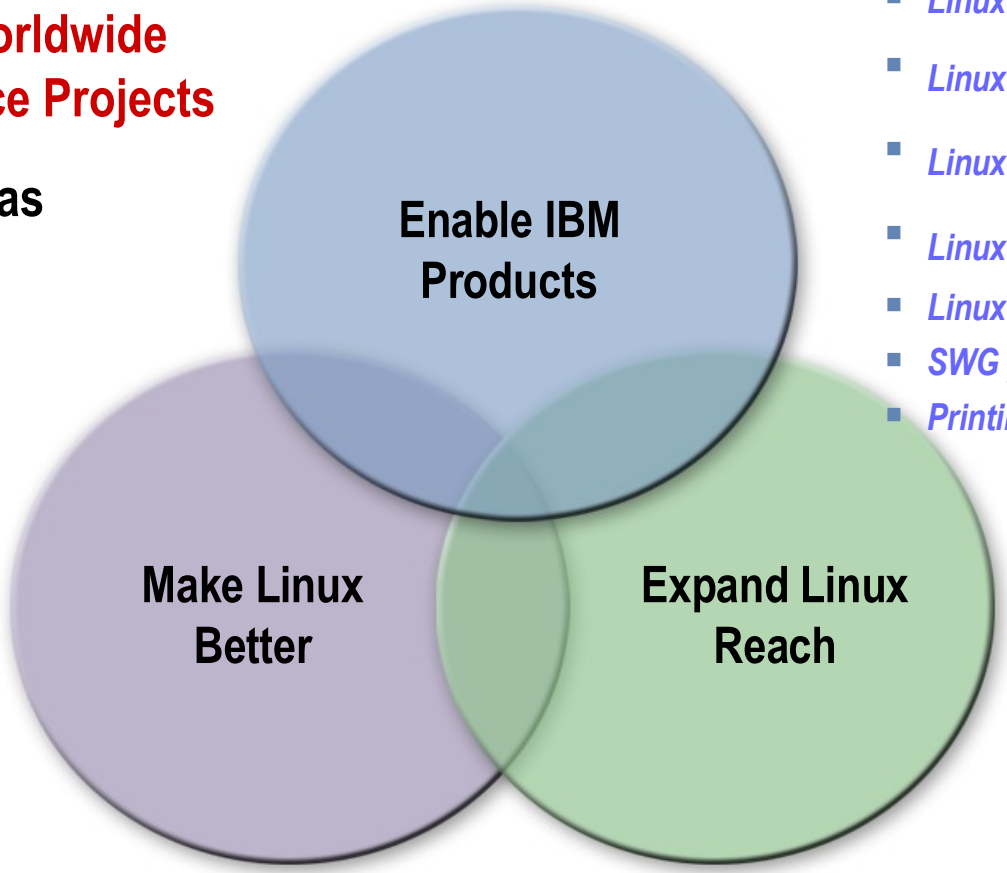
- **IBM leadership** often initiates and leads industry standards efforts
- **Broad support** for many platforms, technology, and incorporating industry-specific standards
- **Proven experience** providing standards-based solutions for customers
- **Extensive customer base** drives requirements for global standards
- **A strong network of IBM Business Partners** providing products and system integration based on IBM standards-based solutions
- **Excellent services and support** to assure customer business success via use of open standards.

IBM's investment in Linux and Open Source: Linux Technology Center

600 + Dedicated Developers
40 + Locations worldwide
150 + Open Source Projects

Development Areas

- *Scalability*
- *RAS*
- *Kernel*
- *Device Support*
- *Networking*
- *Systems Mgmt*
- *Security*
- *Performance*
- *Toolchain*
- *Standards*
- *Test & Quality*



IBM Products

- *Linux on System P™*
- *Linux on System Z™*
- *Linux on System X ™*
- *Linux on Storage*
- *Linux on Cell*
- *SWG products on Linux*
- *Printing, RSS, IGS……*

New Areas

- *Carrier Grade Linux*
- *Data Center Linux*
- *Windows Interoperability*
- *Embedded Linux*
- *Digital Media*
- *Real Time*

http://www-1.ibm.com/linux/ltc/mission.shtml

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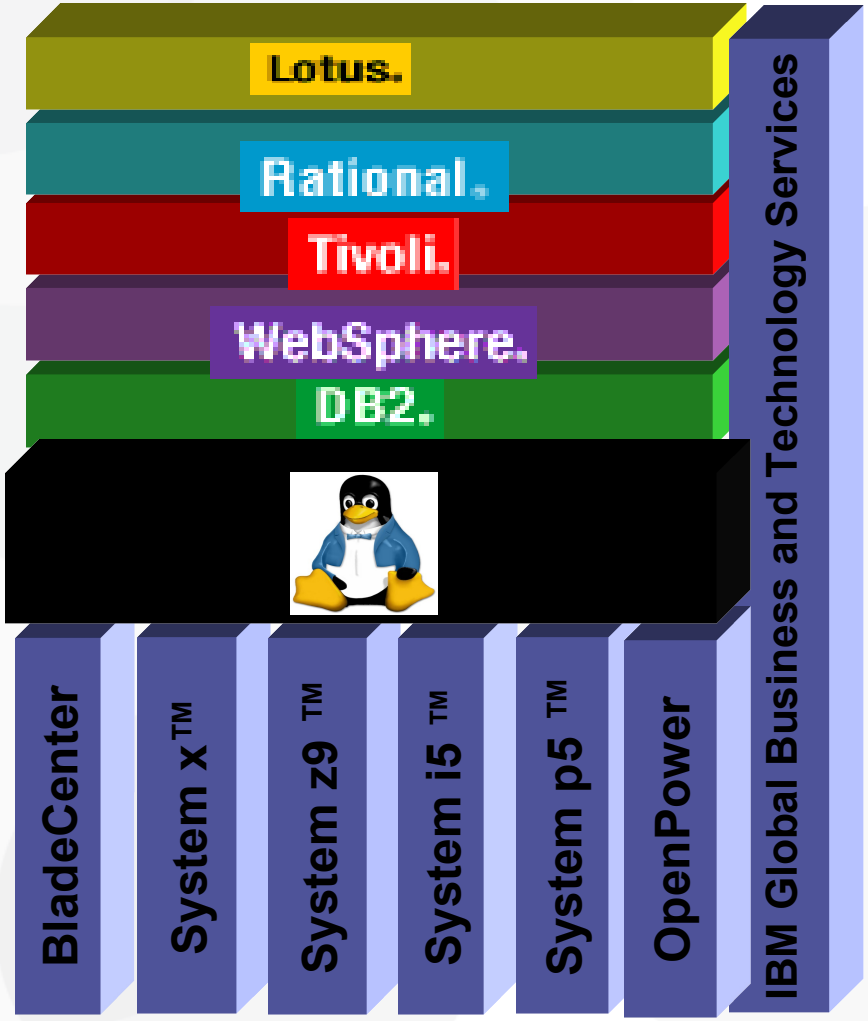
IBM's Linux and Open Source Solutions Portfolio

400+
Middleware
Products Enabled



Over 7000
Services
Professionals

Linux Runs Across
All IBM eServer™
Platforms

Strategic
partnership with
LDP – Red Hat and
Novell

IBM's entire Systems and Storage family – Ready for Linux

System z9™
- Legendary quality of service, security and scalability
- Industry leading virtual partitioning for z/OS and Linux

System x™
- End-to-end portfolio on Intel processors
- Revolutionary Enterprise X-Architecture technology for Intel
- Windows and Linux

eServer 3nn
- AMD processor based systems
- Open power

BladeCenter®
- Highly manageable, modular infrastructure
- Shared resources for business continuity
- Performance density
- Windows, AIX, and Linux

IBM System Storage™
High Performance and Availability
- Flexible and Scalable
-One size fits all
- Linux, AIX, Windows

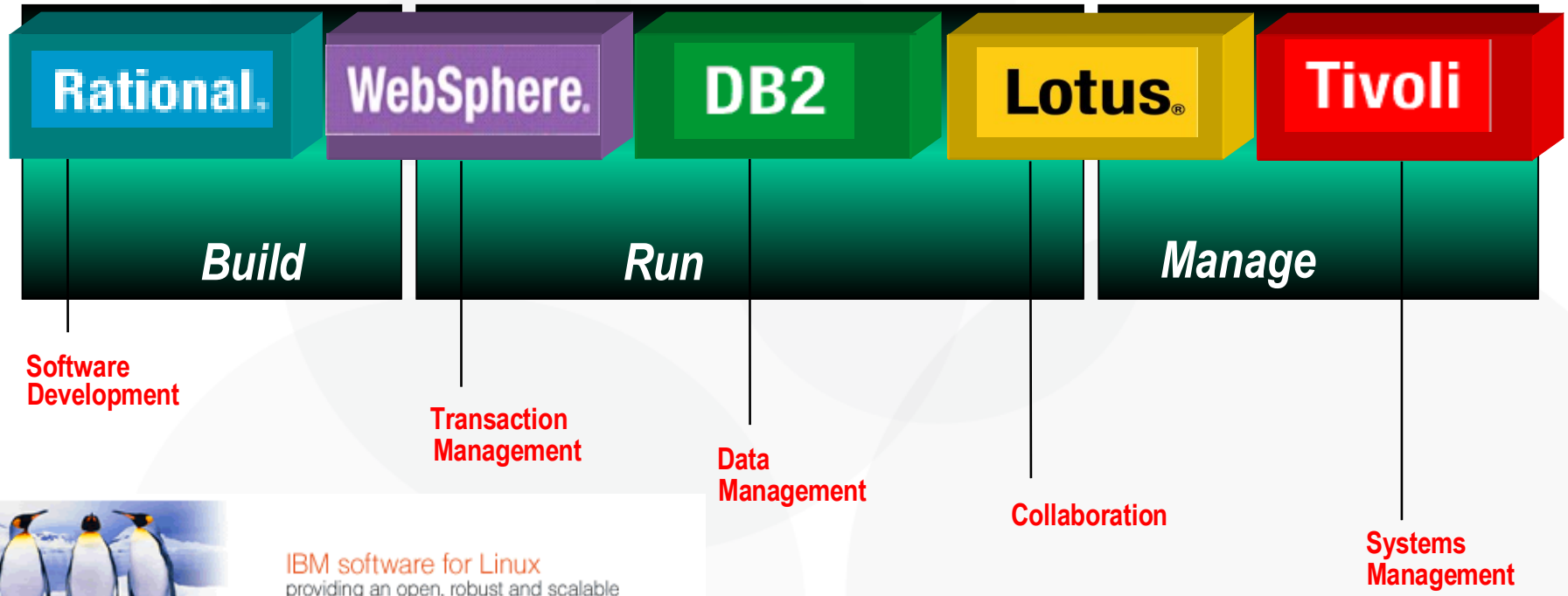
System p5™
- Outstanding performance and reliability
- Uncompromising AIX and Linux enablement

System i5™
- Robust application integration and integrated operating system
- High levels of security
- i5OS, OS/400, AIX, Linux, and Windows

Clusters
- Price and performance leadership in UNIX and especially Linux

Linux at IBM

IBM's Middleware Products - Ready for Linux



IBM software for Linux
providing an open, robust and scalable platform for applications

Over 400+ Linux Offerings . . .

Evaluation copies of IBM middleware can be downloaded from:

☞ *http://www.ibm.com/developerworks/downloads*

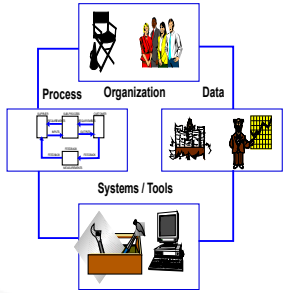
Linux Product Matrix can be downloaded from:

☞ *http://ibm.com/software/os/linux/software/index.jsp*

IBM GTS & GBS - Linux Support & Subscriptions

Linux Distributions
- Red Hat or SUSE
- IBM & Non-IBM Platforms
- Enterprise Release

Linux Systems Management
- Backup & Recovery
- Problem & Change Mgt
- Tools Selection



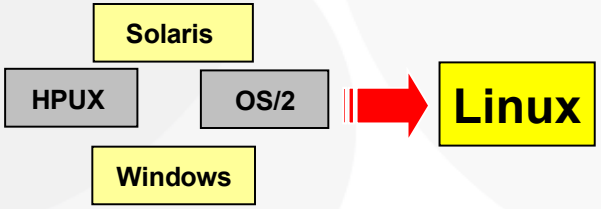
☆ Linux SupportLine & Subscriptions
IBM selling Red Hat & Novell 1 & 3 years subscriptions WW with *IBM delivered local & remote usage and defect support for Linux avail 8x5 to 24x7*

Linux Security
- Ethical Hacking
- Tools Selection
- Assessment to Implementation

Linux Training
- Red Hat and SUSE (LPI)
- On-line, On-site, Class Room
- Unix to Linux Quick Starts
- Worldwide

Linux Infrastructure
- Server Consolidation
- Rollouts & Deployments
- Hosting
- Business Continuity and recovery

Linux Applications
- Custom Application Development
- Linux Package Applications
- Application Porting/Migration
- Application Hosting



Linux Performance
- Performance Engineering
- Scalability Optimization
- Response Time Validation

IBM's leadership in integrated business solutions

Infrastructure Solutions

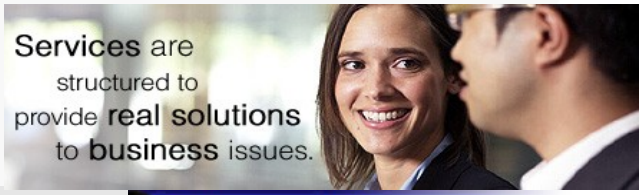
Industry Solutions

SOA Solutions

LOB Solutions

Enterprise Solutions Provider 1996 - 2006

THE VARBUSINESS 500



Linux at IBM

Linux: Transforming IBM's IT infrastructure

Providing Key Business Solutions

- **3,500+ Production Servers WW**
  - *25,000 clients*
- **www.ibm.com/linux & w3.ibm.com/linux**
  - *Redundant xSeries Linux servers*
- **IBM's Application Hosting Environment's HTTP workload**
  - *21 Blade servers running in North America and EMEA*
- **IBM's Special Events Infrastructure (Grand Slam Tennis Events and Masters Golf events)**
  - *291 xSeries servers running Linux in 3 clusters, in 3 data centers.*
- **IGS Internet Vulnerability Security Scanning**
  - *120 xSeries scanning 30k IP addresses/ week*
- **Web Fountain's Advanced Mining Application Service**
  - *A development environment of 326 servers*
  - *A production environment of 616 servers running Linux. (Including 398 Blades.)*
- **IBM Global e-Mail Anti-virus Management**
  - *xSeries scans incoming/outgoing mail for viruses*
- **300mm Wafer Manufacturing Automation & Equipment Control:**
  - *Increased reliability over Win2000*
  - *200+ production xSeries and consolidating some workloads onto pSeries*

Source: Linux@IBM_External_Aug05

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IBM's Linux and Open Source Ecosystem

Technical Support
WW Competence Centers

Worldwide
Porting Centers

Use Linux
internally

Linux
Technology
Center

Linux Sales
Specialists

Linux
Whitepapers
and Redbooks

Linux
Integration
Center

Open Source
Development Lab

Products

ibm.com/linux

Linux Enabled
Business Partners

Linux
Services

Comprehensive Linux Programs for IBM Business Partners

Programs for Linux Partners

Enable, Train, Get Tech support	Build Opportunity	Build Partnerships & Close Deals
✓ Linux support from IBM Innovation Centers ✓ **Chiphopper™** ✓ Solaris to Linux Migration Toolkit ✓ "Ready for" certification marks: Linux & Grid	✓ System p Marketing on Demand ✓ **Preempt Solaris 10 Fund**	✓ IBM Linux Sales Connections ✓ **IBM Value Networks** ✓ **Leaders for Linux** ✓ Linux & Open Source Ambassador initiative

PartnerWorld Industry Networks

By Vertical Industry. Marketing, Selling, Technical Support, Training, Collaboration.

PartnerWorld

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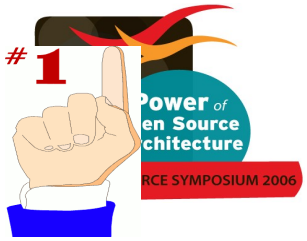
IBM's Linux Differentiators

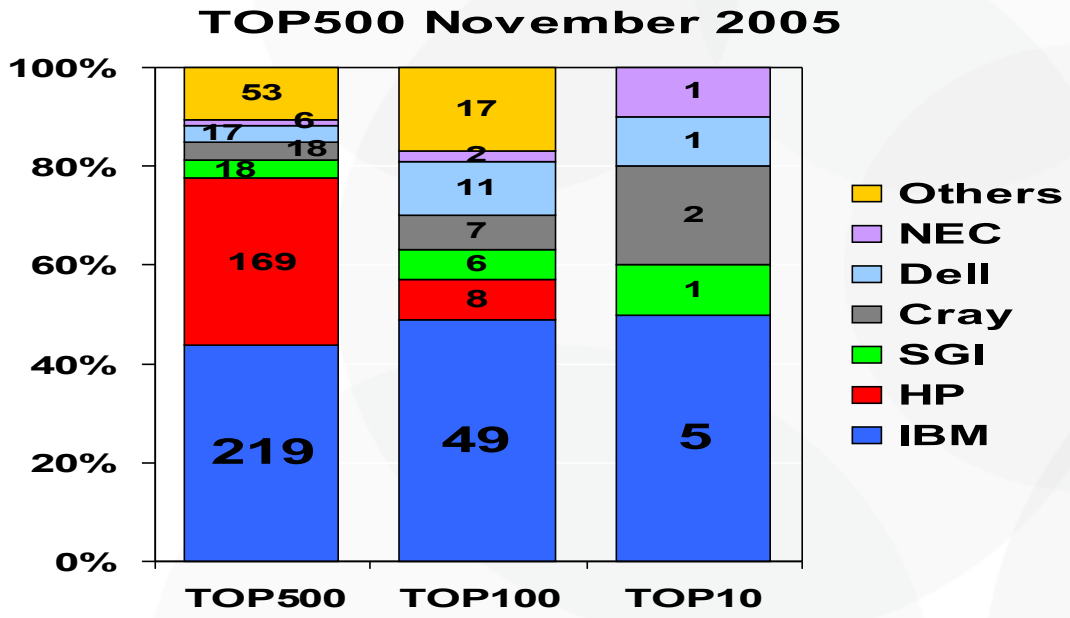
- IBM's big investment (over $1B) in Linux & Open Source development
- IBM's excellent Linux support worldwide
- IBM's strong relationships with Linux Distribution Partners
- IBM's expertise in Linux architecture and design
- IBM's focused commitment to advancing Linux technology
- IBM LTC's increased involvement in understanding customer's Linux requirements



IBM's Linux and Open Source Leadership (Press/Analysts)

- ✓ **IBM ranks #1 in worldwide Linux Server market by total server revenue** (Source: Gartner Quarterly Statistics, Server Market 2005)
- ✓ **IBM ranks #1 Enterprise Solutions provider since last 11 years – from 1996 to 2006** (Source: VarBusiness-500 2006)
- ✓ **IBM ranks #1 in ISV Partner Programs** (Source: Worldwide Independent Software Vendor Programs 2006 Vendor Analysis, IDC, Feb 2006, IDC#34937, Volume: 1)
- ✓ **IBM ranks #1 in Application Integration and Middleware software** (Source: Gartner Dataquest May-2006)
- ✓ **IBM has over 10 years of industry expertise in Linux and Open Source solutions**

IBM Supercomputing Leadership

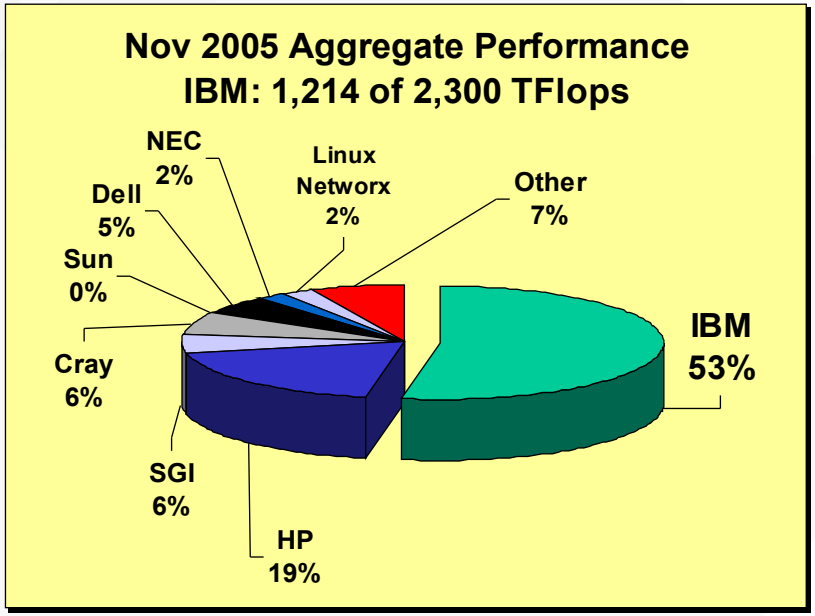


IBM is clear leader

- #1 System – DOE/LLNL - BlueGene/L (280.6 TF)
- Most entries on TOP500 list (219)
- Most installed aggregate throughput (over 1,214 TF)
- Most in TOP10 (5), TOP20 (8) and TOP100 (49)
- Fastest system in Europe (MareNostrum)
- Most Linux Commodity Clusters with 158 of 360

TOP500® SUPERCOMPUTER SITES

Semiannual independent ranking of top 500 supercomputers in the world



Source: www.top500.org

IBM's Linux leadership

IBM is well accepted by the Linux community	▪ 150 active Open Source projects ▪ More than 600 engineers at the IBM Linux Technology Center dedicated to open source projects and Linux enhancements ▪ Key participant and contributor to OSDL's Data Center Linux and "Carrier Grade Linux" project ▪ Strategic alliances with Linux Distribution vendors
IBM is investing in Linux	▪ Over 7000 IBM employees Linux services professionals ▪ Linux offered across the full range of IBM eServer products ▪ IGS offer industry's most comprehensive services portfolio ▪ Linux Porting Centers, Linux CoC for Finance (NYC, London) ▪ Linux for Service Providers Lab, Linux Integration Center
IBM eats its own cooking	▪ www.ibm.com runs on Linux ▪ IBM runs Linux on 3,500+ servers, supporting 300,000 employees ▪ Deploying Linux to support Lotus Notes infrastructure saves IBM $10M per year IGS runs file and print services using Samba for 165,000 employees

http://www.ibm.com/linux

Power of Open Source Architecture

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