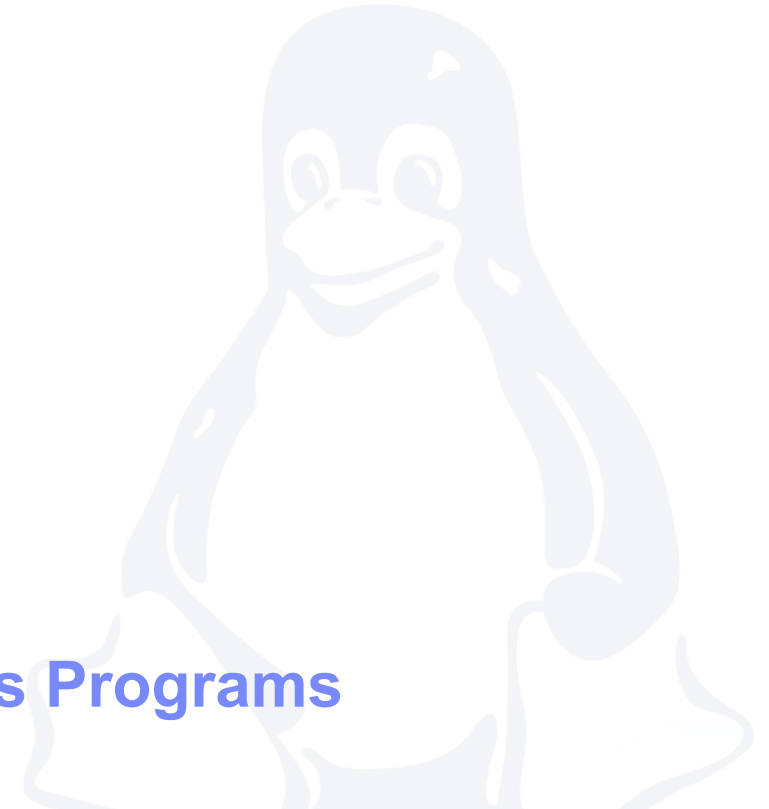




Linux @ IBM

IBM's Linux Strategy: An Executive Perspective

John Sarsgard
VP, World-wide Linux Sales Programs
IBM Corporation



Session 9310, Share 100
Dallas, TX February 24, 2003



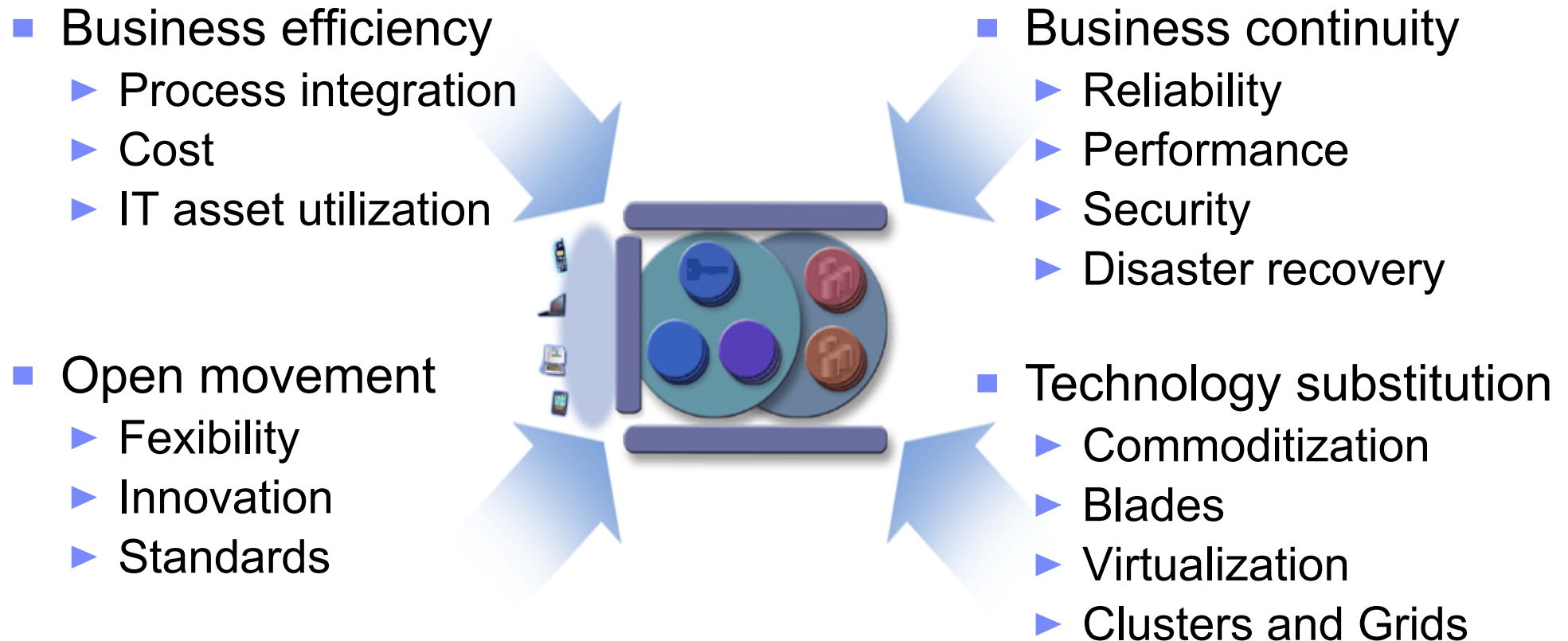
IBM Linux Strategy - Executive Overview

Abstract

- Wondering where IBM is going with their Linux strategy? Funny you should ask. Come listen to John Sarsgard, IBM's Vice President of Worldwide Linux Sales, provide an overview of that very topic. John will cover:
 - ▶ Linux Overview, value and marketplace: A brief overview of what Linux is, its value to our customers and trends in the marketplace
 - ▶ Linux Misconceptions: Setting right the facts about Linux and what it is capable of today including some real-life customer examples
 - ▶ IBM Strategy and Linux Opportunities: Executive perspective of the strategic plays where we see Linux and the opportunities for its usage today including references
 - ▶ IBM Products & Services Overview: A short overview of the IBM Linux portfolio (server platforms, middleware and support and services)
 - ▶ IBM Customer Focus Areas and References: Focus areas by industry where Linux can play and some references



Market Pressures





On Demand Companies

"An enterprise whose business processes — integrated end-to-end across the company and with key partners, suppliers and customers — can respond with speed to any customer demand, market opportunity or external threat"

Sam Palmisano, October 2002

Responsive

Variable

Resilient

Focused



bp





On Demand Operating Attributes

Open

Integrated

*...an approachable, adaptable,
integrated and reliable infrastructure
delivering on demand services for on
demand business operations...*

Virtualized

Autonomic



On Demand Computing Environment *Open Standards*





What are Linux and Open Source?

- What is Linux?
 - ▶ UNIX-like operating system
 - ▶ Packaged and shipped by distributors such as Red Hat, SuSE, Turbolinux, ...
 - ▶ UnitedLinux = open industry consortium providing a binary-compatible Linux distribution



"Hello everybody... I'm doing a (free) operating system (just a hobby, won't be big and professional...)."

Linus Torvalds, creator of Linux, from the first Internet announcement on August 25, 1991. Even he initially underestimated its potential.

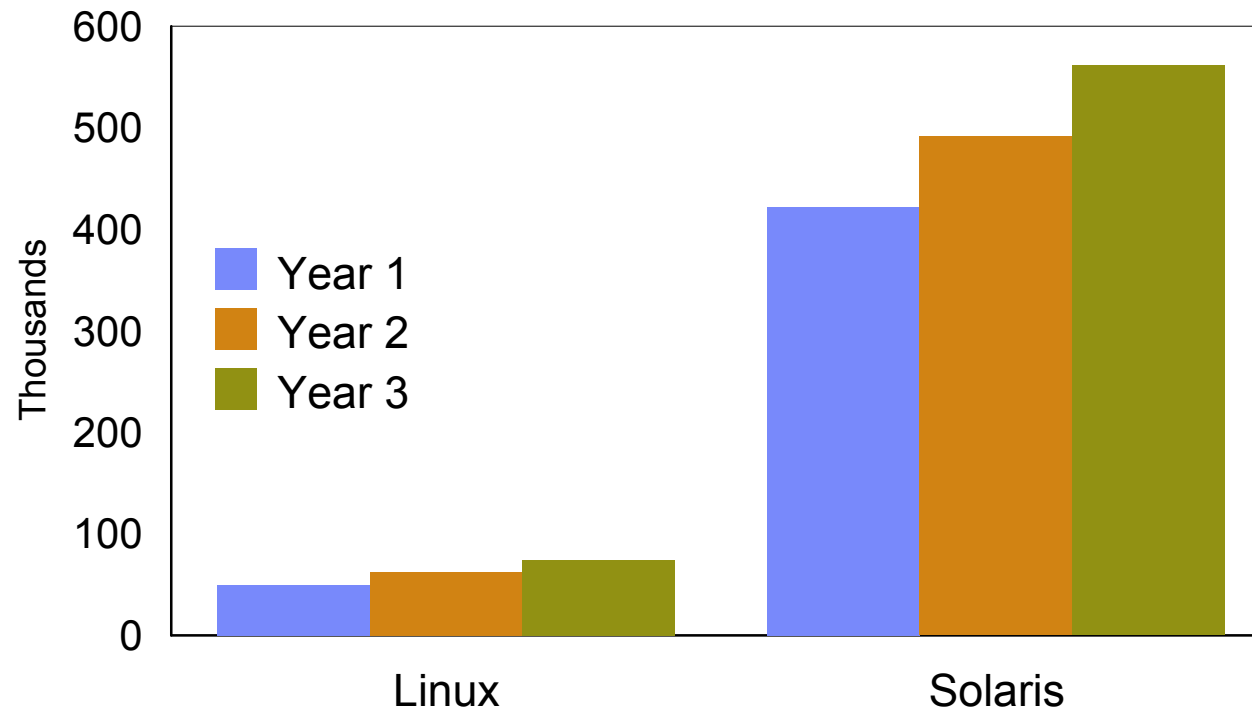
- What is Open Source?
 - ▶ Community develops, debugs, maintains
 - ▶ Generally high quality, high performance software
 - ▶ Superior security - on par with other UNIX, superior to Windows





Linux... It All Started With Cost Benefits

Total Cost Of Ownership



TCO

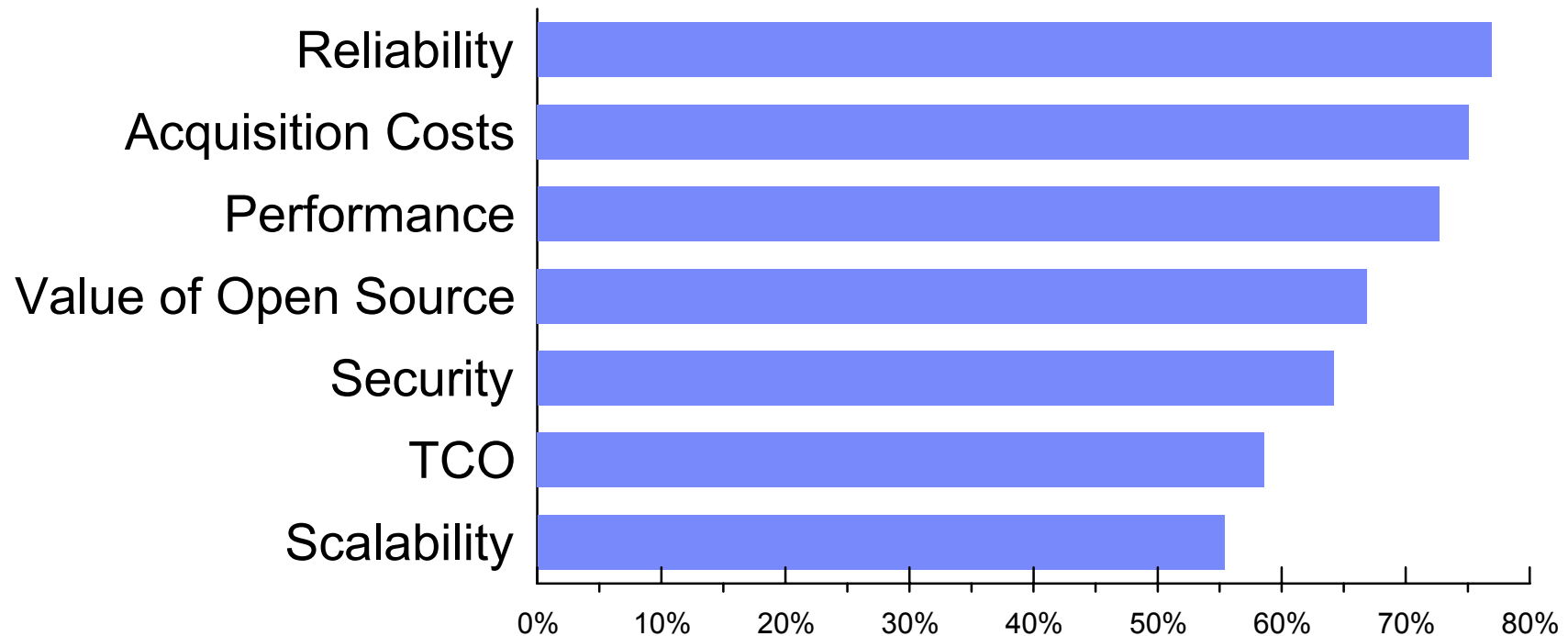
1. Operating system purchase prices
2. Hardware purchase / maintenance
3. Upgrade prices
4. Administration costs
(excludes middleware, applications, services)

Based on Web deployment experiences of 14 customers
Source - Robert Frances Group - July 2002
www.ibm.com/linux/RFG-LinuxTCO-vFINAL-Jul2002.pdf



Linux Value

Question: Based on what you have seen or heard so far, how would you rate Linux on the following aspects?



Source: IBM Market Research, 2002,
Based on responses from 500 Linux Customers



Linux Market Broadening

■ Market

- ▶ Increased competitor focus
- ▶ Standardization increasing
- ▶ Growing ISV support
- ▶ Analysts endorsement strengthening

■ Technology

- ▶ 2-way → 8-way
- ▶ Blade acceleration
- ▶ "Carrier grade"
- ▶ 2.6 Kernel due 4Q2003 (16-way)
- ▶ Client functionality

■ Customers

- ▶ Industry adoption expanding
- ▶ Workload usage maturing
- ▶ Governments endorsing Linux



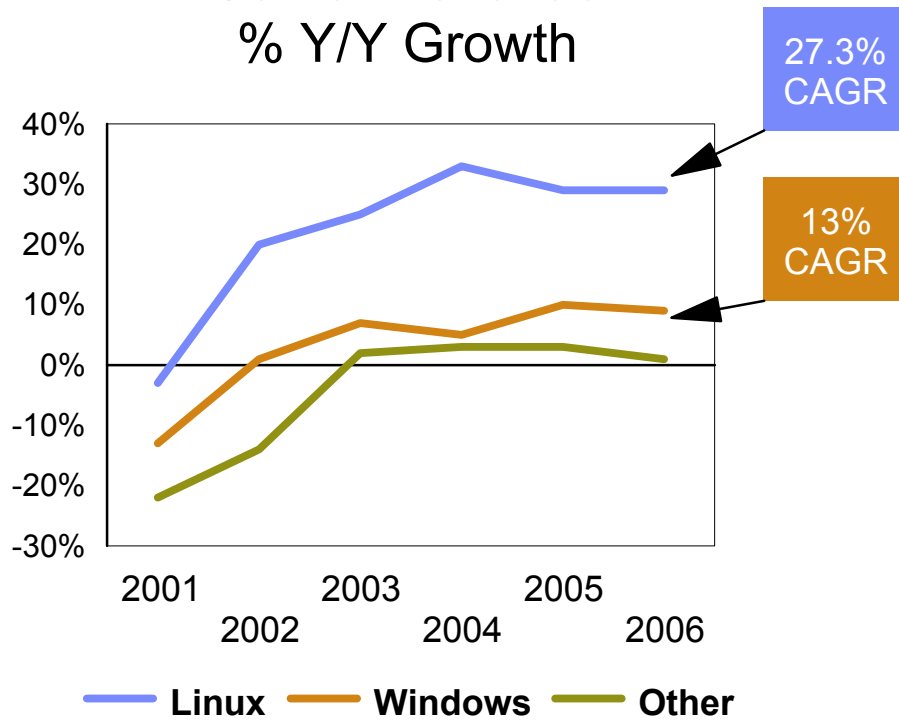


Linux Growth

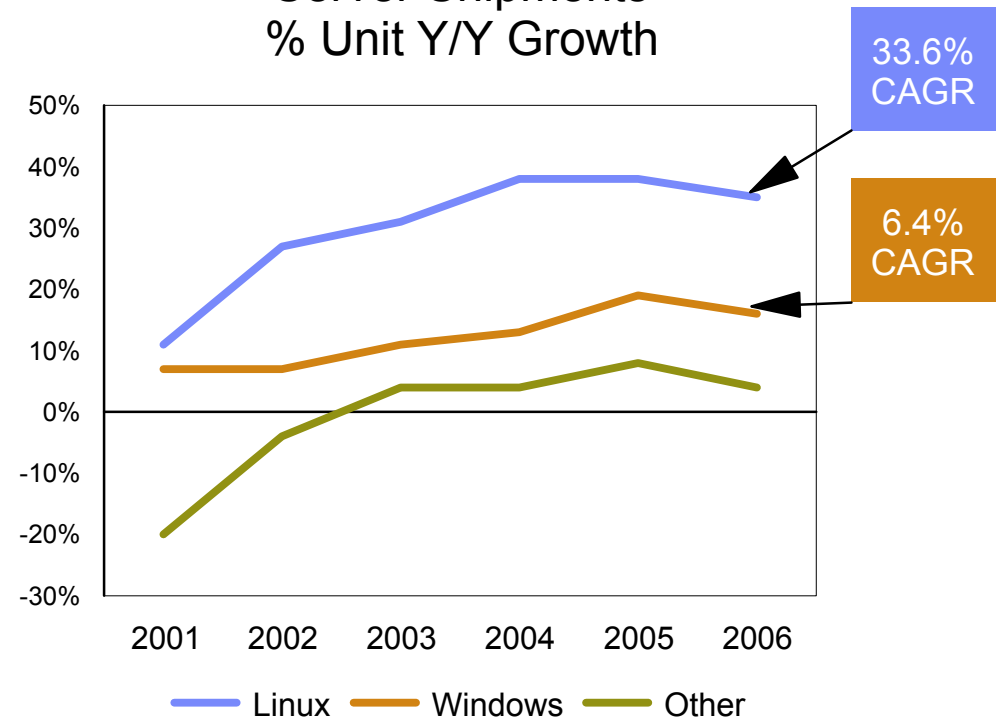
Greater than 2X growth of Windows and represents 12% of total server revenue by 2006

Greater than 5X growth of Windows and represents 25% of total server shipments by 2006

Server Revenue % Y/Y Growth



Server Shipments % Unit Y/Y Growth



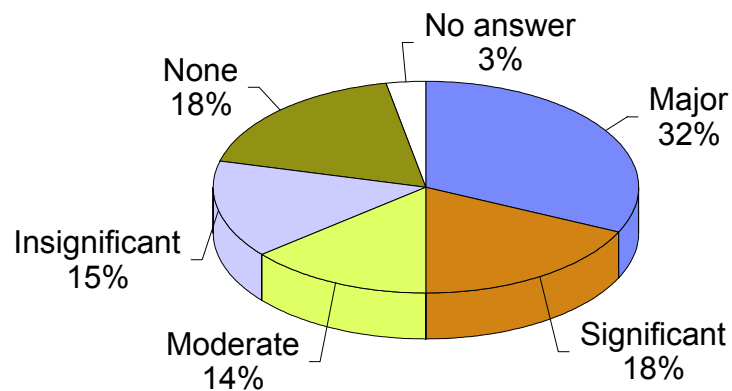
Source: IDC Server Market Quarterly Forecast, September 2002



Linux Momentum

Linux plays a role in 64% of companies surveyed

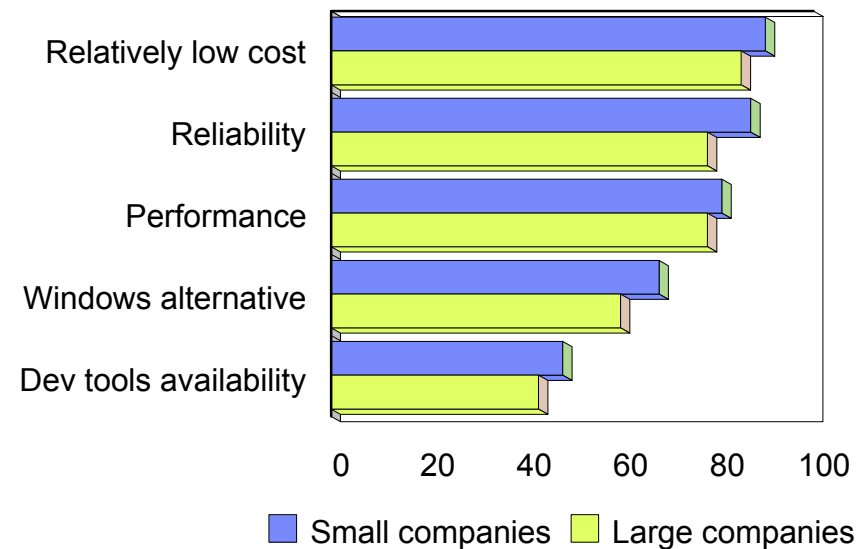
What role does Linux play in your company's plans?



Source: CNET Reader survey, June 2002

Cost savings continue to drive Linux adoption and deployment

What are the primary reasons your company decided to use Linux?



Source: InformationWeek Research - Linux Survey of 550 Business-Technology Professionals, 2002



BusinessWeek - The Linux Uprising - March 3, 2003

www.businessweek.com/magazine/toc/03_09/B382203linux.htm

- The Linux Uprising
- Pecked by Penguins
- Commentary:
 - ▶ Tech Outfits Should Take Notes
- Online Extra:
 - ▶ The Big Guys Latch Onto Linux
 - ▶ Red Flags for Red Hat
 - ▶ Next from Open Source: Killer Apps?
 - ▶ Before Linux Is on Every Desktop...
 - ▶ Sun: It's Not "Linux or Nothing"
 - ▶ "Programmers Are Like Artists"





Application Focus Areas

■ Financial / Insurance Services

- ▶ Risk management
- ▶ Branch banking
- ▶ Payments

■ Industrial

- ▶ Upstream petroleum
- ▶ Computer Aided Engineering
- ▶ Electronic Design Automation

■ Education / Government / Lifesciences

- ▶ GRID computing
- ▶ Lifesciences bioinformatics
- ▶ Higher education

■ Communications

- ▶ Web and e-commerce infrastructure
- ▶ Carrier Grade Linux
- ▶ Digital content creation

■ Distribution / Retail

- ▶ Point of Sale
- ▶ Kiosk and store operations





Comprehensive IBM Linux Investments

- **Application development**
 - ▶ Eclipse
 - Open source IDE framework
 - ▶ WebSphere Studio
 - ▶ Speedstart
 - ▶ developerWorks
 - ▶ Linux hubs in US, Korea
- **Enterprise Linux**
 - ▶ Linux Technology Center
 - "Help make Linux better"
 - ▶ Open Source Development Lab
 - ▶ Enabling Linux and Linux-based applications for data center and carrier-class deployment
- **Porting and prototyping**
 - ▶ Linux Integration Center
 - Technical consulting, proof of concepts, benchmarks
 - ▶ Linux Porting Centers
 - ▶ Linux Centers of Competence for Finance
 - NYC, London
 - ▶ Linux for Service Providers Lab
 - ▶ Global e-business Solutions Center
- **Comprehensive product enablement**
 - ▶ eServer platforms
 - ▶ IBM middleware
 - ▶ IGS services
 - ▶ On Demand Linux services



Member of the Linux Community

- IBM well accepted by the Linux community
 - ▶ 300+ developers worldwide
 - ▶ 70+ active Open Source projects
 - ▶ 80% of IBM's contributions are accepted
- IBM engineers leading enterprise Linux focus
 - ▶ Deeply involved in V2.5 of Linux kernel development
 - ▶ Motivated community to focus on addressing scalability and threading issues
 - ▶ Defect support for a set of core Linux packages
 - ▶ Led formation of Linux Test Project to validate reliability, robustness, and stability of Linux distributions
 - ▶ Key participant and contributor to "Carrier Grade Linux" project





Experiences with the Open Source Software Community

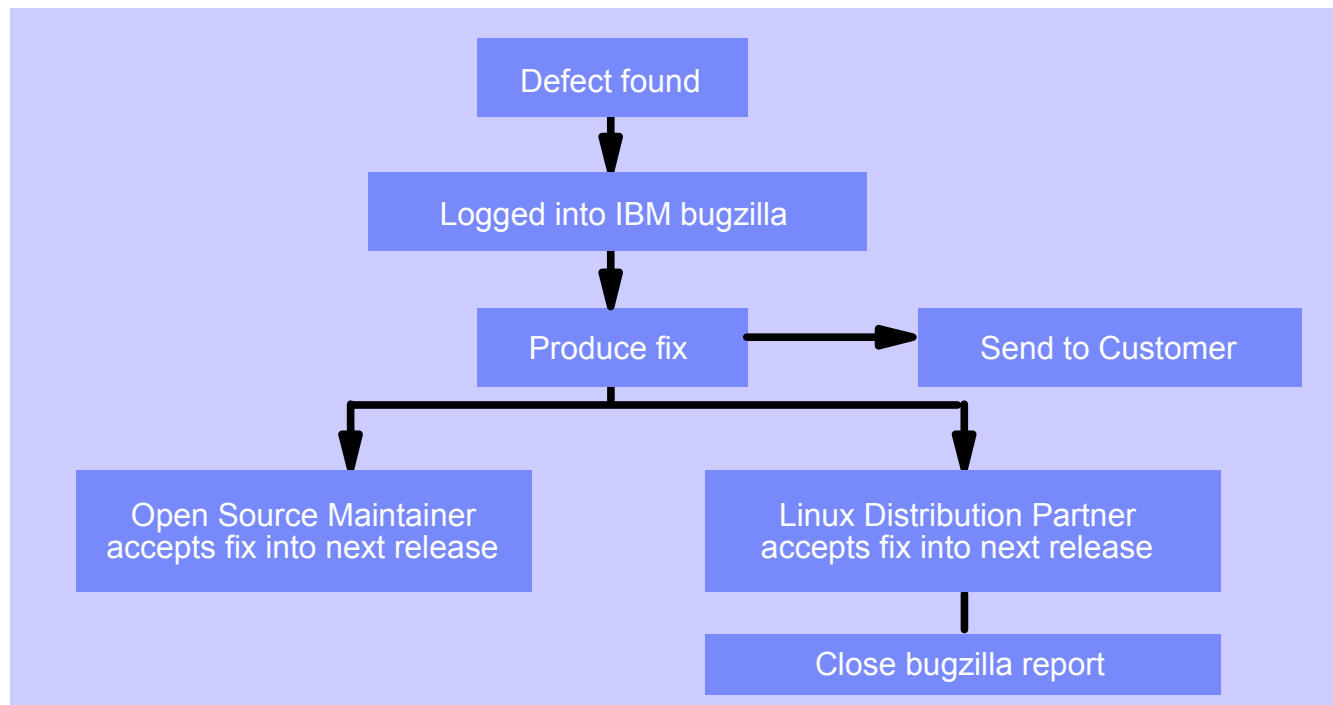
- Open source developers and traditional software developers have the same goals
 - ▶ Quality, high-performance, serviceable software that solves real customer problems
- Developers trained on proprietary software can successfully become effective Open Source developers (hundreds of proof points)
- Linux community is enthusiastic about making Linux a mission-critical Open Source and supporting the necessary enterprise features
 - ▶ Scalability, security, reliability, serviceability, performance, availability, manageability, standards, ...
- IBM is an accepted peer and partner in the Linux development community
- The Open Source community includes all of us



IBM Level 1-2-3 Linux Support

Open Source Involvement Benefits Our Customers

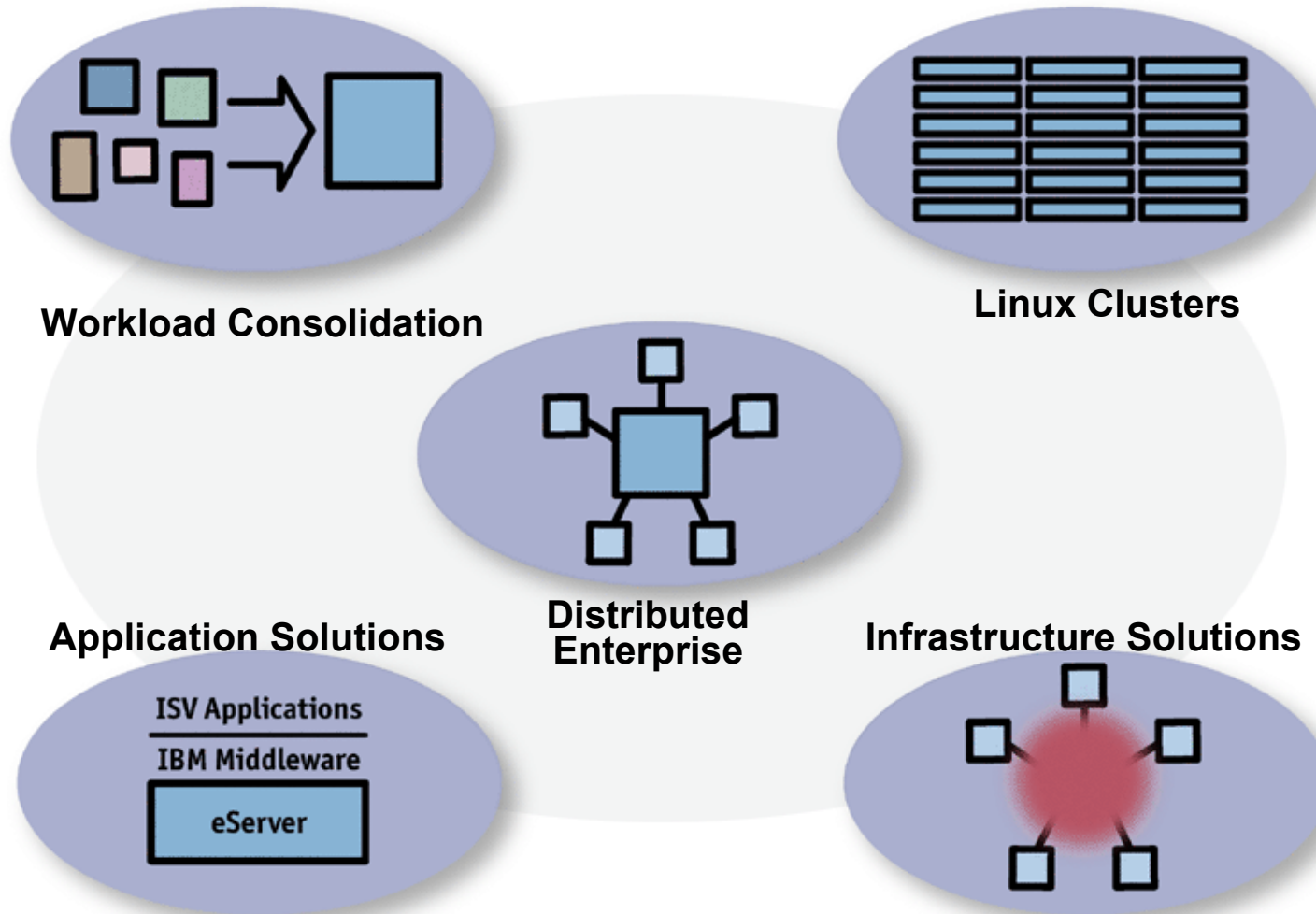
- LTC and IGS teams have experts in every key Linux subsystem and can respond to any problem
- IBM works directly with the code owners to integrate fixes into the base quickly and efficiently





How Customers are Deploying Linux on Servers

Linux Usage





How Customers are Deploying Linux on Servers

	Recent Customers	Value
Workload Consolidation 		<ul style="list-style-type: none"> Reduce cost Improve performance Speed deployment Dramatically improve TCO
Linux Clusters 		<ul style="list-style-type: none"> Price/performance Improved performance Improve uptime Rapid setup and install
Distributed Enterprise 		<ul style="list-style-type: none"> Lower cost Small footprint servers Easily replicated High reliability and stability
Application Solutions 		<ul style="list-style-type: none"> Solution assurance Optimized Reduced implementation time Flexible
Infrastructure Solutions 		<ul style="list-style-type: none"> Low cost Easy to setup Turnkey Easy to expand



SUPERVALU

World's Largest Grocery Logistics Solutions Provider

- Challenge
 - ▶ Implement easier, more cost effective system for member stores to place orders
 - ▶ Improve customer loyalty and grow customer base
- Solution
 - ▶ Consolidated 40 Windows servers onto zSeries running SuSE Linux on z/VM
 - ▶ IBM middleware
- Benefits
 - ▶ Reduced software from 80 CPU licenses to 3
 - ▶ Ease of upgrade
 - ▶ Significant cost savings





T-Systems: Deutsche Telekom *zSeries Consolidation of Sun Servers*

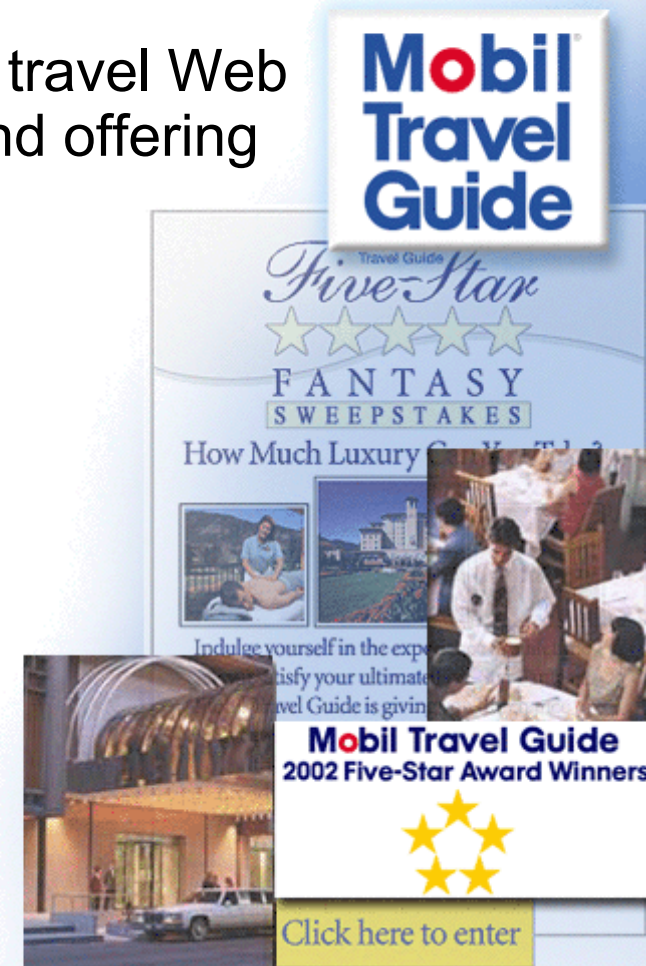
- Challenge
 - ▶ High availability
 - ▶ Reduce costs
- Solution
 - ▶ Consolidated 25 Sun servers onto one zSeries running SuSE Linux on z/VM
- Benefits
 - ▶ 40+% less utility space and 50% less energy consumption
 - ▶ Increased availability and security





Mobil Travel Guide On Demand Linux Capacity Smooths Bumps in the Road

- Challenge
 - ▶ Launch a resilient and responsive auto travel Web site, driven by customer preferences and offering real-time services, in nine months
- Solution
 - ▶ IBM e-business On Demand Services
 - ▶ Linux on zSeries
 - ▶ WebSphere Application Server
- Benefits
 - ▶ Exceptional scalability, flexibility and support
 - ▶ Dynamically allocated capacity
 - ▶ Minimized upfront capital investment

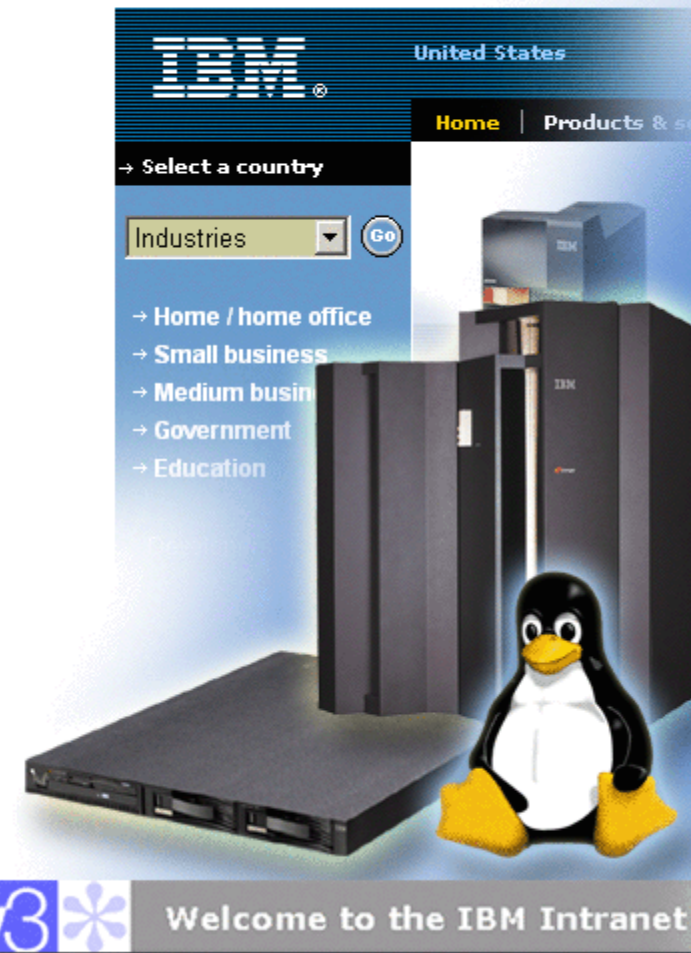




IBM

Eating our own cooking

- 1300+ production servers worldwide, plus research and development
- A partial list of our internal Linux projects:
 - ▶ Microelectronics EDGE Application
 - ▶ Intranet forums
 - ▶ IBM's On Demand Workplace development environment
 - ▶ Security assessments
 - ▶ e-mail anti-virus scanners
 - ▶ Operations: e-hosting and network management
 - ▶ IBM Standard Software Installer (ISSI)
 - ▶ Microelectronics 300mm wafer manufacturing
 - ▶ File and print servers
 - ▶ Manufacturing line Kiosks





Is Linux for Real?

The Myths of Linux

- Linux does not scale
- Linux is not ready for the enterprise
- Linux porting is difficult
- Linux lacks business applications
- Linux is not secure



Fact: Linux sets records in horizontal scalability, rapidly improving SMP ratios

Florida Tech

NCSA
LINUX CLUSTERS
THE HPC REVOLUTION
Supercomputing

MHPCC
MALI HIGH PERFORMANCE
COMPUTING CENTER
HUIVALU

WesternGeco

2.4 Kernel improves SMP scalability

AMERADA HESS CORPORATION
HESS

Shell Canada
Bienvenue
Site français »

Seismic Processing



Fact: Linux is rock solid in many mission-critical applications

Retail / POS



Internet Banking



Agency Automation

Hill House Hammond



Internet Service Applications



Fact: Porting to Linux is Easy

"Several large projects of moving UNIX-based applications from 100 kloc to 600 kloc have been completed. Most were completed in about 2 months and only required a small percentage (1% or so) of the code to be modified in any way."

SoundView Technology Group, "Linux Momentum in Europe Appears to be Strong", June 2002

"Migrating UNIX web servers to Linux is one of the easiest migration scenarios in the industry."

D.H Brown, "Migrating Mail and Web Servers to Linux", August 2002



- Porting tools and documentation available on developerWorks



Fact: ISVs adopting Linux





Fact: Linux is Architected for Security, Open Source Development Enhances It

- The Open Source development process
 - ▶ Darwinian -- structured/disciplined
 - ▶ Exposed vs. hidden
- The US National Security Agency embracing Linux
 - ▶ Investing to develop Linux security enhancements
 - ▶ www.nsa.gov/selinux/
- IBM Linux Security white papers
 - ▶ ibm.com/linux/ltc/pubs

"I'm not proud, we really haven't done everything we could to protect our customers. Our products just aren't engineered for security."

Brian Valentine, Senior VP, Microsoft
6 September 2002, Microsoft Windows
Server .net Developer Conference

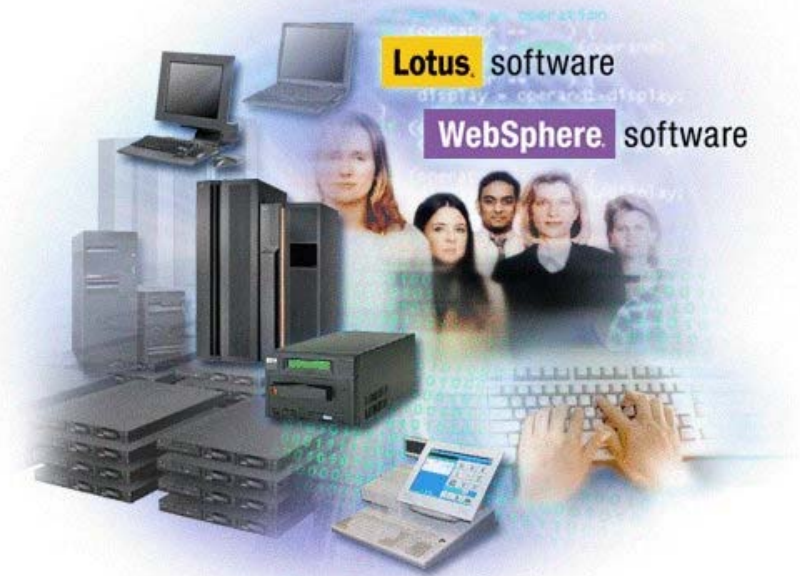
*"Security through
obscurity is the motto of
yesterday, the slogan of
today is security through
transparency."*

Margareta Wold, German Minister
of Economy and Technology



IBM Hardware, Software and Services


- Hardware
 - ▶ All IBM @server platforms
 - ▶ TotalStorage solutions
- Software
 - ▶ Over 200 software products available today
- Services
 - ▶ Total solution approach
 - ▶ Single point of contact
 - Hardware, software and services





Why IBM for Linux? *Innovation and leadership!*

The First...

- 
- ...Vendor pursuing a **broad** strategy
 - ...Vendor to issue full public endorsement of Linux
 - ...Linux eSourcing solution
 - ...Organization **dedicated** to Linux open-source projects
 - ...Linux-based Integrated Solution platform for e-business
 - ...Integrated Linux Cluster offering
 - ...Comprehensive Linux channel program
 - ...Linux industry-specific Centers of Competence
 - ...workload consolidation offering for Linux

Work with IBM to determine how you can benefit from Linux



Linux... Ready for the Enterprise

- Linux...
 - ▶ Is Secure
 - ▶ Clusters very well
 - ▶ Has high Availability
 - ▶ Is easily Managed
- Deployments are accelerating
- Industry-specific implementations are growing
- ISV applications are rapidly increasing

- John Sarsgard
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