IBM's Linux Strategy: An Executive Perspective

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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

- Business efficiency
  - Process integration
  - Cost
  - IT asset utilization

- Open movement
  - Flexibility
  - Innovation
  - Standards

- Business continuity
  - Reliability
  - Performance
  - Security
  - Disaster recovery

- Technology substitution
  - Commoditization
  - Blades
  - Virtualization
  - Clusters and Grids
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
On Demand Operating Attributes

Open

Integrated

Virtualized

Autonomic

...an approachable, adaptable, integrated and reliable infrastructure delivering on demand services for on demand business operations...
On Demand Computing Environment
Open Standards

Linux

XML

WSDL

OGSA

SOAP
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

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

"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.
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
Linux Value

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

- Reliability
- Acquisition Costs
- Performance
- Value of Open Source
- Security
- TCO
- Scalability

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

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

- Technology
  - 2-way ➔ 8-way
  - Blade acceleration
  - "Carrier grade"
  - 2.6 Kernel due 4Q2003 (16-way)
  - Client functionality
Linux Growth

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

**Server Revenue**

% Y/Y Growth

- 2001
- 2002
- 2003
- 2004
- 2005
- 2006

- Linux
- Windows
- Other

27.3% CAGR

13% CAGR

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

**Server Shipments**

% Unit Y/Y Growth

- 2001
- 2002
- 2003
- 2004
- 2005
- 2006

- Linux
- Windows
- Other

33.6% CAGR

6.4% CAGR

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?

- Major 32%
- Significant 18%
- Moderate 14%
- Insignificant 15%
- None 18%
- No answer 3%

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?

- Relatively low cost: 80%
- Reliability: 70%
- Performance: 60%
- Windows alternative: 50%
- Dev tools availability: 40%

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

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

- **Industrial**
  - Upstream petroleum
  - Computer Aided Engineering
  - Electronic Design Automation

- **Distribution / Retail**
  - Point of Sale
  - Kiosk and store operations

- **Education / Government / Lifesciences**
  - GRID computing
  - Lifesciences bioinformatics
  - Higher education
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

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**Diagram:**
- Defect found
  - Logged into IBM bugzilla
  - Produce fix
    - Open Source Maintainer accepts fix into next release
    - Linux Distribution Partner accepts fix into next release
  - Send to Customer
  - Close bugzilla report
How Customers are Deploying Linux on Servers

Linux Usage

Workload Consolidation

Linux Clusters

Application Solutions

Distributed Enterprise

Infrastructure Solutions

ISV Applications
IBM Middleware
eServer
How Customers are Deploying Linux on Servers

<table>
<thead>
<tr>
<th>Workload Consolidation</th>
<th>Recent Customers</th>
<th>Value</th>
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<tbody>
<tr>
<td></td>
<td>WINNEBAGO</td>
<td>Reduce cost</td>
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<td>FORD</td>
<td>Improve performance</td>
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<td>Deutsche Bank</td>
<td>Speed deployment</td>
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<td>Konica</td>
<td>Dramatically improve TCO</td>
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<td>Linux Clusters</td>
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<td>Price/performance</td>
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<td>Improve performance</td>
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<td>Improve uptime</td>
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<td>Rapid setup and install</td>
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<td>Distributed Enterprise</td>
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<td>Lower cost</td>
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<td>Small footprint servers</td>
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<td>Easily replicated</td>
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<td>High reliability and stability</td>
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<td>Application Solutions</td>
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<td>Solution assurance</td>
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<td>Kodak</td>
<td>Optimized</td>
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<td>ALCATEL</td>
<td>Reduced implementation time</td>
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<td>Flexible</td>
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<td>Infrastructure Solutions</td>
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<td>Low cost</td>
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<td>Mobil Travel Guide</td>
<td>Easy to setup</td>
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<td></td>
<td>IBM</td>
<td>Turnkey</td>
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<tr>
<td></td>
<td></td>
<td>Easy to expand</td>
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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 Smoothes 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 internalLinux 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
Fact: Linux is rock solid in many mission-critical applications

- Internet Banking
- Retail / POS
- Agency Automation
- 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
...

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

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