Linux and the Latest Cool Topics

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Customers are faced with many choices today

- What hardware to run?
- What operating system to run?
- What application architecture?

IBM answers all these needs with: Cross-platform, integrated solutions



The world is Heterogeneous

- 90% of our fortune 1000 customers run 3 or more operating systems
- 80% of European enterprise customers use two or more operating systems

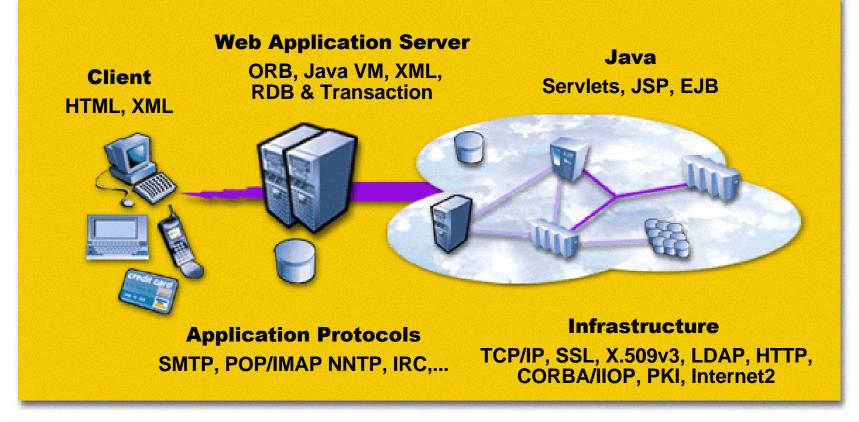
Open standards matter

- Integration across multiple platforms is a necessity
- Scalability, Stability and Security of the operating system and middleware is required

The need to leverage software applications across multiple platforms is more evident today than ever



The importance of Industry Standards



- Strengthening standards through industry initiatives:
- Web application Server Demo, Directory Interoperability forum, XML.org enables the natural evolution of e-business, into a pervasive marketplace

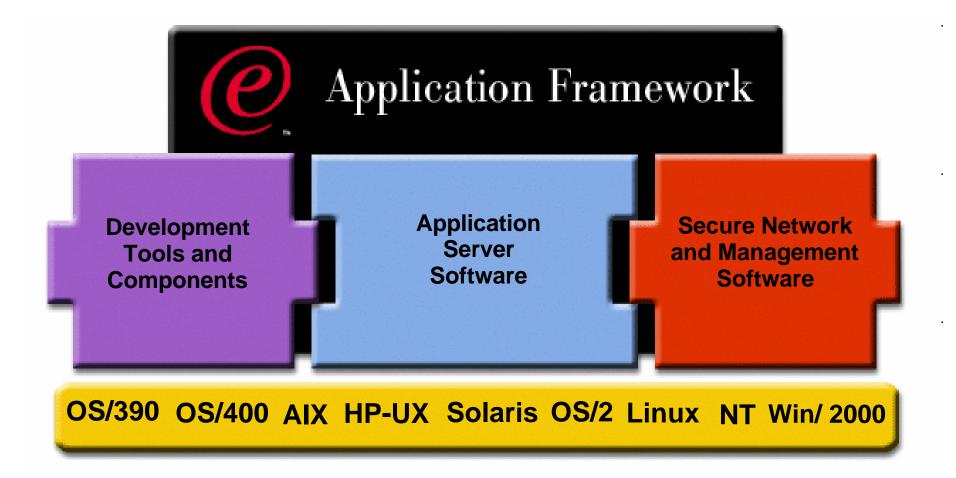


The application model you choose matters

- Server-centric and based on standards that span multiple platforms
- Leverage core business systems and scale to meet unpredictable demands
- Quick to deploy, easy to use and manage

Web-based vs. client-server applications





- Industry standards
- Development and deployment methodology
- Leadership products



IBM is committed to heterogeneous operating environments and the tools to help you navigate them

- Linux
- NT/Windows 2000
- Java
- = XML



Linux Growth

IDC estimates that:

- the server market on Linux grew 93.2% from 1998 to 1999
- approx. 1.3M server licenses shipped in 1999
- over 11 million Linux users worldwide



Is Linux having an Impact ?

Applications **

- ✓ Web Servers (45%)
- ✓ Networking (42%)
- ✓ Email/Messaging (38%)
- ✓ Database (28%)
- ✓ File/Print (26%)
- ** Figures represent % of Linux install base Source: IDC Nov. 1999

Observations

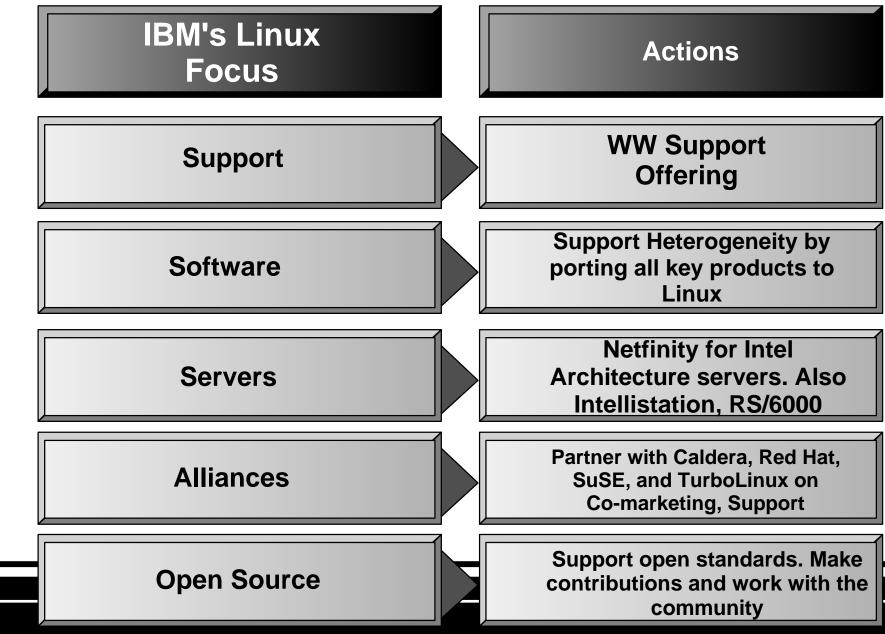
- Linux/Apache share of Web serving high
- Autonomous departments; bottoms-up
- ▶ Many SMB and small ISP
- CIOs discovering they have Linux

Conclusions

- ⇒ e-business market indicating strong desire for open 2nd tier
- Mindshare strong among software developers
- → Large IBM customers are using Linux



IBM's Linux Strategy





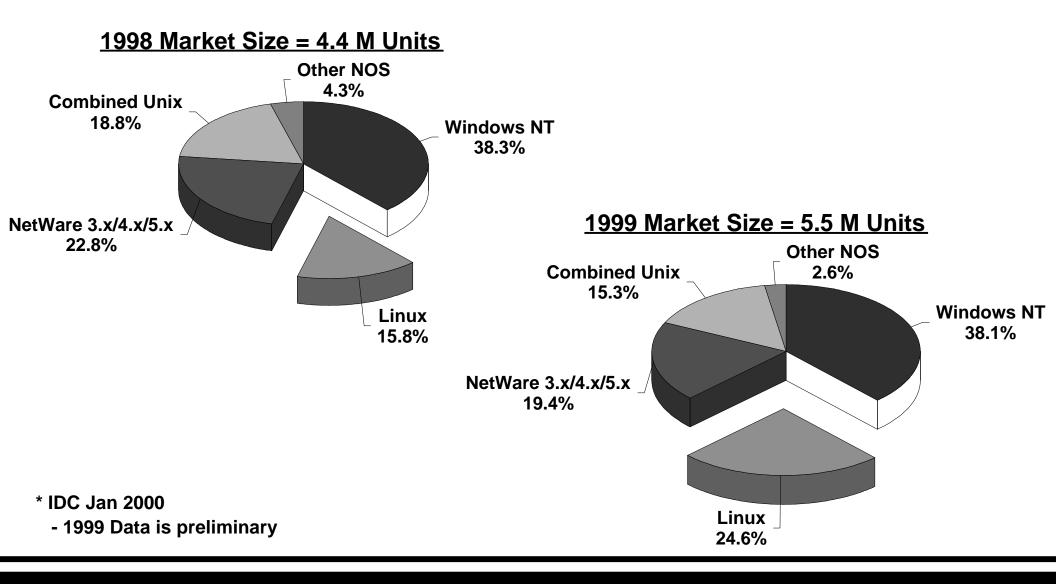
Linux Community

- IBM Committed to being Respected, Contributing Community Member
 - Build on Open Source Successes: XML Parser, SecureMailer & Work with the Apache Group
- Support Linux Standard Base Efforts
- Participate in Linux Internationalization Initiative (Li18nux)
- Contribute IBM Public Source License
- Member of Trillian Project
- Work with Community Events & Shows





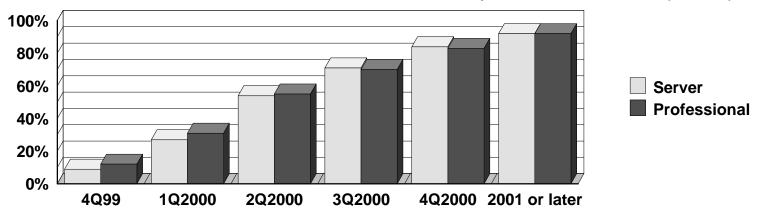
WW Server OS Shipments - New Licences





Why Windows 2000 important to IBM A strategic and revolutionary technology - Windows 2000 - will cause a

- A strategic and revolutionary technology Windows 2000 will cause a discontinuity in the marketplace
 - 70% of our customers will rewrite applications or write new ones when Windows 2000 arrives. (IBM market research)
- Most customers will build front-end e-business applications on Windows 2000
 - 60% of all customers will choose Windows 2000 as their prime platform for developing e-business applications in the front end. (IBM market research)
 - A Forrester Study of Large Enterprises concluded that 70% of all webservers acquired in 2000 and 2001 will run Windows 2000

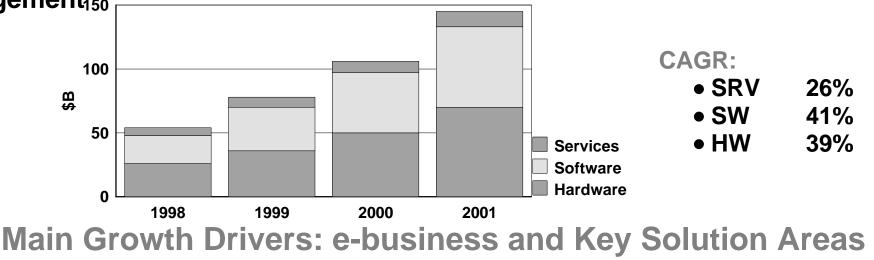


Windows 2000 Cumulative Deployment com Windows 2000 Adoption Report



Windows Related Market

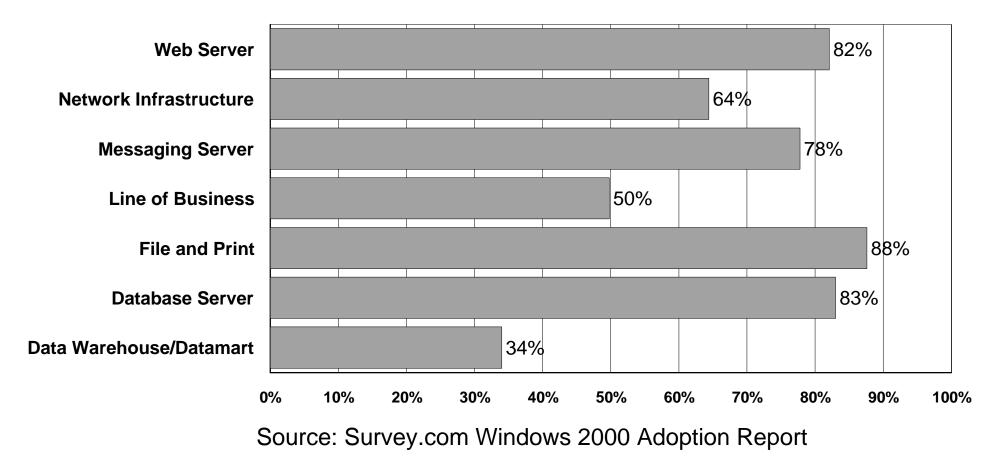
- Marketplace in Windows 2000 not limited to OS
 - Market for Windows NT and Windows 2000 related hardware, software and services expected to double from 1999 to 2001, growing from \$75B in 1999 to \$145B in 2001
 - For each \$1 spent on the OS, there are \$10 of good opportunity for IBM and it's partner to pursue
 - The middleware and application opportunity is 4 times the OS opportunity
 - Windows 2000 related solutions will grow at twice the market pace in solution areas such as ERP, CRM, Business Intelligence and Supply Chain Management₁₅₀





Windows 2000 Adoption Report

Application Deployment on Windows 2000 Server by Jan 1, 2001





IBM is prepared to exploit Windows 2000

- Experience- IBM has developed more software products on Windows NT and Win2000 than any other software vendor in the industry
- One stop shop- Only IBM can provide the full range of software, hardware, services and financing in the industry
- Scalability- IBM has the technology to handle applications of any size
- **Reliability-** 99.9%+
- Cross Platform- IBM has over 10,000 software engineers working on multiplatform solutions
- Integrated Solutions IBM products enable customers and ISVs to seamlessly integrate their applications across a wide variety of platforms within the enterprise
- **Easy** to install, use, support and manage



IBM product readiness

- products that currently run on NT will run on Windows 2000 at General Availability.
- strategic software products that exploit Windows 2000 at launch
- full exploitation will be phased over the year 2000

check for availability dates on: www.ibm.com/windows2000



Java - the environment of choice when working in a heterogeneous world

- Java provides a consistent way to build, deploy and manage applications across all major server platforms, leveraging existing investments and reducing the cost of rolling out new applications.
- Java technology is ideal for communication devices and communication -intensive applications



Shipping Real Java Products...

Development & Integration Tools

Visual Age Family, Domino Designer, San Francisco, WebSphere Studio, Lotus Suite, NetRexx

Application Servers & Components

WebSphere Application Server Family, Lotus Notes and Domino, DB2 Universal Database, MQSeries, SecureWay Host On-Demand

Security Network & Management Software SecureWay Software, Tivoli systems management products

Runtime Environments & Developer Kits for Java



... To Real Customers

More than 154 Java and XML reference accounts and thousands of engagements worldwide

In many industries:

- ► Banking, Finance, & Securities
 - Banco do Brasil, CIBC, Fraser Securities, JPMorgan
- Retail & Distribution
 - Welch's Food, Inc., Karstadt
- ► Manufacturing
 - AlliedSignal, Motor Spares, Ostergaard
- ► Travel
 - American Express, Lufthansa Systems, Swissair, SABRE



XML, making integration simple and seamless

- With XML:
 - Data that currently resides in legacy systems becomes widely accessible
 - Data has a longer life span -- the guarantee of future readability and reuse of XML-defined data, means that it will remain accessible in the long term
 - The way data is presented can be modified for different client devices -- allows different views of the same data for different users
 - Allows developers to define "metadata", so that more accurate Web searching is possible



IBM Middleware uses XML

DB2 XML support

- uses XML as data exchange format
- DB2 Text Extender enhanced to recognize XML content

MQSeries

- MQSeries Integrator
 - XML preferred format for new interoperating applications and infrastructures
- MQSeries Family
 - all command messages between GUI tools and broker runtime components are structured in XML

WebSphere Products

- XML Document Structure Services is available
- WebSphere Studio



No matter what operating system you choose, IBM software provides consistency and opportunity

- Support for IBM and non-IBM OS
- Support for hardware, both IBM & non-IBM
- Protection of skills investment
- Complete middleware stacks of software to facilitate integration
- Scalability and flexibility
- Training

