

IBM, Linux and Open Source

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Linux



Agenda

Why does IBM consider Open Source important?

What are our open source major focus areas?

Focus on Linux

Summary



BM, OSS & Software Development



Linux



Why does Open Source continue to gain popularity?

Developers feel comfortable working with Open Source:

Access to the source code,

Ability to modify the software to meet their needs

Ability to distribute copies of both the original software and any derivative works.

Ability to gain valuable programming experience useful for their career

Participation in Open Source communities offers potential for strong personal rewards

Opportunities to solve unique, difficult, or complex problems

Ability to build status and recognition within the developer community;

Reasons Advocates say software users are attracted:

✓ *No licensing fees or royalties to acquire Open Source packages*

■ *Levels the playing field*

✓ *Users, vendors, and developers all have access to the same source code base*

■ *locate and fix bugs in the software if vendors are unable or unwilling to do so*

■ *tailor the software to meet the needs of their organization*

✓ *port the software to new operating systems or applications not supported by vendors*

✓ *create customized versions of the software to improve or extend the original functionality*



Why does IBM consider Open Source important?

be a major source of innovation

innovation can happen anywhere - any time

development through "open communities" leads to potentially broad ideas & creativity

Community Approach

Internet has changed how enterprises address technical innovation

enterprises engaging early in

shapes IBM technical leaders thinking & approach to road collaboration

and approach to developing emerging standards

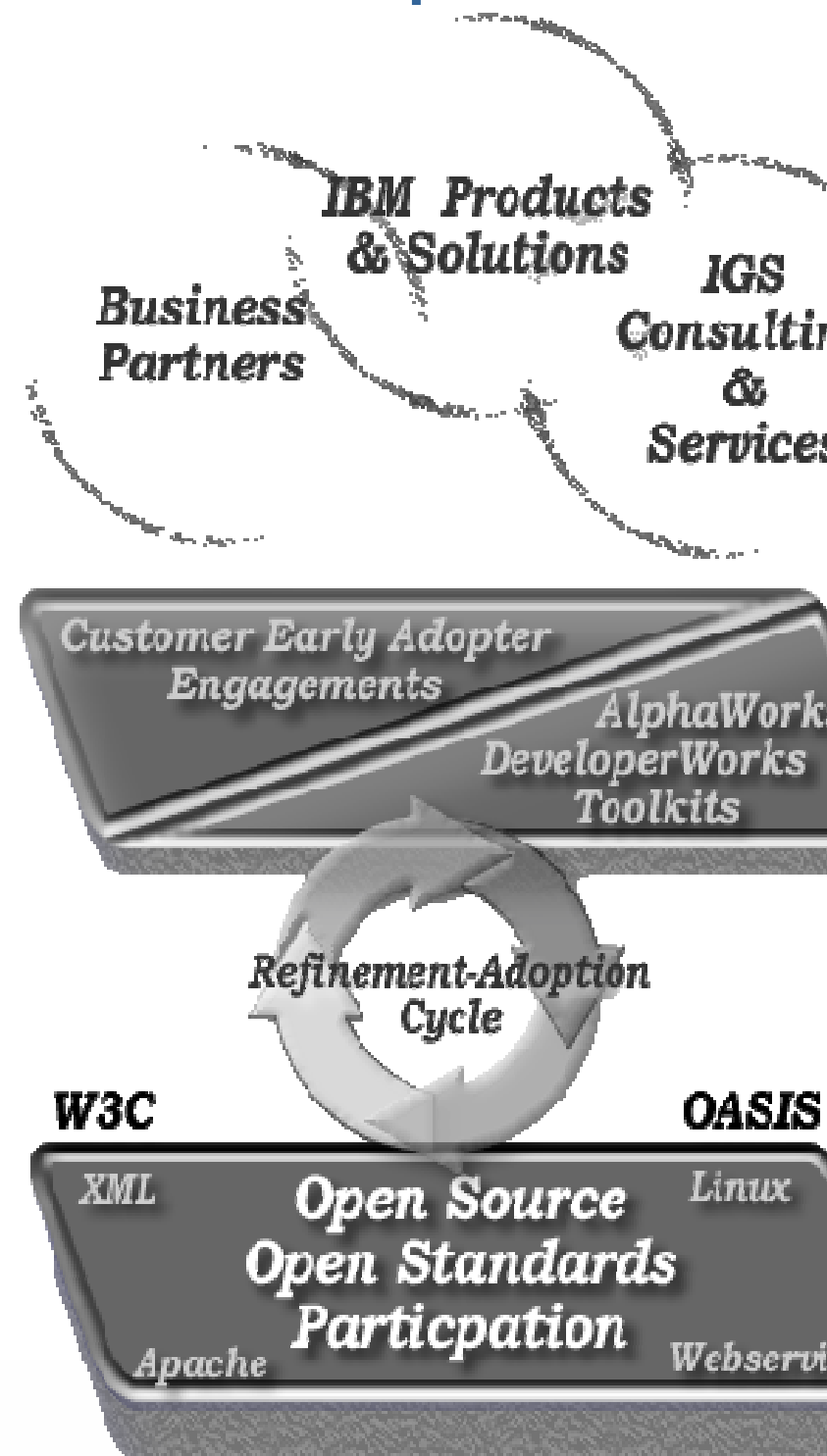
popular Open Source projects can become defacto/open standards

wide distribution/deployment

surprise customers are asking for it

increase choice & flexibility – adoption/use of open source can reduce time to market

example - want Linux to be part of an overall, vendor-supplied and supported total solution



Strategic Goals for Open Source

- Drive rapid adoption of open standards
 - Ready access to high-quality, Open Source implementations of open standards can speed industry adoption (Examples: Apache XML, Globus (grid architecture))
- Use OSS as a business tool to:
 - Disrupt competitor's control points, driving changes to their market strategies
 - Linux growth continues to affect both Sun and Microsoft
 - Eclipse platform attracting growing number of developers and ISVs to open multi-platform development framework
 - Take advantage of new business opportunities
 - Leverage community and drive emerging technologies (Examples: Web Services, Globus grid computing)
- Extend IBM mindshare
 - Create a preference for IBM brands by associating brands to successful OSS projects
 - Examples: Linux on eServer, Eclipse -> Websphere Studio, Apache->WebSphere
 - Build relationships with a broad spectrum of developers
 - Linux, Eclipse

Can OSS co-exist with Commercial Software?

YES - OSS can be intermixed with Commercial Software

Most OSS licenses allow combination and distribution of OSS and Commercial source code under a commercial license.

Some commonly encountered OSS Licenses (BSD, MIT, X11, Apache) don't require modification of original OSS to be published upon redistribution.

GPL allows commercial applications to be built on top of Linux to remain commercial

- Application can be licensed under commercial license of choice.
- No need to disclose source code of such applications.

LGPL Libraries can be dynamically linked to arbitrary commercial code

- No requirement to release commercial code under LGPL.

Decision to use OSS is just another business decision

License terms need to be understood before beginning to work with OSS.



What does the marketplace acceptance look like?

Market acceptance continues to grow:

OpenForum™ survey of European CIOs - 86% intend to use Open Source at infrastructure level

Coexistence of Open Source and commercial software becoming widely accepted

Most open source licenses allow combination & distribution of open source & Commercial source code under a commercial license.

Government acceptance:

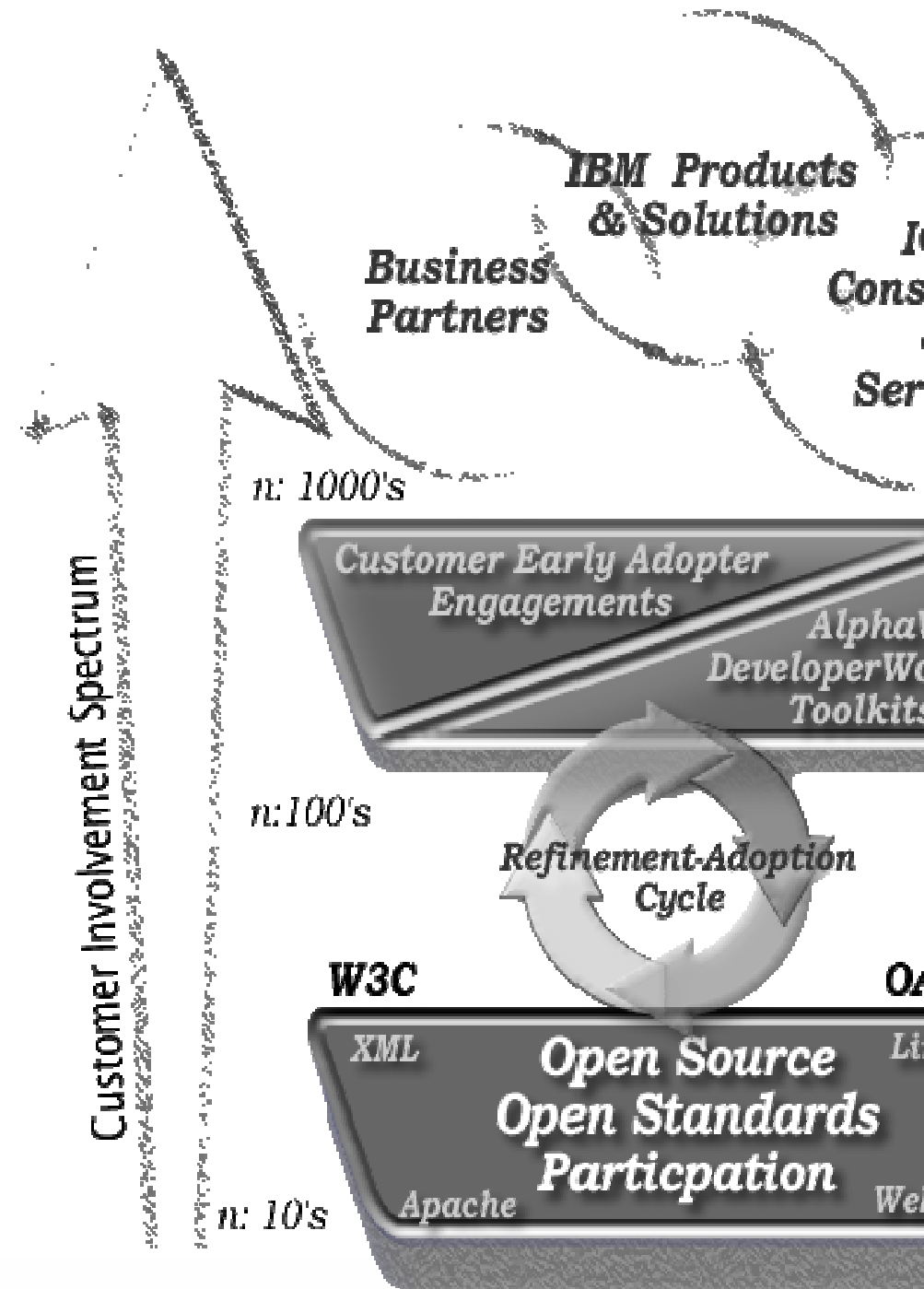
Many countries issuing policy statements in support of Open Source: Germany, UK, Australia, India, China, Sweden

Key Common Criteria: IBM and Red Hat/Oracle driving security certification

Customers increasingly ask for guidance in using Open Source to their advantage

Continued growing customer participation across open source and open standards

Expanded Linux/Open Source consulting to assist business customers



What are IBM key Focus Areas: Apache

Apache HTTP server, XML, Jakarta, and Web Services

IBM maintains 8 Apache projects and contributes to 6 additional projects

Have one person elected as Apache Officer - Jakarta

Over 75% of our submissions have been accepted into Apache projects

IBM is valued as a thought leader in these areas:

HTTP Server - used in majority of web servers (underpinning in WebSphere)

Xerces - XML parsers written in Java & C++

Kalan - XSLT stylesheet processor (transforms XML docs to HTML or text)

Web Services projects formed in 2002, including subprojects:

Axis/SOAP

Web Services Invocation Framework (WSIF)

Web Services Inspection Language (WSIL)



What are IBM key Focus Areas: - Globus



Globus promotes the virtues of Grid computing via Open Source implementation

Standards based on Open Grid Services Architecture (OGSA)

Open Source solution using the Globus Toolkit Public License (Apache style)

By packaging Open Source licensed components in a toolkit, project acts as an integration point

Strategic contribution to Globus Toolkit 3 in 2Q03, supporting OGSA and Open Grid Services Infrastructure (OGSi)

ETTK toolkit ships latests GRID toolkit features

IBM is refactoring core middleware technology (TAS)

Key autonomic technology on the OGSA & web services for our "e-business on demand" efforts

[alphaWorks](#) > [Web Services](#) > [Emerging Technologies](#)
> [Overview](#)

Emerging Technologies Toolkit

Date Posted: April 8, 2003

Update: December 3, 2003

Version 1.2 contains Service Data Objects (SDO), Policy Based IT Management Demo, Semantic Web, Autonomic Computing Toolset, WS-Manageability de WS-Trust, WS-Addressing, Web Services Failure Re and Service Domain technology.

What is the IBM Emerging Technologies Toolkit (ETTK)
The ETTK is a software development kit for designing, developing, and executing emerging autonomic and grid technologies and Web services. The ETTK provides an environment in which to run emerging technology examples, showcase recently announced specifications and products from IBM's emerging technology development and research teams. In addition, it provides introductory material to help developers easily get started with development of autonomic technologies, Web services, and grids.

The ETTK evolved from the package known as the Web Services Toolkit (WSTK). With the renaming of the WSTK package to ETTK, the scope of technologies included in the package has been expanded. The ETTK provides two



IBM Leadership in Mozilla Community

Drivers: IBM represents 3 of the 13 day-to-day project leaders for Mozilla

Super-Reviewers: IBM represents 4 of the 27 ultimate approvers for code check-in

Browser Development Center has developers including

- Michael Kaply (Driver)
- Timothy Rowley (Driver & Super-Reviewer)
- Darin Fisher (Super-Reviewer)
- Bryan Ryner (Super-Reviewer)

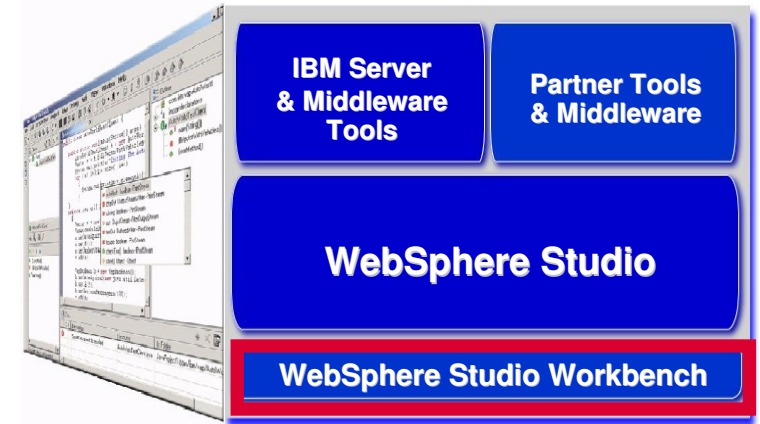
Watson Research has one (Driver & Super-Reviewer)

TAG: Andrew Donoho represents IBM in the Mozilla Technology Advisory Group

Open Source Eclipse Workbench

An Open Integration Platform

- ★ Enables vendors and customers to develop, customize and integrate tools and repositories via open standards
- ★ Based on Java with support for Linux, Windows, AIX, Solaris,...
- ★ IBM has contributed the initial technology which is licensed via the Common Public License
- ★ IBM will continue to participate in Eclipse development and will adopt enhancements
- ★ Eclipse Consortium is now independent of IBM (Feb. 2004)



Contribute



Adopt



www.eclipse.org

IBM Rich Client Platform on Top of Eclipse

The RCP is an installed client platform that provides robust frameworks, services, and APIs for integrating reusable client components. Lotus Workplace (V5.0) will use this as the foundation for its family of rich desktop applications.

Features

Based on **Eclipse** core platform

Fits into the WebSphere client spectrum

Provisions application components dynamically on-demand

Coexists well with WebSphere and Portal server-side processing

Provides a rich set of client services



Key Focus Area: Linux

Real solutions for an On Demand world!

Linux



What are IBM key Focus Areas: Linux

IBM developers continue to work hard in adding value to Linux

Contributors in virtually all components and communities in Linux

Examples include improvements in scalability, networking, serviceability, performance, availability, standards, security, and file systems

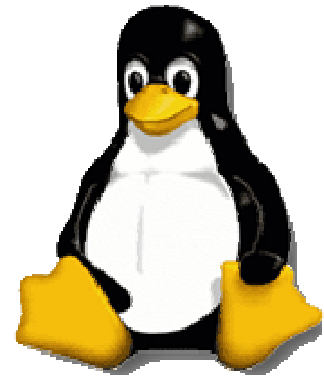
More than 80% of IBM submissions have been accepted into 2.6 kernel

Increased scalability to 8-way SMPs and beyond

Improved reliability via stress testing, defect management, documentation

Software and Servers have accelerated support for Linux across portfolios

IGS expanded Linux/Open Source consulting, app dev & enterprise support globally

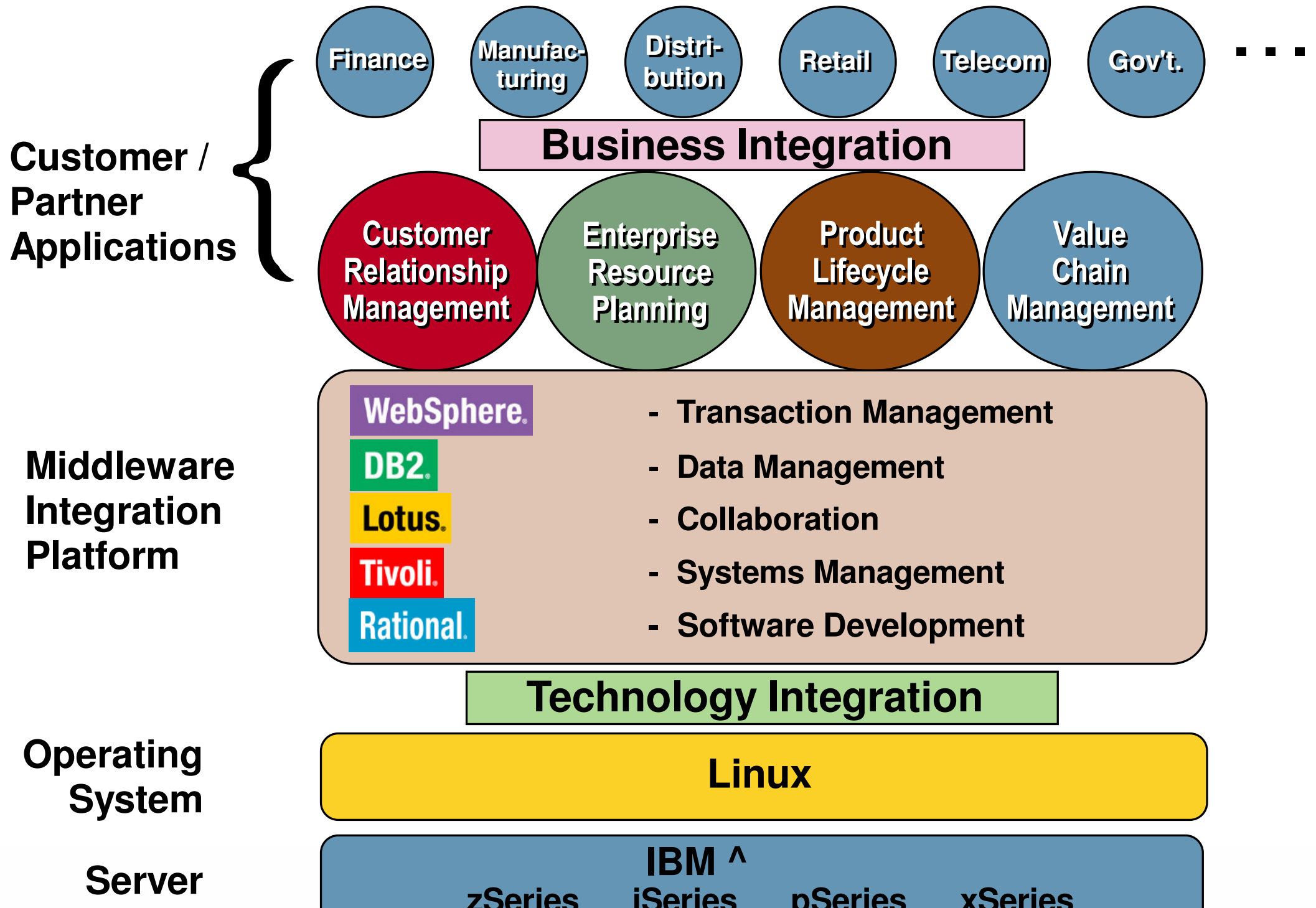


Why is Linux important to IBM?

because Linux runs on virtually everything -> consistent environment

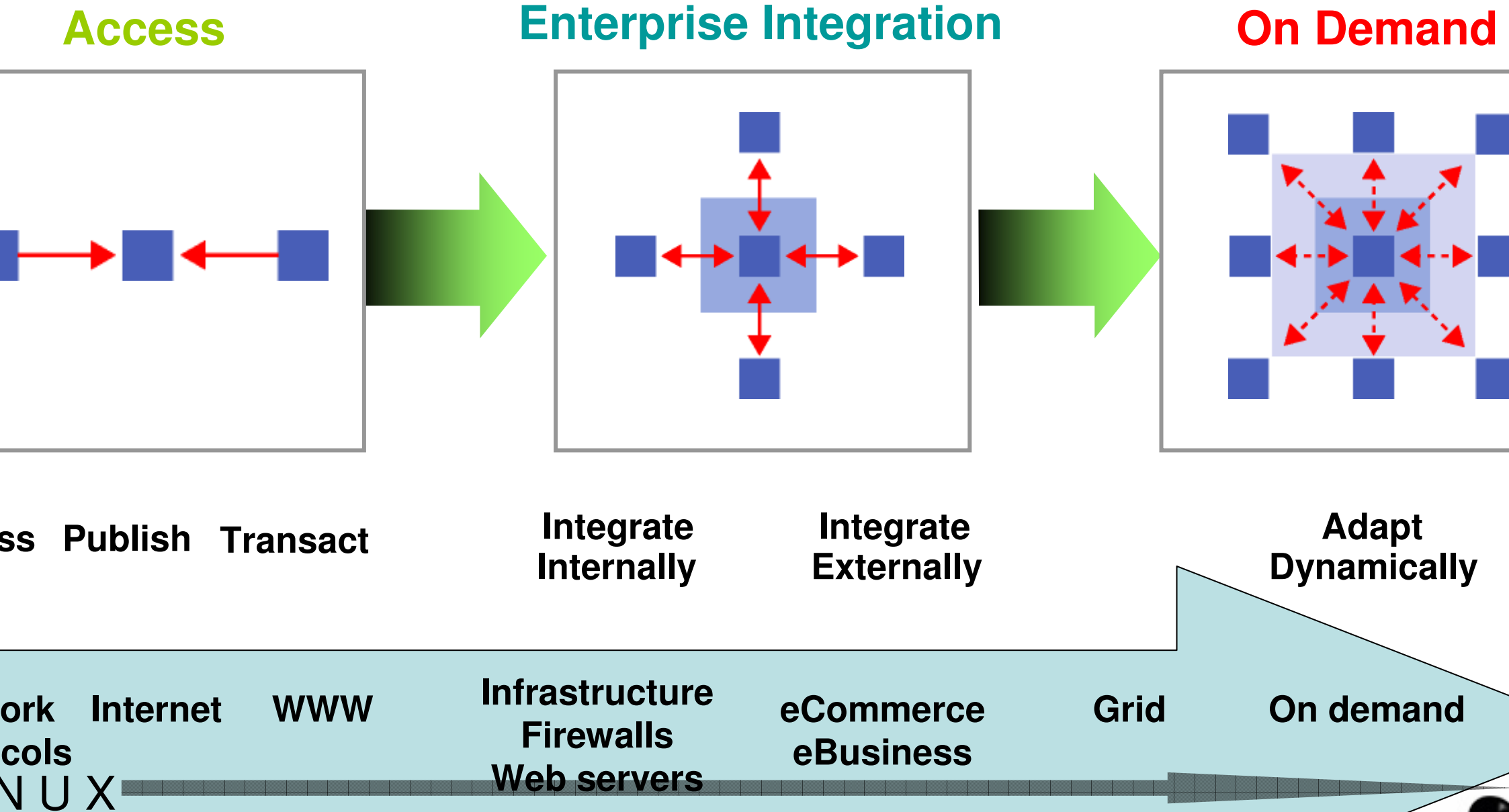


M's Linux Portfolio



Why is Linux important to IBM?

Because Linux plays an important role in IBM's on demand strategy!



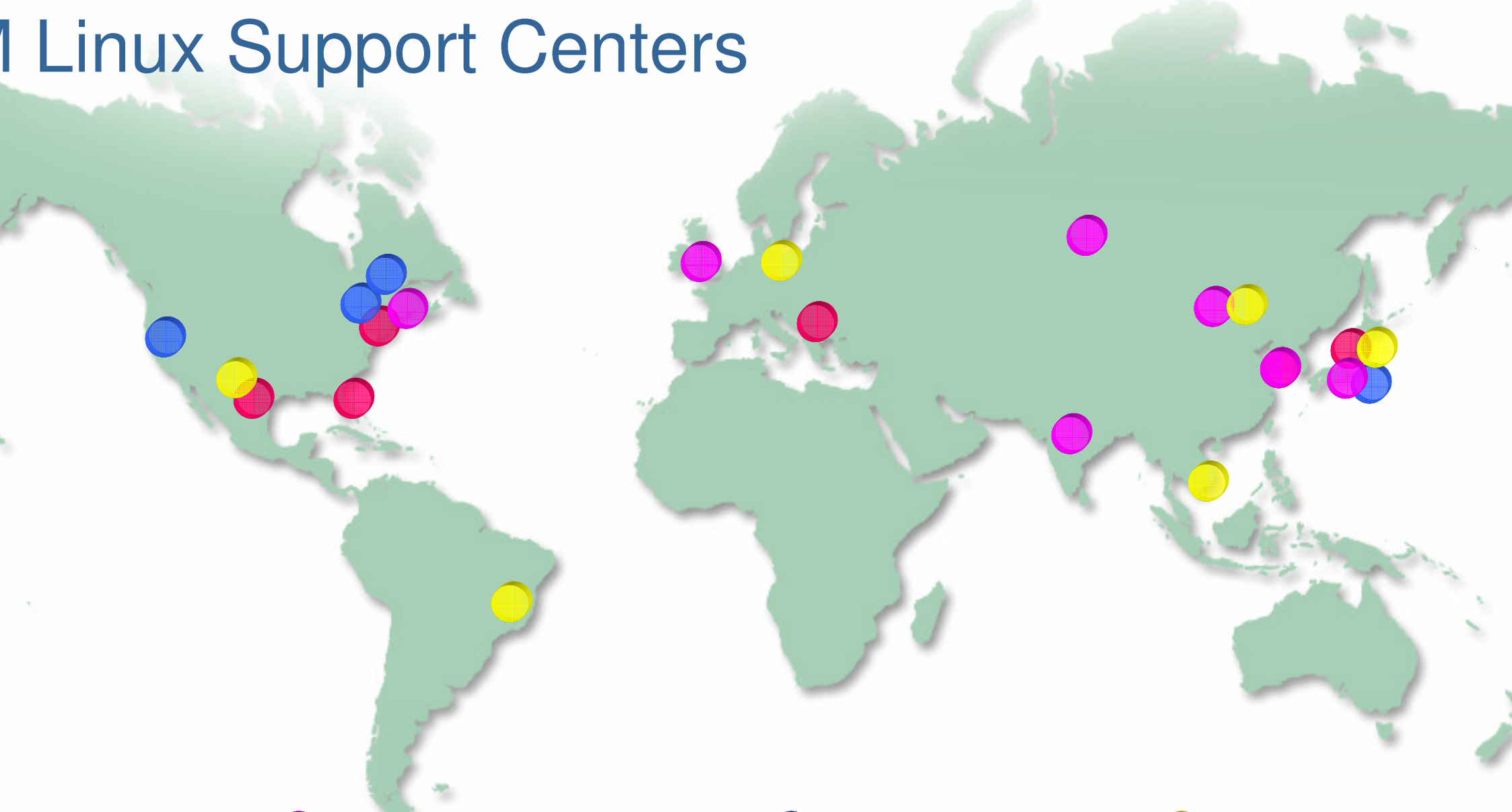
Why is Linux important to IBM?

because we eat our cooking!

2129 Linux Servers WW @ IBMand growing!

- **www.ibm.com/linux & w3.ibm.com/linux**
 - redundant xSeries Linux servers
- **Intranet search engine**
 - xSeries servers; Inktomi search engine
- **IGS Internet Vulnerability Security Scanning**
 - 61 xSeries scanning 30k IP addresses / week
- **Performance monitoring**
 - 24 xSeries servers
 - 75% fewer Linux servers than NT servers
- **IBM Global e-Mail Anti-virus Management**
 - xSeries scans incoming/outgoing mail for viruses
- **300mm Wafer Manufacturing Equip. Control (East Fishkill)**
 - Much more reliable than Win2000
 - 159 xSeries; 300-400 by end of 2003

Linux Support Centers



Briefing Centers

- Austin
- Raleigh
- Poughkeepsie
- Boeblingen
- Tokyo



Centers of Competency

- Beijing
- Moscow
- Seoul
- Bangalore
- New York
- Southampton, England



Linux Design Centers

- Poughkeepsie
- Silicon Valley
- Montpellier
- Makahari



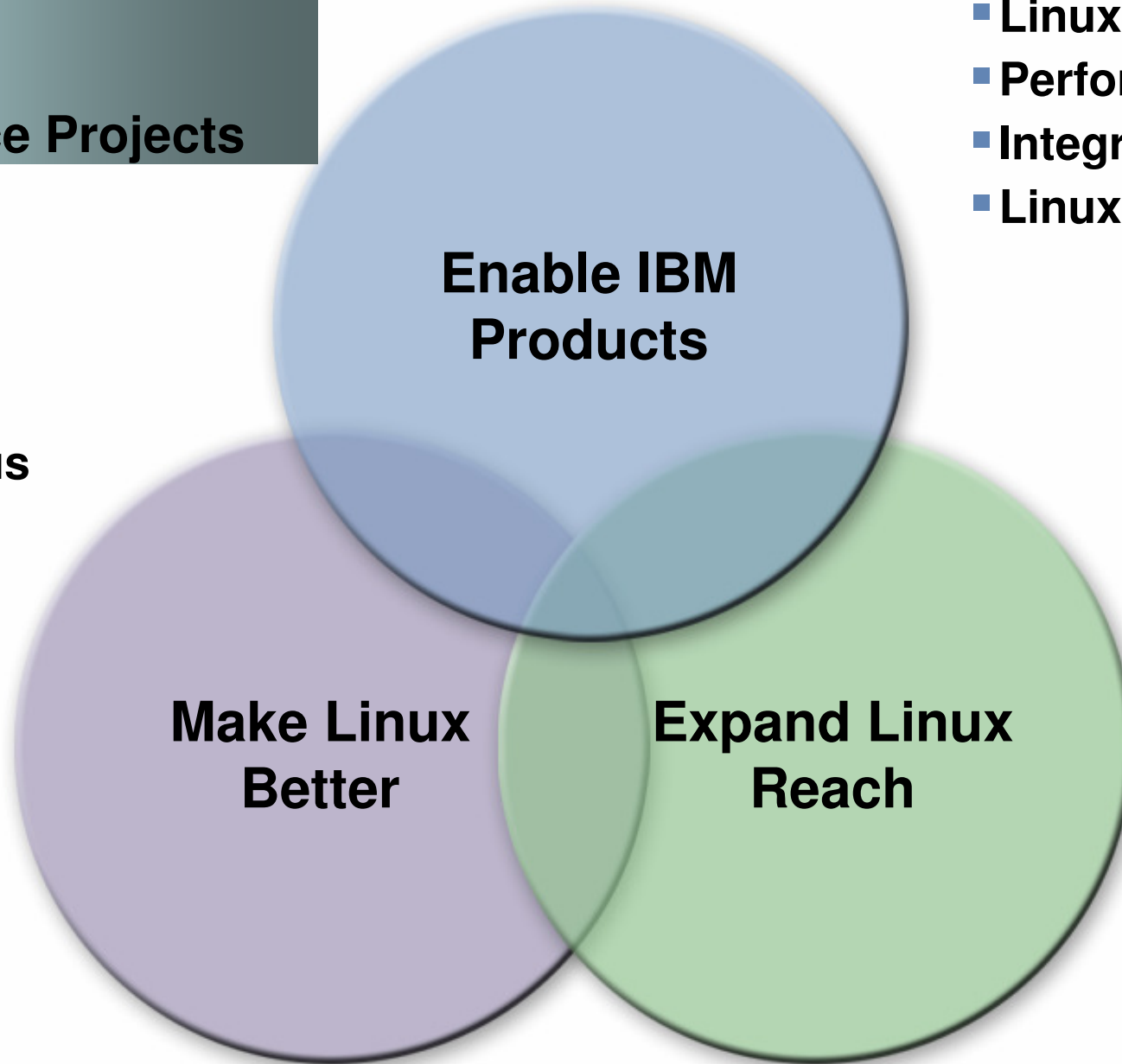
Linux Integration Centers

- Austin
- Boeblingen
- Tokyo
- Beijing
- Sao Paulo
- Singapore

IBM Linux Technology Center

1000 People
10 Locations
1000 Open Source Projects

Development Focus
as
Scalability
RAS
Networking
Systems Mgmt
Security
Performance
Standards
Test
Quality
Performance



- Linux on Power
- Performance optimizations
- Integrated Platform for Telecom
- Linux security assurance

- Secure Linux
- Carrier Grade Linux
- Data Center Linux
- Windows Interoperability



customers

THE SHERWIN-WILLIAMS COMPANY

CENDA

REGIONE LAZIO

BANK OF THE PHILIPPINE ISLANDS

Continental Airlines



DOLMEN

HONDA
The power of dreams

PORSCHE

TRADE FINANCIAL

CAP GEMINI
ERNST & YOUNG

WEST YORK POLICE

NISSAY

UNIVERSITY OF ALBERTA

ERICSSON



KIST

cuny.edu
THE CITY UNIVERSITY OF NEW YORK

france telecom

MA incorp

SPCA
Ford



Unilever

Delta

Bank of Tokyo

c.o.r.e.
feature • animation



AARP

CASAS
BAHIA

PEARSON

UBS Investment Bank

Merrill Lynch

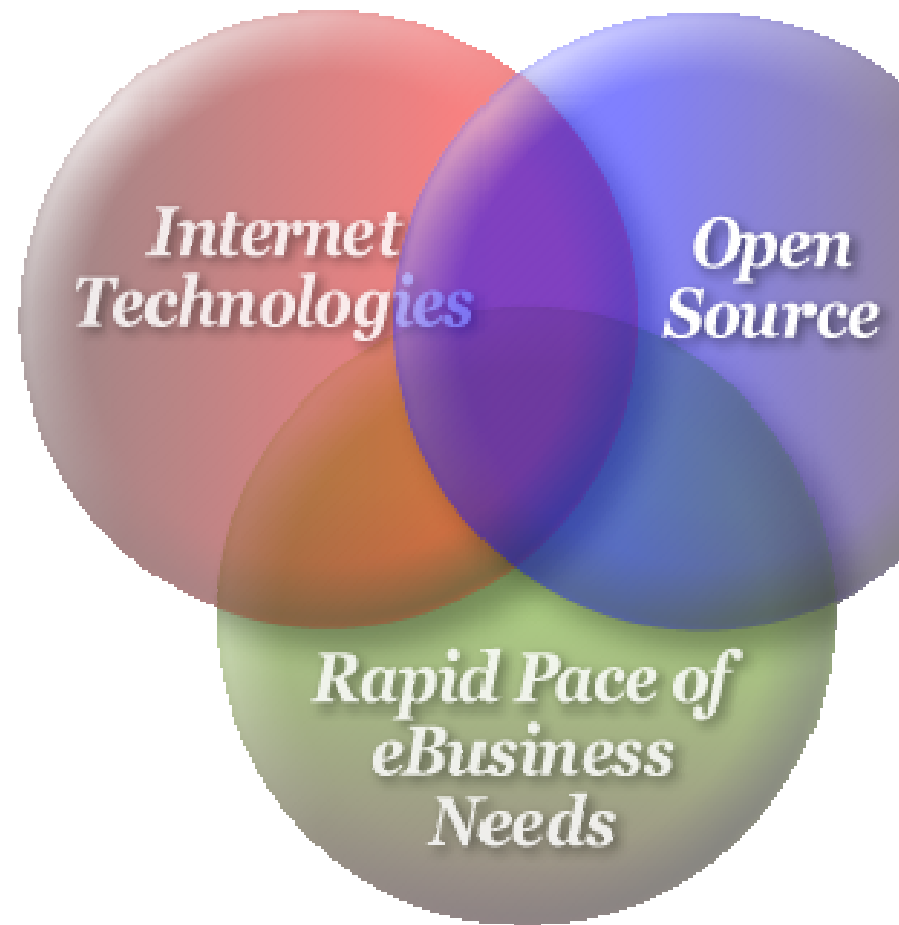


Summary

The IT industry continues to go through major changes - open source is finding new receptive development community

Just as open source & open standards were critical to the emergence of the Internet – and first generation e-businesses...

it will continue playing an increasingly important roles as we continue evolving the next generation e-businesses.



Thank You!



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