



IBM eServer pSeries

# Linux :The game changer



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Think  POWER First!



What is Linux,  
who's using it,  
and why?

## Linux (in a single slide)

- **Fastest growing operating system today**
- **Unix-like operating system**
- **Named after Linus Torvalds, its creator**
- **Linus + Unix = Linux**
- **Renowned for speed and reliability**
- **Runs on many different kinds of hardware**
- **Several vendors sell very affordable "distributions"**
- **And it's FREE to download**

Think  POWER First!



## Where did Linux come from?

Think **POWER** First!

- Linus Torvalds created it with assistance from programmers around the world, the source code is free
- First posted on Internet: October 5, 1991
- Linux 1.0 in 1994 and Linux 2.2 in 1999
- Today -- runs on 7-10 million computers
- With thousands of programmers working to improve it
- Moving beyond the "enthusiast phase" into small businesses, ISPs, and into the corporate IS world



# What is Linux?

**UNIX-like operating system**

**Developed / tested by the Open Source community**

**Packaged and shipped by distributors**

f Red Hat, SuSE (Novell!), Turbolinux

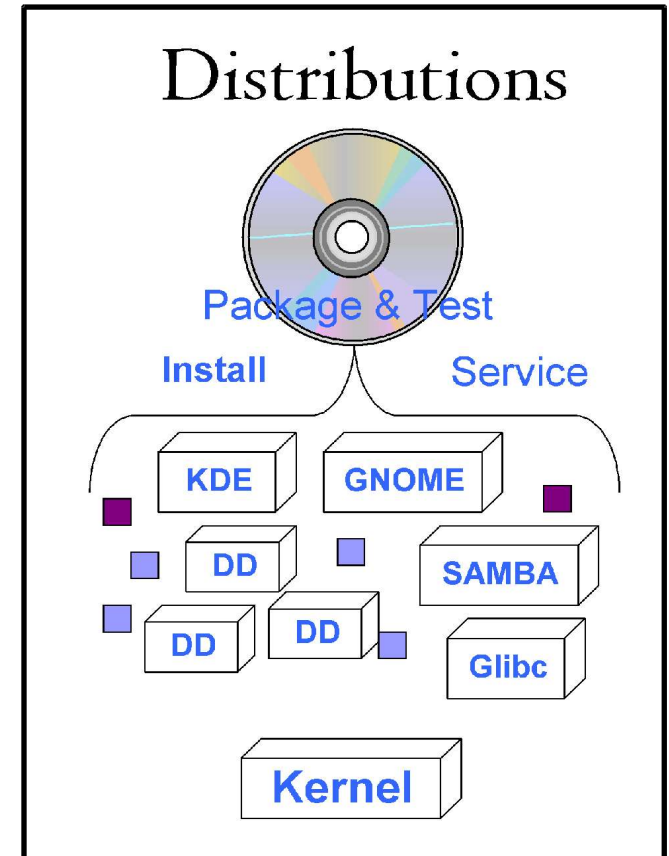
f Other regional distributors

f Red Flag, Conectiva, Mandrake, etc...

**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.



# Linux Defined

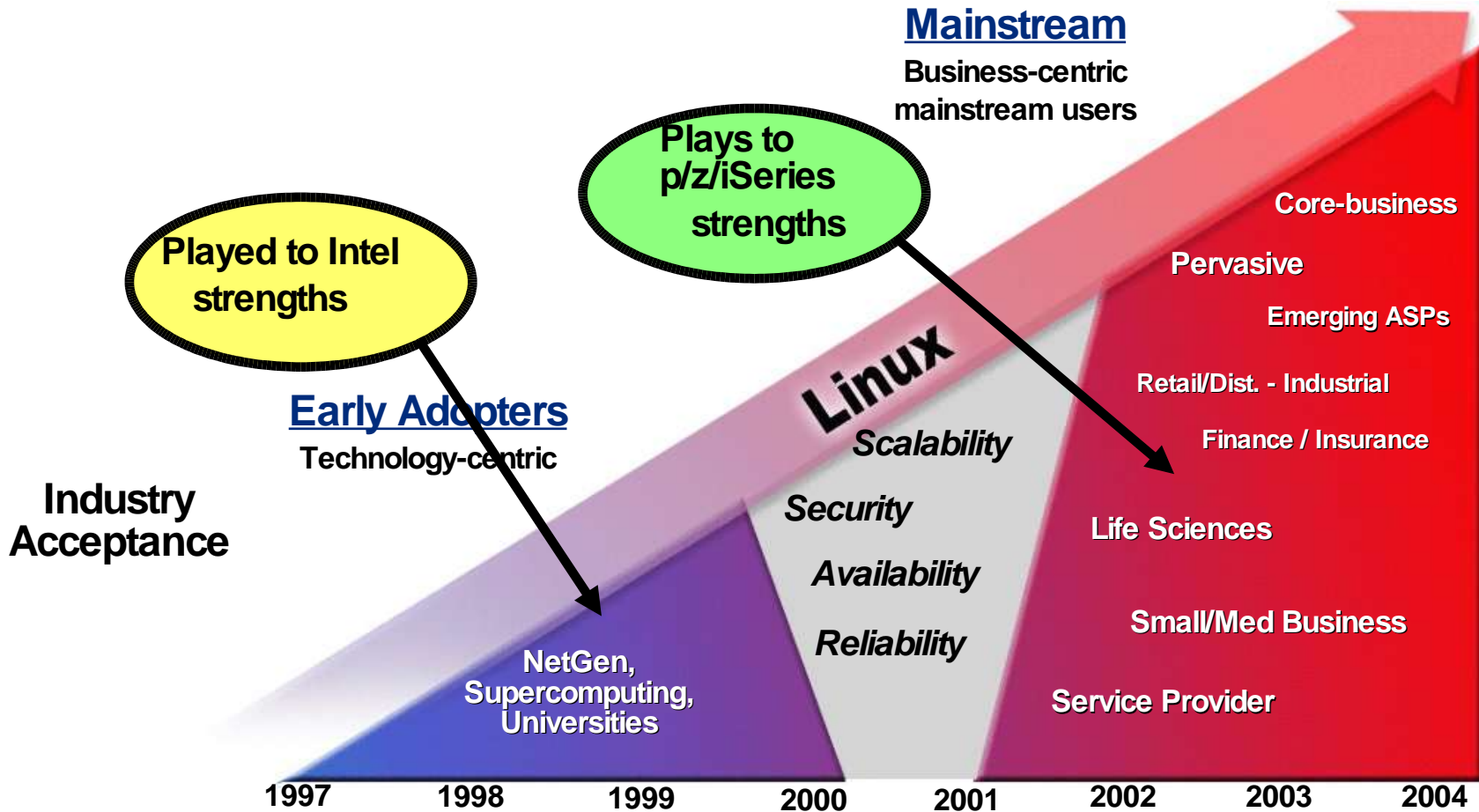
## A Radical New Concept in Software Development

- UNIX-like operating system
- Supported by a global community
- Unprecedented flexibility





# Linux Growth and Industry Acceptance



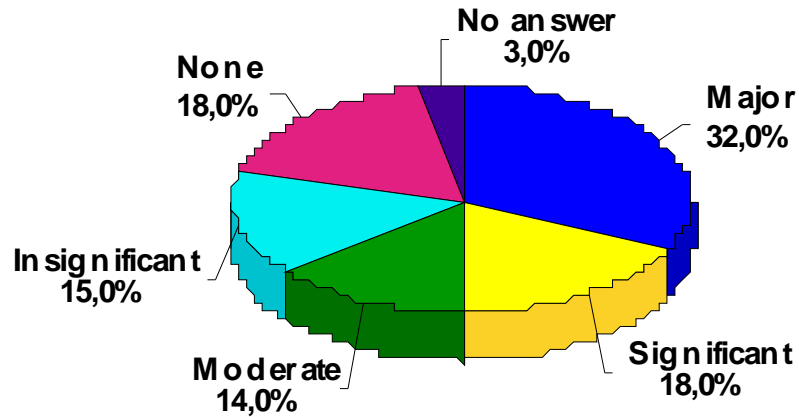
# Linux Market Momentum

Linux plays a role in 64% of companies surveyed

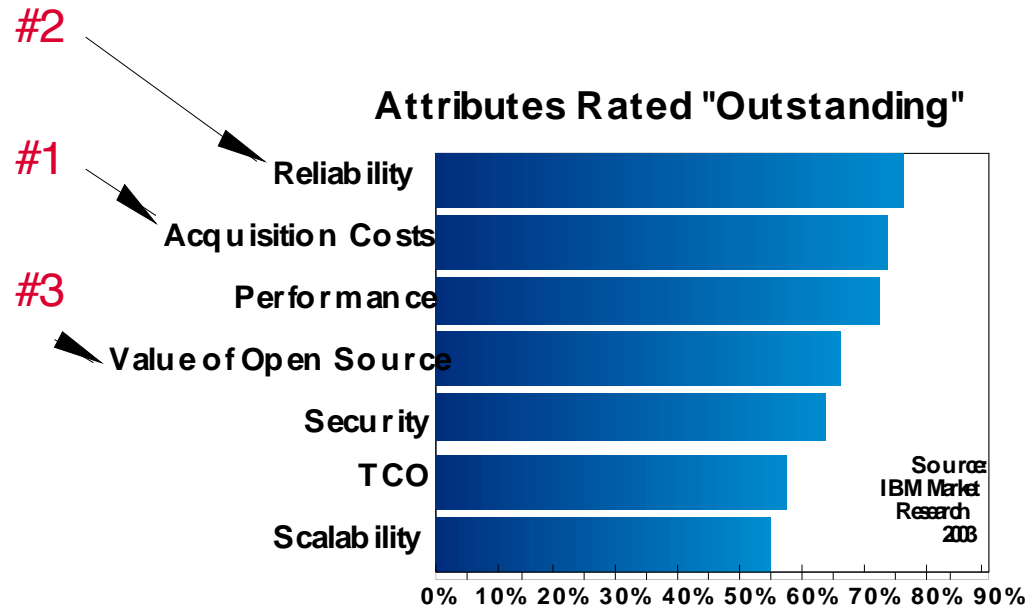
Cost savings & Reliability continue to drive Linux adoption & deployment

What role does Linux play in your company's plan

How would you rate Linux on the following aspects?

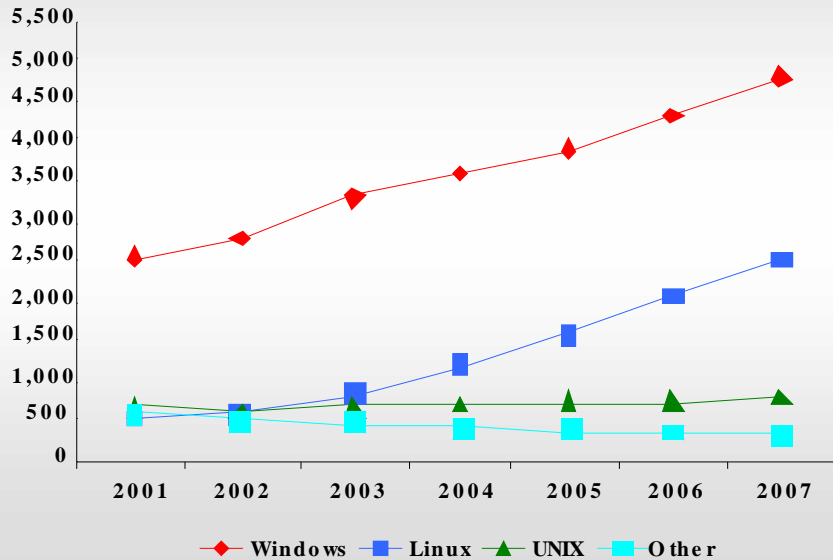


Source: CNET Reader survey (June 2003)

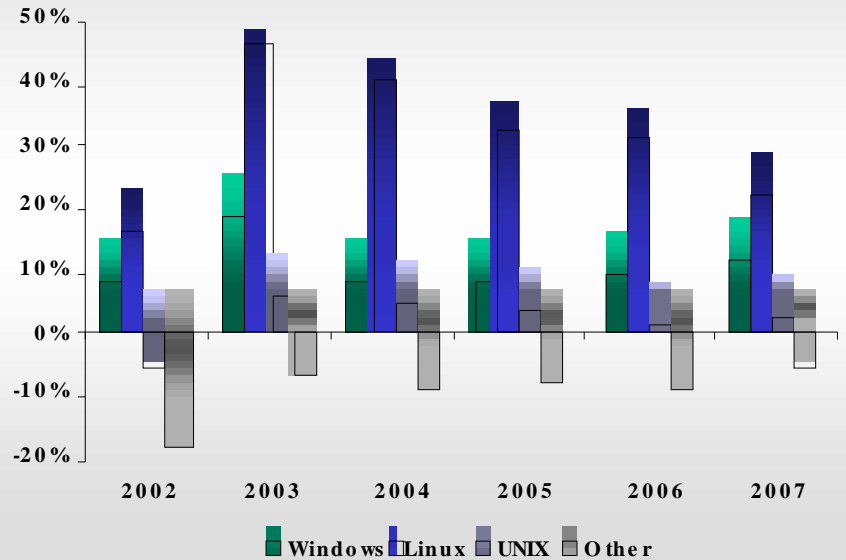


# Server Shipments

**Server Shipments by OS  
(Thousands)**



**Server Shipments by OS  
%YtY Growth**

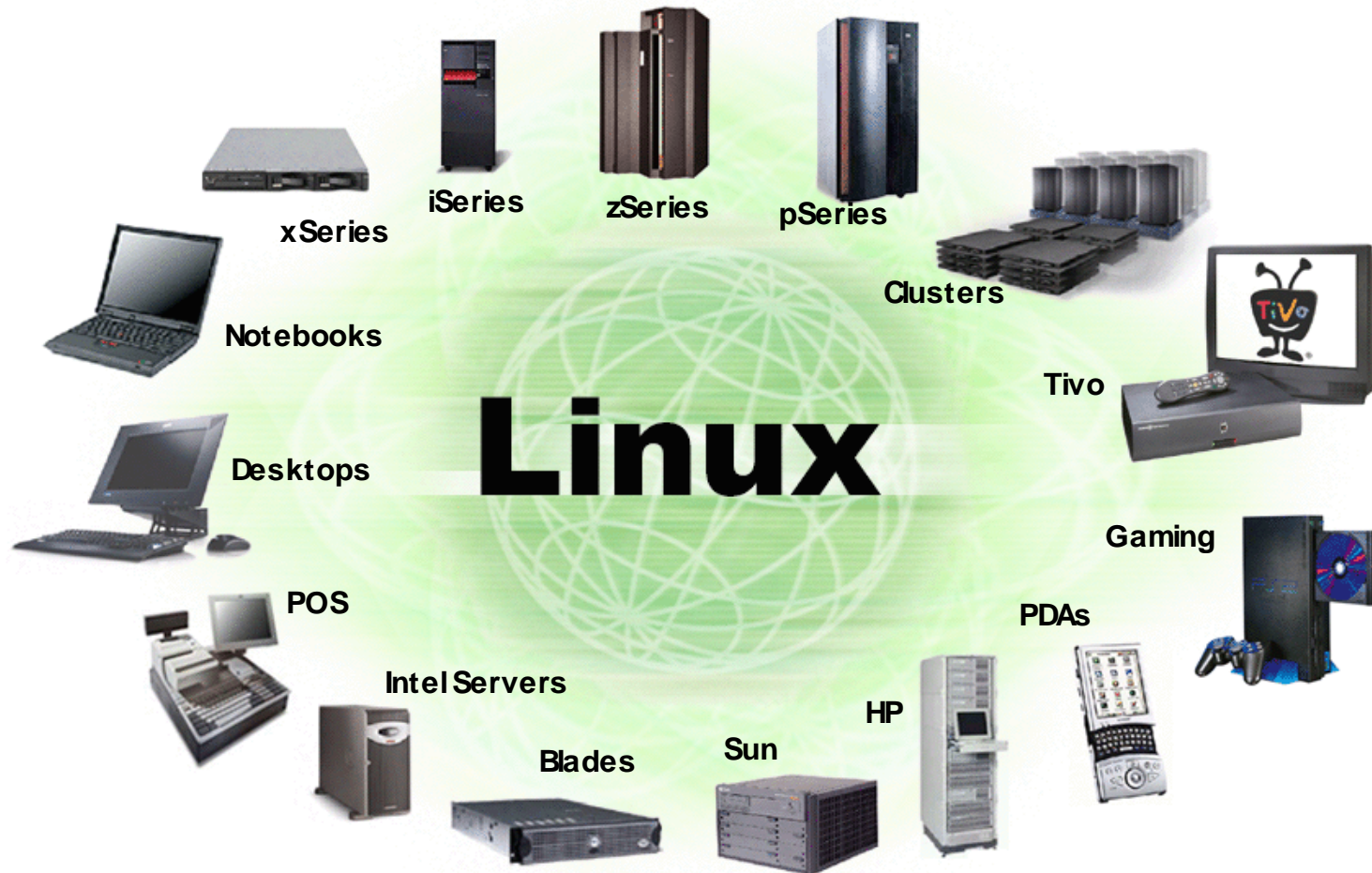


**Linux will eventually emerge as the only significant server volume challenger to Windows through the year 2007.**

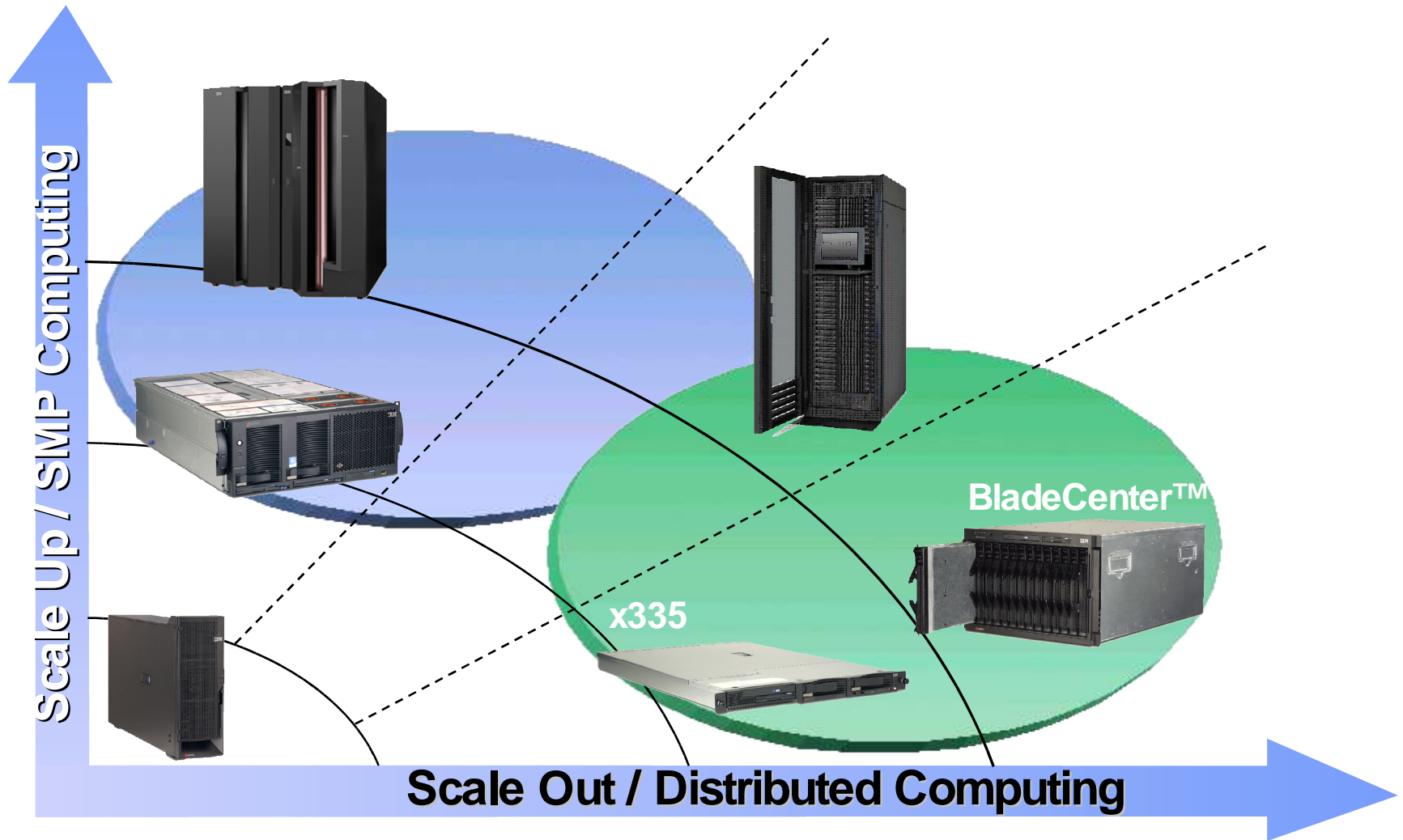
**Linux has been and will continue to be the fastest growing OS in the foreseeable future**

# Linux doesn't scale

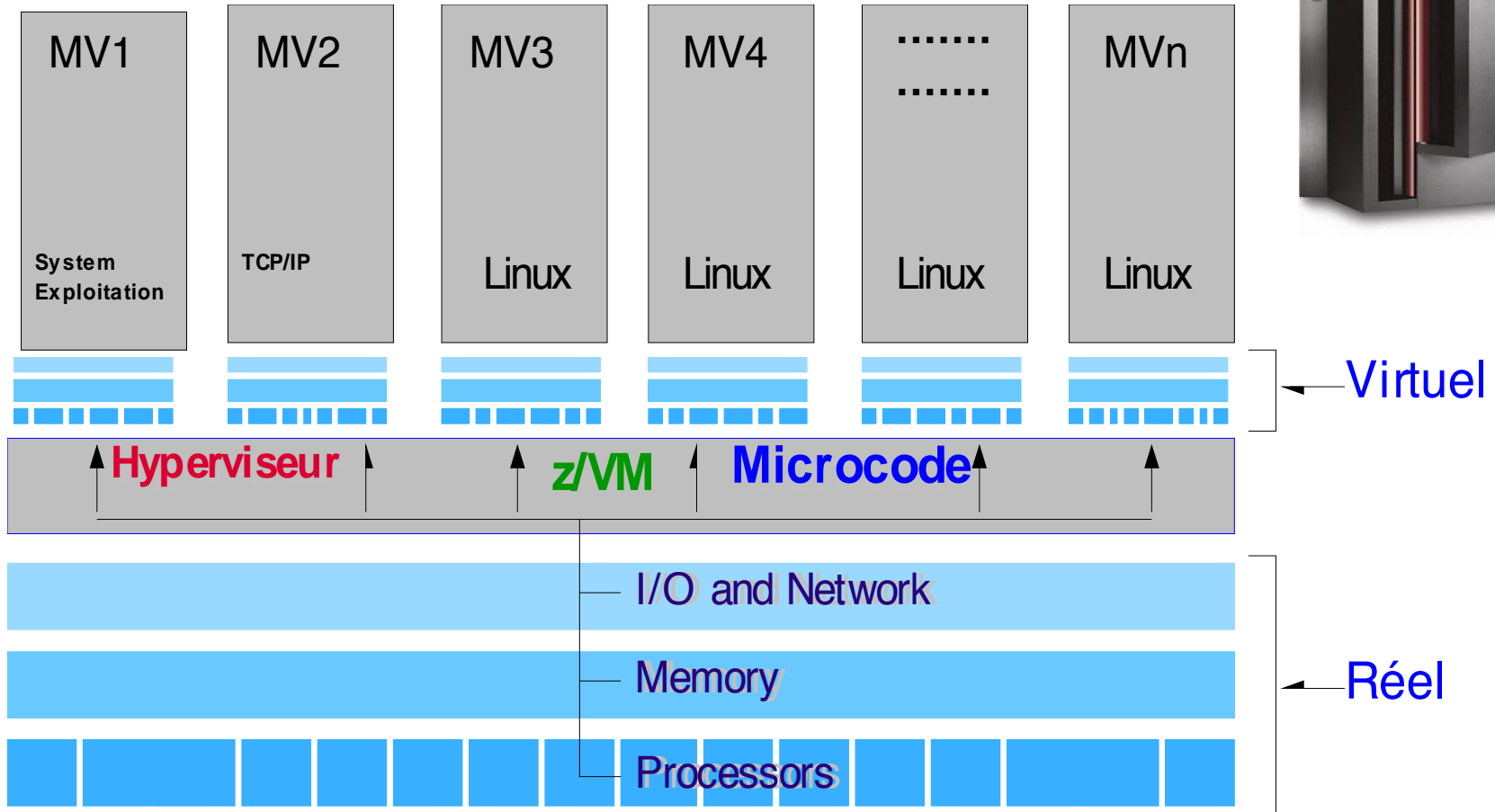
## Unique environment



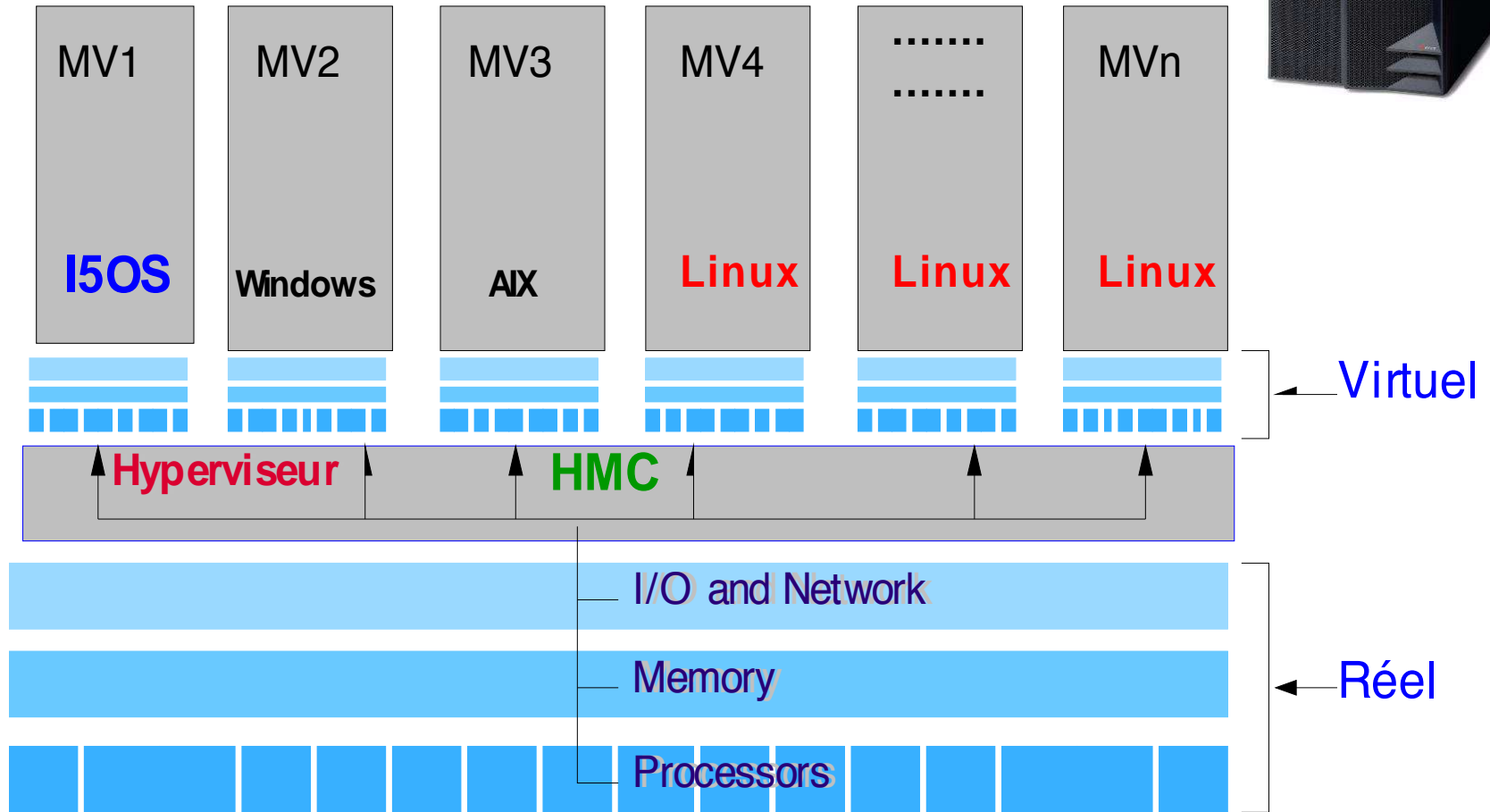
# Virtualisation : Inheritance from the Mainframe technology



# Virtualisation on zSeries Microcode & z/VM



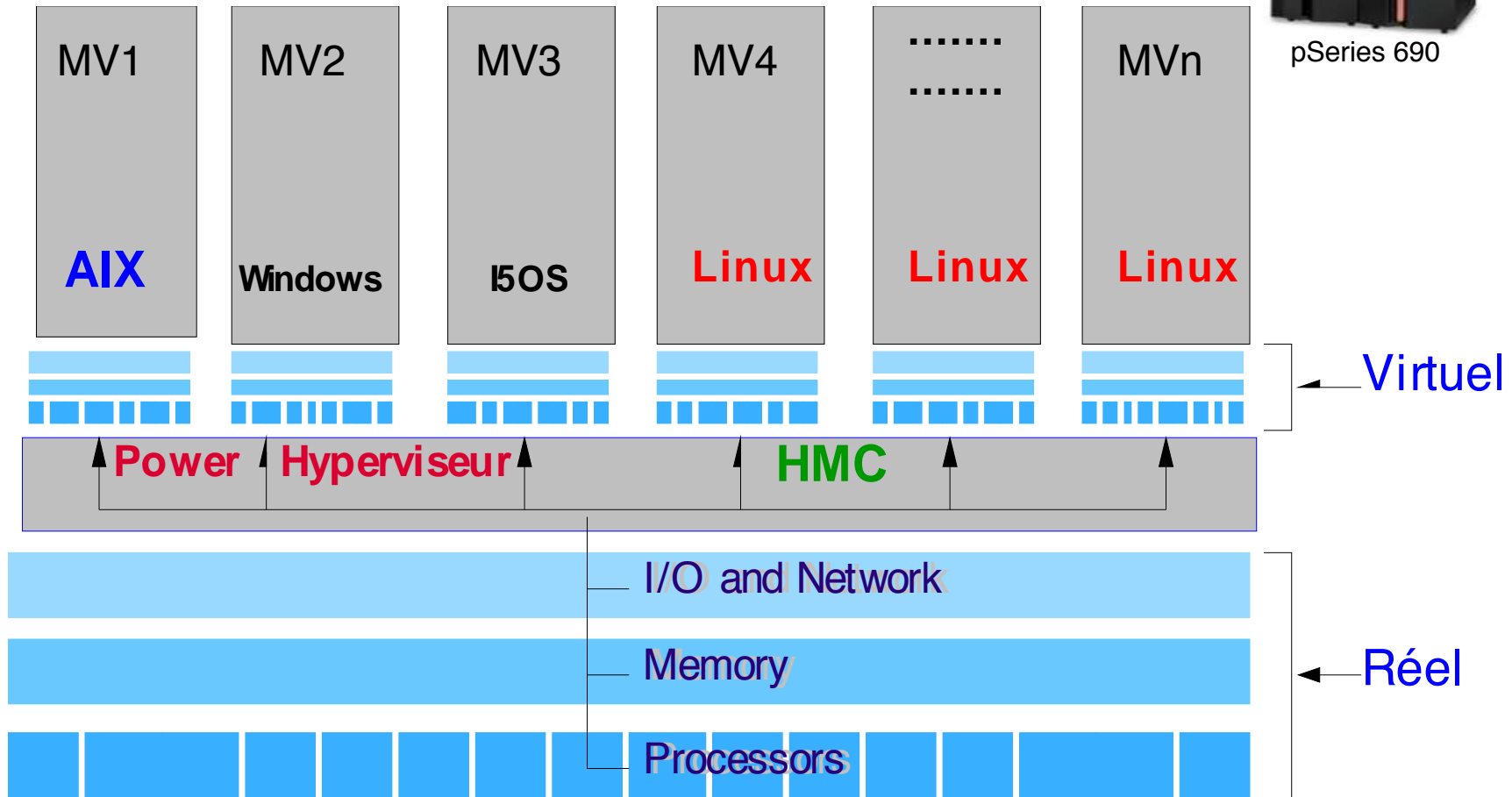
# Virtualisation on iSeries (AS400 - Power5)



# Virtualisation on pSeries (RS6000 - Power5)



pSeries 690



# Linux is secure

## The open Source development process

- Darwinian—Structured/Disciplined
- Exposed vs Hidden
- Linux doesn't suffer from “the patch of the day” syndrome or the blizzard of virus attacks typically associated with some other software
- Linux is not compatible with Microsoft viruses and worms
  
- - "Chinese, French and German governments
  - ... adopting Linux over Microsoft Windows "
  - "Security experts ... agree computers are *less prone to hacking and viruses when running open-source software like Linux*"(*Associated press* )

## Linux is rock solid



Runs on Linux

- 100+ million queries per day
- Average response times less than half a second

→ Wall Street Leans Towards Linux

- "...Linux is quickly gaining ground on Unix and Windows as a mission-critical operating system
- within the securities industry."

→ IBM Service / Support

- Level 1-2-3 support for all eServer platforms running Linux

\*TCO = Total Cost of Ownership

## ISV's are adopting Linux

- 34,000 Windows and Intel developers are now working with IBM software to build Linux applications
- A**as an open source OS, Linux has captured the mindshare of end-users, vendors and Independent Software Vendors



\*TCO = Total Cost of Ownership

# IBM Software Group

## All IBM software adopted Linux

**Rational.**

**WebSphere.**

**DB2®**

**Lotus®**

**Tivoli®**

Accélération  
du  
déploiement  
de projet

Software  
Development  
Platform

Plate-Forme  
d'Intégration  
du E-Business

Online  
Transaction  
System

Information  
on Demand

Relational  
Data-Base

E-learning  
& Advanced  
Collaboration

Messaging  
& E-Mail

Business  
Impact

Integrated  
Enterprise  
Management

**LINUX**

*" In the 64-bit space,  
everybody else is  
completely irrelevant except  
for Opteron and Power.  
Nothing else matters. That's  
just the way it is."*

Linus Torvalds, creator of  
Linux, working on GeekCruises  
and reported by Linux Journal  
on oet.com  
October 30, 2003



## Linux @ IBM

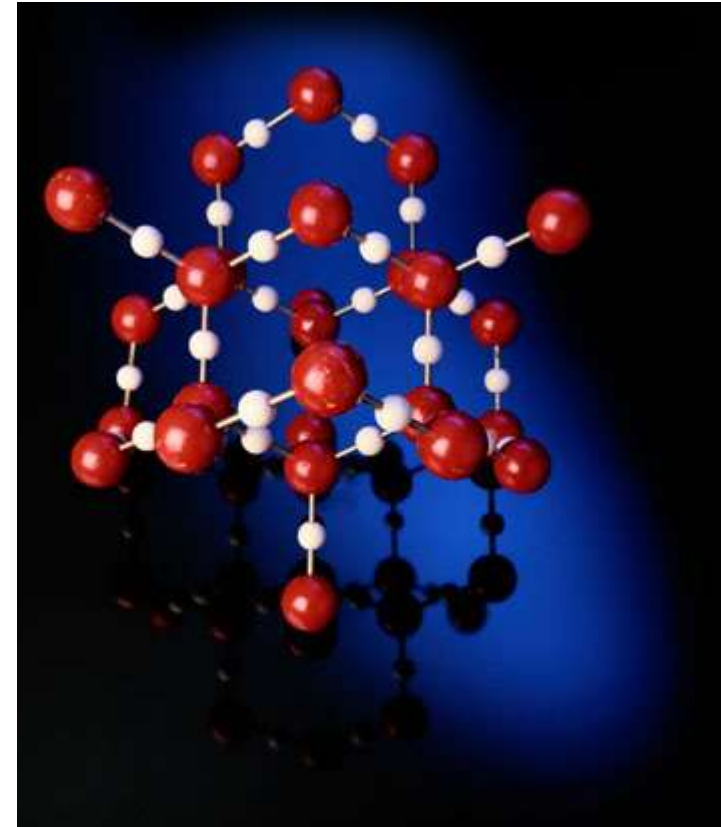
Over 1.100+ servers in production worldwide, others in numerous R&D projects

- f* 100 customers, 30,000 internal addresses
- f* Standard client; software installer
- f* Linux on xSeries: Security, Performance monitoring, End-to-end availability, Web serving, File serving, [www.ibm.com/linux](http://www.ibm.com/linux)
- f* Linux on zSeries: Collaboration -replacing worldwide VM forums, 180 VM guest images and 14 LPAR images, Product Development

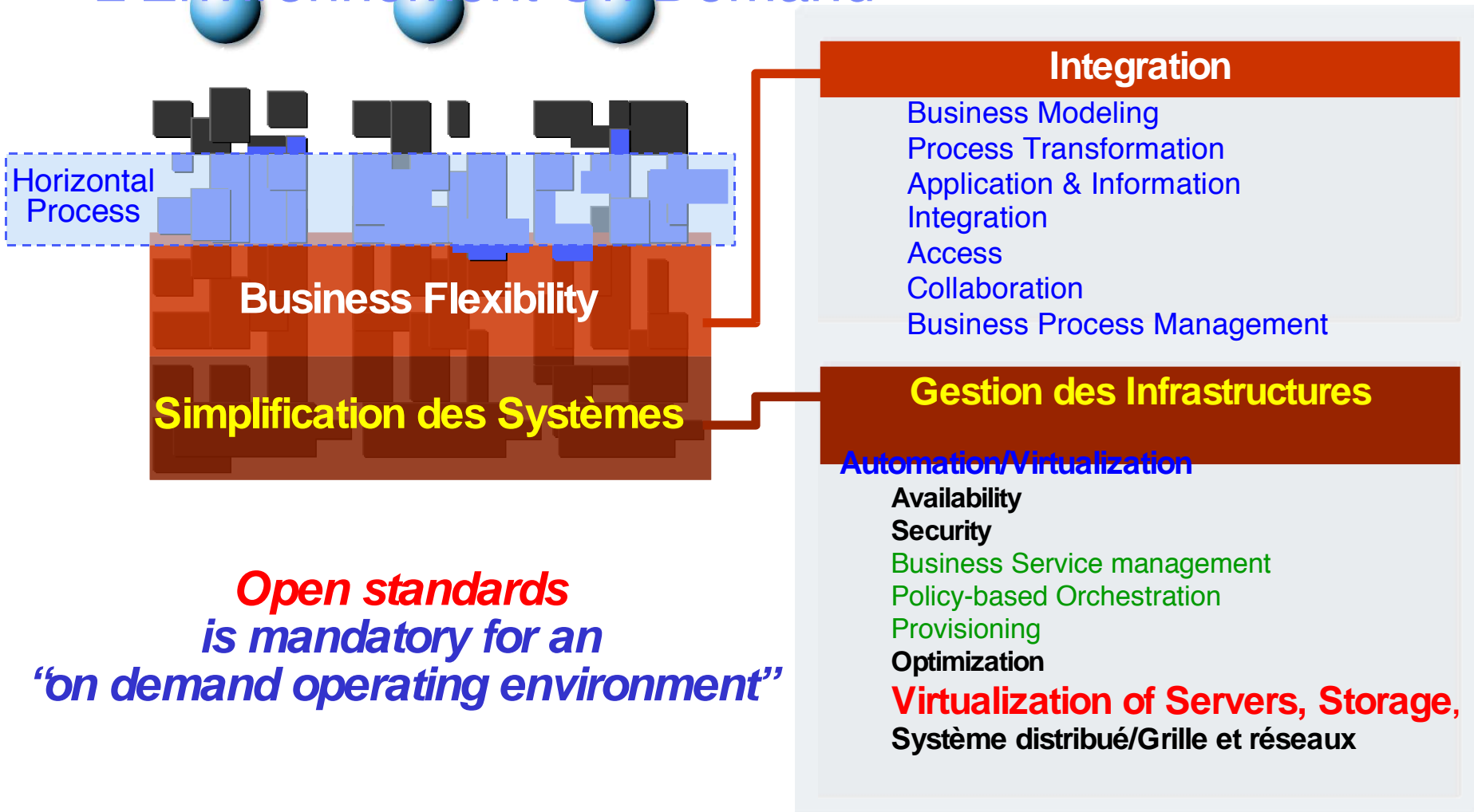


## Business On Demand : Plus qu'une facilité

**Un "business On Demand" est une entreprise dont les procédures business sont intégrées de bout en bout à travers toute l'entreprise et à travers les principaux partenaires, fournisseurs et clients – pour répondre rapidement à toute demande des clients, aux opportunités du marché et aux menaces extérieures.**



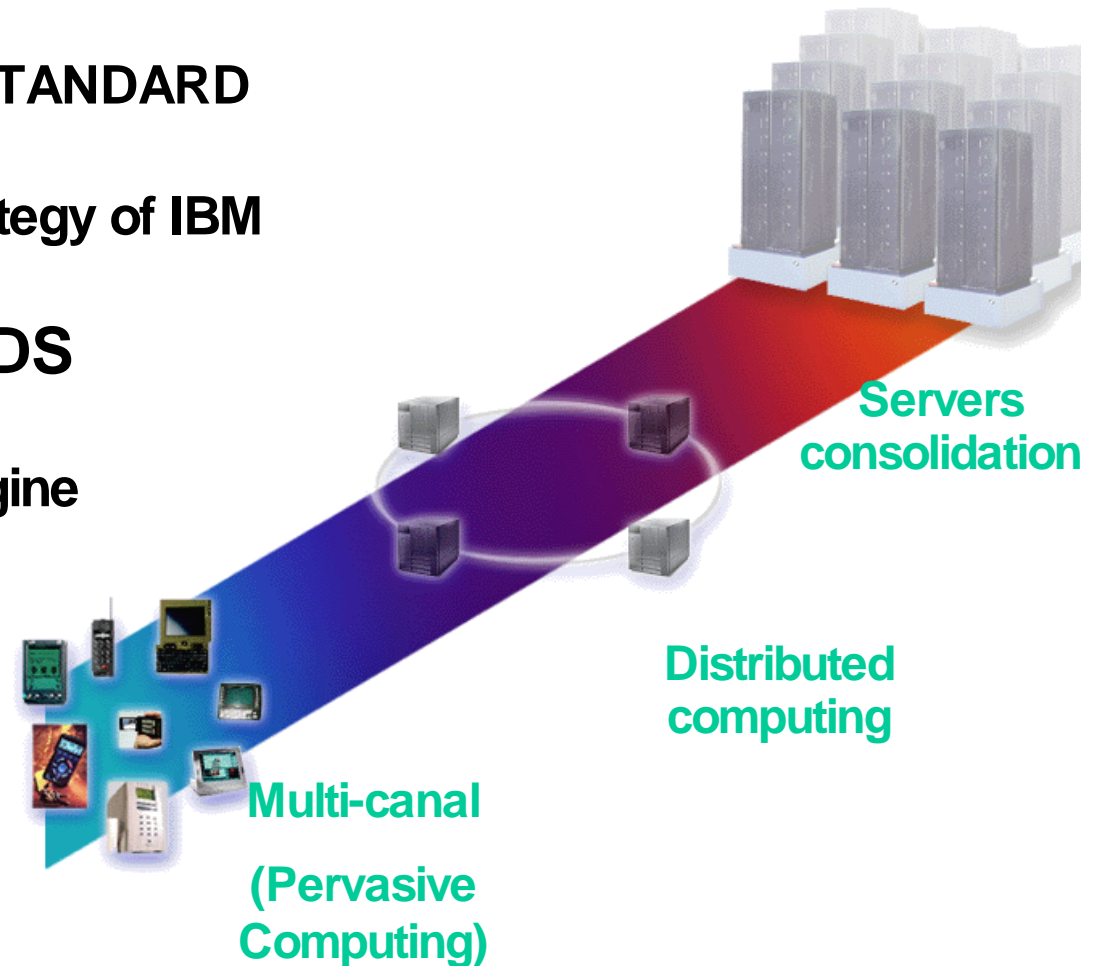
# L'Environnement On Demand



***Open standards***  
***is mandatory for an***  
***“on demand operating environment”***

## Why IBM and Linux

- The ECLIPSE project = STANDARD
- In line with the global strategy of IBM
  - Multi-platforms
  - OPEN STANDARDS
  - ON-Demand, GRID
  - IBM Virtualisation Engine



# IBM : active member of Linux community

## Linux Technology Center - LTC

+600 members WW

+80 Open source projects running

80% of IBM contributions are accepted

Site WEB

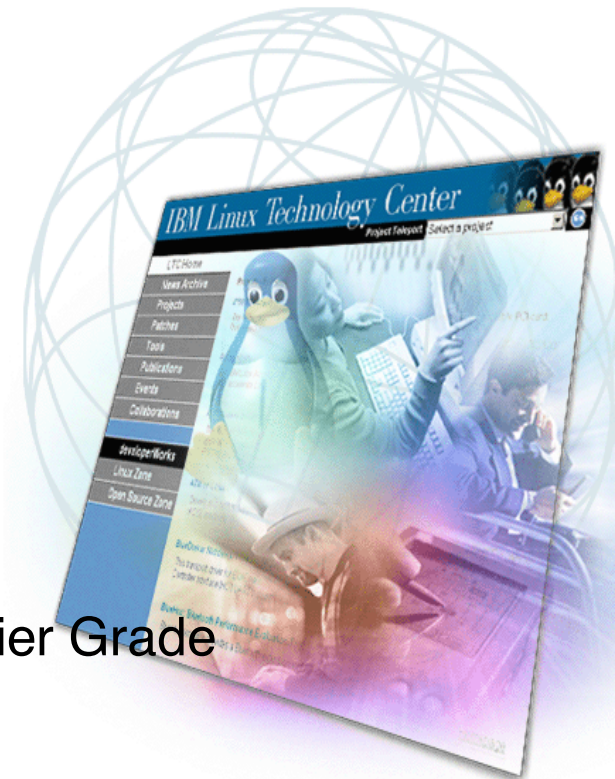
[www.ibm.com/linux/ltc](http://www.ibm.com/linux/ltc)

Deeply involved in kernel development

Samba, Andrew Tridgell

Key participant and contributor to the « Carrier Grade Linux » project

Maintenance/Support (Defect)



# Open Source Laboratory founded by IBM

## Open Source Development Lab - OSDL

### OPEN SOURCE for business

Key participants : RedHat, SUSE, Intel, HP, Fujitsu, Nec, CA

Key projects : Alcatel, Cisco, Ericsson, Nokia  
Beaverton, Oregon

### Web Site

**[www.osdl.org](http://www.osdl.org)**

|

Linus Torvalds  
“Carrier Grade”  
Contributeur Métier



# I.B.M contribution to Linux



## IBM engineers contributing to enterprise Linux efforts

- Deeply involved in v2.6 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

\*TCO = Total Cost of  
Ownership

# Linux@IBM

## A commitment to Linux across the entire business

### → Linux Technology Center

- "Help make Linux better"
- 600+ developers, 21 sites working within the open source community
- 80+ active projects

### → Linux Integration Center

- Technical consulting, proof of concepts, benchmarks

### → Open Source Development Lab

- Enabling Linux and Linux-based applications for data center and carrier-class deployment

### ■ Linux Porting Centers

### ■ Linux Center of Competency for Finance - NYC, London

### ■ Linux for Service Providers Lab

### ■ 2,000+ Linux skilled IGS professionals

\*TCO = Total Cost of  
Ownership

***Any questions?***

***Why not Linux?***



## Helpful URLs



- [www.ibm.com/linux](http://www.ibm.com/linux)
- [www.ibm.com/developerworks/linux](http://www.ibm.com/developerworks/linux)
- [Www.ibm.com/software/linux](http://Www.ibm.com/software/linux)
- [www.ibm.com/linux/solutions](http://www.ibm.com/linux/solutions)
- [www.linux.org](http://www.linux.org)
- [www.osdl.org](http://www.osdl.org)
- [www.globus.org](http://www.globus.org)

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