



Linux: od strežnika do namizja



Klemen Kobilica

*Vodja tehnične podpore prodaji,
Information Management programska oprema & Linux,
CEMAAS*

*Linux konferenca
Portorož, 30. 9. 2005*



Agenda

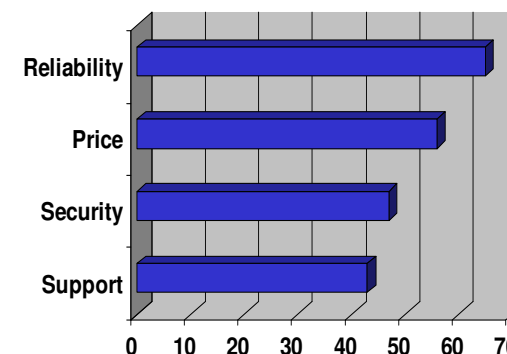
- **Kako stranke sprejemajo Linux**
- IBM in Linux
- Linux in namizje
- Odprto računalništvo
- Zakaj IBM



Zakaj je Linux tako pomemben?

- Linux omogoča izbiro in fleksibilnost
- Linux je varen
- Linux je zanesljiv
- Linux je skalabilen
- Linux omogoča doseganje poslovnih ciljev
 - Zmanjševanje stroškov
 - Poenostavitev IT okolij (različen HW, isti OS)
 - Izboljšanje dogovora o storitvah (service level agreement)
 - Pospešuje inovacije
- Linux je prava pot za podjetja da postanejo “On Demand Business”
 - “On Demand Business” je podjetje, ki ima integrirane poslovne procese znotraj podjetja, s partnerji, dobavitelji in strankami. Tako lahko hitro in fleksibilno reagira na zahteve strank, tržne priložnosti in nevarnosti.

Top buying attributes



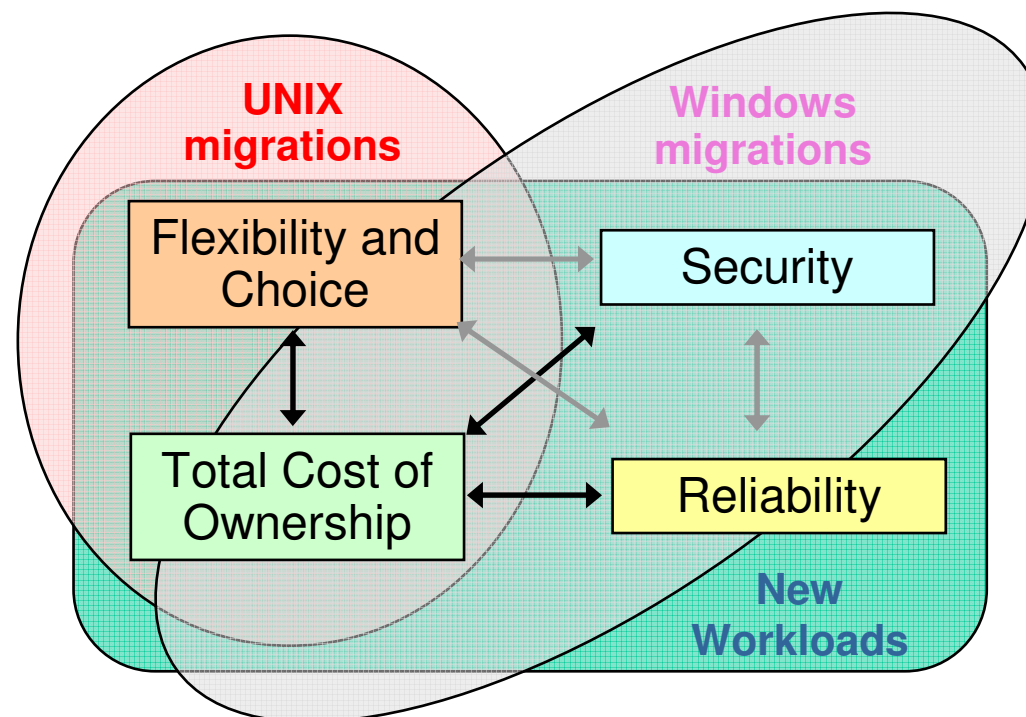
* IDC Linux MCS 4th Wave (2004)

Drivers to Use Linux Today

- Attractive hardware acquisition costs
- Availability of low-cost, open-source software
- Ability to modify Linux system software
- Linux runs across all hardware platforms
 - x86, x86-64, RISC and CISC (including mainframes)
- Interest in alternatives to Windows and Unix, offering customers choice in software platforms
- Expectations of improved price/performance
- Re-use of existing Unix skills in enterprise, HPC computing

Zakaj stranke sprejemajo Linux

- Linux omogoča UNIX strankam, da izberejo cenejšo strojno opremo
- Linux omogoča Windows strankam izboljšano varnost, zanesljivost in večjo izbiro
- Linux omogoča strankam izbiro, da nove aplikacije postavijo na osnovi odprtih rešitev in se tako izognejo zaprtih rešitev s strani strojne in programske opreme ali arhitekture rešitve



Dinamika trga: Linux raste na več področjih

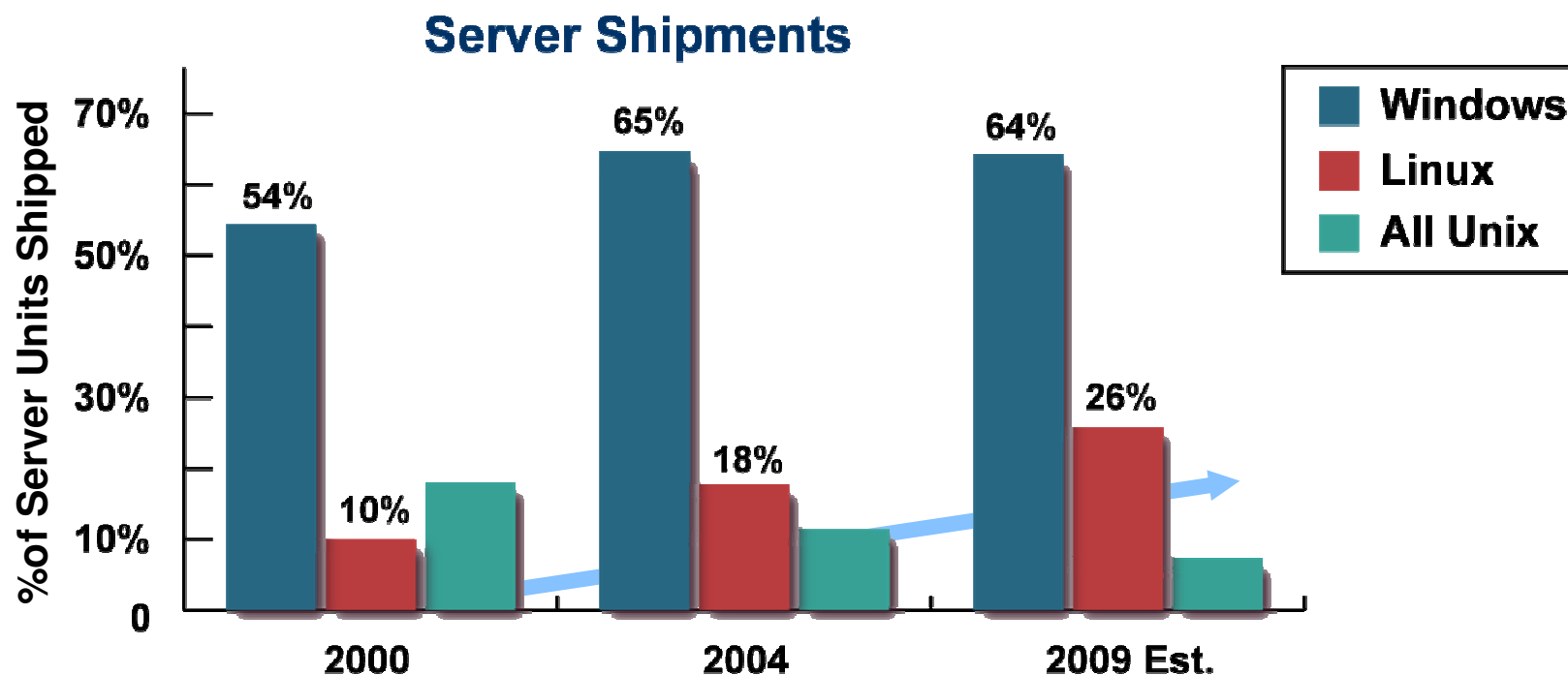
- **Migracije UNIX aplikacij na Linux zaradi TCO**
- **Linux prehaja iz uporabe v infrastrukturi, v poslovne aplikacije**
- **Linux se uporablja vedno več kot razvojna platforma**
- **Linux uvaja heterogenost na SMB trg, ki je bil zgodovinsko domena Windows**
- **Največja rast Linuxa je v razvijajočih državah**
- **Vedno več zanimanja je za uporabo Linux kot namizja, predvsem v javnem sektorju in razvijajočih državah**



Linux strežniški trg se še naprej razvija

11 zaporednih četrtletij (1Q05) dvošteviline rasti

- Trg Linux strežnikov je več kot \$1.2B kvartalno
- Letna rast dohodkov 35.2%
- Rast števila prodanih strežnikov 31.1%

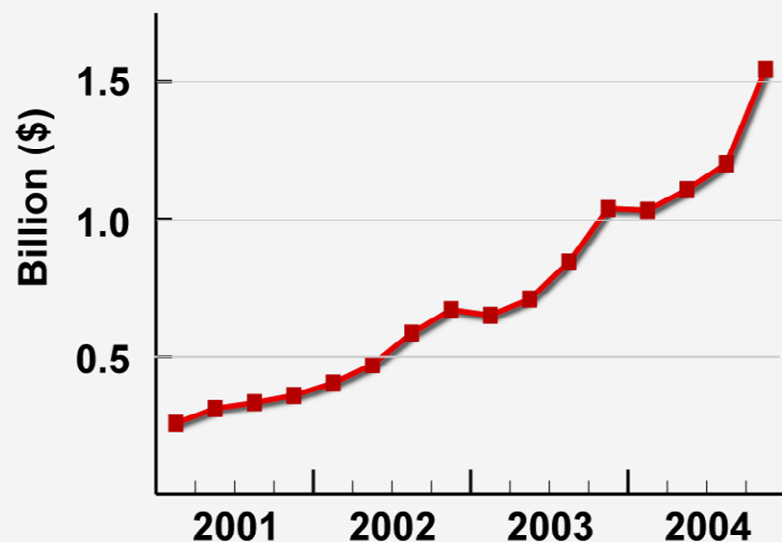


Source: *IDC Worldwide Quarterly Server Tracker and Forecast, June, 2005*

Linux strežniki: rast dohodkov

.... Še vedno hitrejša rast, kot povprečje v industriji

Worldwide Linux Revenues



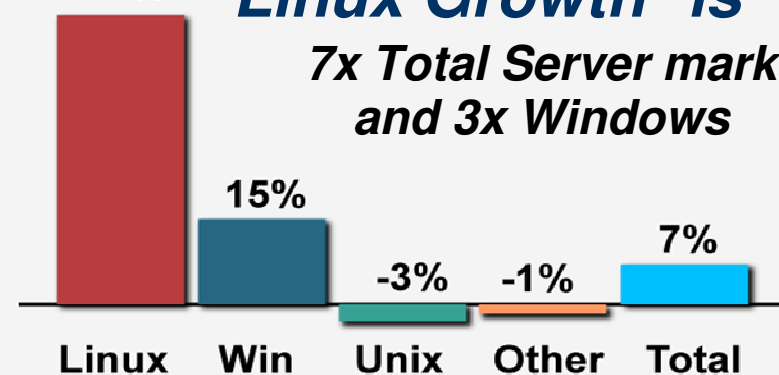
WW Server Market FY 2004

| 2004 YTY | Revenues | Revenue Growth | Unit Growth |
|--------------|----------------|----------------|-------------|
| Linux | \$4.9B | 51% | 54% |
| Windows | \$17.4B | 15% | 19% |
| UNIX | \$16.2B | -3% | 8% |
| Others | \$11.1B | -1% | -6% |
| Total | \$49.5B | 7% | 21% |

51%

Linux Growth* is

**7x Total Server market
and 3x Windows**



* FY 2004

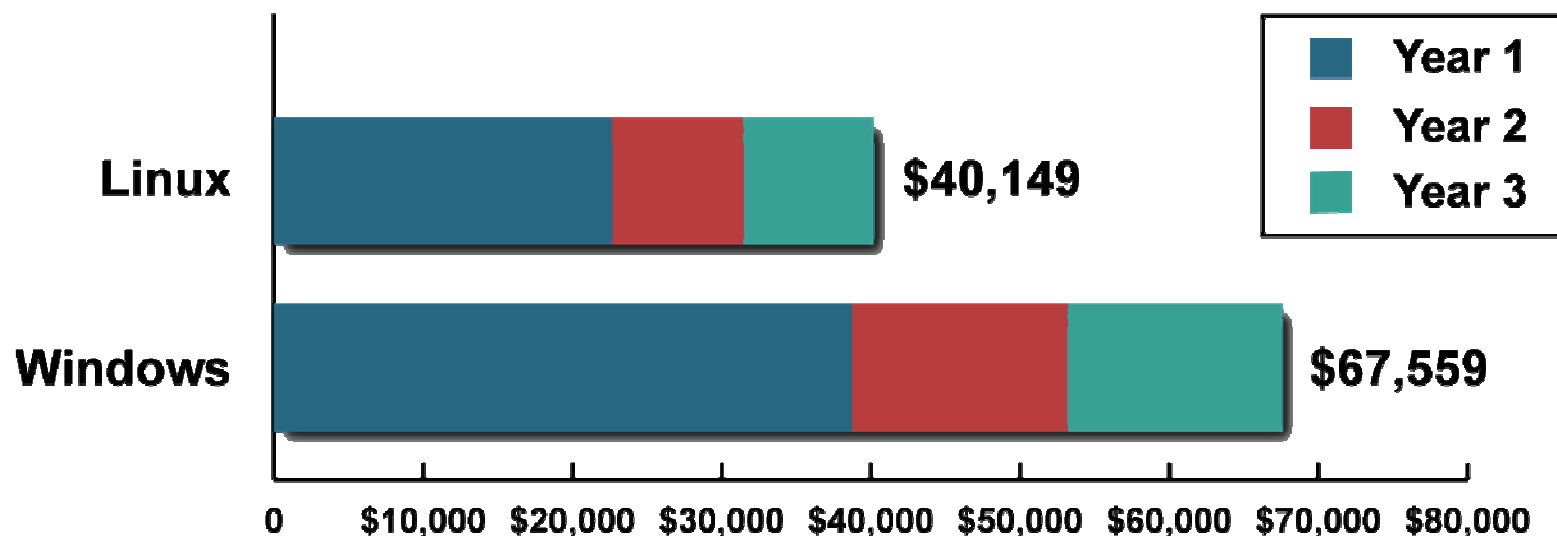
Linux je še vedno najcenejša rešitev

Linux je 40% cenejši, kot primerljiva x-86 Windows rešitev



Based on a 3-year period of ownership for a system supporting 100,000 operations per second on the SPECjbb benchmark

Operating System TCO for Enterprise J2EE



Source: *Robert Frances Group: TCO for Application Servers Study, August, 2005*

Pogled analitikov: Linux je zrel za ključne poslovne aplikacije

IDC: May, 2005

“The demand for return on investment, leveragability, and support for service-oriented architecture is right up the Linux alley. A number of large banks and non-bank financial institutions are very interested in achieving these attributes. Linux provides flexibility for the future in a heterogeneous IT environment. In fact, some of the largest financial institutions in the world are now running elements of their mission-critical Internet infrastructures on Linux server farms.”

Peerstone: November, 2004

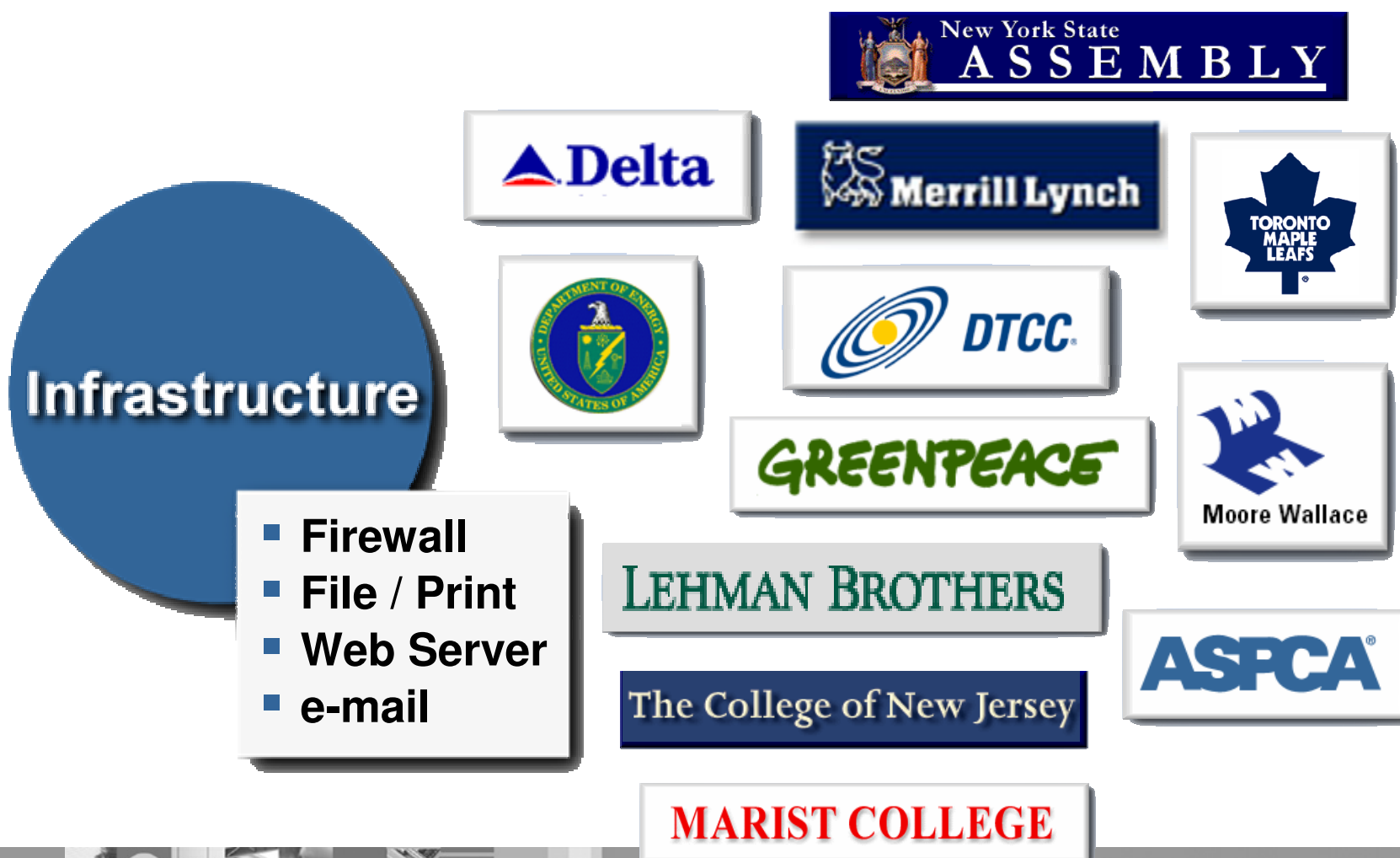
“Linux will unquestionably be the fastest growing server OS in the enterprise applications market for the foreseeable future. During the same time period Unix will continue to decline and Windows Server will stagnate.”

Gartner: March, 2005

“The growing maturity of Linux poses a rising threat to Windows. Although this impact has mostly been felt in network edge and infrastructure deployments, Gartner believes that you can now consider Linux as a safe choice for transaction-processing applications and selective database deployments.”

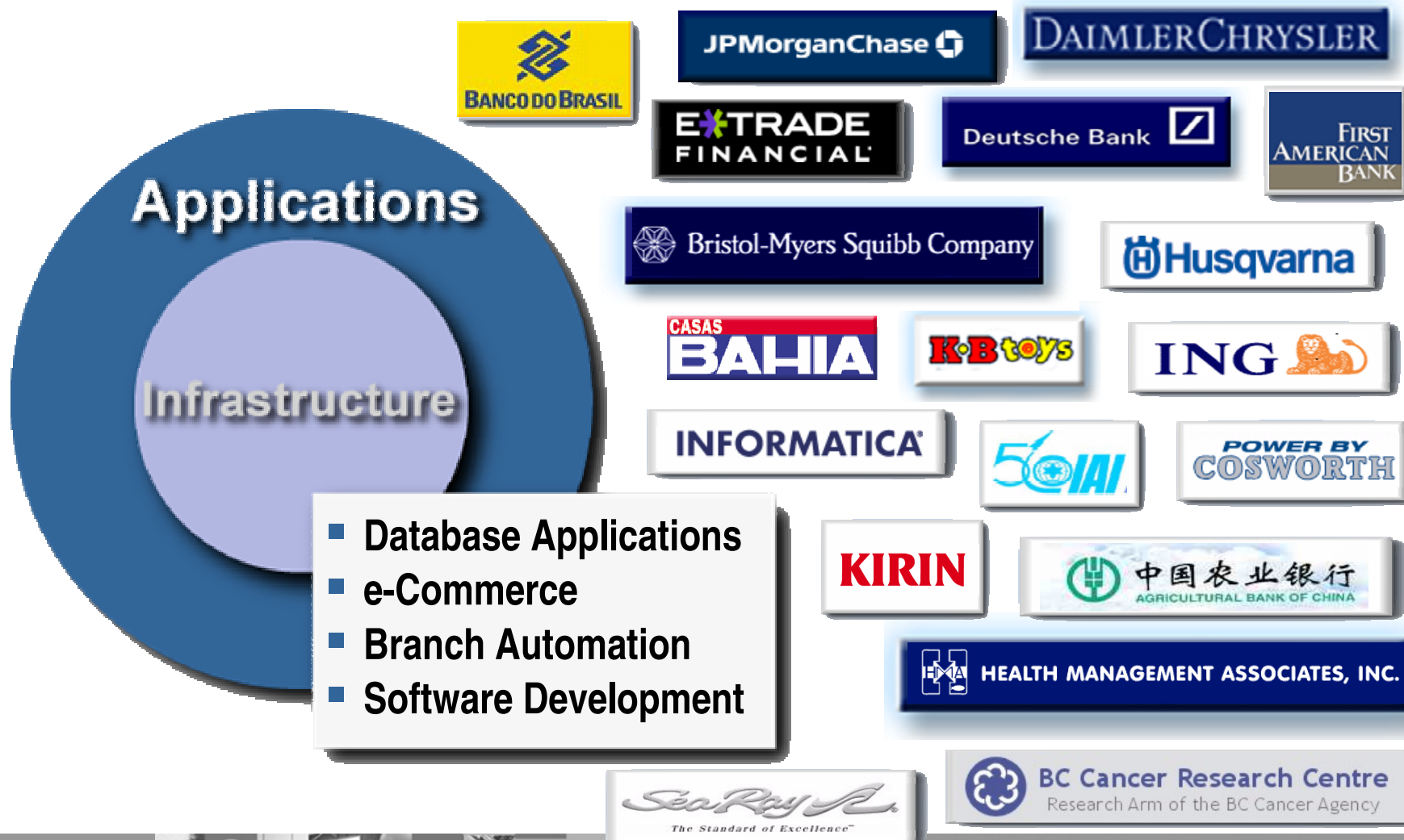
Preboj Linux-a v ospredje

Začetne implementacije na področju infrastrukture



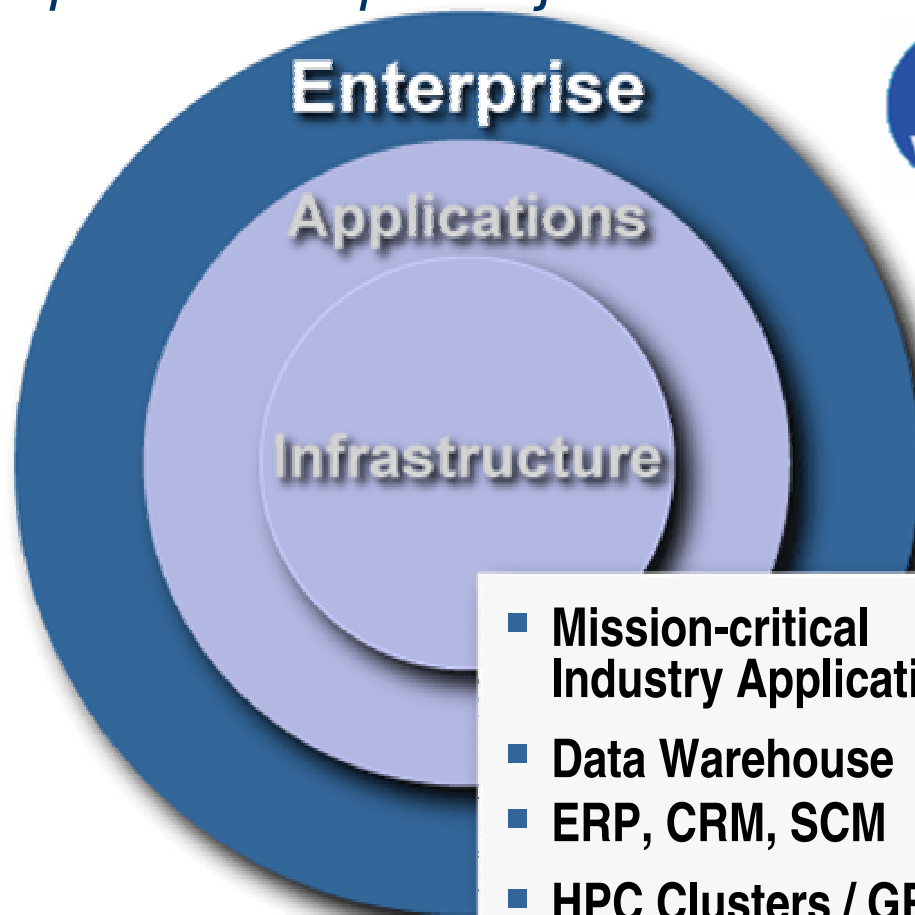
Preboj Linux-a v ospredje

Naslednji korak: baze podatkov & računsko intenzivne aplikacije



Preboj Linux-a v ospredje

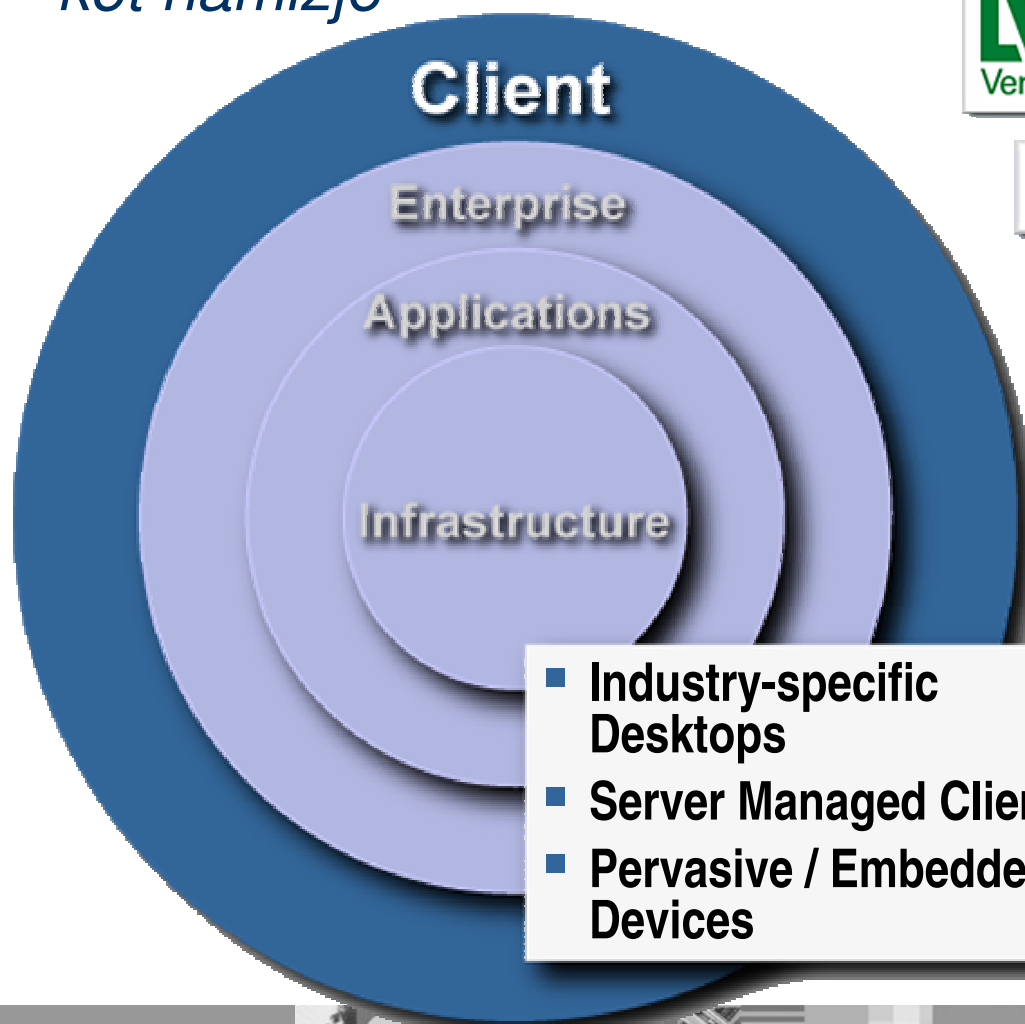
Na osnovi uspeha Linux implementacij, so sledile poslovne aplikacije



- Mission-critical Industry Applications
- Data Warehouse
- ERP, CRM, SCM
- HPC Clusters / GRID

Preboj Linux-a v ospredje

Podjetja razmišljajo o novih možnostih uporabe Linux-a kot namizje



- Industry-specific Desktops
- Server Managed Clients
- Pervasive / Embedded Devices

Logos shown include:

- LVM Versicherungen
- CASAS BAHIA
- GAD IT für Banken
- Senato della Repubblica
- NISSAY
- PIONEER
- BANCO DO BRASIL
- TRÖBER LIGHTERS · GIFTS · INCENTIVES
- CHUNCHEON CITY
- L. STROETMANN
- Kinki University
- CAIXA SEGUROS
- stadt schwäbischhall
- Ravate réver, réaliser
- BPM Banca Popolare di Milano
- NIKKEI NET 日本経済新聞社

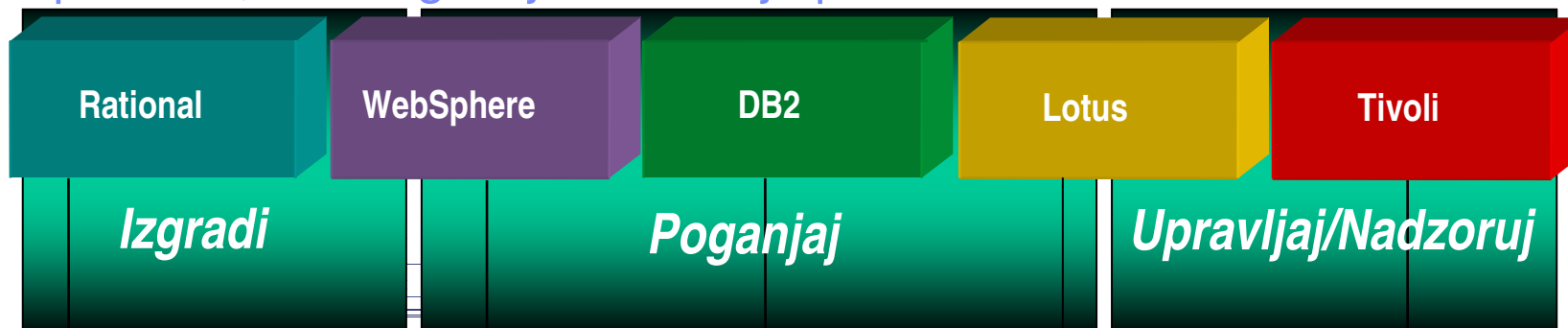
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IBM Linux Middleware

Komponente, ki omogočajo delovanje poslovnih rešitev



Software Development

- Robust, full life-cycle software development both on and for Linux
- 18 Million Eclipse Downloads

Process & Transaction Management

- Mission critical for customers
- #1 in Application Server market share
- #1 in Portal market share

Information Management

- #1 scalability and performance on Linux
- Apache Derby used in 70+ IBM projects

Collaboration

- #1 in Collaboration market share
- New Workplace support for Linux clients

Systems Management and Security

- #1 systems management provider on Linux
- Broadest and most integrated Linux portfolio

Preko 365 Linux rešitev ...

Linux Product Matrix:

<http://www.ibm.com/software/os/linux/software/>

Evaluation copies of IBM middleware can be downloaded from:

<http://www.ibm.com/developerworks/offers/linux-speed-start/>

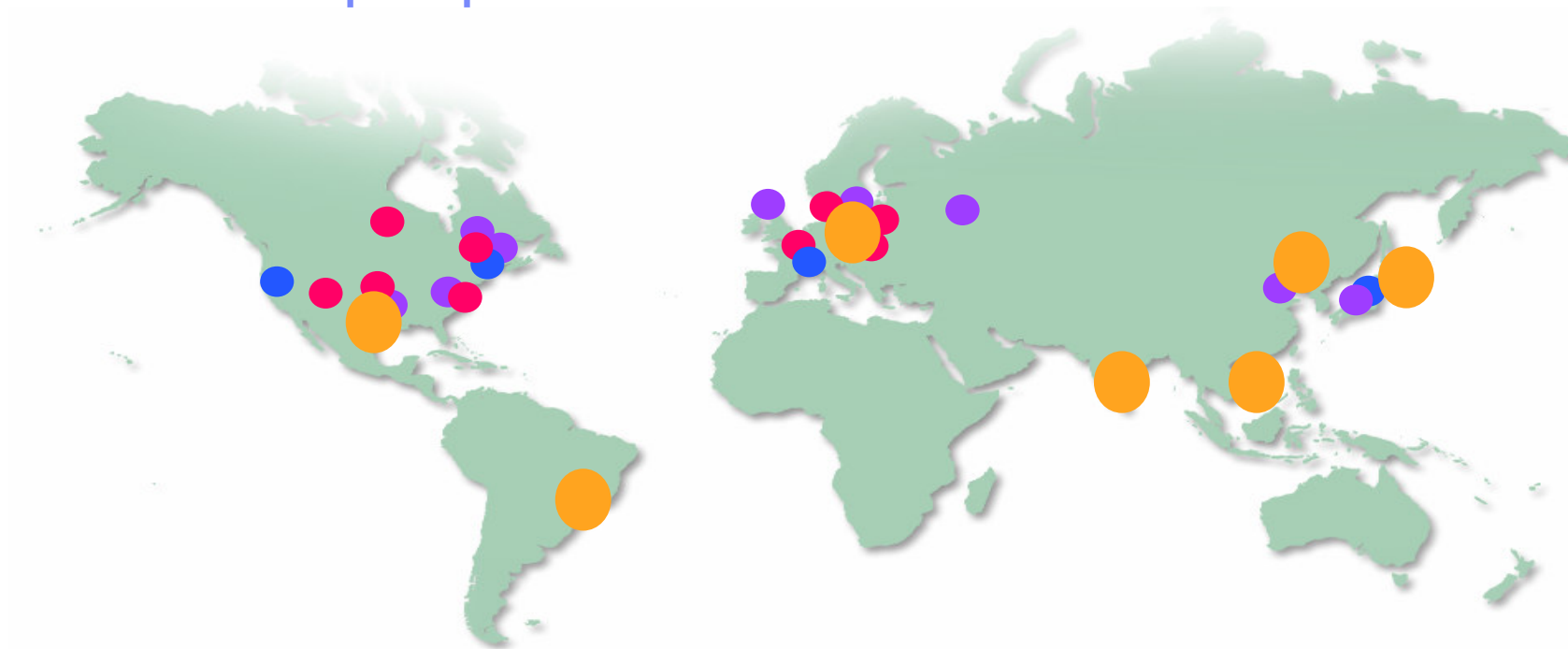


IBM Linux Middleware: Linux distribucijski partnerji (LDP)

- Linux je strateška platforma za vso IBM programsko opremo
- Dva strateška LDP: Red Hat in Novell SUSE
 - RHEL in SLES za strežnike
 - RH Desktop/Workstation in Novell Linux Desktop za klijente
 - Dodatni LDP so podprti v določenih situacijah
- Strateško smo osredotočeni na x86 (IA32/EM64T/AMD64), POWER in zSeries
 - Fokus na tranzicijo na 64-bit okolja: EM64T/AMD64, POWER, zSeries



IBM Linux podporni centri



IBM Linux Integration Centers

- Austin, TX
- Boeblingen, Germany
- Tokyo, Japan
- Beijing, China
- Sao Paulo, Brazil
- Bangalore, India

IBM Design Centers for e-business on demand

- Poughkeepsie, NY
- Makuhari, Japan
- Montpellier, France
- San Jose, CA

IBM Linux Centers of Competency

- Austin, TX
- Beijing, China
- Boeblingen, Germany
- London, England
- Moscow, Russia
- New York, NY
- Poughkeepsie, NY
- Research Triangle Park, NC
- Tokyo, Japan

IBM Executive Briefing Centers

- Austin, TX
- Boeblingen, Germany
- Greenock, Germany
- Mainz, Germany
- Montpellier, France
- Poughkeepsie, NY
- Research Triangle Park, NC
- Rochester, MN
- Tucson, AZ



IBM Linux Technology Center (LTC) in IBM Linux Integration Center (LIC)

LTC

- 600+ razvijalcev po celem svetu, 40 lokacij
- Sodelujemo na 150+ projektov odprte kode
- Pomembno prispevamo k razvoji Linux-a samega
 - *“Pomagajmo narediti Linux boljši”*

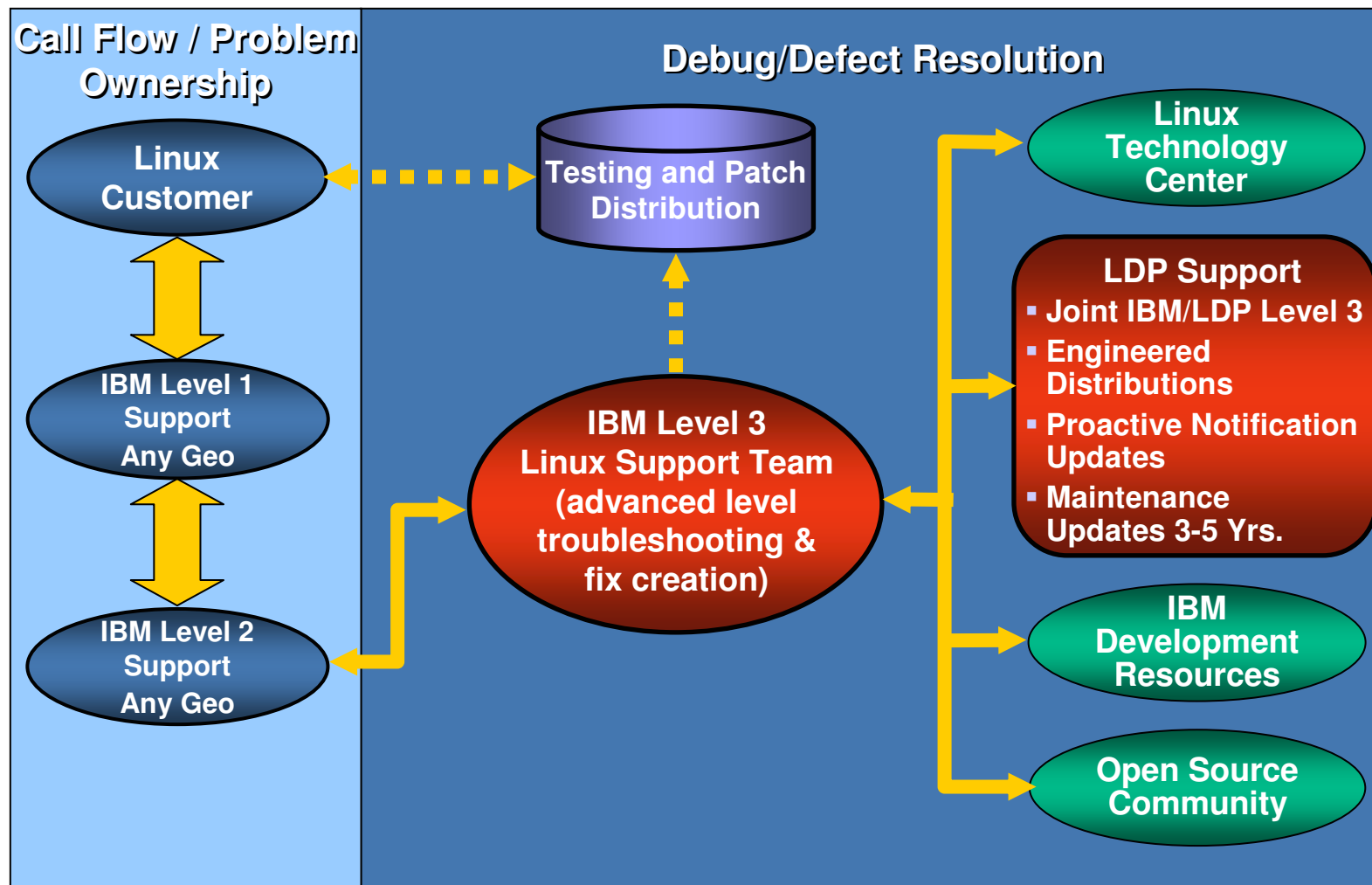
LIC

- Pomoč strankam in partnerjem pri razvoju/postavljanju rešitev z IBM programsko opremo na Linux-u
- Izvedba tečajev, pilotov, Proof of Concept, tehnične dokumentacije



IBM IGS - Linux podpora

Pomoč strankam, ki že imajo Linux v produkciji



Linux: Preobrazba IBMove IT infrastrukture

- **3,100+ produkcijskih strežnikov po celem svetu**
- **ibm.com/linux, w3.ibm.com/linux, iskalnik na w3.ibm.com**
 - podpira 320,000+ zaposlenih po celem svetu
- **IBM gostovanje aplikacij**
 - Blade strežniki v severni Ameriki in Evropi
- **IBM infrastruktura za posebne dogodke (na primer: Wimbledon, US Open)**
 - 291 xSeries Linux strežnikov v 3 gručah, v 3 računskih centrih
- **IBM Global Services “Internet Vulnerability Security Scanning”**
 - 120 xSeries strežnikov, ki preverja 30.000 IP naslovov na teden
- **IBM “Web Fountain Advanced Mining Application Service”**
 - Razvojno okolje 326 strežnikov
 - Produkcijsko okolje of 616 strežnikov, vključujoč 398 Blade strežnikov
- **Možnost uporabe Linux-a na prenosnikih**
- **IBM Global e-Mail Anti-virus Management**
 - Anti-virus preverjanje elektronske pošte
- **300mm Wafer Manufacturing Automation & Equipment Control**
 - 200+ xSeries strežnikov v produkciji



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Odjemalci postajajo vedno bolj heterogeni

Namizja postajajo vedno bolj heterogena

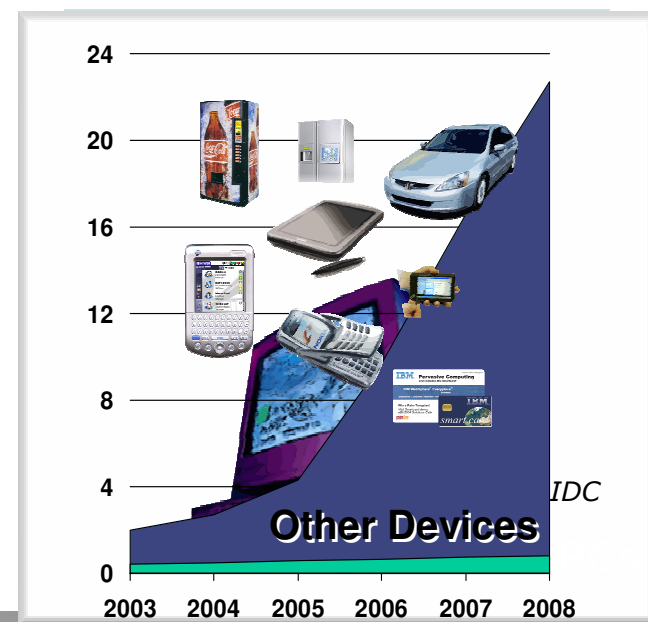
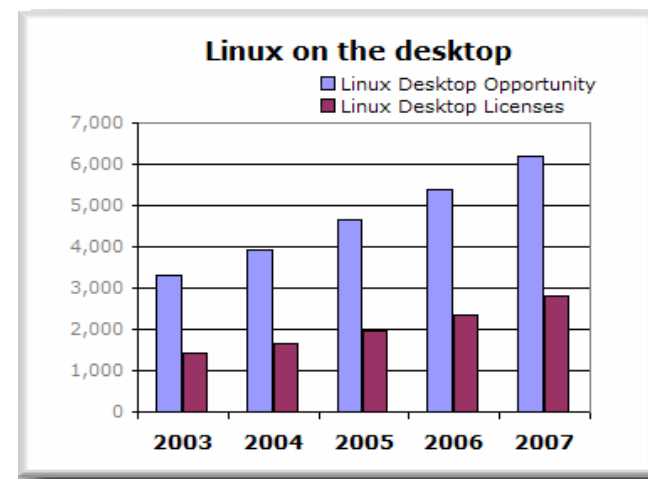
- Trg Linux namizij bo rasel 37% CAGR med '03 – '07
- Linux namizij je približno 10 milijonov v '04

Upraba namizja zahteva več funkcionalnosti, kot jo nudi brskalnik

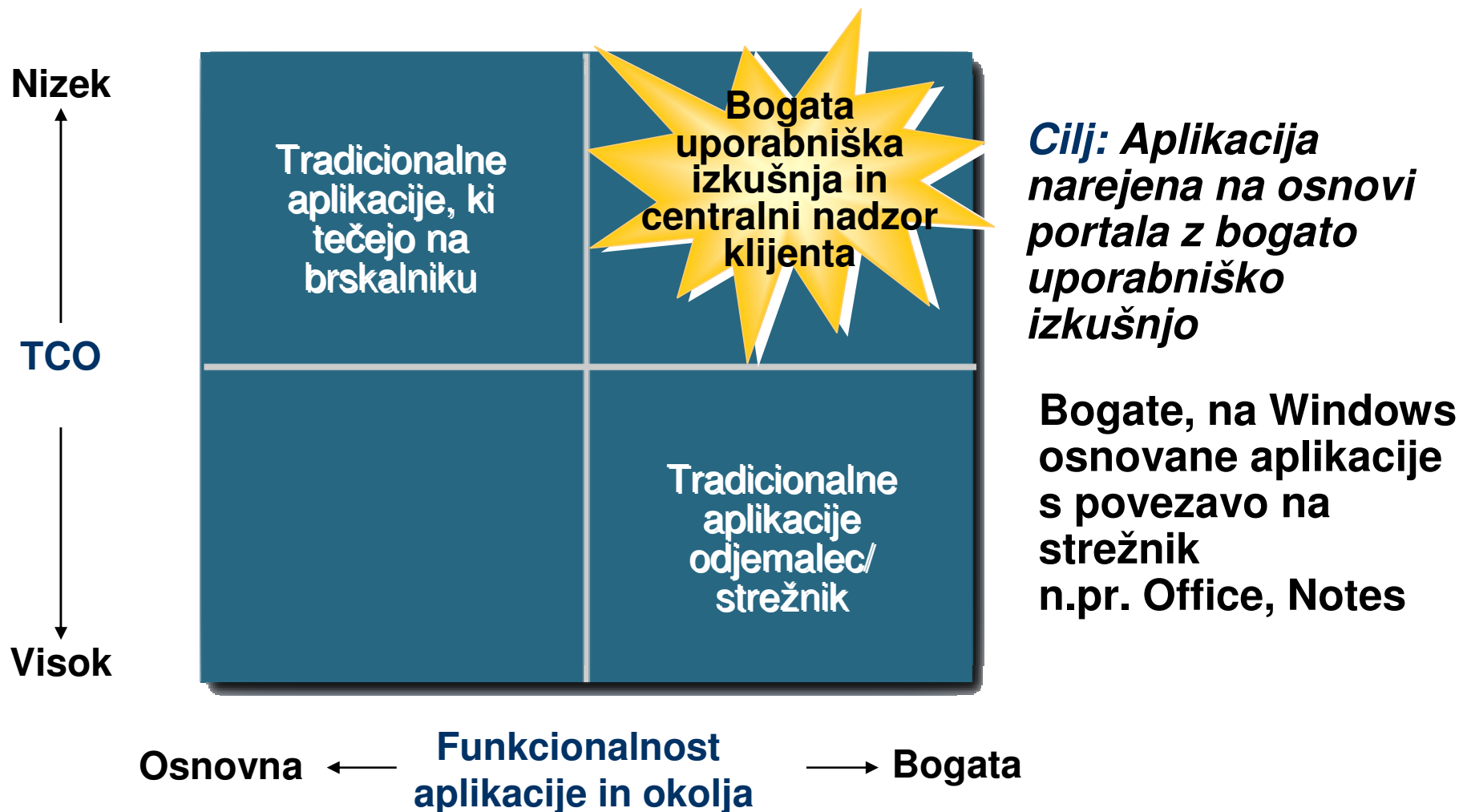
- Bogatejši uporabniški vmesnik je zahteva za določene aplikacije
- Aplikacije, ki delujejo tudi ko odklopimo računalnik iz omrežja

Vedno večja vloga mobilni naprav

- Povečuje se potreba, po dostopu do ljudi, poslovnih procesov, aplikacij z različnih naprav in načinov povezovanja



Izziv: Doseči bogato funkcionalnost pri sprjemljivi ceni

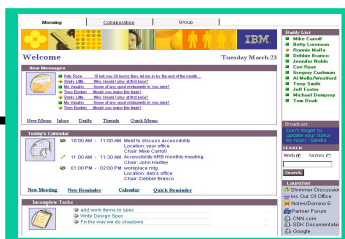


Workplace Managed Client

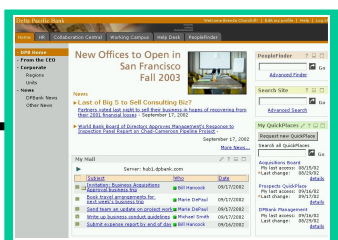
Enaka, konsistentna uporabniška izkušnja, ne glede na odjemalec



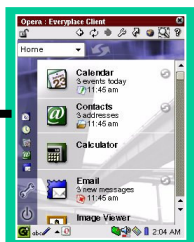
Rich Client



Browser

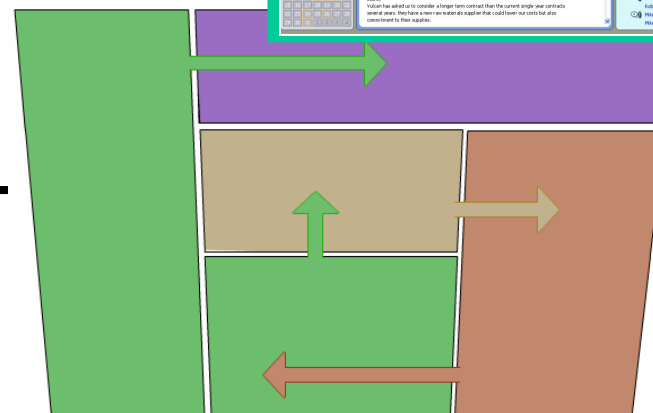
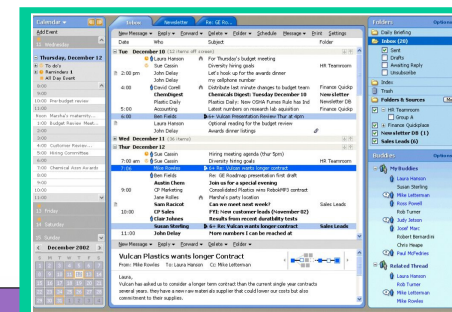


Mobile Clients



Portal Server

Workplace Client



Enoten, konsistenten "model" namizja, ki je dosegljivo z različnih odjemalcev.

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- **Odprto računalništvo**
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Odprto računalništvo: Ostaja.....odprto za poslovanje

Cilji odprtosti:

- Prilagodljivost
- Prožnost
- Izogibanje situacij “vendor lock-in”

Odprti standardi:

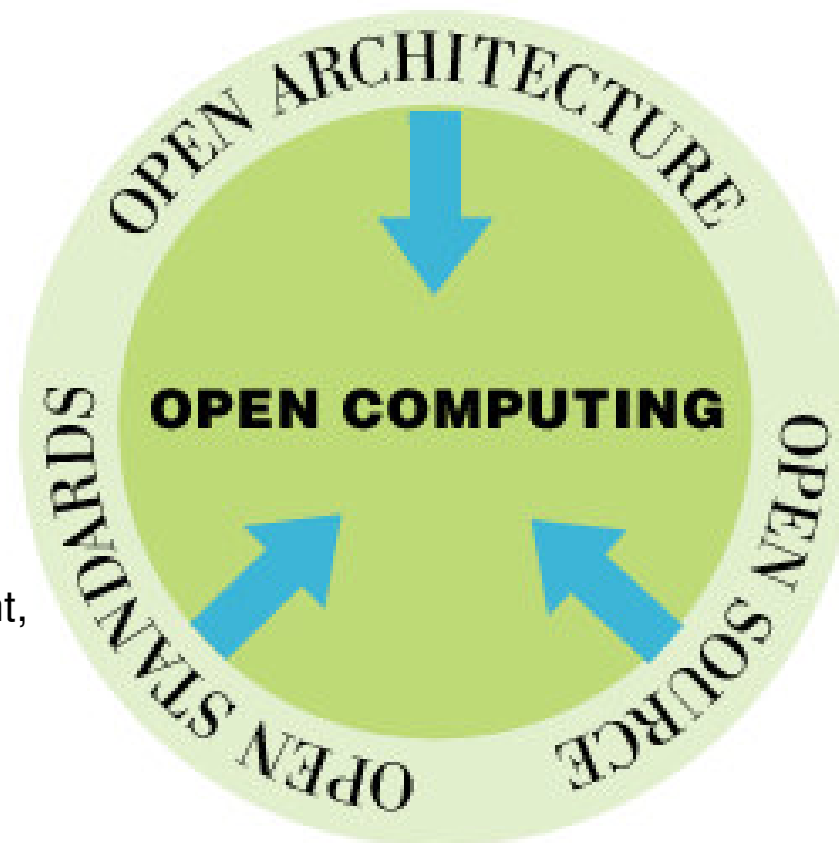
- Promoviranje interoperabilnosti z uporabo objavljenih specifikacij za APIje, protokolov, formatov zapisov podatkov in datotek

Odprta arhitektura:

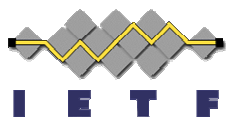
- Gradimo “loosely coupled”, prilagodljivo
- Rešitve morajo omogočati spremembo komponent, če je to potrebno

Odprta koda:

- Promovira standarde
- Skupinski razvoj rešitev
- Inovacije, ki temeljijo na sodelovanju



IBM ima vodilno vlogo na področju odprtih standardov



1998 / 1999

Java, XML

- Author of XML4J
- Co-author W3C DOM
- Chair W3C XSL WG
- Chair OMG XML Metadata Interch. Format
- Founder XML.org
- Elected to OASIS Board of Directors

2000

Web Services & UDDI

- Co-author of SOAP 1.1 & submission to W3C, chair of XML Protocol (SOAP) WG
- Cofounder of UDDI.org and author of original UDDI spec
- Co-author of WSDL

2001

Web Services and Tools

- Led submission of WSDL to W3C
- Co-chaired W3C Web Services Workshop
- Founder of Eclipse.org
- Co-author of W3C XML Schema
- Chair OASIS WS Interactive Appls & WS-Remote PortletsTCs
- IBM Web Services Toolkit released on Alphaworks

2002

WS-I, OMA and WS-Security

- Founder and chair, WS-I.org
- Helped found OMA, vice-chair
- Chairs of OMA Browser WG & Device Mgmt WG
- Co-author of WS business process specs (BPEL, WS-TX, WS-TC)
- Co-author for Web Services Security roadmap and specification
- Submitted & co-chair OASISWS-Security TC
- Co-chair UDDI TC

2003

Web Services Interoperability

- Co-chair OASIS WS-Security 1.0
- Submitted BPEL to OASIS and co-chair TC
- Co-chair OASIS WSDM TC
- Submitted CBE & WS-Manageability to OASIS
- Chair of OMA Architecture Framework
- Merged SyncML Forum into OMA
- Member of OASIS Technical Advisory Board

2004

Web Services Management

- Chair WS-I Basic Profile 1.1
- Co-chair OASIS WS-Notification TC & WS-Resource Framework TC
- Chair OASIS DITA
- Submit WS-Addressing to W3C
- IBM appointed to W3C TAG
- Vice-chair OMA mobile commerce
- Co-author of OMA architecture
- Led WS-Security, and WS-I Basic Profile 1.0 to completion as Standards

2005

Web Services Reliability

- IBM named to chair of IETF and IESG
- IBM declares commitment to RF in OASIS
- Co-authored & submitted WS-Reliable Messaging to OASIS
- Led OASIS WSDM to Standard status
- Led OASIS DITA to Standard status

Over 160 business integration technology patents

First Web Services Gateway

First integrated private UDDI directory

Zakaj je odprta koda pomembna za IBM?

- **Lahko je eden bistvenih virov inovacij**
 - Inovacija se lahko zgodi kjerkoli, kadarkoli
 - Razvoj skozi "open communities" potencialno vodi do boljših idej in kreativnosti
- **Pristop skozi skupnost**
 - Internet je spremenil način kako podjetja gledajo na tehnične inovacije
 - Podjetja so lahko vključena v inovacije že zelo zgodaj
- **Zelo dober način za razvoj nastajajočih standardov**
 - Popularni odprto kodni projekt lahko postane odprti standard
 - Širša možnost distribucije in implementacije
- **Podjetja sprašujejo in zahtevajo odprto kodo**
 - Primer: podjetje zahteva da Linux postane del rešitve; rešitev pa lahko bazira na komercialnih komponentah



Odprta koda in komercialna programska oprema živita skupaj!

*Komercialna
programska oprema*



*Odprto kodna
programska oprema*

Komercialna programska oprema, ki je inovativna. Dodaja vrednost stranki, ki je ne more dobiti v odprti kodi.

Izdelava, vzdrževanje, izboljšava programske opreme skozi odprte skupnosti, ki sodelujejo med sabo za dosego standardizacije in inovacij.

Podjetja iščejo ravnotežje med obema



IBM je vodilni na področju odprte kode



1999 / 2000

- IBM forms Linux Technology Center
- Leads Apache projects Xerces (XML4J), Xalan, SOAP
- IBM forms Open Source Steering Committee
- Creates OSI-approved IBM Public License
- Strategic participation in Mozilla
- IBM becomes founding member of OSDL

2001

- Linux contributions to networking, serviceability, performance
- Mods to Apache 2.0 HTTP server
- Founder of Eclipse.org – contributing Platform
- Common Public License approved – used by Eclipse
- Creates internal bazaar using OSS methodology

2002

- Linux contributions to scalability (8-way+), reliability (stress testing, defect mgmt, doc)
- Leads Apache Web Services projects WSIF and WSIL
- Leads Eclipse projects GEF (editing), EMF (modeling), XSD (XML Schema)
- IBM contributes eServer support for Globus Toolkit 2x

2003

- IBM and SuSE achieve EAL2+ Common Criteria security cert
- Leads Apache projects Pluto (Portlet API) and WSRP4J (Remote Portal)
- Leads Eclipse projects Hyades (testing), Visual Editor, AspectJ, Equinox rich client
- Globus Toolkit 3 contributions for OGSA, OGSF

2004/2005

- IBM and Novell/SuSE achieve EAL4+ and Common Operating Environment compliance
- Eclipse becomes independent org – IBM contributes UML2, Web Tools, Voice Tools
- Globus Toolkit 4 to be WS-I compliant
- Contributed 500 Patents to Open Source
- Partner with Zend PHP
- IBM enhances Apache partnership
 - Incubates project Derby (Cloudscape Java database)
 - Contributes voice recognition technology
 - Supports Geronimo J2EE project – acquires Gluecode for skills

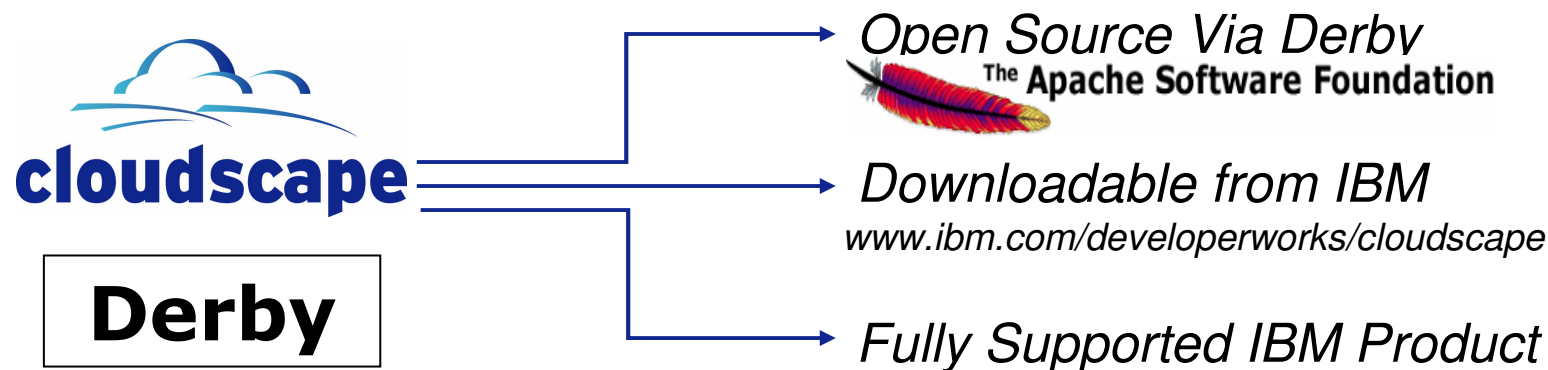
More than 1000 developers involved in OSS projects

IBM leads 80+ OSS projects

IBM contributes to 150+ OSS projects



IBM Cloudscape: odprtokodna relacijska baza



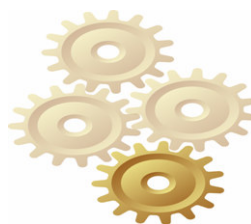
Fully Embeddable or Server-based



**Small
Foot Print**



**Java
Based**



**PHP/Perl
Access**



**No
DBAs**



**Upwardly
Compatible with **DB2****

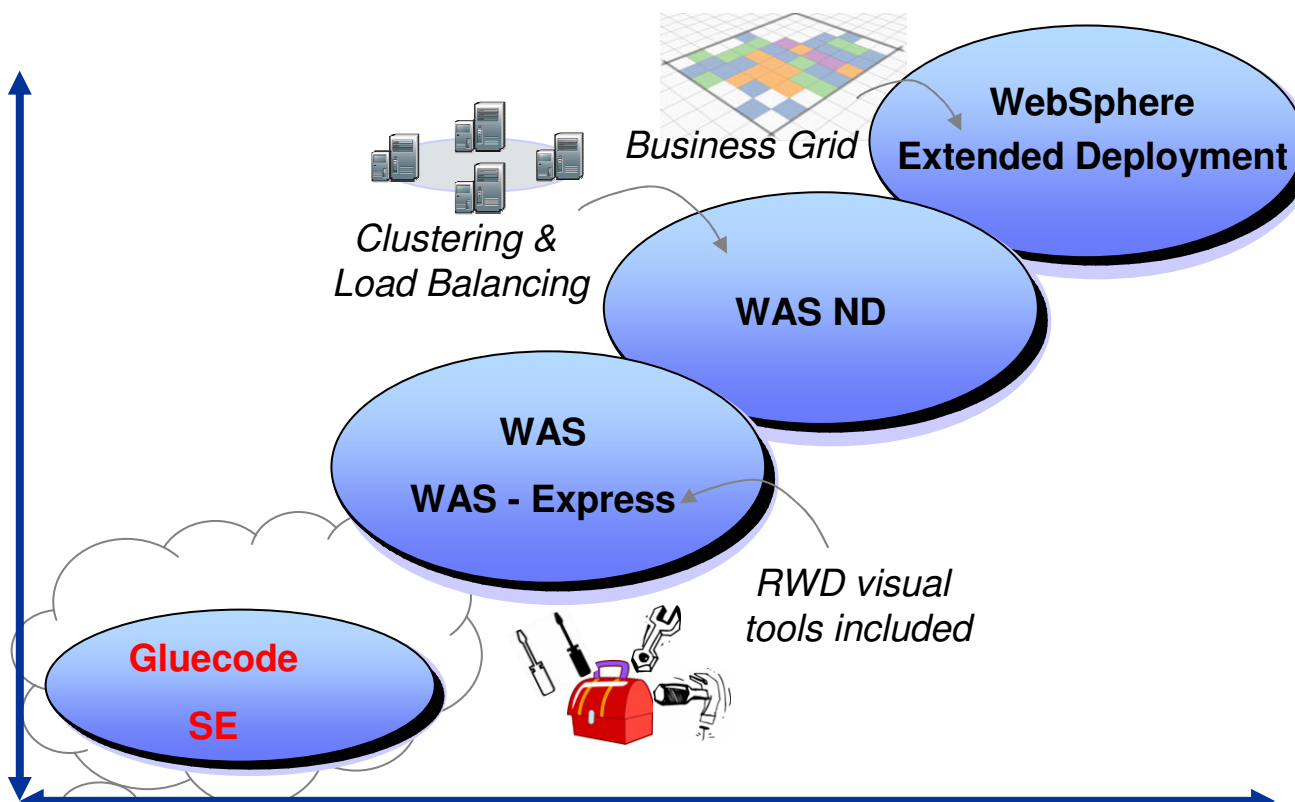
IBMova ponudpa aplikacijskih strežnikov

Gluecode pelje IBMov portofelj aplikacijskih strežnikov na nove trge...

Proven performance / scalability, enterprise wide deployment, functional depth, robustness

Customer Needs

Reduced acquisition costs, rapidly develop & deploy departmental application, grow incrementally, small footprint



Basic security, easy admin & deployment of single app; Low transaction volumes; Editors NOT visual tools

Capabilities

High transaction volumes, Autonomic app deployment, business goal based app prioritization, optimized resource utilization

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- IBM je vodilni na področju Linux-a in odprte kode
- Linux in IBM programska ter strojna oprema sta naravna partnerja
- IBM investira ne samo v Linux kot operacijski sistem, temveč tudi v izobraževanje partnerjev in v specifične rešitve na Linuxu
- Imamo celovito ponudbo storitev in podpore

