

HROUG 2008

Open Source virtualizacija

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Agenda

- Virtualizacija
- Povijest
- Slobodno dostupne virtualizacije
- Komercijalno dostupne virtualizacije
- Implementacije virtualizacije
- Praktični savjeti
- Zaključak
- Pitanja

UKUPNO:

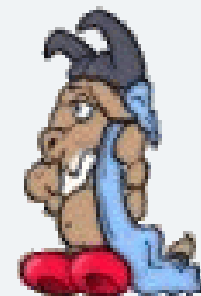
45 minuta

80% softvera će biti otvorenog koda

GNU / GPL : Gartner: 80% softvera biti će otvorenog koda

Poslao **kost** on 08.02.2008 9:49:35 (589 Čitanja)

Ugledna analitička kuća Gartner, predviđela je kako će 80% softvera biti otvorenog koda do godine 2012. Gartner navodi kako takav model snižava troškove i olakšava razvoj. Više o tome možete pročitati [ovdje](#).



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<http://www.linux.hr/modules/news/article.php?storyid=2363>

80% of Software Will Be Open source

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Gartner Inc., an IT research and advisory company housed in Connecticut, made the prediction that by the year 2012, more than 80% of all computer software would be or would contain open source. Due to the steady increase in the number of programmers, the ability for those programmers to communicate over the Internet, and the desire for cheaper software, open source is going to experience a huge boom. You might think this is a bold statement, considering the overwhelming number of proprietary software users in the world today, but the cost and ease of developing open source software will likely result in a significant boost in the number of open source applications.

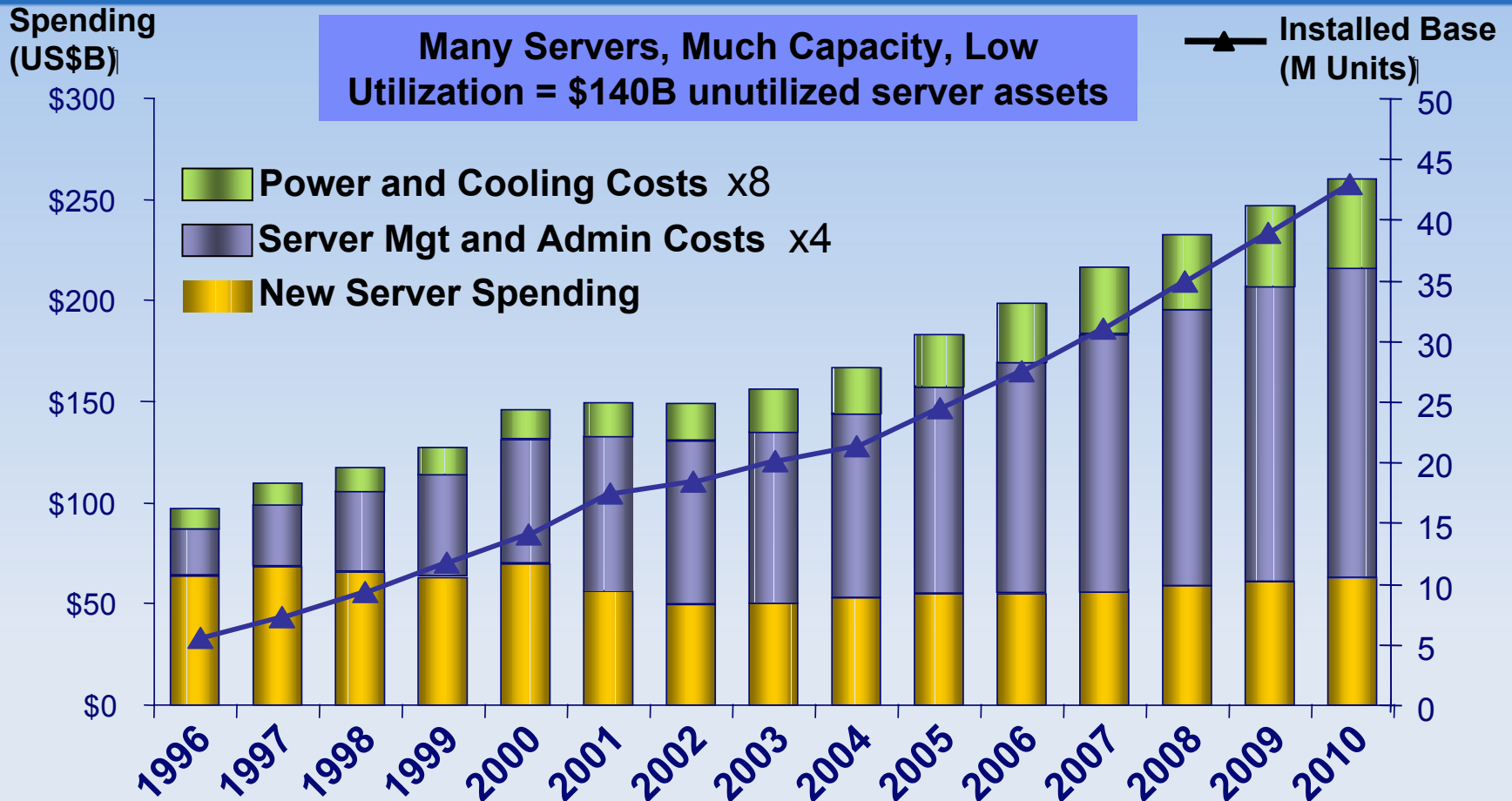
19
diggs

[digg it](#)



http://linuxhow2.com/News/80_of_Software_Will_Be_Open_source.html

Cost of server management is increasing worldwide driven in part by scale out server environments



Source: IDC 2007

Utilizing open source and virtualization can help reduce energy consumptions by datacenters through consolidation, load balancing and more efficient resources management

Utilizing open source and virtualization can help reduce energy consumptions by datacenters through consolidation, load balancing and more efficient resources management



According to IDC, “by 2010 for every \$1 spent on hardware, 70 cents will be spent on power and cooling and by 2012 for every \$1 spent on hardware, \$1 will be spent on power and cooling.”

Popularnost Virtualizacije

Virtualizacija je top tema

Microsoft kupio Connectix
EMC kupio VMware
Veritas kupio Ejascent
Sun/HP – vlastito rješenje
IBM – pionir u virtualizaciji

News Focus: LinuxWorld

Special to ZDNet

Published on [ZDNet News](#): April 7, 2006, 11:45 AM PT



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ZDNet Tags: [Open source](#)

At the same time that Apple was booting Windows XP on Intel Macs, Microsoft was leading the headlines at LinuxWorld. Software makers are hearing the call for virtualization so it's now a race to get there first. But DRM, desktop Linux and open source are still hot topics.

http://news.zdnet.com/2100-9584_22-6057107.html?tag=nl.e589

Virtualizacija

- Wikipedia:

“In computing, virtualization is the process of presenting a logical grouping or subset of computing resources so that they can be accessed in ways that give benefits over the original configuration. This new virtual view of the resources is not restricted by the implementation, geographic location or the physical configuration of underlying resources. Commonly virtualized resources include computing power and data storage.”

- Google:

about 52,900,000 for virtualization

Tipovi virtualizacije

- Softverske virtualizacije
 - virtualizacija računala
 - potpuna virtualizacija
 - para virtualizacija
 - native virtualizacija
 - virtualizacija operativnog sustava
 - virtualizacija aplikacija (JVM, Portable.NET, ...)
 - ostale virtualizacije (RAID, RAIN, LVM, ...)
- Hardverske virtualizacije
 - particioniranje
 - domene

Povijest

- Christopher Strachey je izdao rad pod naslovom “Time Sharing in Large Fast Computers” - UNESCO, New York, 6.1959
- Sredinom 60-ih IBM proizvodi IBM 7044 (M44)
- Ubrzo je IBM razvio čitav niz virtualizacijskih sustava: CP-40, CP-60, VM/370
- “...Virtual machine systems were originally developed to correct some of the shortcomings...” Robert P. Goldberg, 1974 (misleći pritom na S/360)
- 1998. VMware nastaje, 1999. izdaje VMware Workstation, te 2001 izdaje VMware GSX server
- ...

Zašto virtualizacija?

- Konsolidacija
- Simultano korištenje više operativnih sustava
- Sigurnost
- Kompatibilnost
- Ograničavanje resursa
- Monitoring korištenja resursa
- Migracija
- Testiranje
- Akademski eksperimenti
- ...

Zašto Linux i virtualizacija?

- velike mrežne mogućnosti Linuxa
- otvorena arhitektura Linuxa
- otvoreni kod Linuxa
- licenca/cijena pogodna za virtualizaciju
- multiplatformnost pogodna za virtualizaciju
- Linux
 - stabilnost
 - performanse
 - skalabilnost
 - fleksibilnost
 - ...

Slobodno dostupna virtualizacija

- Bochs - <http://bochs.sf.net>
- Plex86 - <http://plex86.sf.net>
 - 19.12.2003.
- Colinix - <http://www.colinux.org/>
- User mode linux - 2004
 - <http://user-mode-linux.sourceforge.net/>
- FAUmachine
 - <http://www3.informatik.uni-erlangen.de/Research/FAUmachine/>
- Qemu - <http://fabrice.bellard.free.fr/qemu/>
 - x86 (32/64), Arm, Sparc (32/64), MIPS, PowerPC (32/64), ...
- Vserver - <http://linux-vserver.org/>
- ...

Slobodno dostupna virtualizacija]

- Xen (hw)
 - <http://xen.sourceforge.net>
- SUN xVM
 - <http://www.sun.com/software/products/xvm/index.jsp>
- KVM (hw)
 - <http://kvm.qumranet.com/>
- XenRunner
- VirtualBox (hw)
 - <http://www.virtualbox.org/>
- Lguest (linux)
 - <http://lguest.ozlabs.org/>
- OpenVZ (jail/zone)
 - <http://www.openvz.org/>

Komercijalno dostupni produkti

- **Vmware**

- <http://www.vmware.com>
- Workstation, ESX
- Player, GSX

- **Microsoft Virtual Server**

- <http://www.microsoft.com/windowsserversystem/virtualsever/default.msp>
- Windows 2003/XP virtualizacija

- **Virtuozzo**

- <http://www.swsoft.com/en/products/virtuozzo/>

- ...

Ostali zanimljivi produkti

- **WINE**

- <http://www.winehq.com>
- “*wine is not an emulator*”
- implementacija Windows API-ja

- **Crossover Office**

- <http://www.codeweavers.com/products/cxoffice/>
- komercijalizacija WINE-a

- **Dosbox**

- <http://dosbox.sourceforge.net>
- DOS emulator

- ...

IBM virtualizacija

- eServer xSeries

- VMware

- IBM System i (iSeries)

- (D)LPAR
- AIX/Linux/i5OS/OS/400 podržani

- IBM System p5 (pSeries)

- (D)LPAR
- AIX/Linux podržani

- IBM System z (zSeries)

- z/VM
- (D)LPAR
- zOS/Linux podržani

IBM OpenPower

...specijaliziran za Linux virtualizaciju...

Službeno podržani:

- RHEL
- SLES

z/VM

- <http://www.vm.ibm.com/>
- “prvi pravi sustav za virtualna računala” (wikipedia)]
- virtualizacija stara više od 30 godina
- podrška za z/OS, Linux, ...
- Dostupan Oracle i IBM softver
- 40000 virtualnih računala u praksi
- Mogućnost korištenja crypto procesora
- pogodno za
 - web hosting
 - razvoj aplikacija
- ...

Praktični savjeti

- optimizacija zauzeća memorijskog prostora
- optimizacija zauzeća diskovnog prostora
- kloniranje
 - mrežni parametri
 - cron/at problemi
 - SSH par ključeva
 - “default” lozinke
- ažuriranje softvera/paketa
- ReiserFS v3 i virtualizacija
- ...