



Computer Mediated Communication (CE6014)

Virtualization

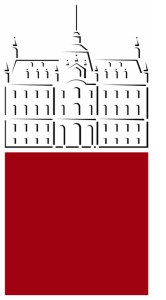
November 2011

Matevž Dolenc
University of Ljubljana

Benefits

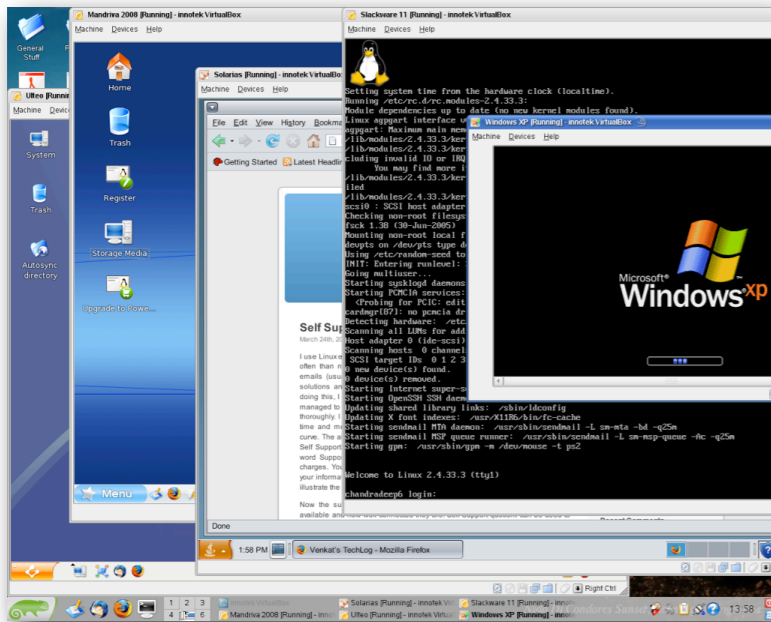


- ▶ Consolidate servers
- ▶ Conserve energy
- ▶ Improve ease of management
- ▶ Reduce backup and recovery time
- ▶ Test software configurations
- ▶ Maintain legacy applications
- ▶ Support a cross-platform office

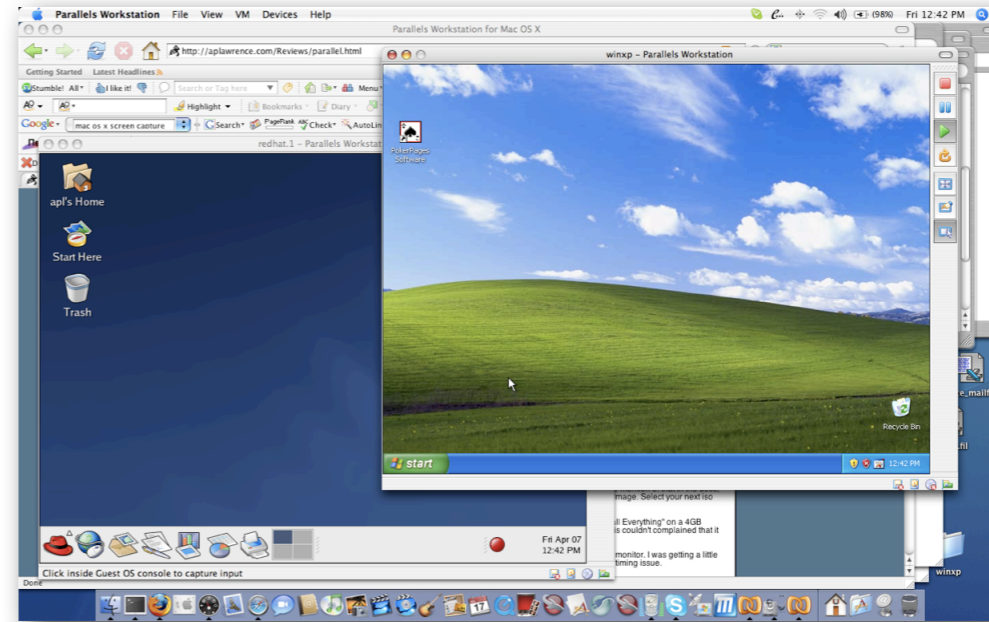


Virtualization software options (desktop)

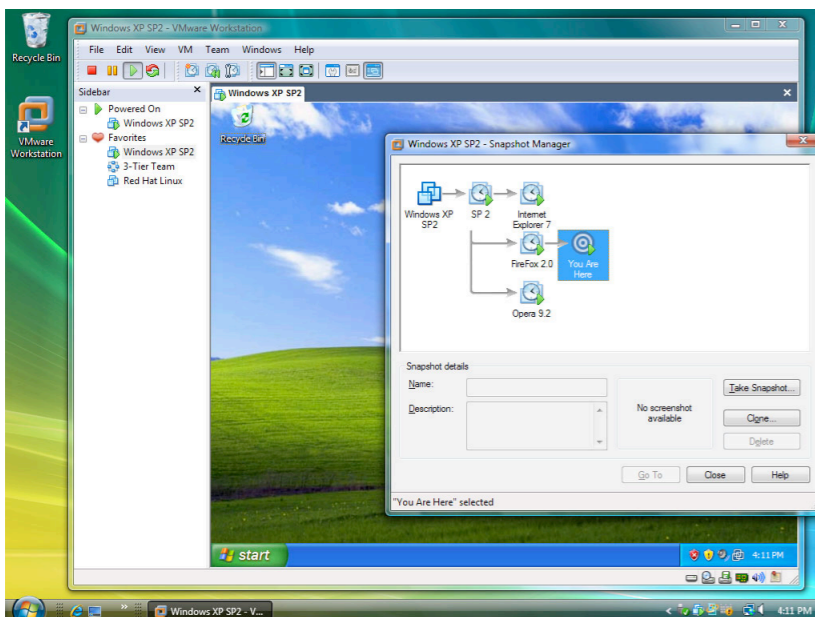
VirtualBox,
<https://www.virtualbox.org/>



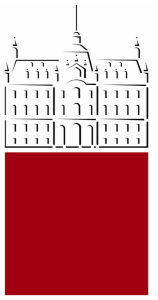
Parallels,
<http://www.parallels.com/>



VMWare,
<http://www.vmware.com/>



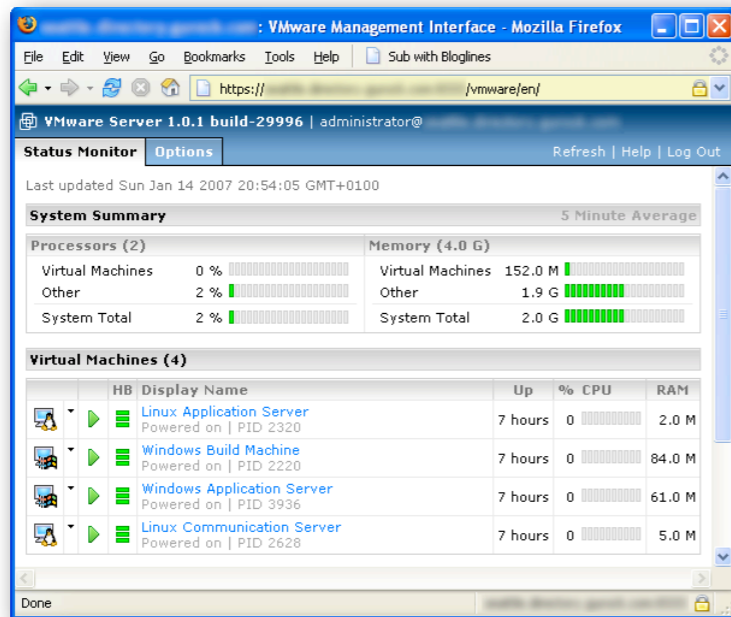
Comparison of platform virtual machines,
http://en.wikipedia.org/wiki/Comparison_of_platform_virtual_machines



Virtualization software options (server)

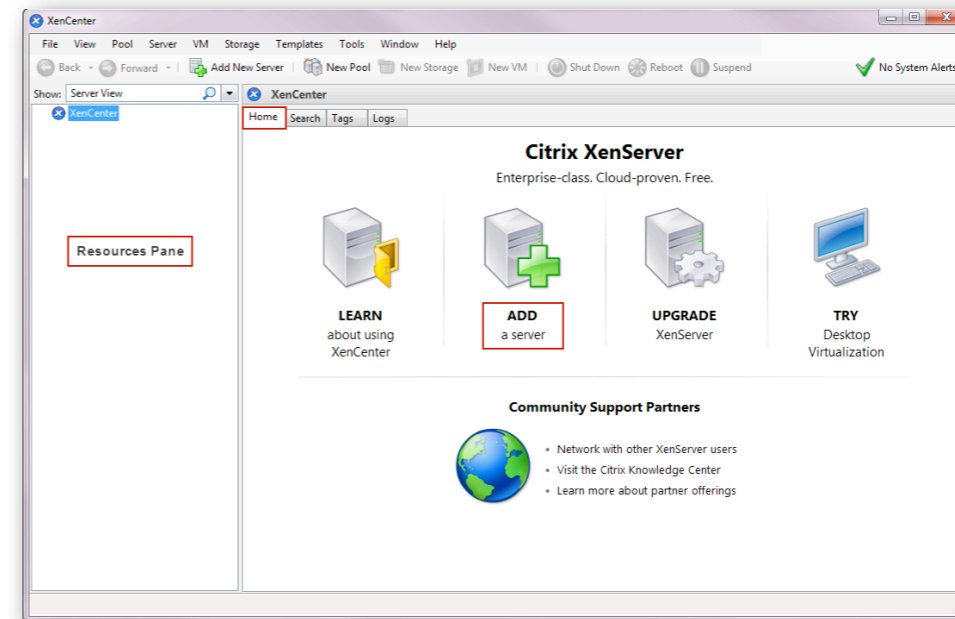
VMWare,

<http://www.vmware.com/>



Citrix,

<http://www.citri.com/>



Comparison of platform virtual machines,
http://en.wikipedia.org/wiki/Comparison_of_platform_virtual_machines

Cloud virtualization options



- ▶ Hardware virtualisation
 - Amazon/EC2 (<http://aws.amazon.com/>)
- ▶ Software virtualisation
 - Citrix XenApp (<http://www.citrix.com>)

AWS examples



► Zynga.com

- Creators of the most popular Facebook games: Farmville, Mafia Wars, Treasure Isle, etc.
- More than 12,000 servers on AWS
- More than 230 million monthly users
- 100% on AWS



AWS examples



▶ Netflix.com

- More than 9 Billion USD market cap
- Migrating 100% on Amazon Web Services
- So far: movie lists, website search, transcoding, recommendations, etc.
- 10 M subscribers, 100k DVD titles

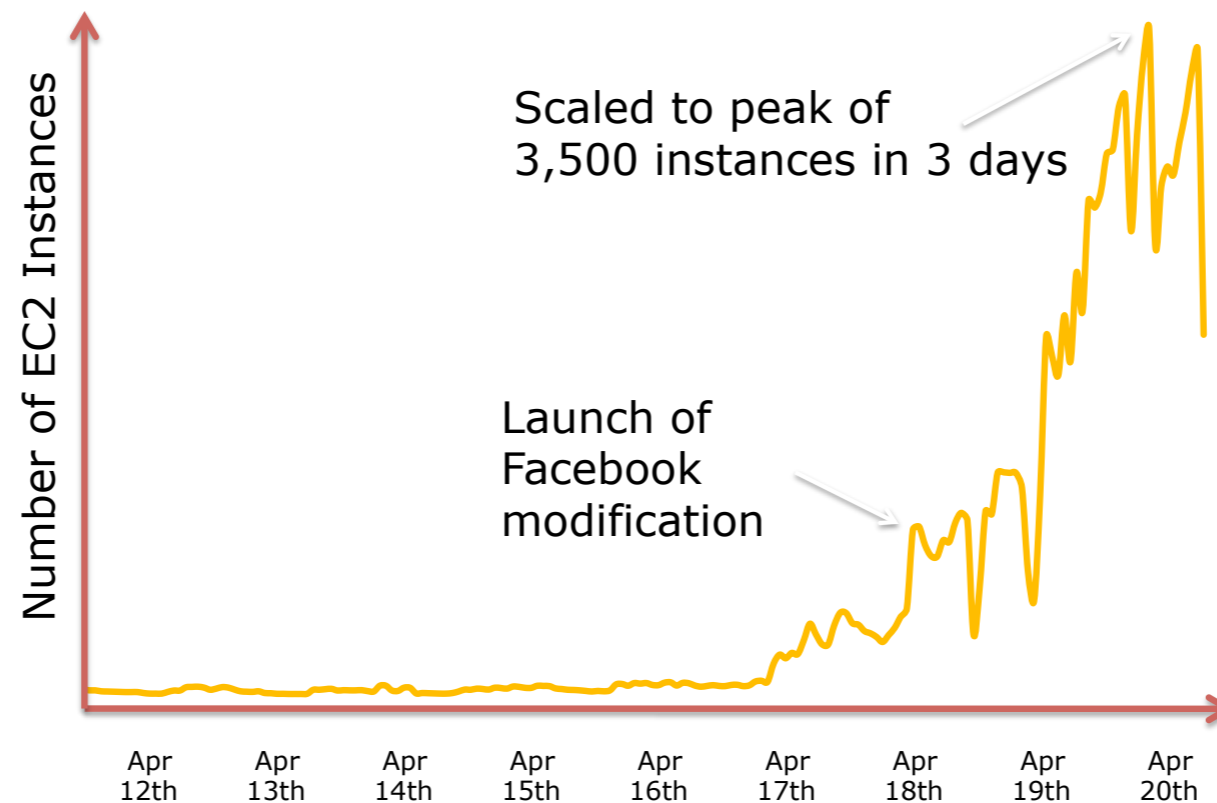


AWS examples

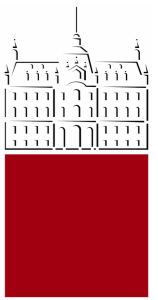


▶ Animoto.com

- Simple application:
 - (1) Upload pictures, (2) upload / choose from existing music, (3) a nice video is automatically created
- It runs 100% on AWS
- Scaled from 80 to 3,500 servers (EC2 instances) in 3 days

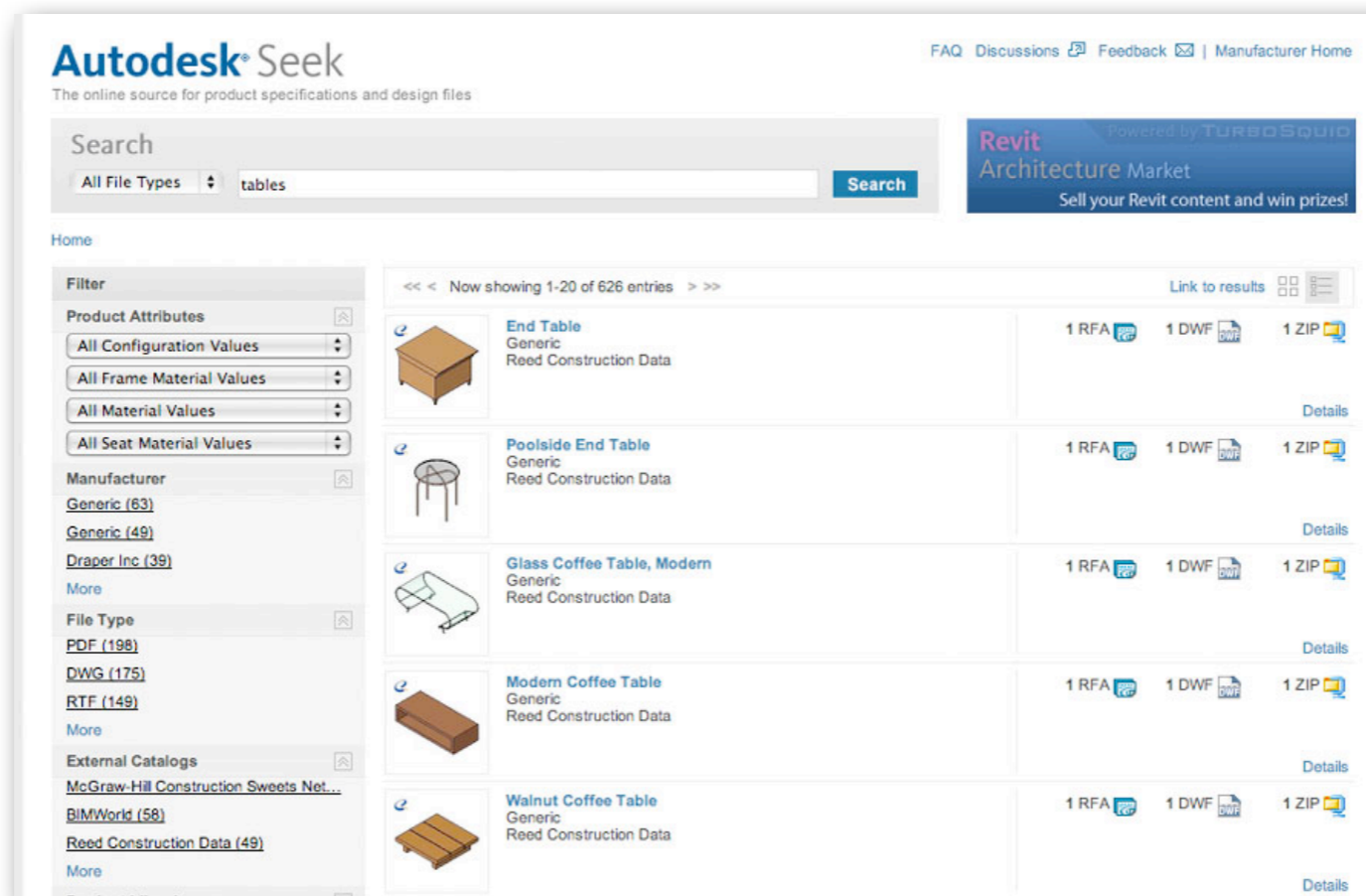


AWS examples

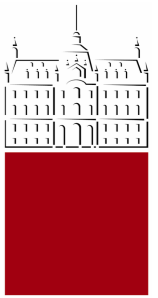


▶ Autodesk Seek (seek.autodesk.com)

- Autodesk Seek is the online source for architects and building engineers to search and download manufacturer design information (i.e., reusable CAD models that can be dropped directly into design projects).



Cloud BIM virtualization



▶ Different providers

- CaddForce
(www.caddforce.com)
- BIM Cloud Solutions
(www.bimcloudsolutions.com)
- etc.

▶ Different Graphisoft approach

- BIM server
- www.graphisoft.com/products/archicad/teamwork.html

The screenshot shows the CaddForce website homepage. At the top right, there is a blue cloud icon with the text "Cloud 3.0 has arrived! find out more!". Below this is a navigation bar with links for Home, Products, Services, About Us, and Contact Us. A social media section says "Connect with us" with icons for Facebook, LinkedIn, and Twitter. The main content area features three promotional boxes: 1) "Dell Precision R5400 with high end 3D graphics capability, virtualized in the cloud" with an image of a server tower. 2) "CaddForce" with an image of a server rack and a "Cloud 1.0" button. 3) "Fast performance for your AutoCAD Revit & 3D CAD architecture needs." with a grey background.

The screenshot shows the ArchiCAD 15 website page. The title is "ArchiCAD 15". Below the title is a navigation menu with tabs for Overview, DESIGN, Renovation, OPEN, Productivity, Teamwork, Press, and FAQ. The main image is a photograph of a modern building at night with large glass windows and a curved facade. The text "GRAPHISOFT ARCHICAD 15" is overlaid on the top right of the image. Below the image, there is a caption: "SHELL, ARTechnic architects, www.artechinc.jp, Photography: © Nacasa & Partners Inc." Below the caption is a blue headline: "ArchiCAD Revolutionizes BIM Collaboration". The main text below the headline reads: "Building Information Modeling brings unique challenges to the design team: when implementing BIM on a larger scale, architects often run into bottlenecks in model accessibility and workflow management. ArchiCAD introduces the **GRAPHISOFT BIM Server** – a first of its kind solution for model based team collaboration. Industry-first Delta Server™ technology reduces network traffic to a minimum for instant and reliable data-exchange both within the office and over the Internet."