

# Bridging the Software Gap

Using Open Source Software  
to Augment, Enhance and Ultimately Replace a  
Proprietary  
IT Infrastructure

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# What is the Software Gap ?

- ◆ Proprietary software is prohibitively expensive for developing nations.
  - ◆ One copy of Windows XP costs three times the monthly salary of a Chinese Technology worker.
- ◆ Using proprietary software reduces IT workers to consumers of technology.
- ◆ Many copies of proprietary software are illegal copies.
  - ◆ The cost of "going legal" can be prohibitive.

# Open Source/Free Software - the Bridge for the Software Gap

- ◆ Open Source Software (OSS) makes high-quality legally licensed software available to everyone.
  - ◆ Free in both financial and technical sense.
- ◆ Opens some of the most advanced software in the world for study by engineers worldwide.
- ◆ Allows local engineers to become subject experts in technology.
  - ◆ Samba gets contributions from almost every continent in the world.

# Migrating to Open Source

- ◆ Most organizations have a significant investment in proprietary software.
- ◆ OSS must be able to integrate seamlessly with existing systems for migration to be successful.
- ◆ Server systems are the first point of migration.
  - ◆ Easier to change few servers than many clients.
  - ◆ Fewer numbers of critical software packages needed to migrate.
    - ◆ Start with File & Print/Web/Database/Name Services.

# The Path to Freedom (and low cost)

- ◆ Start by identifying easily replaceable services.
- ◆ Implement a pilot program.
  - ◆ Training of staff is key to success. Work with vendors who will train your people.
  - ◆ Although source code is available, IT staff usually don't have the time to read most of it.
  - ◆ Source code availability is useful for customization.
- ◆ Isolate desktops from change.
  - ◆ Most successful Samba deployments are invisible.

# Migration Strategies

- ♦ Try and chose Open protocols/file formats.
  - ♦ OSS won't work for you if all your data or communications are done using proprietary protocols or formats tied to one vendor.
  - ♦ Some OSS projects allow conversion of proprietary formats (OpenOffice will read Microsoft Office formats for example).
- ♦ Analise what server applications cannot be replaced by OSS and ensure what is deployed will inter-operate with them.
  - ♦ Microsoft Exchange for calendaring/scheduling services is usually a stumbling block.

# Server Migration Advice

- ♦ Samba can replace Windows file and print services for most uses.
  - ♦ Some advanced authentication requirements mean keeping Windows domain controllers.
- ♦ For Web services chose back-end scripting for Apache like PHP, Perl or Java rather than ASP or .NET.
  - ♦ Developer tools are not (yet) as advanced, but the openness will allow more choice in the long run.
- ♦ Many choices for Linux mail servers, but there are no current OSS groupware solutions.

# Server Migration Advice (continued)

- ◆ OSS Databases are full featured and reliable.
  - ◆ Many options here, MySQL and Postgres are good choices.
  - ◆ Only issues are IT staff may be more familiar with proprietary databases such as Oracle and SQLServer.
- ◆ OSS services need greater IT staff competence to set up.
  - ◆ Example: linking of DHCP and DNS is not an out-of-the-box service.
  - ◆ In the long run they are more reliable and lead to greater staff independence.



# The Desktop - the final hurdle

- ♦ Replacing proprietary desktop software with OSS is *possible* in a business environment.
- ♦ OpenOffice (used for this presentation) is a good replacement for Microsoft Office for most users.
  - ♦ MS-Office macros do not work with OpenOffice.
  - ♦ Some simple macros could be ported.
- ♦ KDE is mature enough to be used as a replacement for Windows desktops.

# Desktop Issues

- ♦ Specific application availability must drive desktop adoption of OSS.
  - ♦ OSS is no good if your critical application hasn't been ported (groupware etc.).
- ♦ Keep some Windows desktops for power users, and for remote display purposes for applications you can't yet replace.
  - ♦ VNC and rdesktop are OSS projects that can remotely display Windows desktops onto Linux workstations.
- ♦ Try and persuade vendors to make your critical applications available for Linux.

# Custom Software

- ♦ Much software development is internal to an organization to provide a specific tool or service.
  - ♦ Such projects are ideal for moving to an OSS base.
  - ♦ Millions of lines of example code are available to help local programming staff learn the Linux system.
  - ♦ Experience in older, proprietary UNIX code is directly applicable to Linux.
  - ♦ If you're not already moving to Linux, your competition is.. (Eg. Lehman Brothers, New York).

# Conclusions

- ◆ Safe choice - other organizations worldwide are migrating to OSS.
- ◆ Preparation and training are key. Without support from IT departments any change will fail.
- ◆ Server replacement is easy, desktops still a challenge.
- ◆ OSS can stimulate local economy, help train a generation of knowledge workers.
- ◆ Gives control over software back to an organization.

# Questions and Comments ?

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Opening Windows to a Wider World