

IISST Orvieto
Liceo Scientifico "E. Majorana"

Linux Day 2014

Migrazione al
software libero
nella scuola



Agenda

- ✓ **Scenario iniziale e motivazioni**
- ✓ **Problematiche tecniche**
 - ✓ Get rid of Active directory. Centralizzazione dei profili su LDAP;
 - ✓ Configurazione dei laboratori
 - ✓ Stampanti di rete con job accounting. L'utilizzo di tea4cups;
 - ✓ Gestione remota studenti dalla postazione docente;
 - ✓ Avvio di LTSP da grub;
 - ✓ Sincronizzazione con le Google Apps for education.
- ✓ **Impatto sugli utenti (docenti e studenti)**
- ✓ **Distribuzione Ubuntu Majorana**

Scenario iniziale e motivazioni



- *Voglia di utilizzare il software libero, ed in particolare Linux, per adesione ai principi della FSF.*
- *Presenza di un gruppo di docenti con competenze specifiche*
- *Circa 100 tra PC e laptop con Windows Xp (supporto terminato giorno 08 Aprile 2014)*

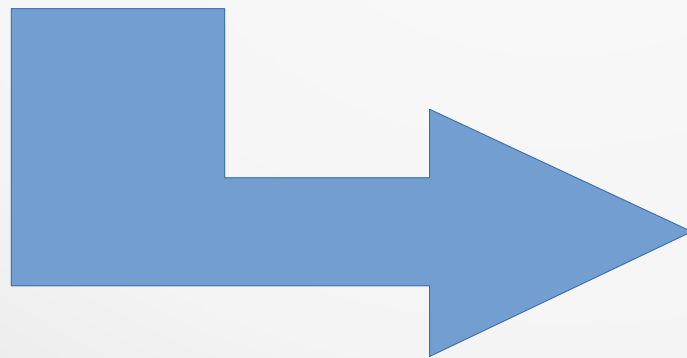


Get rid of Active Directory



Windows Server®
Active Directory

- ✓ *Dismissione degli account su Active Directory*
- ✓ *Creazione nuovi account per docenti e studenti su server Debian*
- ✓ *Mount delle home directory al login, mediante l'uso di pam mount ^[1]*



Alcuni dettagli su pam_mount

pam_mount is a Pluggable Authentication Module that can mount volumes for a user session

This module is aimed at environments with central file servers that a user wishes to mount on login and unmount on logout, such as (semi-)diskless stations where many users can logon and where statically mounting the entire `/home` from a server is a security risk, or listing all possible volumes in `/etc/fstab` is not feasible.

Users can define their own list of volumes without having to change (possibly non-writable) global config files.

- Single sign-on feature — the user needs to type the password just once

- Transparent mount process

- No stored passwords

- Volumes are unmounted on logout, freeing system resources and not leaving data exposed.



Configurazione dei laboratori

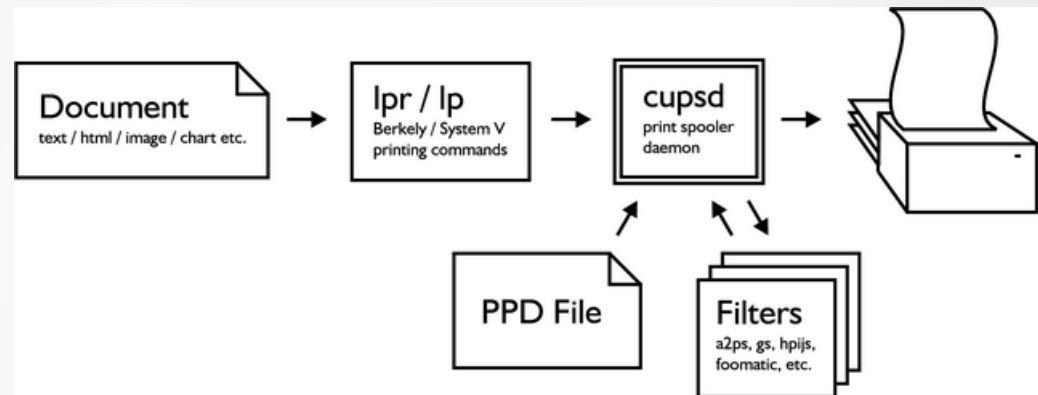
- **Laboratorio di informatica con 16 PC**
 - Dual boot (Ubuntu / Debian) + LTSP Debian
- **Laboratorio di informatica (aula 01) con 15 PC**
- **Laboratorio di disegno, con 12 PC**
- **Laboratorio di lingue**
- **Laboratorio multimediale con 30 laptop**
- **Aula insegnanti con 5 PC**
- **PC Biblioteca**
 - Ubuntu + LTSP Debian



Stampanti di rete con job accounting (1/2)

Tea4cups_[2]

- Tea4CUPS is a CUPS backend wrapper which can capture print datas before they are sent to a printer and process.
- filters : A filter can modify the input datas before they are sent to the printer or made available to the pre and post hooks defined below.
- prehooks : these are guaranteed to be launched before the print job is sent to the real printer.



- posthooks : these are guaranteed to be launched after the print job has been sent to the real printer.



Stampanti di rete con job accounting (2/2)

To help your own commands, Tea4CUPS makes available as part of the environment several variables which can be used from the commands you use in pre and post hooks (but not filters) :

TEAPRINTERNAME : The print queue name.

TEADIRECTORY : Tea4CUPS output directory.

TEADATAFILE : Full name of Tea4CUPS work file (in \$TEADIRECTORY).

TEAJOBSize : Job's size in bytes.

TEAMD5SUM : MD5 sum of the job's datas.

TEACLIENTHOST : Client's hostname or IP address.

TEAJOBID : Job's Id.

TEAUSERNAME : Name of the user who launched the print job.

TEATITLE : Job's title.

TEACOPIES : Number of copies requested.

TEAOPTIONS : Options of the print job.

TEAINPUTFILE : Print job's data file or empty when job read from stdin.

TEABILLING : Job's billing code (lp -o job-billing=SomeCode file.ps)

TEACONTROLFILE : Job's IPP message file (usually /var/spool/cups/c?????)

TEASTATUS : Original CUPS backend's exit code : ONLY AVAILABLE FROM posthooks, obviously.

Gestione remota studenti dalla postazione docente

Italc (<http://italc.sourceforge.net/>)



Epoptes (<http://www.epoptes.org/>)



Avvio di LTSP da grub^[3]



Sincronizzazione con le Google Apps

- ✓ Possibile tra AD e Google Apps grazie al tool GAPS
- ✓ (Google Apps Password Sync)_[3]

- ✓ Attualmente impossibile tra LDAP e Google Apps



Impatto sugli utenti (docenti e studenti)

- ✓ **Periodo di frustrazione e proteste, per la modifica di un'abitudine acquisita**
 - ✓ Secondo uno studio del dott. John Kehoe^[5] occorrono 90 giorni;
- ✓ **Corsi di formazione interna su Ubuntu/Debian e Google Apps da erogare entro il mese di Novembre**



Distribuzione Ubuntu Majorana (1/2)



...,Cmap tools, Dia, Vlc, LibreOffice, ecc..., ecc...

Distribuzione Ubuntu Majorana (2/2)

Majorana Live con Remastersys

Partire dalla Ubuntu 14.04.1

`sudo apt-get update && sudo apt-get upgrade && sudo apt-get dist-upgrade`

installare a mano remastersys, driver LIM e Open-sankore dai deb scaricati

`sudo apt-get install libdvdread4 libavcodec-extra chromium-browser pepperflashplugin-nonfree chromium-codecs-ffmpeg-extra && sudo /usr/share/doc/libdvdread4/install-css.sh && sudo update-pepperflashplugin-nonfree --install && sudo add-apt-repository ppa:tualatrix/ppa -y && sudo add-apt-repository ppa:mc3man/trusty-media -y && sudo add-apt-repository ppa:audacity-team/daily -y && sudo add-apt-repository ppa:ubuntu-wine/ppa -y && sudo add-apt-repository ppa:sunab/kdenlive-release -y && sudo apt-get update && sudo apt-get upgrade && sudo apt-get install ubuntu-restricted-extras gstreamer0.10-ffmpeg vlc vlc-plugin-pulse shutter ubuntu-tweak audacity avidemux handbrake handbrake-cli kdenlive recordmydesktop winff geogebra build-essential idle stellarium freemind libreoffice libreoffice-pdfimport pdfshuffler lame libmp3lame0 gimp gimp-data-extras gimp-plugin-registry wine1.7 winetricks gthumb gnome-session-flashback xfce4 xfce4-goodies ldap-utils libpam-ldapd libpam-mount icedtea-7-plugin openjdk-7-jre gummi skype synaptic gparted gnash openssh-server dia gv xpdf step gnome-gmail wxmaxima`

Riferimenti

1. Pam mount (<http://pam-mount.sourceforge.net/>)
2. Tea4Cups (<http://www.pykota.com/software/tea4cups>)
3. LTSP da Grub

<http://labs.opinsys.com/blog/2014/01/31/how-to-boot-ltsp-client-from-harddrive-using-grub/>

<http://hmontoliu.blogspot.it/2010/12/gpxe-boot-from-grub2.html>

4. GAPS (<https://support.google.com/a/answer/2611859?hl=it>)

5. Dr. J. Kehoe

<http://www.matteosantiloni.it/195/2012/09/cambiare-abitudine-in-21-giorni-falso-ecco-come-si-acquisiscono-veramente-le-nuove-abitudini-2.html>

Buon Linux Day 2014!!! ;-)

