



Linux for Enterprise Desktop

Success Story



Banca Popolare
di Milano

Project “Agenzia pilota Linux” in Banca Popolare di Milano

- **November 2003:** Banca Popolare di Milano chooses Primeur as the technological partner in the implementation of the “Linux pilot branch” project
- **December 2003:** start of architecture implementation
- **February 2004:** delivery of “release 1” of the project
- **March 2004:** delivery of “release 2” of the project and start of production phase

Number of BPM Projects

- 5000 workstation distributed in 600 branches
- 600 branch server
- 1 central server (high availability)

Workstation - hardware

The project also includes “hardware re-use” characteristics: the client has a significant number of workstations that it does not want to replace.

Minimum hardware configuration required:

- > CPU: Intel **Pentium II 233 MHz**
- > RAM: **256 Mbyte**
- > Storage: hard disk **2 Gbyte**, CD-ROM (optional)
- > Graphic adapter: **800x600** (color depth: 16/24 bit)
- > Network: ethernet adapter 100 Mbit/s full duplex
- > Peripheral equipment: impact printer, check reader, scanner, bar code reader

Branch Server - hardware

Hardware configuration required:

- > IBM Netfinity 5500/7000
- > CPU: 2 CPU Pentium III
- > RAM: 512 Mbyte
- > Storage: RAID 5 at hardware level (3 + 1 + spare disk)
- > Graphic adapter: not used
- > Network: double ethernet adapter 100 Mbit/s full duplex



Workstation - software

Operating system:
SuSE Linux Desktop

Management and control:
> Tivoli: hardware/software census, software distribution
> Tivoli AMOS: system access and utilization

Graphical interface:
Xfree86 + IceWM

Applications:
> Acrobat Reader 5
> Mozilla web browser 1.3.1 (+ Sun JRE 1.4.2)
> Sun Star Office 7
> x3270

Utilities:
> CUPS: print spooler
> gtklpq: print manager
> rsync: file mirroring
> sane: scanner utilities
> Xplore: file manager

Main applications

The main applications used are:
"portal"
"multichannel application"

These are Web based applications implemented by the Client in collaboration with IBM.

Main characteristics:

- > WebSphere in z/Linux environments (+ IMS & CICS connectors)
- > Mozilla browser
- > Java applet for interaction with equipment such as printer, check reader, scanner, bar code reader
- > integration with Acrobat Reader for ".pdf" documents and with "Lotus Domino WebMail" for email



Branch Server - software

Operating system:
SuSE Linux Standard Server

Control and management:
> Tivoli: hardware/software census, software distribution, system monitoring
> Tivoli AMOS: system access and utilization
> NFS: file server
> rsync: file mirroring

Workplace functionalities

The Linux SuSE system has been customized to offer a series of added functions:

- > "roaming" profile
- > "sticking" profile
- > transfers privacy
- > centralized configuration management

"Roaming" profile

The profile is automatically updated on the workstation that the user has chosen.

There is not a "single point of failure": the profile is provided by the branch server or by the central server if the first one does not work.

Updating the profile is carried out incrementally using "rsync".

"Sticking" profile

A portion of the configuration, for example, the Mozilla browser, is reinitialized at each user *login*:

- > The user modifications are only temporary and limited to the current session
- > In case of a malfunction, the helpdesk may suggest a "logout + login" as the first possible solution
- > The user gradually loses the habit of modifying unnecessary parameters; reduction in structure management costs

Privacy

The profiles and documents (implemented with a word processor, spreadsheet, etc...) are **always** and **only** transferred using encryption:

- > Channel used: "ssh" level 2 with DSA certificates and "3des" encryption

Results:

- > guarantees that the provider of the network infrastructure is not able to intercept the content of the documents transferred unless using a supercomputer
- > possibility for the Client to use more carriers for their own network infrastructure

Centralised Configuration

The configuration of 600 branch servers and 5000 workstations is updated every 60 minutes from the centre to the periphery.

The main parameters can be configured by modifying the configuration files on the central server:

- > GUI
- > Applications parameters (Mozilla, StarOffice, etc...)
- > printers