Open GnSys

Free and open-source application for operating systems deployment and management

@OpenGnSys

www.opengnsys.es

Project Description

OS Deployment and Management

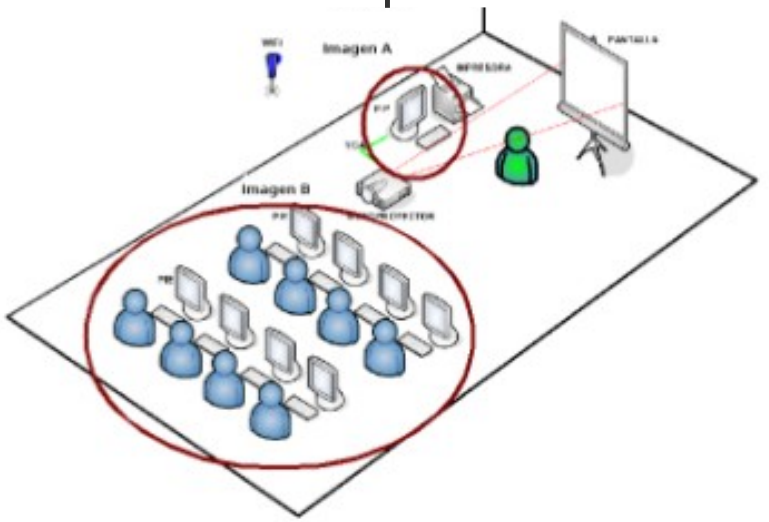
The OpenGnSys Project (pronounced *Open Genesis*) is an open-source application that allows centralized management and deployment of operating systems on all computers of an Institution, using different network protocols (multicast, unicast, peer-to-peer).

Educational Scenarios

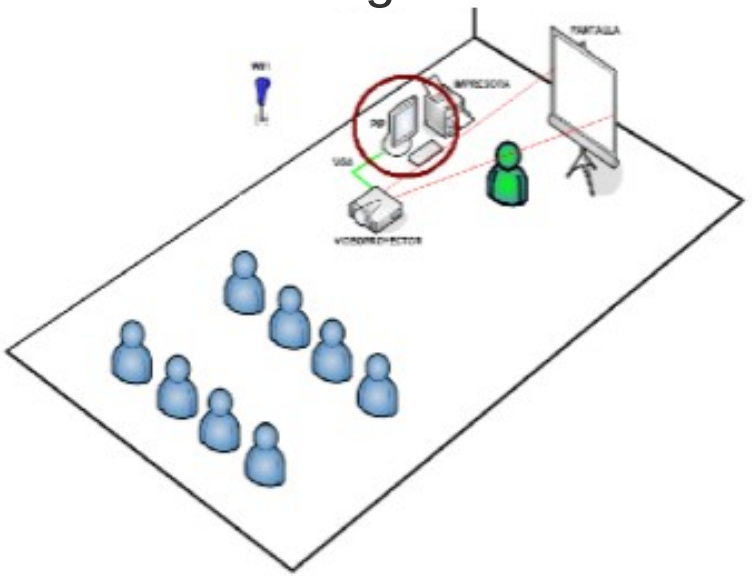
OS Deployment and Management

Support some of the educational settings defined by the Docencia-Net Working Group in RedIRIS

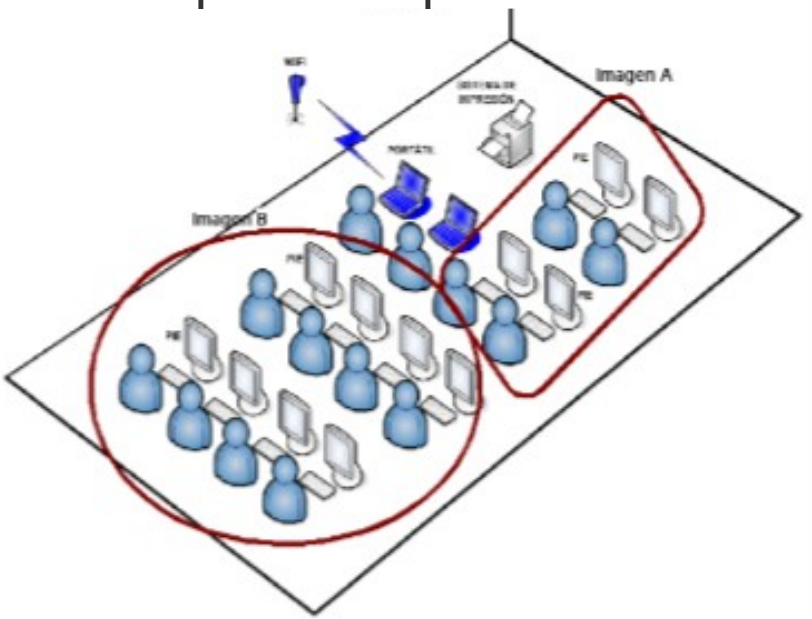
Computer Lab.



Teaching classroom



Open Computer Lab.

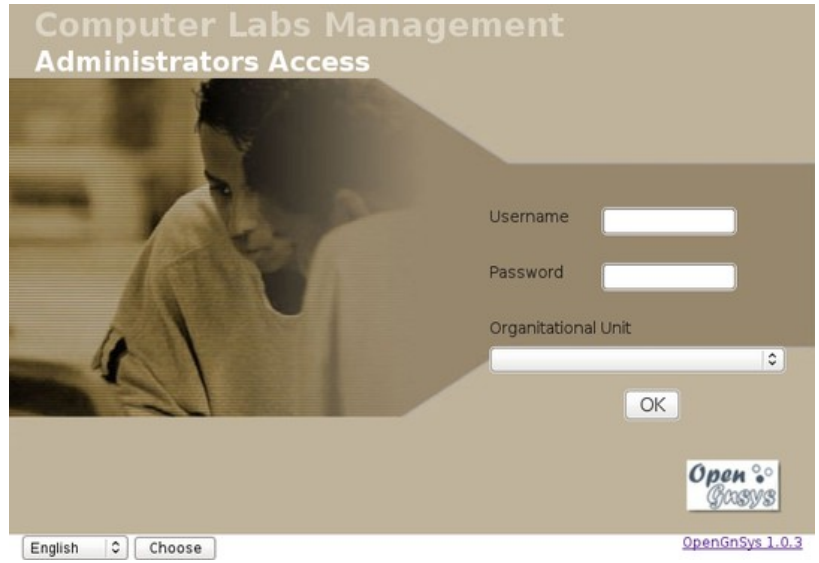


Organizational Scenarios

OS Deployment and Management

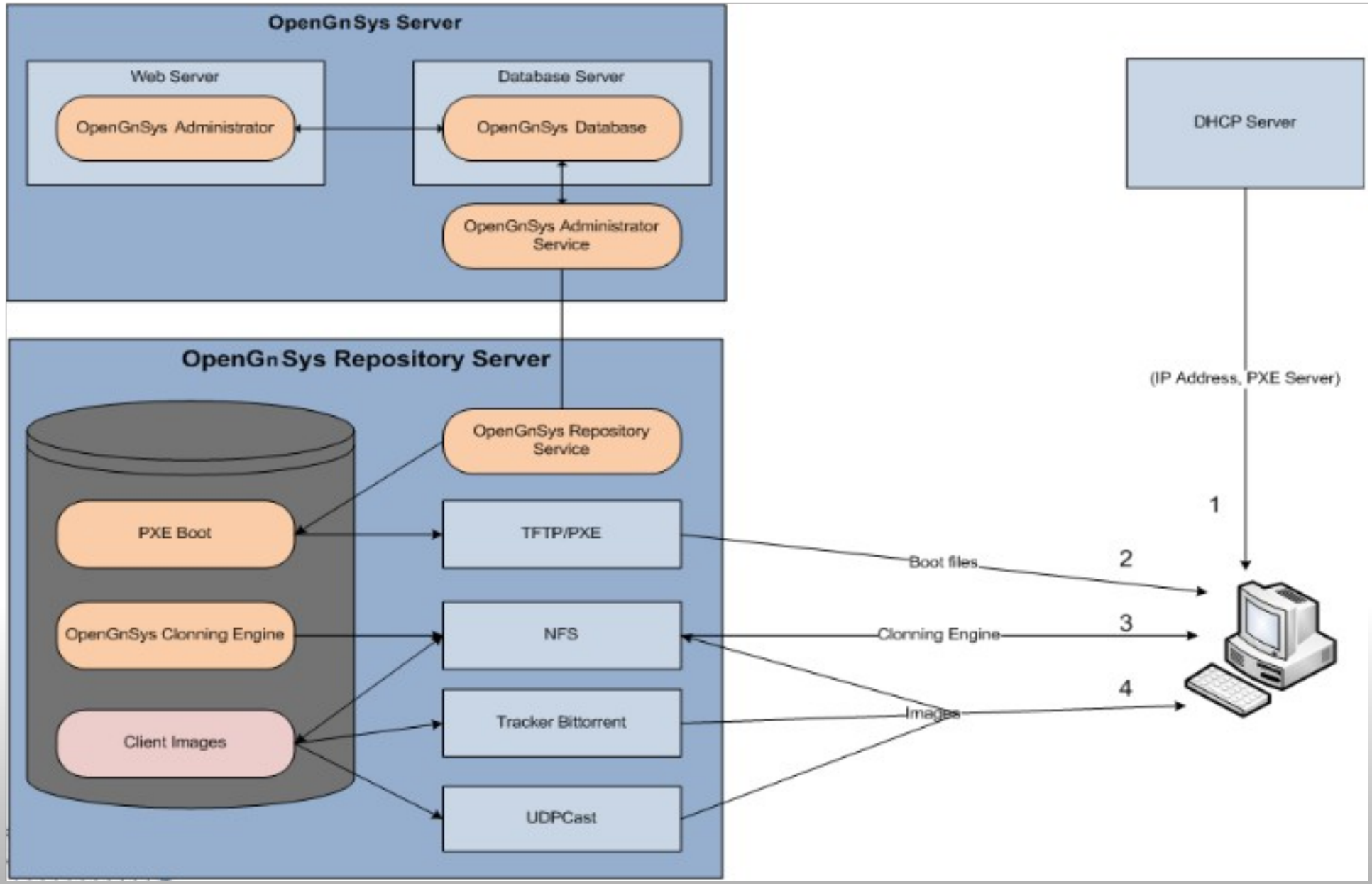
Support in other settings defined in an Institution:

- Information Services.
- Helpdesk for employment computers.
- Servers deployment in Data Center.



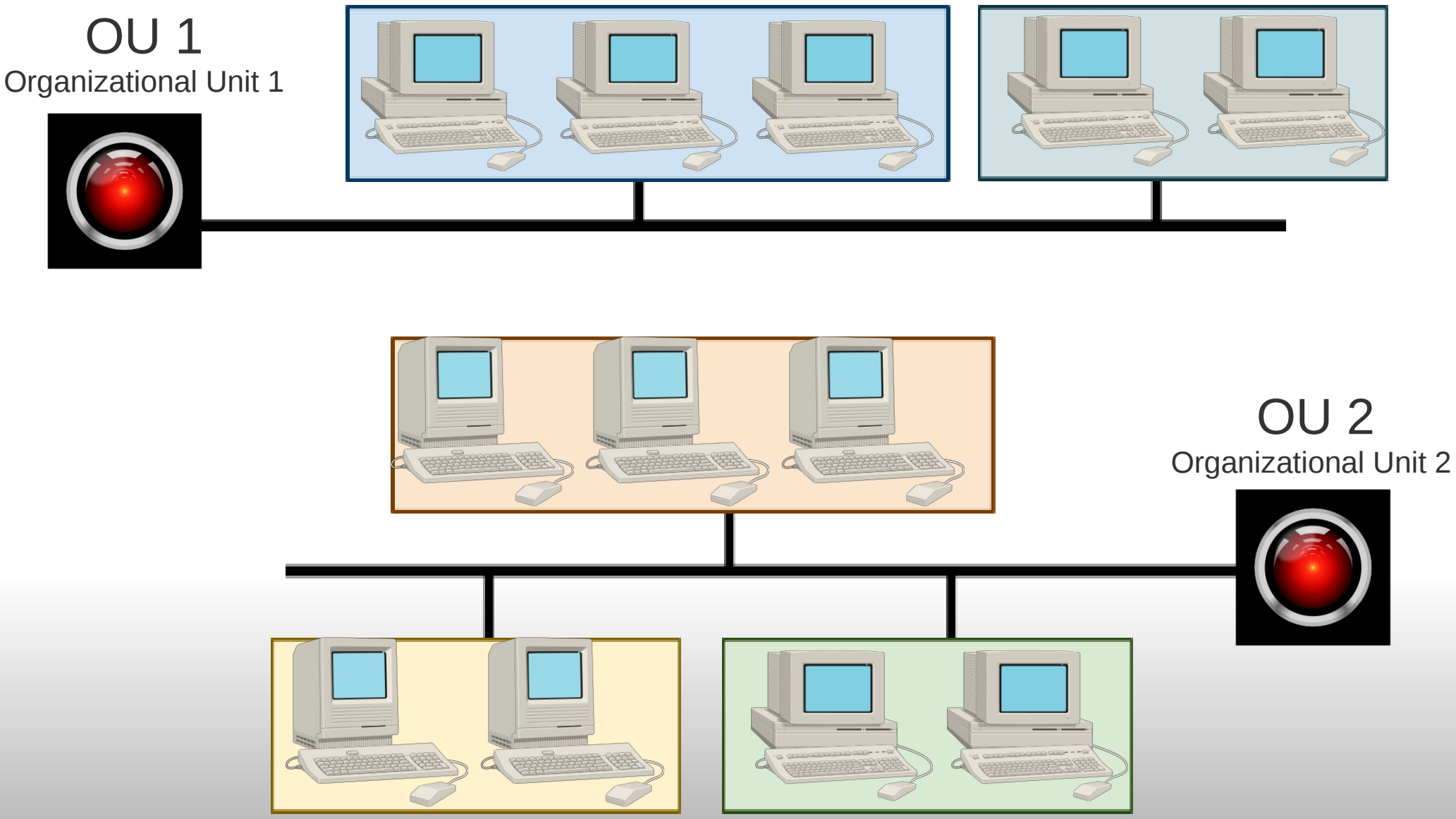
Architecture

OS Deployment and Management



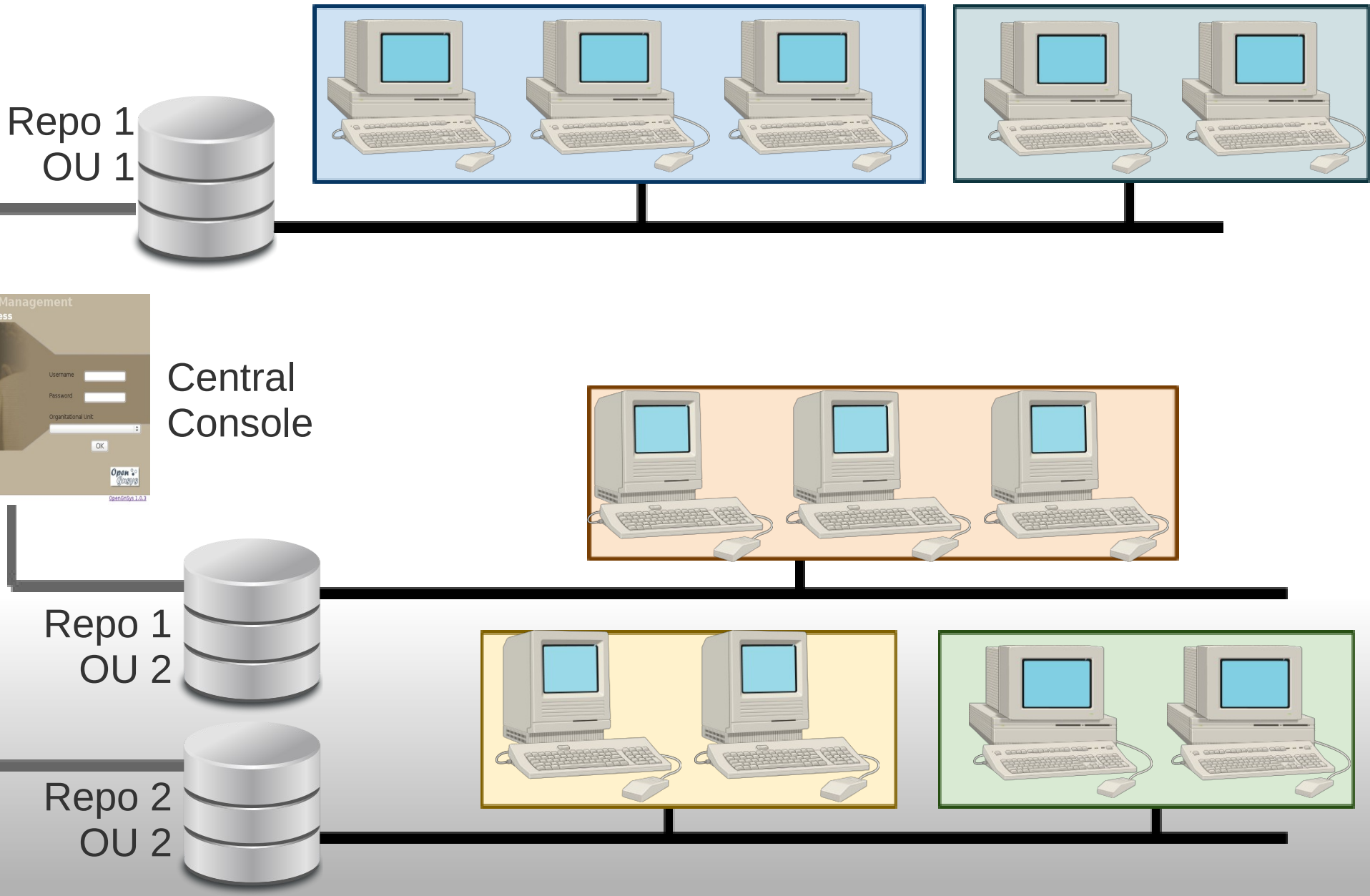
Previous Cases of Use

OS Deployment and Management



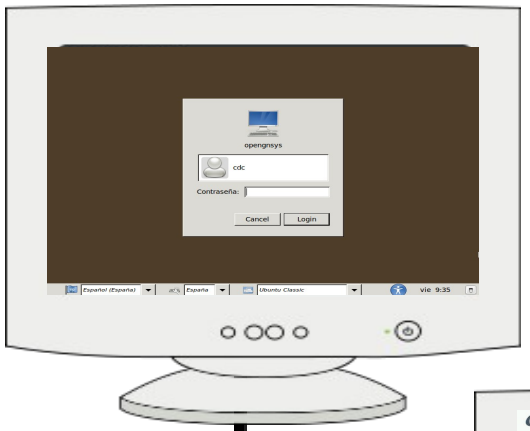
Cases of use OpenGnSys 1.0

OS Deployment and Management



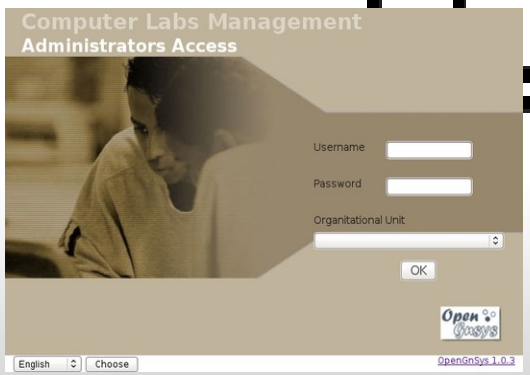
Client's Boot

OS Deployment and Management

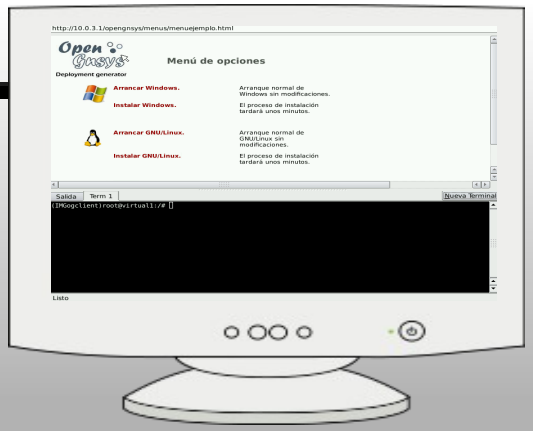


Starting with Operating System

Starting with local bootloader



Client with Browser on user mode



Client with Browser on admin mode

Computers Inventory

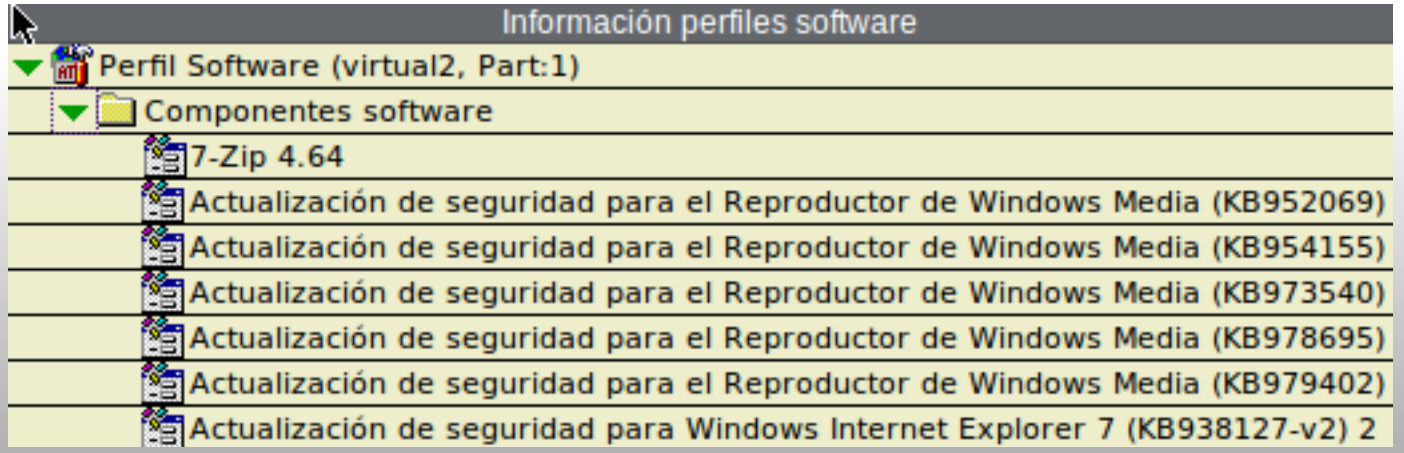
OS Deployment and Management

Computer hardware inventory

pc-i23x

Partición	Tipo	S.F.	S.O. Instalado	Tamaño
1	NTFS	NTFS	Microsoft Windows XP	40000000
2	LINUX	EXT2	Ubuntu 10.04.2 LTS 64 bits	30000000
3	LINUX-SWAP	LINUX-SWAP		2000000
4	CACHE	CACHE		30000000

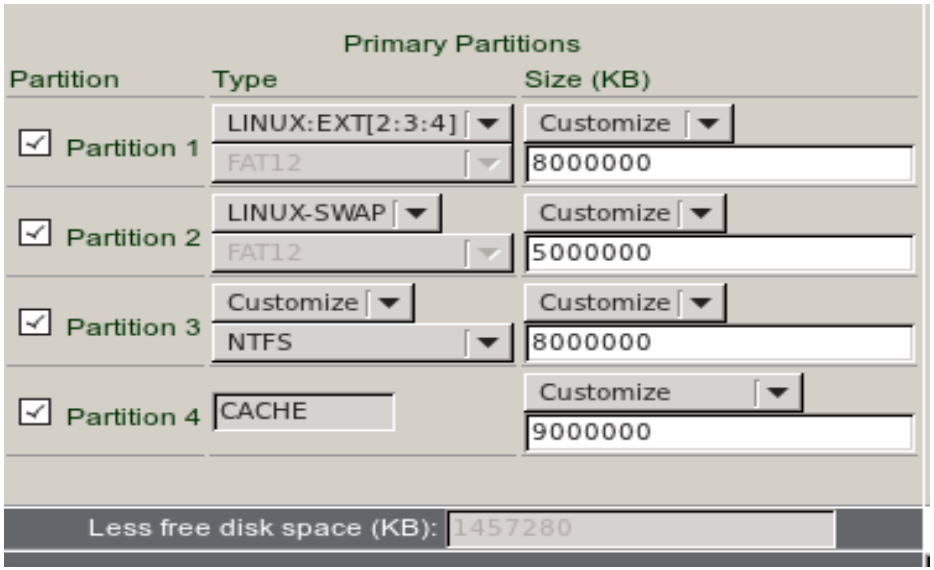
Inventory of partitions and installed operating systems



Inventory of installed applications on operating systems

Partitions Management and Format

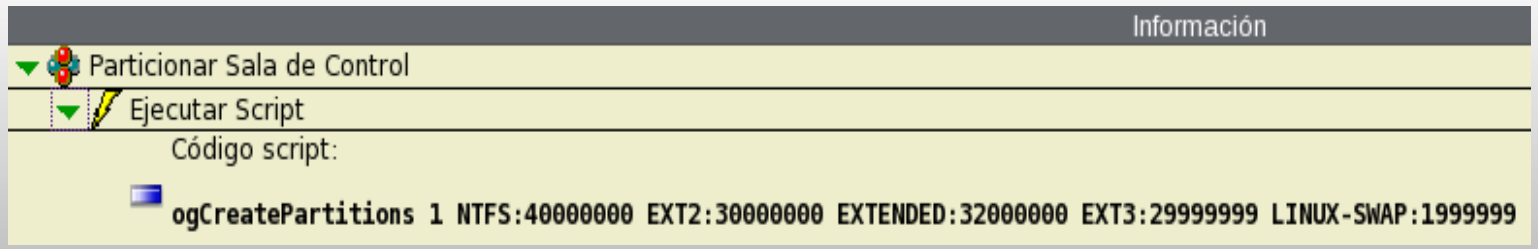
OS Deployment and Management



Web: Partitioning Wizard

```
ogUnmountCache
ogUnmountAll 1
ogDeletePartitionTable 1
ogUpdatePartitionTable 1
initCache 20000000
ogListPartitions 1
ogCreatePartitions 1 NTFS:30000000 REISERFS:30000000
ogSetPartitionActive 1 1
```

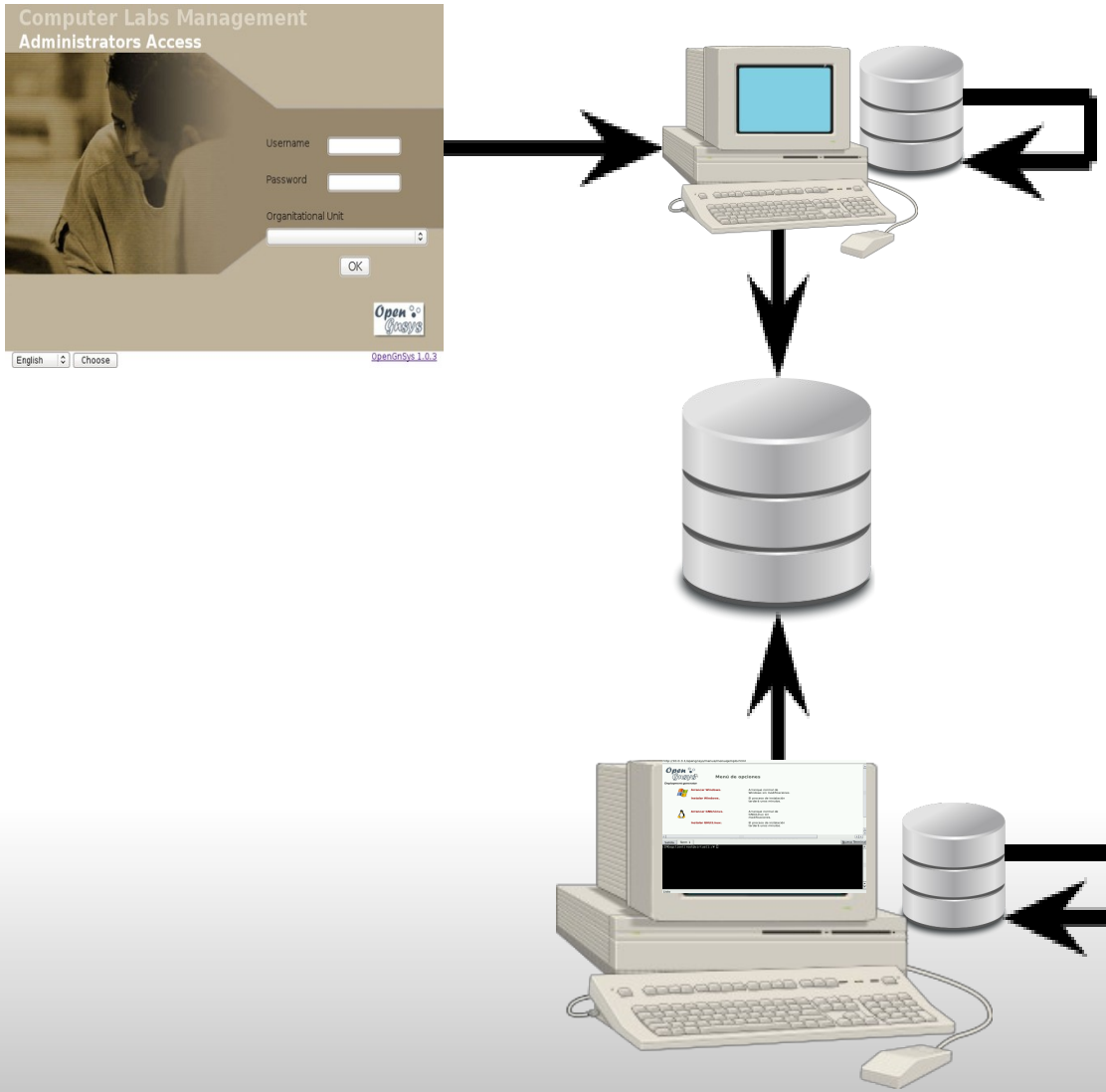
Web&CLI: Custom partitioning schema



Web: Custom partitioning schema with procedures based on functions

Create Image

OS Deployment and Management

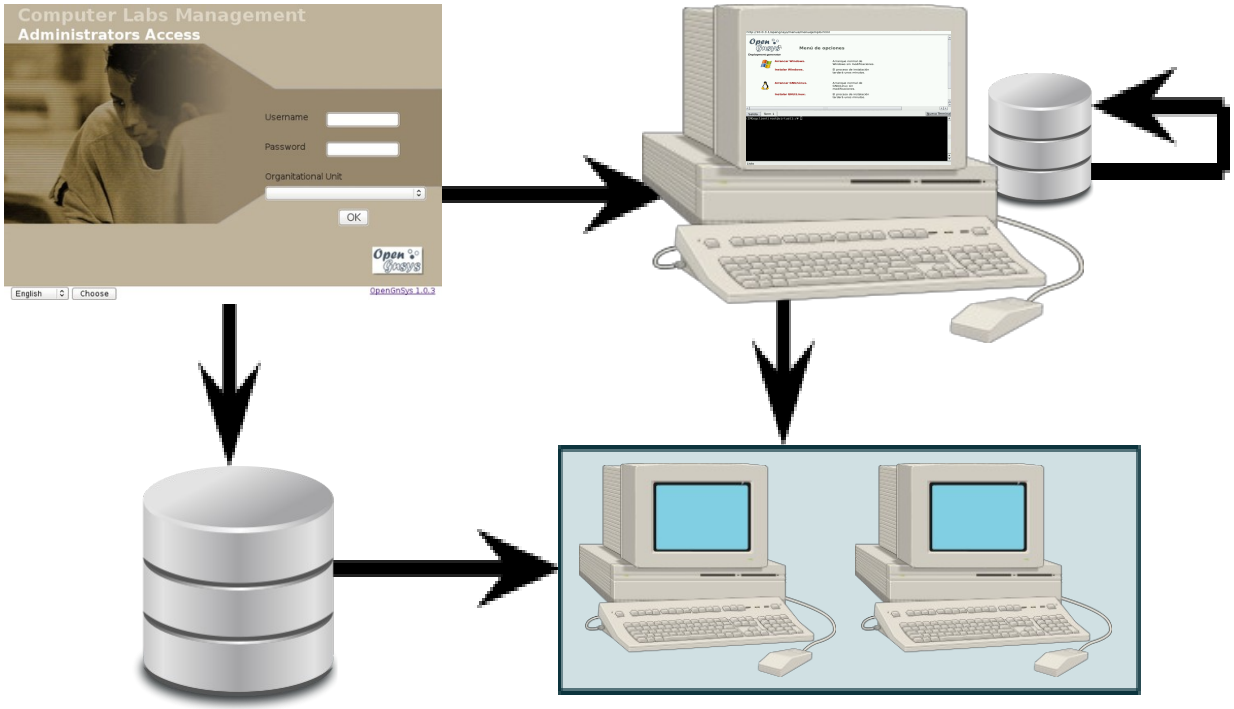


Create image in local cache or in repository from web console

Create image in local cache or in repository from Browser in admin mode

Restore an Image

OS Deployment and Management



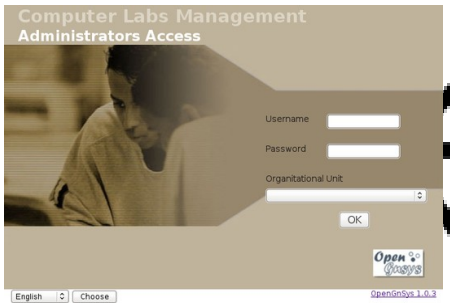
Restore from repository

Restore from cache to local partition

Restore from remote partition

Cloning Protocols

OS Deployment and Management



Unicast

Multicast

Bittorrent

Tracker

OS Deployment and Management

Log del equipo pc-gnsys4 con ip 10.1.14.40

```
19/04/2011 13:15 *** Debug: 5-008-Ejecución del script:/opt/opengnsys/interfaceAdm/getIpAddress
19/04/2011 13:15 *** Debug: 5-Información devuelta 10.1.14.40
19/04/2011 13:15 *** Info: 001-Inicio de sesion
19/04/2011 13:15 *** Info: 003-Abriendo sesión en el servidor de Administración
19/04/2011 13:15 *** Debug: 5-008-Ejecución del script:/opt/opengnsys/interfaceAdm/getConfiguration
19/04/2011 13:16 *** Debug: 5-Información devuelta par=1        cpt=7   fsi=NTFS        soi=Microsoft Win
par=2   cpt=83  fsi=EXT4        soi=Ubuntu 10.04.1 LTS 64 bits  tam=20000000
par=3   cpt=5   fsi=EXTENDED    soi=    tam=22000000
par=4   cpt=ca  fsi=CACHE       soi=    tam=30000000
19/04/2011 13:16 *** Debug: 5-014-Configuración de particiones:par=1    cpt=7   fsi=NTFS        soi=Micro
par=2   cpt=83  fsi=EXT4        soi=Ubuntu 10.04.1 LTS 64 bits  tam=20000000
par=3   cpt=5   fsi=EXTENDED    soi=    tam=22000000
par=4   cpt=ca  fsi=CACHE       soi=    tam=30000000
19/04/2011 13:16 *** Info: 004-Cliente iniciado
```

Client Logs

```
$ head /opt/opengnsys/log/ogAdmServer.log
19/04/2011 10:38 *** Info: 001-Inicio de sesion
19/04/2011 13:03 *** Info: 001-Inicio de sesion
19/04/2011 13:05 *** Info: 001-Inicio de sesion
19/04/2011 13:14 *** Info: 001-Inicio de sesion
20/04/2011 10:21 *** Error: 031-No se ha encontrado la acción a notificar es
posible que se haya eliminado el registro. Módulo respuestaEstandar()
```

Server Logs

Action queue

Quality Monitoring

OS Deployment and Management

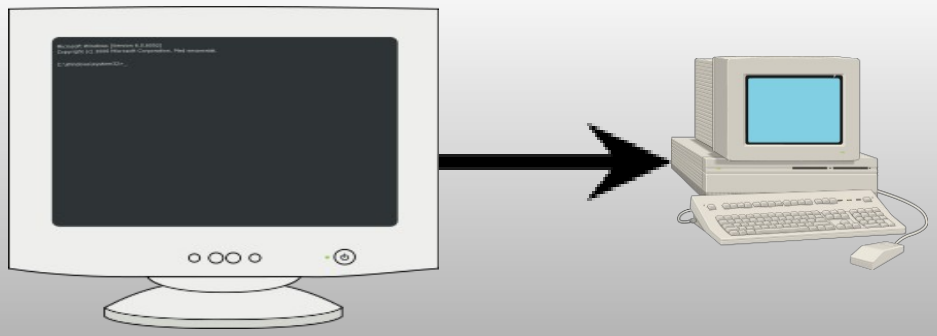
Runtest:
Client self-checking tool

Example of Runtest script

```
$ ls -d $OGCAC$OGIMG
/opt/opengnsys/cache/opt/opengnsys/images
```

Ex Runtest

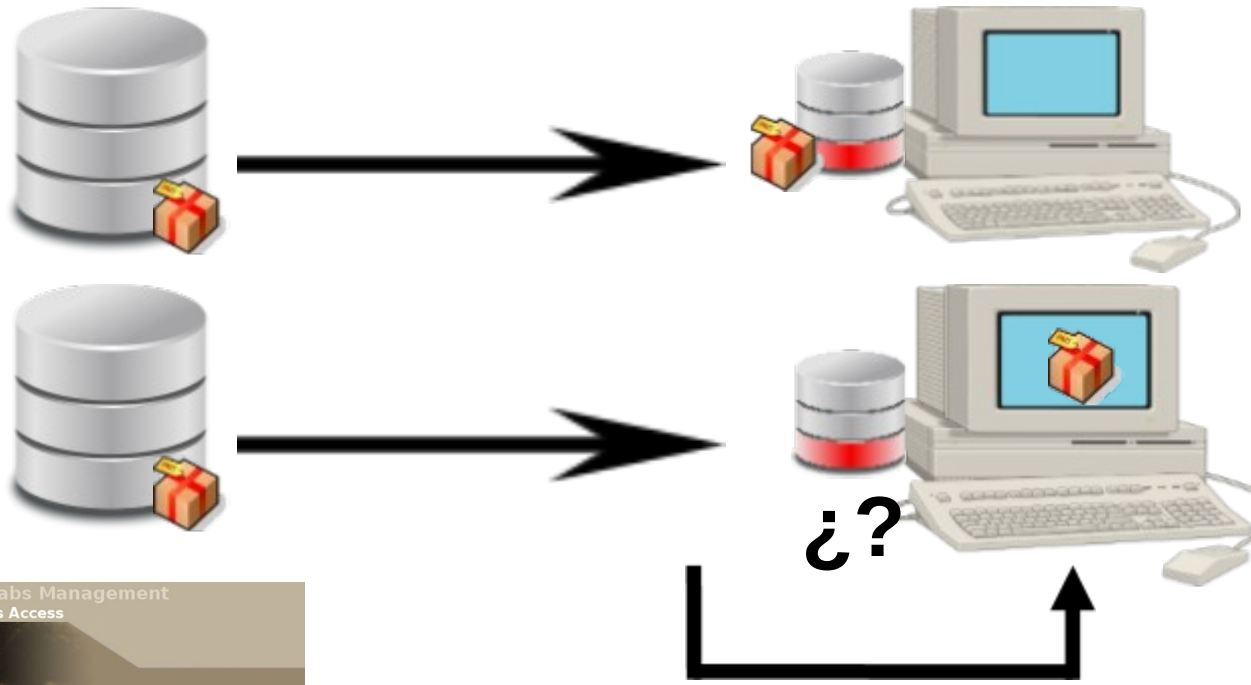
```
(IMGogclient)root@pc-i23x:/opt/opengnsys/lib/engine/tests/NoModify# runtest
28 tests PASSED in File1.shtest
27 tests PASSED in Lock1.shtest
```



SSH access for client management

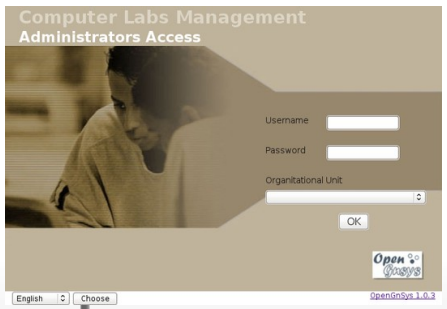
Advanced Use of Cache

OS Deployment and Management



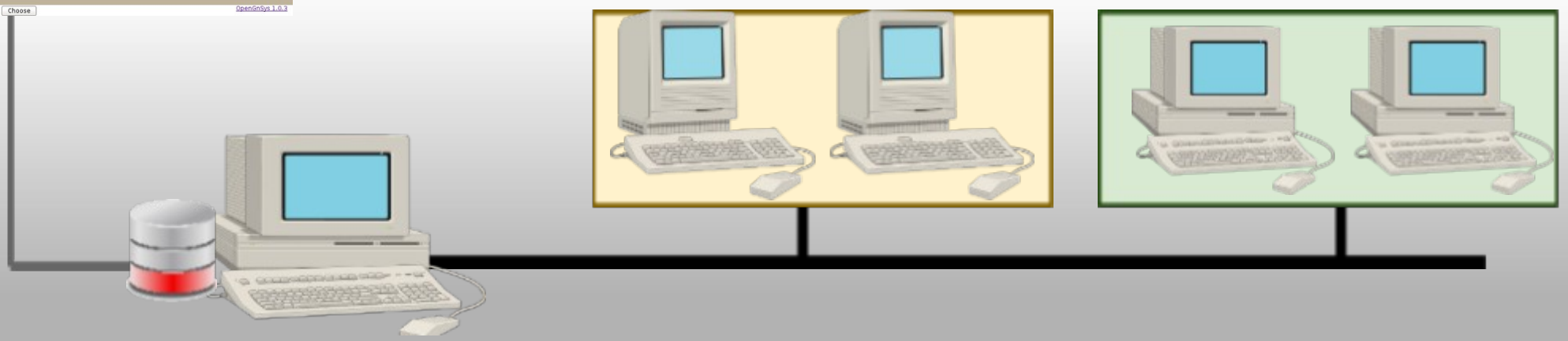
Download image to local cache without restoring

Restore from repository if no space to store the image in cache



Central Console

A client can be a repository



Windows System Management

OS Deployment and Management

Several Windows systems in the same client

Windows Registry Postconfiguration

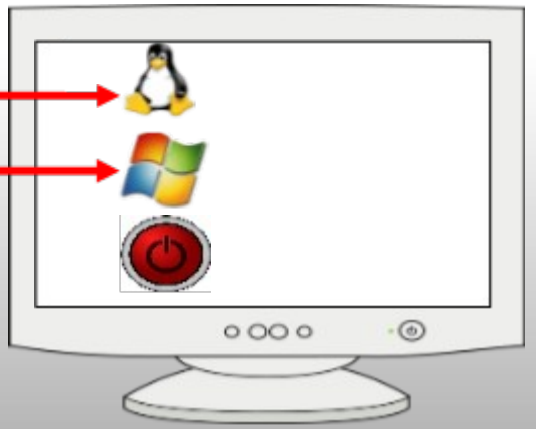
Monitoring the status of the Operating Systems

Client's Boot

OS Deployment and Management

PXE boot from client cache

Automatic client menu based on operating systems distribution



Main Developers

OS Deployment and Management

The OpenGnSys Project joins the effort of several Spanish Public Universities

Universidad de Sevilla

Universidad de Málaga

Universitat Autònoma de Barcelona

Universidad de Zaragoza

Universidad de Huelva

Contributions to OpenGnSys

OS Deployment and Management

Internet Forums:

- Incidents
- Suggestions for new features
- Testing and Sucess cases

Participation in Development Team:

- Programmers
- Translators
- Testers

Mailing Lists

Management of trouble tickets

Sign up on **www.opengnsys.es**