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The experience of promoting DRBL and Clonezilla in Taiwan

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<http://free.nchc.org.tw>

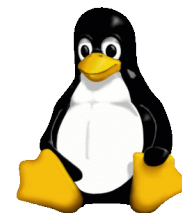
<http://drbl.nchc.org.tw>, <http://drbl.sf.net>

National Center for High-Performance Computing (NCHC),
Taiwan



Free Software Labs

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What is DRBL and Clonezilla ?

- Free software projects developend by NCHC Free Software Labs
- Our goal
 - FSSC (Free Software Smart Classroom)
 - DRBL, Clonezilla
 - Multicast VNC
 - Access Grid, E-learning
 - Cluster computing ready classroom
 - Grid computing ready classroom



DRBL - Diskless Remote Boot in Linux

- ✓ pxe/etherboot + nfs + nis - standing on a giant's shoulder

Orig: PC Cluster -> Free Software Classroom

1. Multi environment in computer classroom -
Linux & M\$ Windows coexist

2. Simplify the management

- All services and programs are in one server, you do not have to check every client
- OS and packages are installed once in DRBL server.

3. Hardware and installation are simplified, but
software is full and all ready for clients!

DRBL vs. LTSP

Since there is LTSP, why DRBL ?

- Centralized resource vs. distributed resource
- Special features for DRBL
 - ◆ Clonezilla
 - ◆ switch client environment, just one selection in server
 - DRBL, FreeDOS, OS in local HD, memtest
 - Linux network installation
- DRBL is not suitable for old machines
- Choose what you need



Clonezilla -

DRBL built-in killer function

- ✓ Clonezilla [OCS (Opensource Clone System)]
 - With partimage (<http://www.partimage.org>) and udpcast (<http://udpcast.linux.lu/>), a partitioning and disk cloning utility similar to Symantec Ghost. In NCHC PC classroom, it takes 50 minutes to 1 hour to clone 3.5 Gbytes M\$ windows XP image for 36 clients. For multicast cloning, it takes about only 10 minutes.
- ✓ Save and restore different OS images
 - ✓ Linux, M\$ Windows



DRBL



server



switch



client nodes



DHCP

— IP —>

pxe/etherboot

192.168.0.1

pxe/etherboot

172.16.100.40

TFTP

— kernel —>

boot

boot

NFS

— file system —>

/, /usr, /home ...

/, /usr, /home ...

NIS

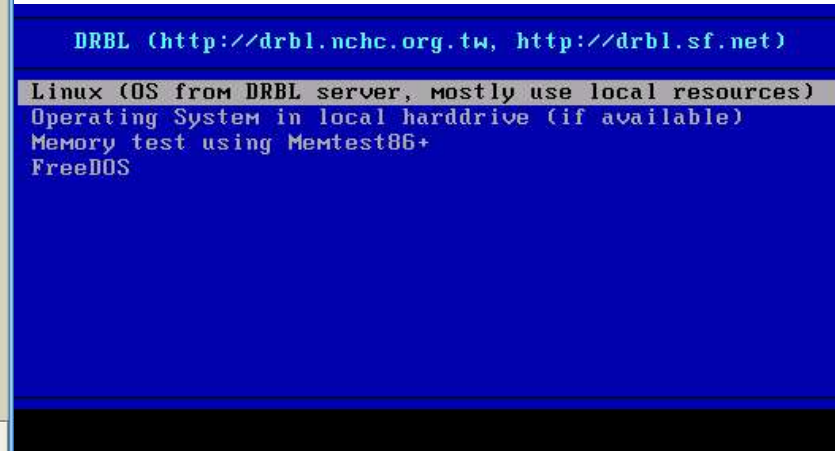
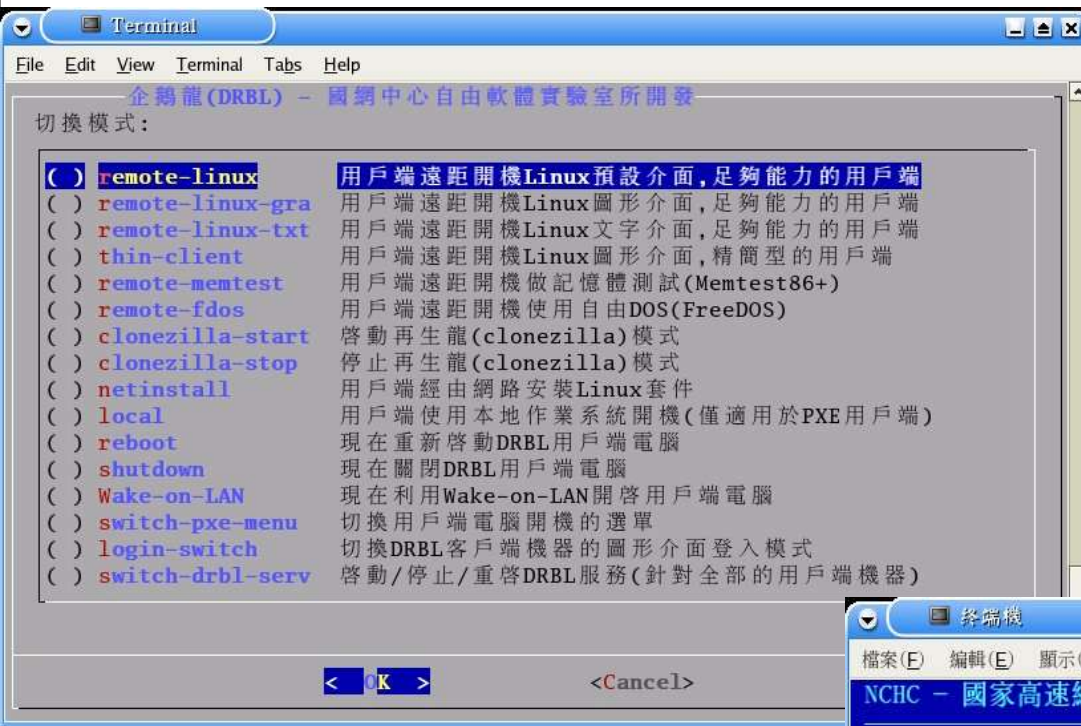
— account —>

user login

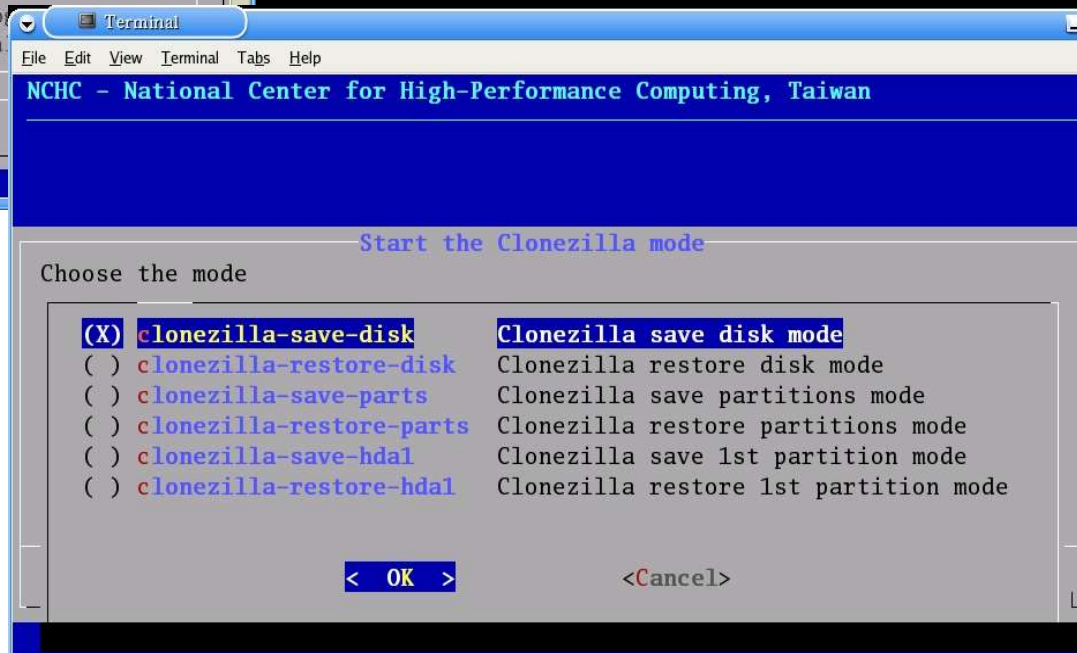
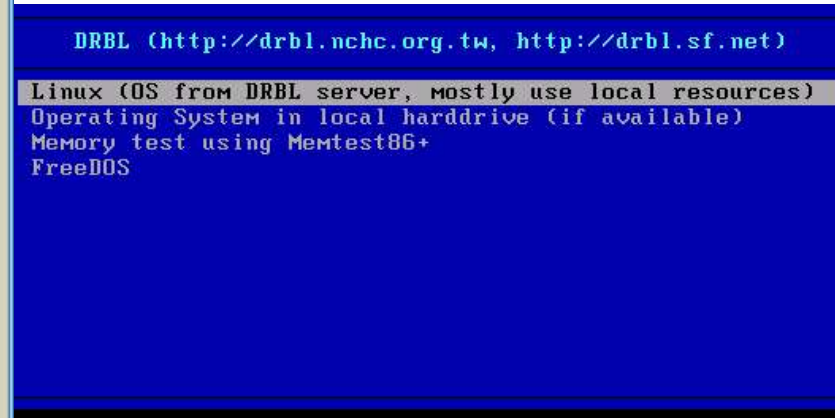
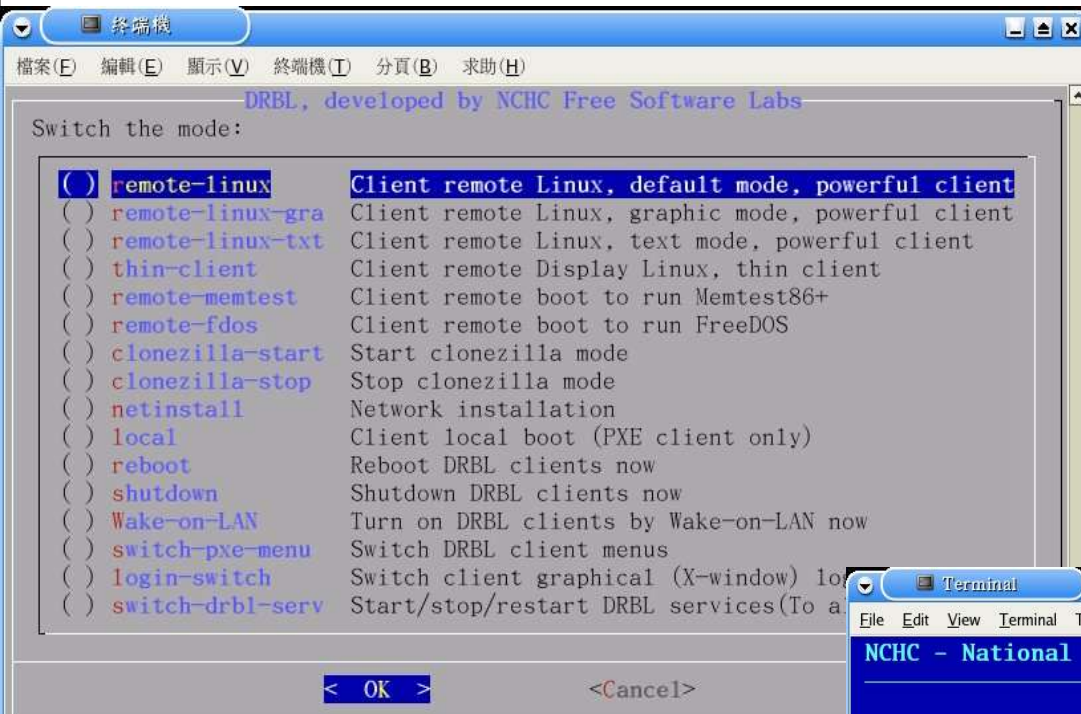
user login



DRBL and Clonezilla



DRBL and Clonezilla



The thinking of NCHC Free Software Labs

- ✓ Government should spend money to hire people to write free software, not buy proprietary software.
- ✓ Copy, copy, copy!!! It's human nature.
- ✓ Freedom to choose program



The experience

- ✓ L10N is most important for teachers.
- ✓ Program should detect most of the cases.
- ✓ Program must provide default values when setting up DRBL and Clonezilla.
- ✓ M\$ provides promotion price in some counties/cities in Taiwan, about US\$ 3 for each machine. M\$ windows and offices as you wish.
- ✓ Emphasize legality and freedom





DRBL at NCHC

DRBL at Cheng Kong primary school



DRBL at Fu Jen Catholic University

Users in Taiwan

- > 200 sites, > 6000 PCs
 - Public Sector
 - Primary/High school 79
 - University 43
 - Hospital 2
 - TV station 1
 - Government 7
 - NPOs 14
 - SMB 44
 - Misc 38

