

DRBL and Clonezilla, the Deployment and Restoration System

Steven Shiau, Chen-Kai Sun, Yao-Tsug Wang and Yu-Chin Tsai

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

In this presentation, we would like to introduce two free/libre projects, Diskless Remote Boot in Linux (DRBL) and Clonezilla. The purpose of DRBL is to provide the diskless or systemless environment for client machines. Unlike Linux Terminal Server Project (LTSP), which uses centralized hardware resources, the DRBL utilizes all the distributed hardware resources which makes it possible for clients to have full access to their local hardware. The Clonezilla is a partitioning and disk cloning utility similar to Symantec Ghost.

The DRBL is an open source solution that manages the deployment of the GNU/Linux across a pool of clients in a fast and effective manner. Imaging how time consuming it will be to install GNU/Linux on 40, 30, or even 10 machines one by one, the DRBL solves the problem by providing the mechanism that can configure all the clients with only one server installed with GNU/Linux. DRBL uses PXE/Etherboot, NFS, NIS, and NAT to provide services to client machines so that it is not necessary to install GNU/Linux on the clients' hard drives individually. Once the server has DRBL installed on it, the clients can be booted by using the OS installed on the DRBL server via PXE/Etherboot. DRBL DOES NOT TOUCH the clients' hard drives, therefore, other operating systems (for example, MS Windows) installed on the clients will be unaffected. This is useful, for example, during a phased deployment of GNU/Linux where users still need to have the option of booting to MS Windows and running MS Office. DRBL allows great flexibility in the deployment of GNU/Linux. Currently, the DRBL supports various GNU/Linux distributions, such as Debian, Ubuntu, Mandriva, Red Hat, Fedora, CentOS and SuSE.

Clonezilla, based on DRBL, Partimage, and udpcast, allows you to massively clone many (40+) computers simultaneously. As an example, Clonezilla was used in the NCHC's computer classroom to clone a 4.7 G Byte system image to 40 computers using unicasting in about 50 minutes. It only takes about ten minutes to do it using multicasting!

DRBL and Clonezilla are wildly used in Taiwan. In fact, they are used by more than 200 different Taiwanese-based sites! DRBL/Clonezilla users can be found in countries all of the world including Brazil, Canada, France, Germany, Indonesia, Japan, Portugal, Sweden, the UK and the USA.

Following the talk, we will use real machines to demonstrate DRBL and Clonezilla's capabilities by deploying the GNU/Linux system and cloning a template OS to the clients' hard drives.

Both DRBL and Clonezilla are developed by the National Center for High-Performance Computing (NCHC), Taiwan, and released under the GNU General Public License. The projects' English websites can be found here: <http://drbl.sf.net> and <http://clonezilla.sf.net>. The projects' traditional Chinese websites can be found here: <http://drbl.nchc.org.tw> and <http://clonezilla.nchc.org.tw>.