

# **CPLUG: red0x's User Guides**

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## **User Guide 1: Disk Cloning over SSH**

by

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**CPLUG Guide Series**

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# Clone your disks over ssh

Can't afford Norton Ghost, or other high dollar disk cloning software? Have a Live CD or two lying around? Follow the following procedure to clone disk images using encrypted network data transfer.

## Terminology

**Target** The target is the machine that will receive the disk image. Make sure no critical data resides on the disk to be overwritten.

**Host** The host machine contains the disk to be cloned. This is the machine with the completed linux install.

## Requirements

- Target computer must be running linux (Knoppix or another live CD is fine).
- Host computer must be **inactive** (No one logging in or out and no disk usage). Make sure to turn off all servers and daemons, except for ssh. You must leave ssh running.
- A fast network. 100 Mb/s ethernet works well for 6-10GB disks. Anything greater and you'll be spending the better part of the day cloning the disk.

## Procedure

1. Boot up host computer, generate an ssh key for root, and ssh host keys for the server (if you don't already have them).
2. Boot up target computer with a Knoppix liveCD.
3. Copy host's ssh keys to the target:

```
root@target# ssh -l root host:/root/.ssh/* /root/.ssh
```

4. Test ssh login from target to host:

```
root@target# ssh -l root host
Last Login ....
root@host#
```

The key here is to make sure you are **not** asked for a password. Public key logins should be enabled on the host server.

5. Now, initiate the disk copy:

Make sure you can use `dd` to write to `/dev/hda` or whatever your target harddrive resides.

Make sure the drives are about the same size. Identical drives work best.

6. Use SSH to copy your disk:

```
root@target# ssh -l root host 'dd if=/dev/hda' 2> /dev/null | dd of=/dev/hda
```

The key here is to make **absolutely sure** that you do **not forget** to redirect standard error to `/dev/null`. If you forget, your drive's boot sector will (could) be junked, and everything could be thrown off. **Do not forget the `2;` `/dev/null`.**

7. Go have a pizza, watch a movie, or drink a beer, but do **not** use either machine while the transfer is active.

## Afterwards

Booting the other machine for the first time could be disastrous if the target is still connected to the network. Since the target has effectively the same hard drive as the host, it has the same hostname, network configurations, and servers set to run at startup. Remove the target from the network, make sure it boots, login, change all necessary configurations (hostname, ip address, services), and reboot it. Its also a good idea to:

- Delete the ssh keys on the mirrored host and generate new ones.
- Delete root's ssh keys on all machines, and generate new ones, with passwords.
- Change the root password on the target machine, and remove any unnecessary users and services.