DRBL-Winroll:

The Free configuration program for Microsoft Windows

Ceasar Sun, Steven Shiau, Thomas Tsai

http://drbl-winroll.org , http://drbl.org , http://clonezilla.org/

RMLL (LSM) 2015

Q3, 2015

TAIWAN www.nchc.org.tw
National Applied
Research Laboratories NCHC

Outline

- Introduction to DRBL-Winroll
  - Develop Team
  - Common Issues for Windows Replication
  - Feature/Framework
- Cases of Usages
  - Basic Installation and usage
  - How to do centralize management
  - Advanced usage
- Limitation/Development/Contribution
- Q&A

TAIWAN
www.nchc.org.tw
National Applied Research Laboratories
NCHC

Outline

- Introduction to DRBL-Winroll
  - Develop Team
  - Common Issues for Windows Replication
  - Feature/Framework
- Cases of Usages
  - Basic Installation and usage
  - How to do centralize management
  - Advanced usage
- Limitation/Development/Contribution
- Q&A

www.nchc.org.tw
National Applied
Research Laboratories

About us

- From Taiwan, working for the NPO NCHC (National Center for High-Performance Computing)

- Developers of free/open-source software:
  - DRBL, **Clonezilla**
  - **DRBL-Winroll**, Tux2live
    - Partclone, Tuxboot, Cloudboot
  - ... more

Clonezilla

財團法人國家實驗研究院
國家高速網路與計算中心
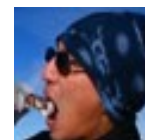National Center for High-Performance Computing
Better HPC Better Living

Developers/Contributor

- Steven Shiau
- Ceasar Sun
- Thomas Tsai
- Jazz Wang
- Jean René Mérou Sánchez
- K. L. Huang
- Jean-Francois Nifenecker
- Louie Chen
- Nagappan Alagappan
- …

TAIWAN www.nchc.org.tw National Applied Research Laboratories NCHC
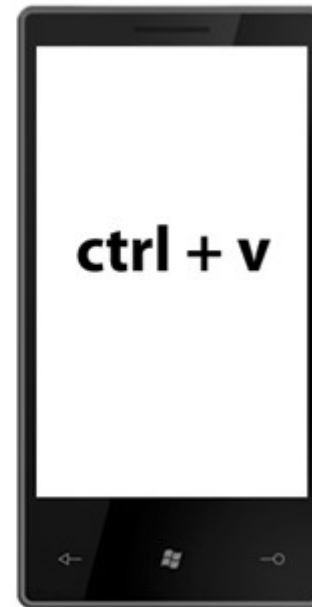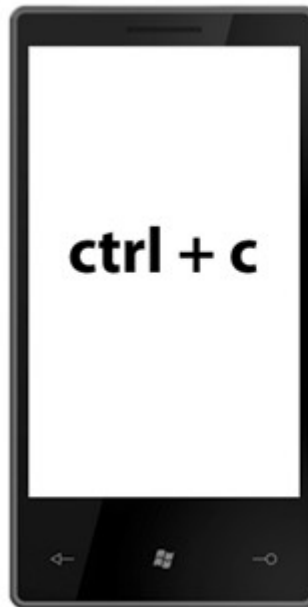
Clonezilla

Replication Issue

Copy & Paste ?

- Data v.s Configurations
  - For small scale replication , it's easy.
- Deployment is one thing, but configuration is another
  - Not only copy-and-paste

Configuration with Massive Scale

- Not possible by hand，automatical configuration is better

Mass Deployment

- What is "mass deployment"
  - Computer Science :

    ex: Files, software, configuration, … even whole operating system

- Why do we need "mass deployment" ?
 - PC classroom, hardware product line, PC cluster,...

Mass Deployment (for operating system)

- How to do that for whole operating system ?
  - Fresh installation
    - Advantage: new hardwares could be detected during installing (not the problem for GNU/Linux)
    - Dis: complicated to prepare Zero-Touch/Lite-Touch installation environment
      - Kickstart and Preseeding support Fully Automated Install (FAI) on Fedora/Debian -liked distribution
  - Image cloning
    - Advantage: many software can support
      - Clonezilla SE, Acronis® True Image, Symantec® Ghost,...
    - Dis: hardware/configuration maybe not be suitable for the new clones
- Image cloning method be chose in most cases of mass deployment:
  - PC classroom, employees' computer, PC cluster,...

Windows Replication Issue

- Hardware Issue:
  - Hardwares need to be re-detect
  - Sysprep
- Software/System Issue:
  - Computer name duplication :
    - It would get an error when using Network Neighbor (Name service broadcast ,NetBIOS protocol)
  - SID duplication:
    - Security Identifier (Uniqueness)
    - Important for some software and AD domain env.t
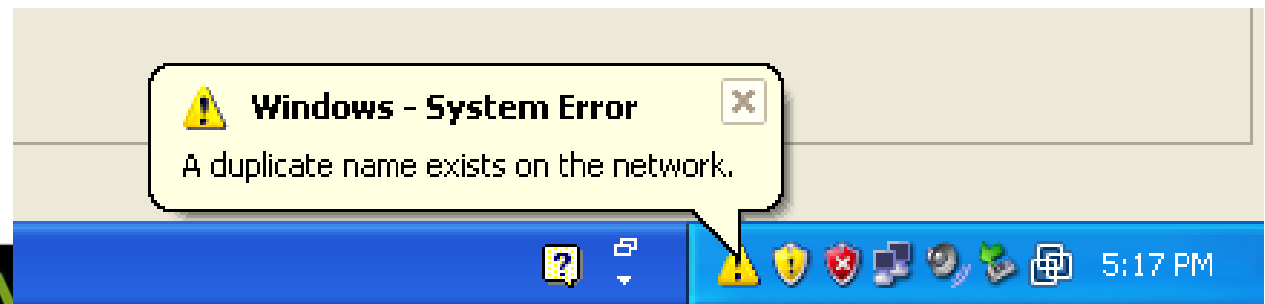
Name duplication simple solution by Clonezilla

- Use expert mode and choose -hn01|hn02

NCHC Free Software Labs, Taiwancés supplémentaires de Clonezilla | Mode: restoredisk
Paramétrage avancé (un choix multiple est possible). Si vous ne savez pas quoi sélectionner,
conservez les valeurs par défaut : ne changez RIEN, appuyez simplement sur Entrée   (Appuyez
Espace pour marquer la sélection. Un astérisque (*) montre la sélection)

```
[*] -g auto     Réinstaller grub dans le MBR du disque client (si cette configuration existe)
[*] -e1 auto    Ajuster automatiquement le système de fichiers pour la partition NTFS, si elle ex
[*] -e2         sfdisk utilise les données CHS du disque dur à partir d'EDD (amorçage non-grub)
[ ] -nogui      Sortie texte seulement : pas d'interface utilisateur texte ou graphique
[ ] -hn0 PC     Changer le nom d'hôte MS Windows (à partir de l'adresse IP) après le clonage
[ ] -hn1 PC     Changer le nom d'hôte MS Windows (à partir de l'adresse MAC) après le clonage
[ ] -v          Messages bavards (en particulier pour udpcast)
[ ] -batch      Exécuter le clonage en mode batch (DANGEREUX !)
[*] -c          Le client attend une confirmation avant de cloner
[ ] -t          Le client ne restaure pas son MBR (Master Boot Record)
[ ] -t1         Le client restaure le MBR prédéfini dans Syslinux (Windows seulement)
[*] -r          Ajuster le système de fichiers à la taille de la partition cible
[ ] -e          Le client utilise la valeur CHS du disque (sauvée dans l'image) pour sfdisk
[ ] -icrc       Ignorer le contrôle de CRC de partclone
[ ] -irhr       Ne supprimez pas l'enregistrement du matériel udev Linux après la restauration.
[ ] -irvd       Ne retirer pas le drapeau de volume NTFS "dirty" après la restauration
[ ] -ius        Ne pas mettre à jour les fichiers syslinux après la restauration.
[ ] -icds       Ne pas vérifier le disque cible avant de créer la table de partitions
[ ] -iefi       Ne pas mettre à jour les entrées de boot de l'EFI NVRAM après restauration
[ ] -j1         Réécriture du MBR (512 octets) après la restauration de l'image. Ne convient pas
[*] -j2         Cloner les données cachées entre le MBR et la 1ère partition
[ ] -cm         Vérifier l'image à partir de sa somme de contrôle MD5
[ ] -cs         Vérifier l'image à partir de sa somme de contrôle SHA1
[ ] -a          Ne pas forcer l'activation du DMA sur le disque
[ ] -o0         Exécuter le script dans $OCS_PRERUN_DIR avant de lancer le clonag
[ ] -o1         Exécuter le script dans $OCS_POSTRUN_DIR en fin de clonage
```

12

More Issue with Replication

More possible function :

- *Network setting:*
  - If there has no DHCP environment
- *Group Naming:*
  - Use 'grouping rules' to identify different groups
    - Ex: Classroom1/2, cluster-01/02,...
- *Centralized management*
  - Send command to clients to do something , ex: shutdown, reboot,... and more
- *Resource monitor*
  - To get clients resource status, like : Ganglia, Munin,...

It would be perfect if these could be done automatically !

DRBL-Winroll

An Open Source Base Automatic Configuration Tool for MS Windows OS

- Goal
    - Adjust computer(host) , group name by given policy
    - Assign random SID
        - need 3rd-party tool, like : NewsSID
    - Provide network configuration function
    - Provide auto-add-to AD domain function
        - use netdom command (provided by MS official CD/DVD)
    - Provide system monitor service in Windows clients (use Munin)
    - Provide centralized management
        - Via ssh daemon and public key authorization

- *All of configuration process will run automatically !!*

DRBL-Winroll – Feature

- **Free/Open Source Software**
  - Main program use GNU General Public License
  - WSName , netdom and NewSID porjects, each of which has its own license terms
- **Easy to install**
- **Standalone**
  - run as service , Windows OS adjust configuration by itself
  - Only need a DHCP service in LAN
    - if no DHCP service, clients need to use network auto-configuration function.
- **Full automation**
  - Very suitable for mass deployment (Windows OS)
  - Compatible with image clone tool (like: Clonezilla, Ghost, Acronis True Image, .etc)

DRBL-Winroll Framework

Windows OS

monitor service
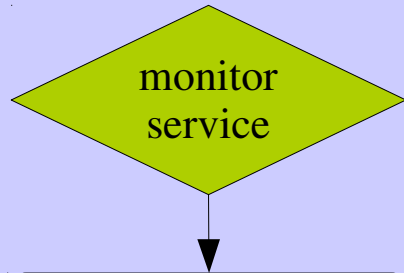
* Collect system information by Munin Node
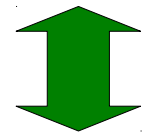
cygwin

winrollsrv service

sshd service
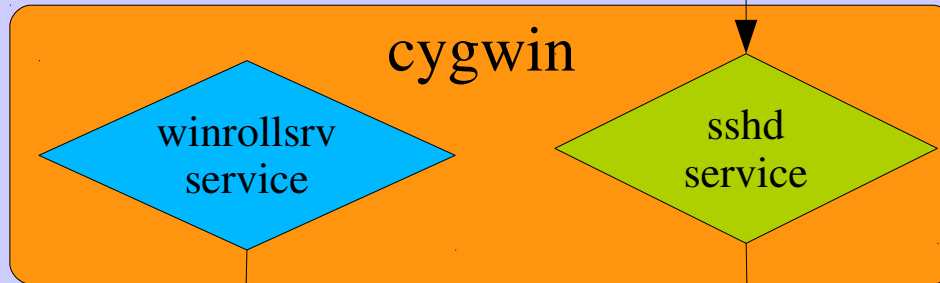
winroll.conf

* Network configure
* Computer/Workgroup name adjustment
* Add client to AD
* Renew SID

* ssh public key authorization
* run command

Commands via ssh
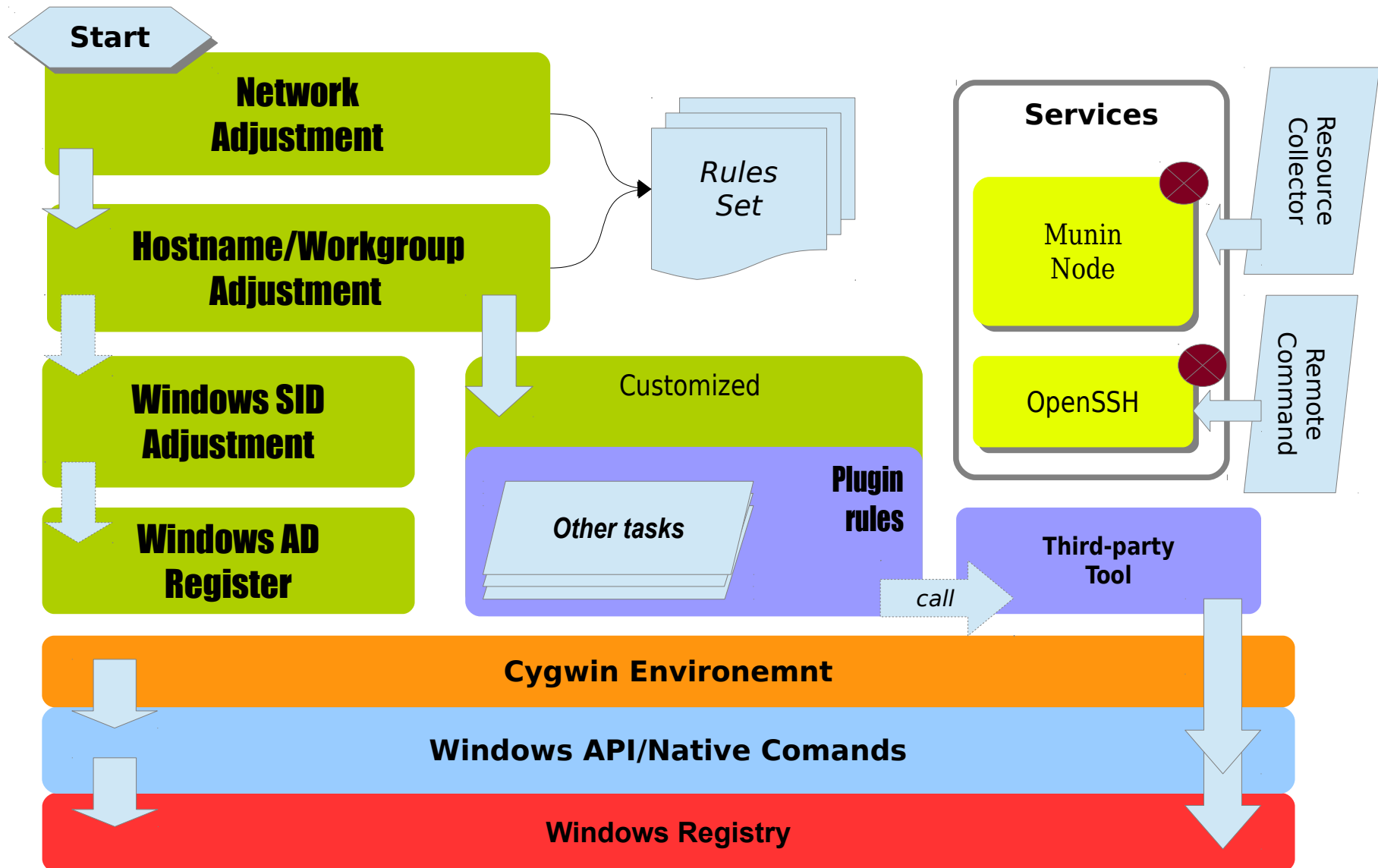Ex: Power-off/Reboot

Centralized Management

Windows registry

Software Workflow

Start

Network Adjustment

Hostname/Workgroup Adjustment

Rules Set

Windows SID Adjustment

Windows AD Register

Customized

Other tasks

Plugin rules

Services

Munin Node

OpenSSH

Resource Collector

Remote Command

Third-party Tool

call

Cygwin Environemnt

Windows API/Native Comands

Windows Registry

DRBL-Winroll   Demo

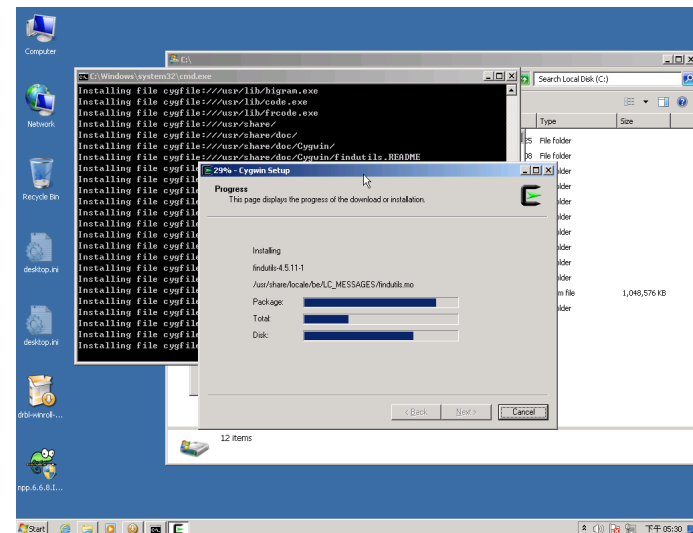1. **Basic installation**

   – Computer/Workgroup name/DHCP

   – Install monitor/ssh service

2. **Hostname configuration via RDF**

   – winroll.conf

   – RDF configuration

3. **Advanced configuration via web**

   – remote_master.conf

   – http://10.0.2.2/demo/winroll.rem.conf

Configuration Sample

- Case 1:
  - HN_WSNAME_PARAM = /N:PC-$IP[6+]
  - WG_WSNAME_PARAM = WORKGROUP
  - IF_AUTOHOSTNAME_SERVICE = y
  - CONFIG_NETWORK_MODE = dhcp
- Case 2:
  - HN_WSNAME_PARAM = /N:PC-$MAC[3+]
  - WG_WSNAME_PARAM = GROUP-$NM
  - IF_AUTOHOSTNAME_SERVICE = y
  - CONFIG_NETWORK_MODE = dhcp
- See more detail on website:
  - http://drbl-winroll.org/

Use Case : **Community**

- Christian , WMOC 2012 , Germany
- World Masters Orienteering Championships
- Use Clonezilla and DRBL-Winroll to deploy over 20 laptop for the contest.

  – "All runners carried a transponder chip on their fingers, to which the control stations they had to find and "punch" wrote timestamps. After they reached the finish line, we read out their transponder chips to check if they completed the course and calculate their times. In the tent there are five laptops with their operators and printers. Overall we had over 20 laptops in use for readout, problem handling, results printing, publishing, entries management, radio control times, speaker support etc."
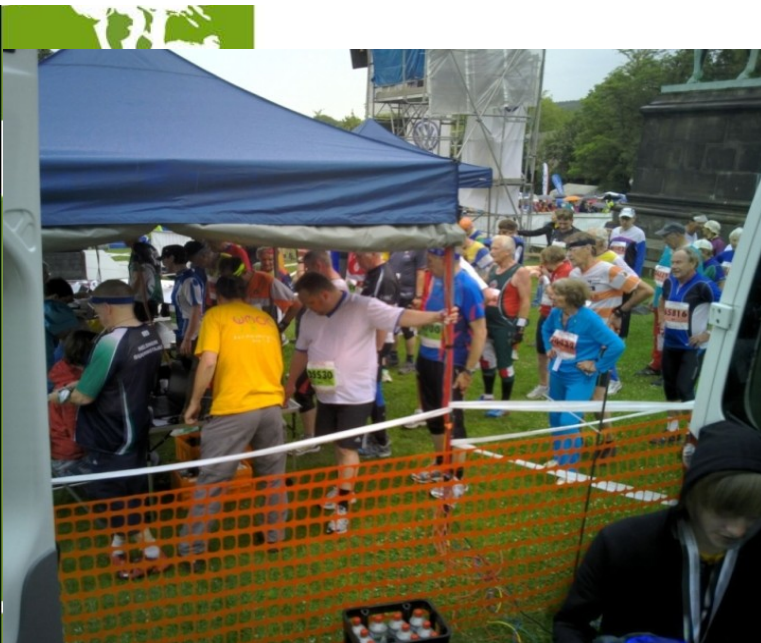
Use Case : Eduction

- NCCW in Netherlands
  - Use Clonezilla and DRBL-Winroll to deploy Windows OS in PC classroom

Known Issue

- Computer/Workgroup name not available to use $MAC in Windows 8 Version, ex:
  - HN_WSNAME_PARAM = /N:PC-$MAC
  - HN_WSNAME_PARAM = /RDF:C:\cygwin\drbl_winroll-config\hosts.conf /DFK:$MAC

    Due to wsname.exe issue

- *Auto-Add-to-AD function have security issue*
  - *Use plain text of password in batch script*

    Make sure to use secure policy

Contribution

- ## Take over wsname program
  - To support future Windows version
  - Written by Delphi (by David Clarke)
  - WS source code ready, but ...

- ## Language translation
  - Program: Be required during installing, refer to
    http://drbl-winroll.nchc.org.tw/doc/How-to-translate.txt
  - Webpage, documents,...

- ## New idea(s)
  - Most of current function are requested by teachers or system administrators

- ## Other more ....

More Documents

- http://drbl-winroll.org/
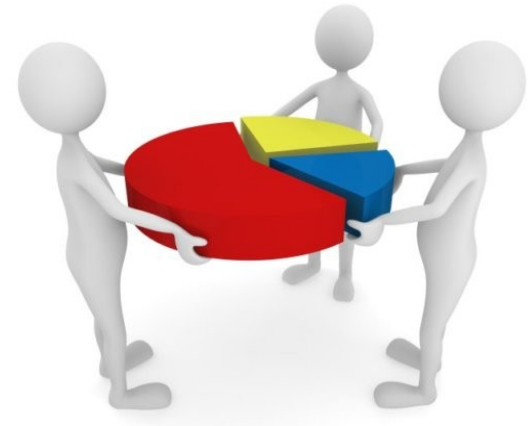
DRBL-Winroll - A MS-Windows extension tool

MS Windows extension tool over DRBL environment

It supports Windows client to accecpt command from DRBL server and to solve related problems via using image clone tool on MS winodws.

```
*********** Welcome to use DRBL-Winroll ***********
              Free Software Labs , NCHC ,Taiwan
                            GPL
        ceasar _at_ nchc org tw, steven _at_ nchc org tw
******************************************************
```

| Download | Installation | Other tool | Screenshot | Documents | i18n | Forum | Mail List | | Credits |

DRBL-Winroll is a tool that enables MS-Windows client to accept commands from DRBL server, and it resolve windows hostname, SID duplication problem via using image clone tool at single local LAN.It can also adjust "workgroup" name and Windows network configuration automatically.

Feature :

- Adjust Windows hostname, workgroup name, SID automatically
- Provide network auto-setup function
- Provide auto-add to AD domain function NEW from v1.3.0
- Prodive system monitor service in Windows clients NEW from v1.3.1
- Install sshd service
- Compatible with other image clone tool (like: Clonezilla, Ghost, Acronis True Image, .etc) to be able to restore large-scale windows system by utilizing one template image

License :

- DRBL-Winroll itself is licensed under GNU GPL
- It incorporates code from wsname and newsid porjects, each of which has its own license terms
- Standard disclaimers apply

1. Download

- Stable Version : [Donwload]
- Testing Version: [Download]

Support : Windows 2000/ Windows XP/Windows 2003/Vista/Windows 7/Windows 2008

- Note :

Page Index

- Download
- Installation
- How to configure Windows **HOSTNAME** format via DRBL-Winroll ?
- How to configure **WORKGROUP** name via DRBL-Winroll ?
- How to auto-setup **Network Configuration** ?
- How to auto-add to **AD domain**
- How to setup **Monitor daemon** for Windows clients
- How to renew MS Windows **SID** ?
- How to make Windows clients to accept the commands form DRBL server automatically ?
- Language Supports
- Others

47,719 Visitors
16 May 2013 - 24 Jul 2014

ClustrMaps   Click to see

Our Booth : #19 Clonezilla

- Location:
  - the front of the university annex

Reference

- DRBL-Winroll
  - *http://drbl-winroll.org/*
- Clonezilla
  - *http://clonezilla.org*
- DRBL
  - *http://drbl.org*

Thanks for your listening ~

Questions ?