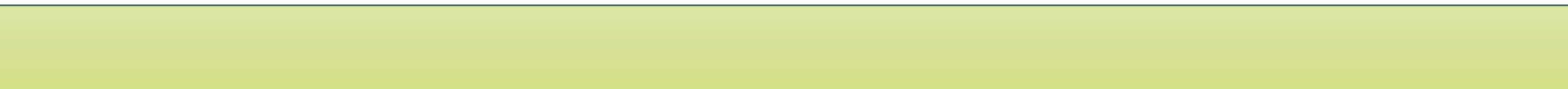


HPC 部署

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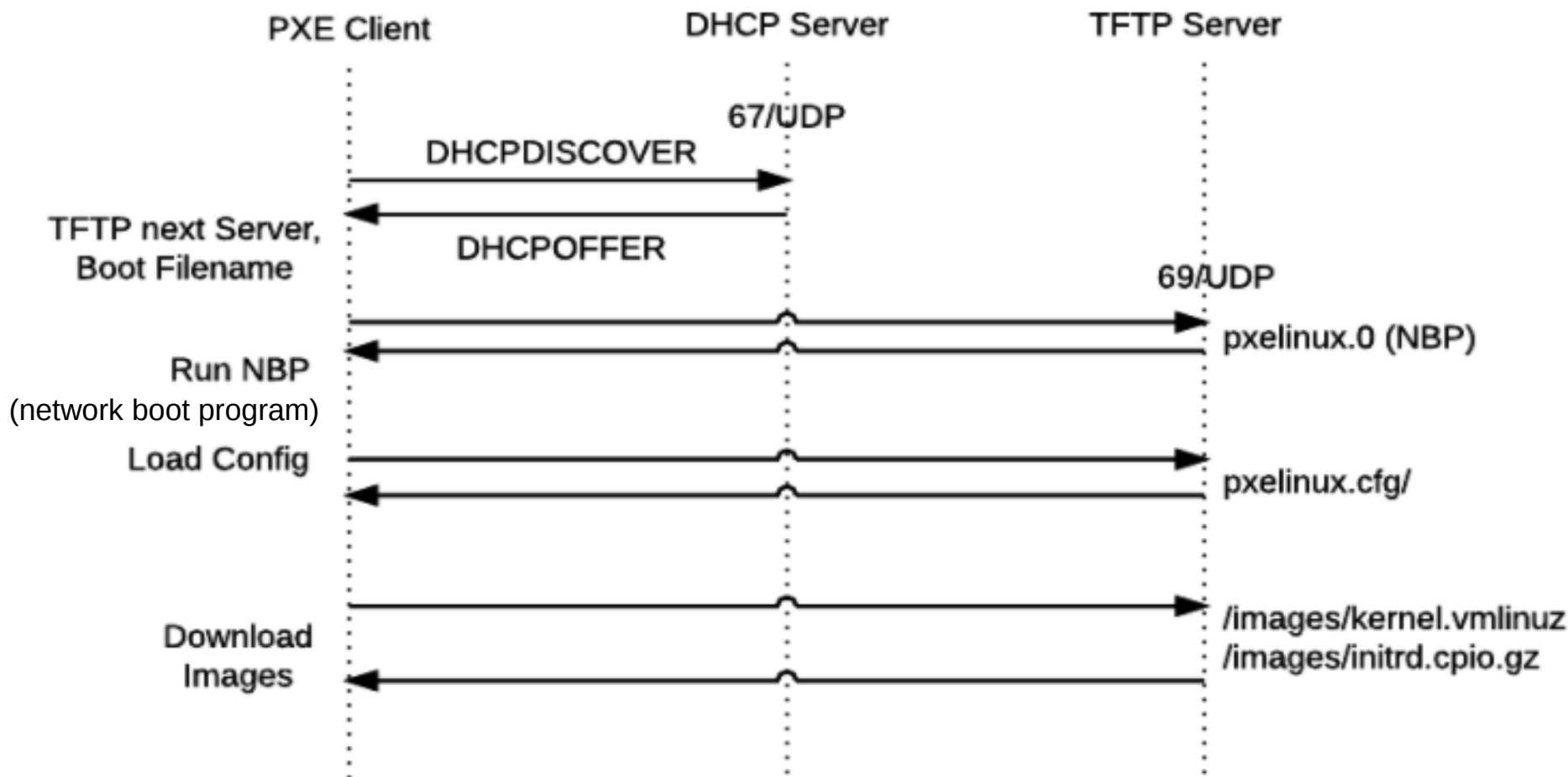
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作業系統部署工具-Cobbler

- Cobbler is a Linux installation server that allows for rapid setup of network installation environments. It glues together and automates many associated Linux tasks so you do not have to hop between many various commands and applications when deploying new systems, and, in some cases, changing existing ones. Cobbler can help with provisioning, managing DNS and DHCP, package updates, power management, configuration management orchestration, and much more.
- Cobbler 3.2.x – python3
- Web: <https://cobbler.github.io/>

PXE Boot 流程



圖片來源：<https://coreos.com/matchbox/docs/latest/network-booting.html>

Cobbler 安裝與設定

- 安裝 epel 基本套件後，再安裝 cobbler 套件

```
[root@master ~]# yum install -y epel-release  
[root@master ~]# yum install -y cobbler
```

- 啟動 cobbler及http網頁服務

```
[root@master ~]# systemctl start cobblerd httpd  
[root@master ~]# systemctl enable cobblerd httpd
```

Cobbler 安裝與設定

- 產生 kickstart 設定的預設 root 密碼

```
[root@master ~]# openssl passwd -1 -salt 'salt' 'root_password'
```

- 把所產生的 hash 寫入 cobbler 設定檔，順便設定伺服器 IP

```
[root@master ~]# vi /etc/cobbler/settings.yaml
default_password_crypted: "$1$SAOnG1YD$uxDTvzaL5B/1KppmUxJOD0"
server: 192.168.1.254
manage_dhcp: true
next_server: 192.168.1.254
```

- 檢查 cobbler 設定，哪些沒設定好？

```
[root@master ~]# systemctl restart cobblerd
[root@master ~]# cobbler check
```

Cobbler 安裝與設定

- 安裝 dhcp, tftp 伺服器及 kickstart, debmirror 套件

```
[root@master ~]# yum -y install dhcp-server xinetd tftp-server pykickstart debmirror yum-utils createrepo
```

- 設定 dhcp 樣板檔案

```
[root@master ~]# vi /etc/cobbler/dhcp.template
subnet 192.168.1.0 netmask 255.255.255.0 {
    option routers          192.168.1.254;
    option domain-name-servers 168.95.1.1;
    option subnet-mask      255.255.255.0;
    range dynamic-bootp     192.168.1.3 192.168.1.99;
    default-lease-time      21600;
    max-lease-time          43200;
    next-server              $next_server;
}
```

Cobbler 安裝與設定

- 啟動 tftp 服務

```
[root@master ~]# systemctl start tftp  
[root@master ~]# systemctl enable tftp
```

- 檢查設定

```
[root@master ~]# cobbler check
```

- 修正錯誤

```
[root@master ~]# yum install -y syslinux* grub2-*  
[root@master ~]# cp /usr/share/syslinux/pxelinux.0 /var/lib/cobbler/loaders/  
[root@master ~]# cp /usr/share/syslinux/menu.c32 /var/lib/cobbler/loaders/  
[root@master ~]# /usr/share/cobbler/bin/mkgrub.sh
```

Cobbler 安裝與設定

- 再次檢查 cobbler 設定，沒問題後進行 sync 產生設定檔及安裝環境

```
[root@master ~]# cobbler check
```

```
[root@master ~]# cobbler sync
```

Cobbler 安裝與設定

- 下載安裝 iso 檔，掛載 iso 檔

```
[root@master ~]# wget https://free.nchc.org.tw/rocky/8/isos/x86_64/Rocky-8.10-x86_64-dvd1.iso
[root@master ~]# mkdir /mnt/dvd
[root@master ~]# mount -t iso9660 -o loop,ro Rocky-8.10-x86_64-dvd1.iso /mnt/dvd
```

- 匯入安裝 iso 檔案到 cobbler 環境

```
[root@master ~]# cobbler import --name=Rocky-8.10 --arch=x86_64 --path=/mnt/dvd
```

- 檢查匯入結果

```
[root@master ~]# cobbler distro list
[root@master ~]# cobbler profile list
[root@master ~]# cobbler distro report --name=Rocky-8.10-x86_64
[root@master ~]# cobbler profile report --name=Rocky-8.10-x86_64
```

Cobbler 安裝與設定

- 自訂 kickstart 檔案 - [Rocky8.ks](#)

```
[root@master ~]# vi /var/lib/cobbler/templates/rocky8.ks
```

- 自訂 post install 檔案 - [postinstall-rocky8-x86_64](#)

```
[root@master ~]# mkdir /var/www/html/kickstart/  
[root@master ~]# vi /var/www/html/kickstart/postinstall-rocky8-x86_64
```

- 指定 Rocky8.ks 到 Rocky-8.10-x86_64 profile

```
[root@master ~]# cobbler profile edit --name=Rocky-8.10-x86_64 --autoinstall Rocky8.ks
```

Cobbler 安裝與設定

- 設定後再次同步

```
[root@master ~]# cobbler sync
```

- 修改PXE grub選單

```
[root@master ~]# vi /var/lib/tftpboot/grub/grub.cfg  
set timeout=30  
set default='Rocky86-x86_64'
```

- 開啟某機器測試網路自動安裝。在 VirtualBox 設定好機器(CPU: 2、RAM: 4 BG、HDD: 20 GB)後，Reset -> F12 -> L 進行網路安裝測試
- 安裝過程確認不用手動介入安裝流程