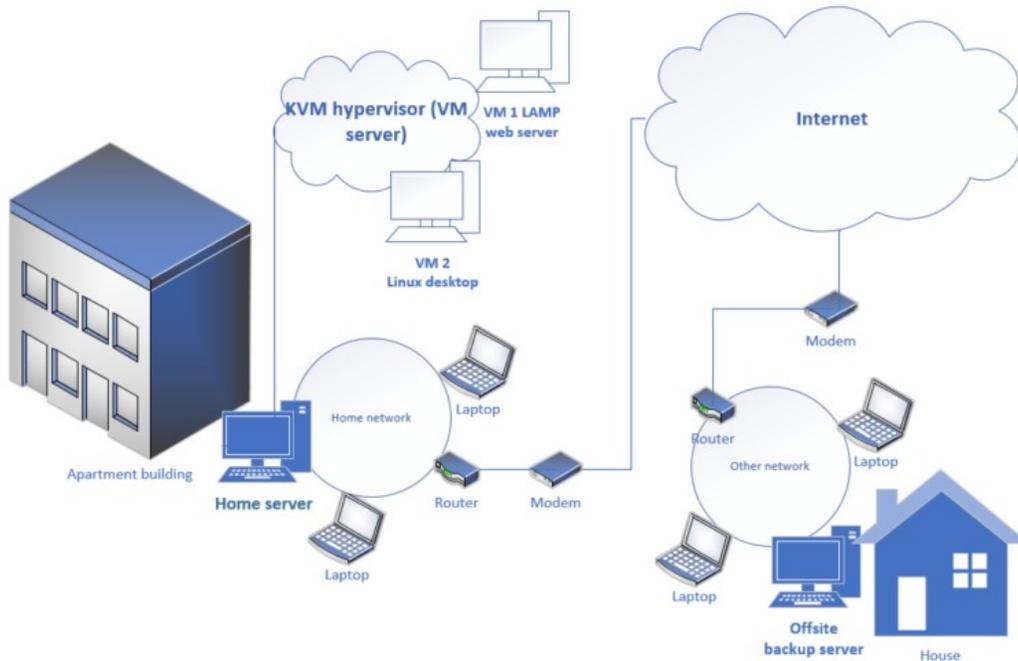




# Deux frères, deux serveurs : complexité et densité à la périphérie



Linux-Meetup Montréal  
20240206

Gordon Buchan  
[gordonbuchan.com](http://gordonbuchan.com)  
[gordonhbuchan@gmail.com](mailto:gordonhbuchan@gmail.com)

avec Donald Buchan  
[malak.ca](http://malak.ca)  
[malak@malak.ca](mailto:malak@malak.ca)



# Business case

- Stockage: accès au fichiers vidéo et audio
- VPN et remote desktop
- Hébergement des VM
- Hébergement des applications exigeant beaucoup de ressources CPU, mémoire vive, stockage
- Hébergement des applications avec un web of trust limitée à une personne
- Création d'un extranet WAN privé
- Déploiement d'un serveur backup offsite
- Ajouter stockage et services complémentaires à un site sur un serveur cloud



# Stocker une grande quantité de données



Cancel Connect

**Authentication Required**

Enter user and password for share "documents" on "192.168.56.40":

Connect As  Anonymous  Registered User

Username

Domain

Password

Forget password immediately  
 Remember password until you logout  
 Remember forever

documents on 192.168.56.40

Name	Size	Modified
testfolder	—	22:47
testfile.txt	19 bytes	22:48

Recent  
Starred  
Home  
Desktop  
Documents  
Downloads  
Music  
Pictures  
Videos  
Trash  
documents o...  
Other Locations

usb0058

usb0058 Properties

Basic Permissions Local Network Share

Name **usb0058**

Type **Folder**

Contents **151,072 items, totalling 2.7 TB (some contents unreadable)**

Parent folder **/media/desktop**

Volume **usb0058**

Modified **Tue 31 Oct 2023 04:08:44 PM**

Created **Mon 16 Oct 2023 01:10:39 PM**

4.6 TB used  
2.9 TB free  
Total capacity **7.9 TB**  
Filesystem type **ext3/ext4**

Open in Disks

Recent  
Starred  
Home  
Desktop  
Documents  
Downloads  
Music  
Pictures  
Videos  
Trash  
1.1 GB Volume  
usb0058  
Other Locations



# Un nom d'hôte permanent et une infrastructure permanente



Dynamic Update Client (DUC)

My No-IP - Dynamic Update Client (DUC)

Windows Mac **Linux**

**Linux DUC Stable version 2.1.9**

Download DUC version 2.1.9

Our Dynamic DNS Update Client continually checks for IP address changes in the background and automatically updates the DNS at No-IP whenever it changes.

Linux DUC Beta version 3.0.0-beta.7

Our **Dynamic Update Client** runs on your computer and checks frequently for an IP address change. When a different IP address is detected, the DUC automatically updates your hostname to the correct IP address.

Choose your Operating System and follow the installation instructions below.

1. Download the DUC and save the file to: `/usr/local/src`
2. Open terminal and execute the following:
  - `cd /usr/local/src`
  - `tar xzf noip-duc-linux.tar.gz`
  - `cd no-ip-2.1.9`
  - `make`
  - `make install`
3. Create the configuration file: `/usr/local/bin/noip2_C`
4. You will be prompted to enter your username and password for No-IP, and for the hostnames you wish to update.
5. Launch the DUC: `/usr/local/bin/noip2`

Need more detailed instructions? [Check out our Knowledge Base article.](#)

Web Settings for **example.com**

**About Web Settings**

We recommend DNS Redirection.

You give us a name or IP address for your site host. (See some [site hosts who support this method.](#)) You tell your site host your domain, so they know they "answer" for it. People who go to malak.ca will see malak.ca in their web browser address bar.

However, not all site hosts support it. You can also use **URL Redirection**.

You give us the URL your site should point to. People who go to malak.ca end up there, and will see that URL in their web browser address bar.

**DNS Redirection Setting**

Or use **URL Redirection**.

Addresses & Users Spam Services Other Services Account Settings Help Policies

Pobox Lifetime Email — In Love with Email Since 1995 • A member of the [Fastmail](#) family  
Copyright © 1995-2023 Fastmail Pty Ltd. All rights reserved.

CNAME records are a type of subdomain, or alias, that points to another domain name.

Type *	Name *	Value *	TTL
CNAME	servername	persistenthostname.ddns.net.	1 Hour

**Port Forward**

**Forwards**

Application	Protocol	Source Net	Port from	IP Address	Port to	Enable
temovpn	TCP	0.0.0.0/0	10443	192.168.56.40	10443	<input checked="" type="checkbox"/>



# Créer un VPN privé

Which IPv4 address should be used?

1) xxx.xxx.xxx.xxx

IPv4 address [1]: 1

Enter “2” for “2) TCP”:

Which protocol should openVPN use?

1) UDP (recommended)

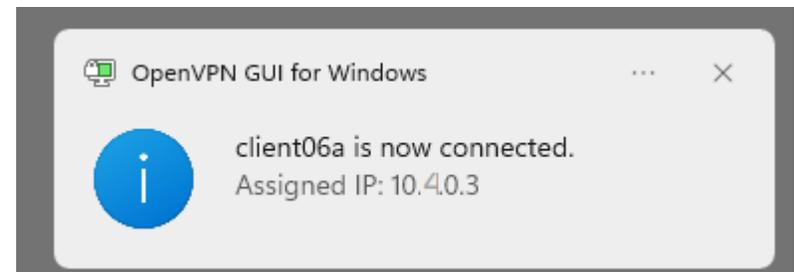
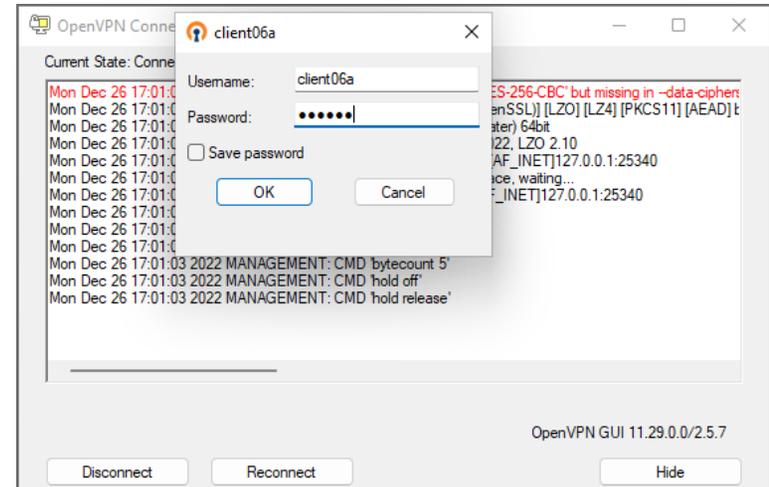
2) TCP

Protocol [1]: 2

Enter “10443”:

What port should OpenVPN listen to?

Port [1194]: 10443





# Accéder aux GUI desktops baremetal et virtuels à distance

Remote Connection Profile

Name: servename

Group: [dropdown]

Protocol: RDP - Remote Desktop Protocol

Basic | Advanced | Behavior | SSH Tunnel | Notes

Server: 192.168.56.40

Username: desktop

Password: [masked]

Domain: [empty]

Share folder: (None)

Restricted admin mode

Password hash: [empty]

Left-handed mouse support    Disable smooth scrolling

Enable multi monitor    Span screen over multiple monitors

List monitor IDs: [empty]

Cancel   Save as Default   Save   Connect   Save and Connect

Remote Desktop Connection

Computer: 192.168.56.40

User name: None specified

You will be asked for credentials when you connect.

Show Options   Connect   Help

Remote Desktop

Remote Desktop allows viewing and controlling your desktop from another computer.

Remote Desktop:

Enable Legacy VNC Protocol:

Remote Control:

How to Connect

Connect to this computer using the device name or remote desktop address.

Device Name: [empty]

Remote Desktop Address: ms-rd://local

Authentication

The user name and password are required to connect to this computer.

User Name: desktop

Password: [masked]

Verify Encryption

Remote Desktop

Remote Desktop allows viewing and controlling your desktop from another computer.

Remote Desktop:

Enable Legacy VNC Protocol:

Remote Control:

How to Connect

Connect to this computer using the device name or remote desktop address.

Device Name: [empty]

Remote Desktop Address: ms-rd://local

Authentication

The user name and password are required to connect to this computer.

User Name: desktop

Password: [masked]

Verify Encryption



# Réseautage bridge mode pour hébergement des VM



```
nmcli con add ifname br0 type bridge con-name br0
nmcli con add type ethernet ifname ethernet_name
nmcli con up br0
nmcli con show
brctl show
```

```
nmcli con modify br0 ipv4.addresses 192.168.56.40.
nmcli con modify br0 ipv4.dns "8.8.8.8 8.8.4.4"
nmcli con down br0 && sudo nmcli con up br0
con show br0
```





# Ajoutez des ressources complexes à la périphérie

- Hébergement des applications exigeant beaucoup de ressources CPU, mémoire vive, stockage
- Hébergement des applications avec un web of trust limitée à une personne



# Hébergement d'un backup d'un serveur cloud



- Déploiement sur serveur cloud
- Backup des données du serveur cloud sur serveur personnel



# Création d'un extranet WAN privé avec WireGuard



```
sudo su
cd /etc/wireguard
umask 077
wg genkey > privatekey
wg pubkey < privatekey > publickey

ufw allow 55555/udp
```

```
nano wg0.conf
```

```
[Interface]
# home server
Address = 10.5.0.1/24
PrivateKey = privatekeyofhomeserver
ListenPort = 55555

[Peer]
# offsite backup server
PublicKey = publickeyofoffsitebackupserver
AllowedIPs = 10.5.0.0/24, 192.168.1.0/24
```

```
systemctl restart wg-quick@wg0
systemctl enable wg-quick@wg0
```

testwg	UDP ▼	0.0.0.0/0	55555	192.168.56.40	55555	<input checked="" type="checkbox"/>
--------	-------	-----------	-------	---------------	-------	-------------------------------------



# Déploiement d'un serveur de backup hors site



```
[global]
workgroup = WORKGROUP
security = user
passdb backend = tdbsam
map to guest = Bad User
log file = /var/log/samba/%m.log
max log size = 50
dns proxy = no
[share01]
path = /mount2/share01
create mask = 0644
directory mask = 0755
writable = yes
browseable = yes
valid users = @share01
force group = share01
[share02]
path = /mount2/share02
create mask = 0644
directory mask = 0755
writable = yes
browseable = yes
valid users = @share02
force group = share02
```



# Fournir des services complémentaires pour un serveur cloud

- Stockage supplémentaire (NFS mount du serveur personnel)
- Sites complémentaires utilisant noms de hôtes (subdomains)