



**MUM NIGERIA**  
LAGOS, NOVEMBER 28, 2017

# **Cloud Hosted Network Monitoring and Authentication.**

*Simple Solution using MikroTik RouterOS*

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# NISTech LTD



- Established in 2007
- Certified MikroTik Consultants
- Certified MikroTik Training partner
- Certified to conduct ALL MikroTik courses
- Certified MikroTik Academy coordinator
- Cisco Certified Inter-networking Experts
- Network Integration experts

# NISTech Ltd



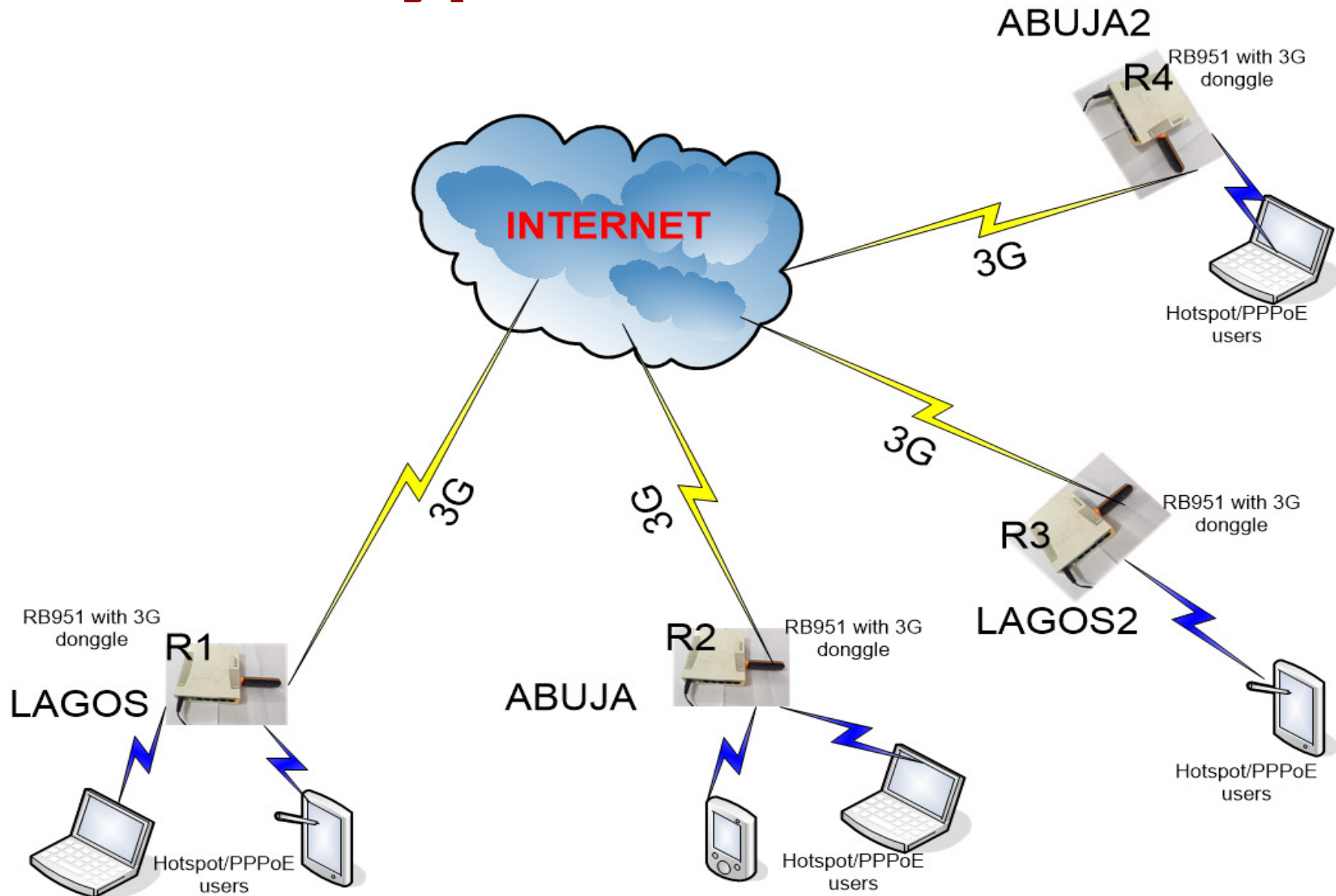
- Conduct Trainings, setup Networks and Consults in 12 African Countries
- Design, implement and maintain IP Networks
- Experts with Voice Over IP solutions, Network Security, QoS control, Wireless & Fiber Optic
- Integrates Multi-vendor solutions
- Experts with Cisco Identity Service Engine, Mobility Service Engine and Cisco Prime

# Introduction

- Monitoring multiple remote networks where users are also required to be Authenticated can be a simple and straight forward task if all the remote networks and the Authentication server have **Static Public** WAN IP address.
- But issue arises if the WAN IP address of the remote networks is **NOT fixed** or if it is **private IP address** from 3G connection to a telco
- So sure that this second scenario is common



# Typical scenario



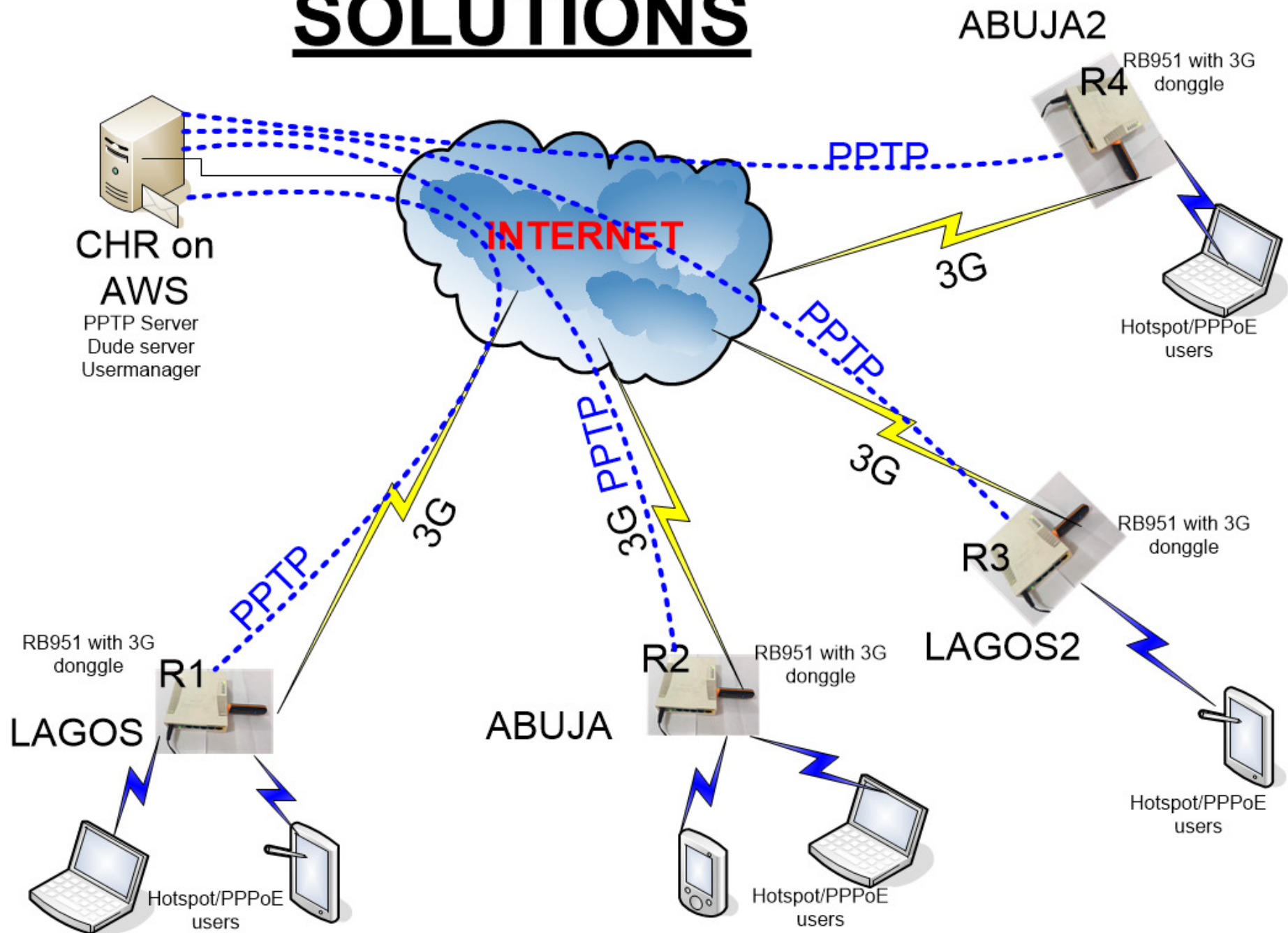
# Simple Solution

- **Using Mikrotik RouterOS on CHR**
  - With PPTP for VPN
  - With User-manager for AAA
  - With Dude for Network Monitoring
- Centralized AAA service and Monitoring is achieved for remote networks without the stress of keeping an elaborate physical NOC

# Steps to the solution

- Launch CHR on AWS
  - Setup PPTP Server on CHR
    - Create user /ppp secret for each remote router with necessary routes
  - Setup Dude to monitor remote sites infrastructure
  - Install User-manager package and configure it
    - Create users (for Hotspot, PPPoe etc clients)
- Setup PPTP-clients on remote routers
  - Configure CHR as radius server
- Install dude client on any workstation to connect to Dude server on CHR

# SOLUTIONS



# CHR IMPEMENTATION

- \* MikroTik Cloud Hosted Router (CHR)
  - Basically a RouterOS version intended for running as virtual machine and supports x86 64-bit architecture
  - Can be used on most hypervisors such as vmware, Hyper-V, VirtualBox, KVM etc.
  - I will be looking at the implementation on Amazon Web Services (AWS)

# Implementation on AWS

- Implementation of CHR on AWS is one of the easiest and cheap ways of implementing CHR in the cloud with very High availability level
- There are few steps necessary to launch CHR on AWS. By default only SSH and SSH keys is allowed to amazon instance
- Let us take a look at a quick start to it

# CHR Launch on AWS

- Create an AWS account. (your regular amazon account should work)
- Search for CHR or Mikrotik on Amazon marketplace
- Create an instance
- Set additional security policy to permit winbox, Dude, http and PPTP
- Connect to your instance via SSH or winbox.
- continue your configurations via winbox



## Cloud Hosted Router

Sold by: [MikroTik](#)



Use the CHR for protecting your cloud servers using RouterOS firewall which supports Layer7 filtering, dynamic address lists and more; for running your own VPN service or monitoring network infrastructure using The Dude! It can be used as simple to deploy HTTP proxy with domain name filtering, centralized RADIUS server for AAA (Authentication, Authorisation and Accounting). CHR itself can be monitored using SNMP and monitor traffic using Traffic flow. CHR can function as a DNS cache and/or static DNS for a local network. Expand the local network using BCP (Bridge Control Protocol) bridging... [Read more](#)

**Customer Rating** ★★★★★ (1 Customer Review)

**Latest Version** 6.34.1

**Operating System** Linux/Unix, Other 6.34.1

**Delivery Method** 64-bit Amazon Machine Image (AMI) [\(Read more\)](#)

**Support** [See details below](#)

**AWS Services Required** Amazon EC2, Amazon EBS

- Highlights**
- The Dude server for monitoring network infrastructure, CAPsMAN server for rapid deployment of wireless networks.
  - CHR supports IPsec, PPTP, SSTP, L2TP, EoIP, IPIP, OpenVPN, GRE, 6to4 and VPLS/MPLS tunnels.
  - CHR can even be used for BGP peering, RIP route

**Continue**

You will have an opportunity to review your order before launching or being charged.

### Pricing Information

Use the Region dropdown selector to see software and infrastructure pricing information for the chosen AWS region.

**For Region**

US West (N. California)

**Free Tier Eligible** EC2 charges for Micro instances are free for up to 750 hours a month if you qualify for the **AWS Free Tier**.

**Bring Your Own License (BYOL)** Available for customers with current licenses purchased via other

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Show All X



















Create Security Group

Actions

Filter by tags and attributes or search by keyword

1 to 2 of 2

<input type="checkbox"/>	Name	Group ID	Group Name	VPC ID	Description
<input checked="" type="checkbox"/>		sg-5011a936	Cloud Hosted Router-6.34.1-...	vpc-8fb7e3eb	This security group was generated by AW...
<input type="checkbox"/>		sg-ec11a98a	default	vpc-8fb7e3eb	default VPC security group

Security Group: sg-5011a936

Description

Inbound

Outbound

Tags

Edit

Type	Protocol	Port Range	Source	Description
HTTP	TCP	80	0.0.0.0/0	http
HTTP	TCP	80	:::0	http
SSH	TCP	22	0.0.0.0/0	

Services

Resource Groups

Bamidele AmireN. CaliforniaSupport

EC2 Da

Events

Tags

Report

Limits

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IMAGES

AMIs

Bundle

ELASTIC

Volume

Snapsh

NETWO

Securi

Elastic

Placem

Feedback

English (US)

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Secure

https://us-west-1.console.aws.amazon.com/ec2/home?region=us-west-1#SecurityGroups:sort=groupid

Apps

Bookmarks

http://search.yahoo...

youversion-bible

Evernote Web

Install and configur...

How To - Connect G...

GNS3 • View topic - ...

Imported From Firefox

Services

Resource Groups

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Show All

Edit inbound rules

Type	Protocol	Port Range	Source	Description	
HTTP	TCP	80	Custom 0.0.0.0/0	http	
HTTP	TCP	80	Custom ::/0	http	
SSH	TCP	22	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop	
Custom TCP I	TCP	1723	Custom 0.0.0.0/0	PPTP	
Custom TCP I	TCP	8291	Custom 0.0.0.0/0	winbox	
Custom TCP I	TCP	2210 - 2211	Custom 0.0.0.0/0	dude	
Custom Proto	GRE (47)	all	Custom 0.0.0.0/0	GRE	
HTTPS	TCP	443	Custom 0.0.0.0/0	https	
HTTPS	TCP	443	Custom ::/0	https	

Add Rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

CancelSave

Feedback

English (US)

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Secure | <https://us-west-1.console.aws.amazon.com/ec2/home?region=us-west-1#Instances:sort=instancetype>

Services Resources

EC2 Dashboard  
Events  
Tags  
Reports  
Limits

INSTANCES

Instances

Spot Requests  
Reserved Instances  
Dedicated Hosts

IMAGES

AMIs  
Bundle Tasks

ELASTIC BLOCK STORE

Volumes  
Snapshots

NETWORK & SECURITY

Security Groups  
Elastic IPs  
Placement Groups

### Connect To Your Instance

I would like to connect with

☒ A standalone SSH client

☐ A Java SSH Client directly from my browser (Java required)

To access your instance:

1. Open an SSH client. (find out how to [connect using PuTTY](#))
2. Locate your private key file (chr-california.pem). The wizard automatically detects the key you used to launch the instance.
3. Your key must not be publicly viewable for SSH to work. Use this command if needed:  

```
chmod 400 chr-california.pem
```
4. Connect to your instance using its Public DNS:  

```
ec2-13-56-18-244.us-west-1.compute.amazonaws.com
```

Example:

```
ssh -i "chr-california.pem" root@ec2-13-56-18-244.us-west-1.compute.amazonaws.com
```

Please note that in most cases the username above will be correct, however please ensure that you read your AMI usage instructions to ensure that the AMI owner has not changed the default AMI username.

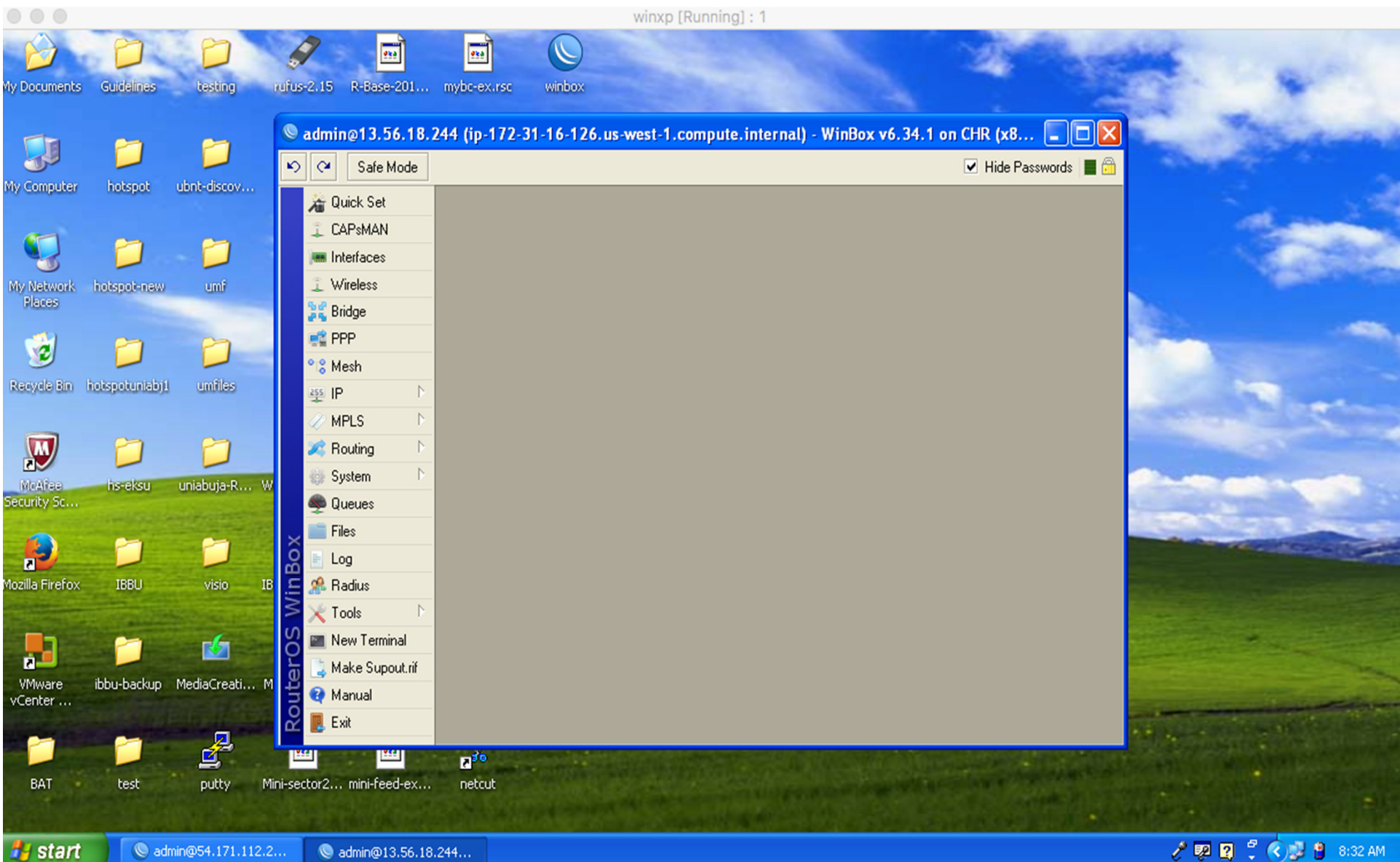
If you need any assistance connecting to your instance, please see our [connection documentation](#).

Close

Feedback English (US)

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# Setup PPTP Server on The CHR

## Basic Steps

- Create or modify a ppp profile
- Create users /ppp secret:
  - Attach specific remote address to each user and indicate the route for their LAN
- Enable the server
  - Set the appropriate profile
- ***Optional:*** create an empty bridge and attach local address to it



# PPTP SERVER SETUP

admin@54.171.112.222 (ip-172-31-25-85.eu-west-1.compute.internal) - WinBox v6.38.7 on CHR (x86\_64)

Safe Mode

Hide Passwords

RouterOS WinBox

Quick Set  
CAPsMAN  
Interfaces  
Wireless  
Bridge  
PPP  
Mesh  
IP  
MPLS  
Routing  
System  
Queues  
Files  
Log  
Radius  
Tools  
New Terminal  
Dude  
Make Supout.nif  
Manual  
Exit

PPP Profile <vpn>

General

Name: vpn

Local Address: 10.233.233.1

Remote Address: vpn

Bridge:

Bridge Port Priority:

Bridge Path Cost:

Incoming Filter:

Outgoing Filter:

Address List:

DNS Server: 8.8.8.8

WINS Server:

Change TCP MSS  
default no yes

Use UPnP  
default no yes

IP Pool

Pools

Name	Addresses	Next Pool
lewa-vpn	10.11.11.2-10.11.11.30	none
vpn	10.222.222.1-10.222.222.50	none

Used Addresses

Find

PPP Secret <abuja>

Name: abuja

Password: xxxxxx

Service: pptp

Caller ID:

Profile: vpn

Local Address: 10.233.233.1

Remote Address: 10.222.222.199

Routes: 192.168.199.0/24 10.222.222.199 10

Limit Bytes In:

Limit Bytes Out:

Last Logged Out: Dec/28/2016 19:30:11

enabled

PPP Secret <lagos>

Name: lagos

Password: xxxxxx

Service: any

Caller ID:

Profile: default

Local Address: 10.233.233.1

Remote Address: 10.222.222.200

Routes: 192.168.200.0/24 10.222.222.200 10

Limit Bytes In:

Limit Bytes Out:

Last Logged Out: Nov/24/2016 15:30:48

enabled

PPTP Server

Enabled

Max MTU: 1450

Max MRU: 1450

MRRU:

Keepalive Timeout: 30

Default Profile: vpn

Authentication

pap chap

mschap1 mschap2

start MikroTik Routers and ... mum-lagos-2017 - Mic... shared on 'vboxsrv' (E:) Microsoft PowerPoint ... admin@54.171.112.2... 3:02 PM

admin@54.171.112.222 (ip-172-31-25-85.eu-west-1.compute.internal) - WinBox v6.36.4 on CHR (x86\_64)

Safe Mode Hide Passwords

RouterOS WinBox

Quick Set  
CAPsMAN  
Interfaces  
Wireless  
Bridge  
PPP  
Mesh  
IP  
MPLS  
Routing  
System  
Queues  
Files  
Log  
Radius  
Tools  
New Terminal  
Make Supout.nif  
Manual  
Exit

Interface List

Name	Type	MTU	Speed	State
R eth0	ether	1500	1000000000	up
R lo	loopback	65535	1000000000	up
R eth1	ether	1500	1000000000	up

3 items (1 selected)

PPP Profile <vpn>

General

Name: vpn

Local Address: 10.233.233.1

Remote Address: vpn

Bridge:

Bridge Port Priority:

Bridge Path Cost:

Incoming Filter:

Outgoing Filter:

Address List:

DNS Server: 8.8.8.8

WINS Server:

- Change TCP MSS  
☒ default ☐ no ☐ yes

- Use UPnP  
☒ default ☐ no ☐ yes

IP Pool <vpn>

Name: vpn

Addresses: 10.222.222.1-10.2

Next Pool: none

Interface <lo>

General

Name: lo

Type: Bridge

MTU:

Actual MTU: 1500

L2 MTU: 65535

MAC Address:

ARP: enabled

ARP Timeout:

Admin. MAC Address:

Address List

Address	Network	Interface
10.11.11.1/24	10.11.11.0	lo-lewa
10.233.233.1	10.233.233.1	lo
172.31.25.85/...	172.31.16.0	ether1

# Install and setup User-manager

- Install user-manager package if it is not already install. You might need to upgrade the RouterOS on the CHR.
- Configure the user-manager as appropriate for your users/clients and billing scheme
- Add the remote site routers to user-manager with the IP address specified in their PPP secret

- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge
- PPP
- Mesh
- IP
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- Dude
- Make Supout.tif
- Manual
- New WinBox
- Exit

Package List

Check For Updates Enable Disable Uninstall Unschedule Downgrade Check Installation Find

Name	Version	Build Time	Scheduled
dude	6.38.7	Jun/20/2017 10:55:05	
routers-x86	6.38.7	Jun/20/2017 10:55:05	
advanced-t...	6.38.7	Jun/20/2017 10:55:05	
dhcp	6.38.7	Jun/20/2017 10:55:05	
hotspot	6.38.7	Jun/20/2017 10:55:05	
ipv6	6.38.7	Jun/20/2017 10:55:05	
mpls	6.38.7	Jun/20/2017 10:55:05	
ppp	6.38.7	Jun/20/2017 10:55:05	
routing	6.38.7	Jun/20/2017 10:55:05	
security	6.38.7	Jun/20/2017 10:55:05	
system	6.38.7	Jun/20/2017 10:55:05	
ups	6.38.7	Jun/20/2017 10:55:05	
wireless	6.38.7	Jun/20/2017 10:55:05	
user-manager	6.38.7	Jun/20/2017 10:55:05	

Terminal

```
#
/tool user-manager customer
set admin access=own-routers,own-users,own-profiles,own-limits,config-payment-gw password=anul2345 public-id=office signup-allowed=yes
/tool user-manager profile
add name=unlimited name-for-users="" override-shared-users=1 owner=admin price=0 starts-at=logon validity=4w2d
/tool user-manager profile limitation
add address-list="" download-limit=0B group-name="" ip-pool="" name=UL owner=admin rate-limit-min-rx=2097152B rate-limit-min-tx=2097152B rate-limit-rx=\
2097152B rate-limit-tx=2097152B transfer-limit=0B upload-limit=0B uptime-limit=0s
/tool user-manager database
set db-path=user-manager
/tool user-manager profile profile-limitation
add from-time=0s limitation=UL profile=unlimited till-time=23h59m59s weekdays=sunday,monday,tuesday,wednesday,thursday,friday,saturday
/tool user-manager router
add coa-port=1700 customer=admin disabled=no ip-address=10.222.222.200 log=auth-ok,acct-ok name=LAGOS shared-secret=testing use-coa=no
add coa-port=1700 customer=admin disabled=no ip-address=10.222.222.199 log=auth-ok,acct-ok name=ABUJA shared-secret=testing use-coa=no
/tool user-manager user
add customer=admin disabled=no password=jolly shared-users=1 username=jolly wireless-enc-algo=none wireless-enc-key="" wireless-psk=""
add customer=admin disabled=no email=amirebamidele@yahoo.com first-name=dele last-name=anu password=123456 phone=08080933986 shared-users=1 username=anudele \
wireless-enc-algo=none wireless-enc-key="" wireless-psk=""
add customer=admin disabled=no email=nistechltd@yahoo.com password=123456 phone=08080911986 shared-users=1 username=tech wireless-enc-algo=none \
wireless-enc-key="" wireless-psk=""
[admin@ip-172-31-25-85.eu-west-1.compute.internal] /tool user-manager>
```

# Install and setup dude server

- Install dude server
- Configure Dude to accept remote connection
- Connect to Dude from any client using the public Assigned IP address of the AWS .
- Add devices to dude using the PPTP assigned addresses and the remote LAN addresses



Safe Mode

☒ Hide Passwords

Quick Set

CAPsMAN

Interfaces

Wireless

Bridge

PPP

Mesh

IP

MPLS

Routing

System

Queues

Files

Log

Radius

Tools

New Terminal

Dude

Make Supout.tif

Manual

Exit

RouterOS WinBox

Interface List

Interface Interface List Ethernet EoIP Tunnel IP Tunnel GRE Tunnel VLAN VRRP Bonding LTE

Devices

Device Device Type Device Group Mac Mapping

Name	Addresses	Type
LagosGW	10.222.222.200	
Lagos-Core-Switch	192.168.200.2	
Lagos-Core-AP3	192.168.200.5	
Lagos-Core-AP2	192.168.200.4	
Lagos-Core-AP1	192.168.200.3	
Abuja-GW	10.222.222.199	
Abuja-Core-Switch	192.168.199.2	
Abuja-Core-AP3	192.168.199.5	
Abuja-Core-AP2	192.168.199.4	
Abuja-Core-AP1	192.168.199.3	

10 items (1 selected)

9 items (2 selected)

RouterOS Info

Resources Routerboard Health Interfaces Addresses ARPs Neighbors Simple Queues ...

Device	Uptime	Free Memory	Total Memory	CPU	CPU Coi
Abuja-Core-AP1	00:13:46	39.7 MiB	64.0 MiB	MIPS 24Kc...	1
Abuja-Core-AP2	00:13:46	39.7 MiB	64.0 MiB	MIPS 24Kc...	1
Abuja-Core-AP3	00:13:46	39.7 MiB	64.0 MiB	MIPS 24Kc...	1
Abuja-Core-Switch	00:13:46	39.7 MiB	64.0 MiB	MIPS 24Kc...	1
Abuja-GW	00:13:46	39.7 MiB	64.0 MiB	MIPS 24Kc...	1
Lagos-Core-AP1	00:40:24	8.8 MiB	32.0 MiB	MIPS 24Kc...	1
Lagos-Core-AP2	00:40:24	8.8 MiB	32.0 MiB	MIPS 24Kc...	1
Lagos-Core-AP3	00:40:24	8.8 MiB	32.0 MiB	MIPS 24Kc...	1
Lagos-Core-Switch	00:40:24	8.8 MiB	32.0 MiB	MIPS 24Kc...	1
LagosGW	00:40:24	8.8 MiB	32.0 MiB	MIPS 24Kc...	1

10 items

# Setup remote site Router

- Setup Connection to internet on remote site router
- Setup hotspot or PPPoE as required
- Configure PPTP-client
- Setup radius client to connect to server over PPTP link IP address
- Configure Hotspot/PPPoE to use-radius. Set interim update.



# Remote site router

admin@4C:5E:0C:0E:21:86 (LAGOS-GW) - WinBox v6.38.7 on hAP lite (smips)

Session Settings Dashboard

Safe Mode Session: 4C:5E:0C:0E:21:86

RouterOS WinBox

Quick Set  
CAPsMAN  
Interfaces  
Wireless  
Bridge  
PPP  
Switch  
Mesh  
IP  
MPLS  
Routing  
System  
Queues  
Files  
Log  
Radius  
Tools  
New Terminal  
Make Supout.nif  
Manual  
New WinBox  
Exit

Interface <pptp-out1>

General Dial Out Status Traffic

Connect To: 54.171.112.222

User: lagos

Password: lagos

Profile: default-encryption

Keepalive Timeout: 60

☐ Dial On Demand

☐ Add Default Route

Default Route Distance: 0

Allow: ☒ mschap2 ☒ mschap1  
☒ chap ☒ pap

enabled running slave Status: conn

Firewall

Filter Rules NAT Mangle Raw Service Ports Connections Address Lists Layer7 Protocols

Filter Rules

#	Action	Chain	Src. Address	Dst. Address	Proto...	Src. Port	Dst. Port	In. Inter...	Out. Int...	Bytes	Packets
0	mas...	srcnat							wlan1	43.6 KiB	20
1	mas...	srcnat							pptp-out1	2286 B	

Hotspot Server Profile <default>

General Login RADIUS

☒ Use RADIUS

Default Domain:

Location ID:

Location Name:

MAC Format: XXX:XXX:XXX:XXX:XXX:XXX

☒ Accounting

Interim Update: 00:05:00

NAS Port Type: 19 (wireless-802.11)

New Radius Server

General Status

Service: ☒ ppp ☐ login  
☒ hotspot ☐ wireless  
☐ dhcp ☐ ipsec

Called ID:

Domain:

Address: 10.233.233.1

Secret: testing

Authentication Port: 1812

Accounting Port: 1813

Timeout: 300 ms

☐ Accounting Backup

Realm:

Src. Address:

start MikroTik Routers... mum-lagos-2017... shared on 'vbox... Microsoft Power... winbox Command Prompt admin@54.171... 3:48 PM

# Pptp-clients connect

admin@54.171.112.222 (ip-172-31-25-85.eu-west-1.compute.internal) - WinBox v6.38.7 on CHR (x86\_64)

Safe Mode ☒ Hide Passwords

RouterOS WinBox

Quick Set  
CAPsMAN  
Interfaces  
Wireless  
Bridge  
PPP  
Mesh  
IP  
MPLS  
Routing  
System  
Queues  
Files  
Log  
Radius  
Tools  
New Terminal  
Dude  
Make Supout.tif  
Manual  
Exit

Log

Interface List

Interface	Name	Type	Actual MTU	L2 MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)	FP Tx	FP Rx	FP
DR	<pptp-lagos>	PPTP Server Binding	1450			0 bps	0 bps	0	0	0 bps	0 bps
R	ether1	Ethernet	1500			0 bps	320 bps	0	1	0 bps	0 bps
R	lo	Bridge	1500	65535		0 bps	0 bps	0	0	0 bps	0 bps

Route List

Routes	Next hops	Rules	VRF
DAS	0.0.0.0/0	172.31.16.1 reachable ether1	1
AS	10.10.10.3	<pptp-lagos> reachable	1
DAC	10.11.11.0/24	lo-lewa reachable	0
DAC	10.222.222.200	<pptp-lagos> reachable	0
DAC	10.233.233.1	lo reachable	0
DAC	172.31.16.0/20	ether1 reachable	0
DAS	192.168.200.0...	10.222.222.200 reachable <pptp-lagos>	10

7 items (1 selected)

Friday, September 08, 2017

start MikroTik Routers... mum-lagos-2017... shared on 'vbox... Microsoft Power... winbox Command Prompt admin@54.171... 3:50 PM

Quick Set

CAPsMAN

Interfaces

Wireless

Bridge

PPP

Mesh

IP

MPLS

Routing

System

Queues

Files

Log

Radius

Tools

New Terminal

Dude

Make Supout.tif

Manual

Exit

Log

Interface List

Interface Interface List Ethernet EoIP Tunnel IP Tunnel GRE Tunnel VLAN VRRP Bonding LTE

+ - ✓ ✗

Find

	Name	Type	Actual MTU	L2 MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)	FP Tx	FP Rx	FP
DR	<pptp-abuja>	PPTP Server Binding	1450		0 bps	0 bps	0	0	0 bps	0 bps	
DR	<pptp-lagos>	PPTP Server Binding	1450		2.4 kbps	3.2 kbps	4	4	0 bps	0 bps	
R	ether1	Ethernet	1500		26.8 kbps	5.8 kbps	7	6	0 bps	0 bps	
R	lo	Bridge	1500	65535	0 bps	0 bps	0	0	0 bps	0 bps	

Route List

Routes Nexthops Rules VRF

+ - ✓ ✗

Find

all

	Dst. Address	Gateway	Distance	Routing Mark	Pref. Source
DAS	0.0.0.0/0	172.31.16.1 reachable ether1	1		
AS	10.10.10.3	<pptp-lagos> reachable	1		
DAC	10.11.11.0/24	lo-lewa reachable	0		10.11.11.1
DAC	10.222.222.199	<pptp-abuja> reachable	0		10.233.233.1
DAC	10.222.222.200	<pptp-lagos> reachable	0		10.233.233.1
DAC	10.233.233.1	lo reachable	0		10.233.233.1
DAC	172.31.16.0/20	ether1 reachable	0		172.31.25.85
DAS	192.168.199.0...	10.222.222.199 reachable <pptp-abuja>	10		
DAS	192.168.200.0...	10.222.222.200 reachable <pptp-lagos>	10		

9 items [2 selected]

RouterOS WinBox

start

MikroTik Routers...

mum-lagos-2017...

shared on 'vbox...

Microsoft Power...

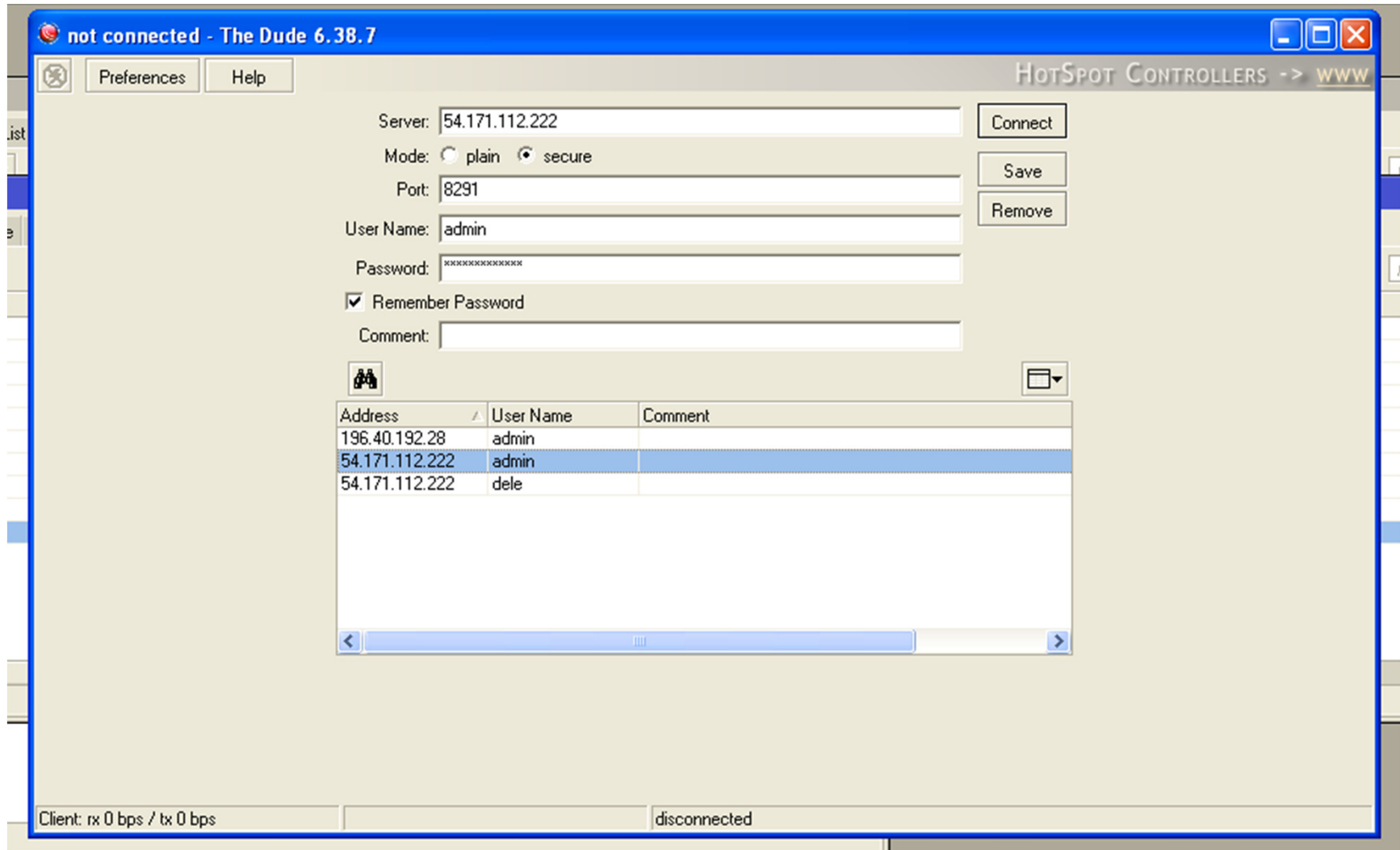
winbox

Command Prompt

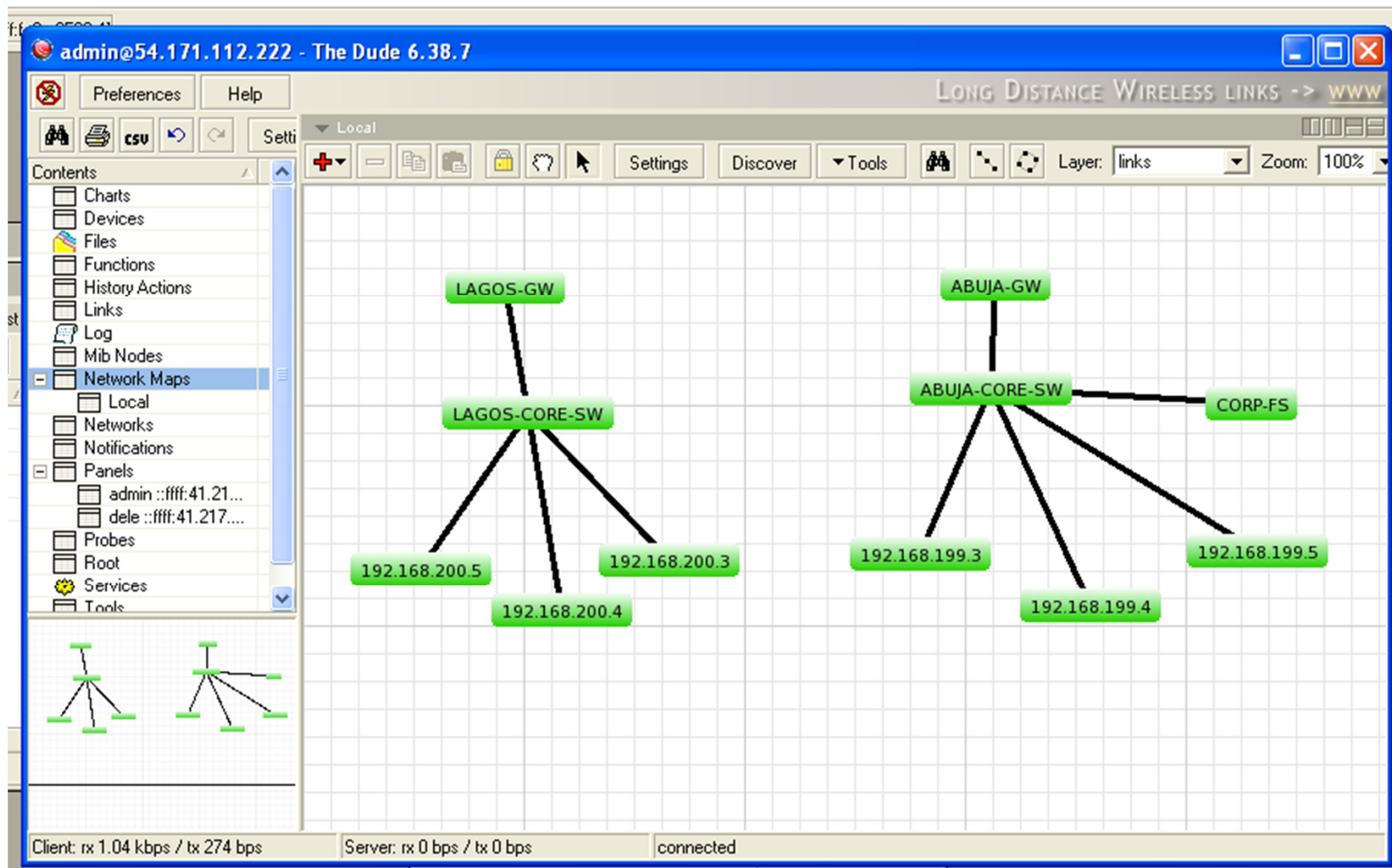
admin@54.171...

3:58 PM

# Install Dude client locally



# Dude client



# Access corporate file server from another remote site

- Add a route to the remote site router for the corporate LAN via the pptp tunnel
- Also add a route to the corporate office router for the remote Site LAN via the pptp tunnel
- *If there is nothing to access on the remote site LAN, you can simply masquerade everything going out through the pptp-client interface of the remote site router hence the route from corporate router will not be required.*



# Accessing corp-FS

admin@[fe80::4e5e:cff:fe6c:6566%4] (ABUJA-GW) - WinBox v6.38.7 on mAP (mipsbe)

Session Settings Dashboard

Safe Mode Session: [fe80::4e5e:cff:fe6c:6566%4]

Quick Set CAPsMAN Interfaces Wireless Bridge PPP Switch Mesh IP IPv6 MPLS OpenFlow Routing System Queues Files Log Radius Tools New Terminal MetaROUTER Partition Make Supout.tif Manual New WinBox Exit

NAT Rule <>

Advanced Extra Action Statistics ... OK Cancel Apply

Address List

+ - [ ] [ ] [ ] [ ] Find Log

Wireless Tables

Interface List

Interface Interface List Ethernet

Name Type

R bridge1 Bridge

R ether1 Ethernet

R ether2 Ethernet

R ptp-out1 PPTP Client

R wlan1 Wireless

5 items

Route List

Filter Routes Nexthops Rules VRF

+ + - [ ] [ ] [ ] [ ] Find all

#	Dst. Address	Gateway	Distance	Routing Mark	Pref. Source
0	DAS 0.0.0.0/0	192.168.1.1 reachable wlan1	0		
1	DAC 10.233.233.1	ptp-out1 reachable	0		10.222.222.199

Route <192.168.200.0/24>

General Attributes

Dst. Address: 192.168.200.0/24

Gateway: ptp-out1 reachable

Check Gateway: [ ]

Type: unicast

Distance: 1

Scope: 30

Target Scope: 10

Routing Mark: [ ]

Pref. Source: [ ]

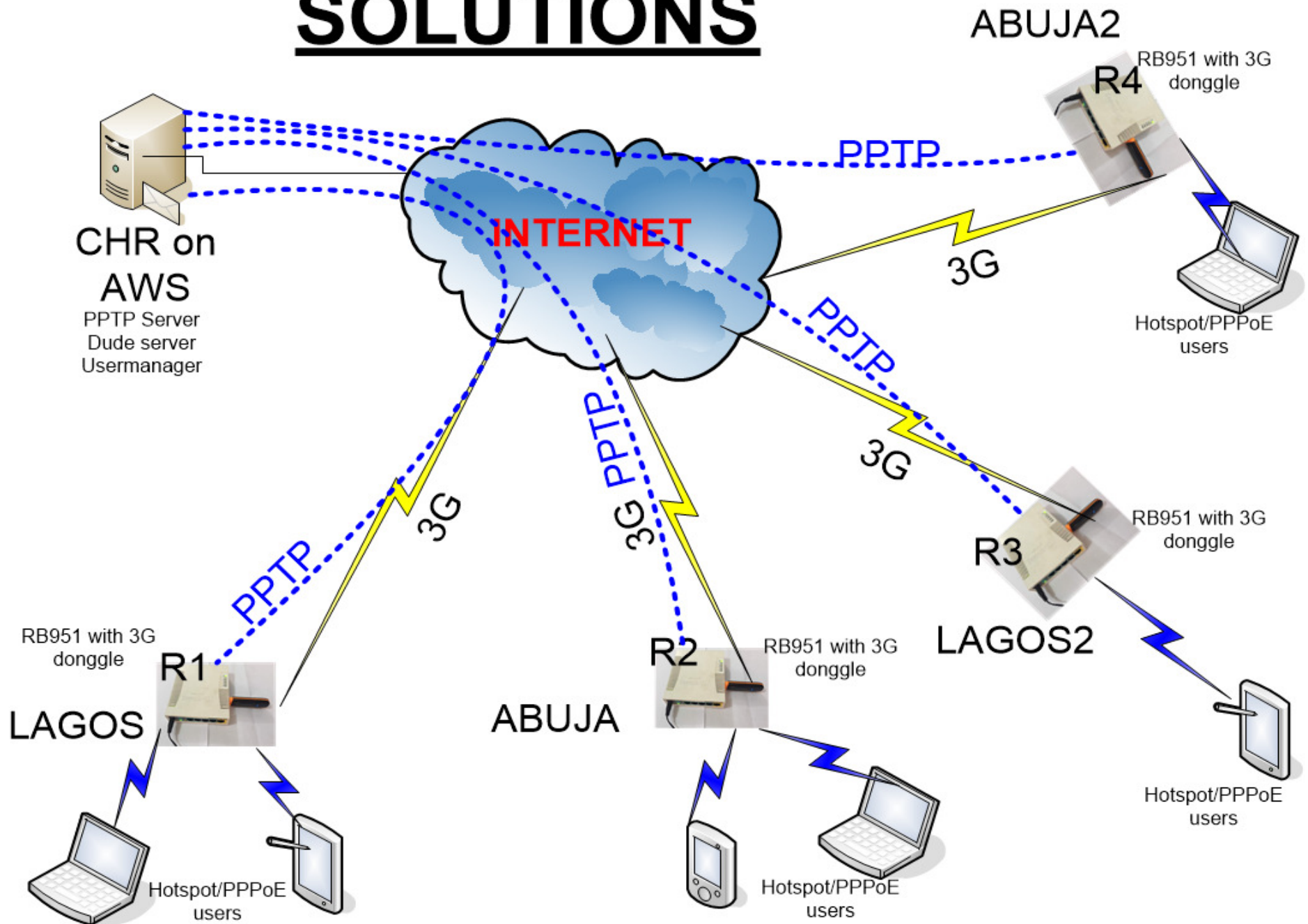
OK Cancel Apply Disable Comment Copy Remove

FP Rx 0 bps 255.4 kbps 0 bps 0 bps 2.4 Mbps

FP Tx [ ]

start MikroTik Router... mum-lagos-201... shared on 'vbox... Microsoft Power... 3 winbox admin@54.171... admin@54.171... 4:45 PM

# SOLUTIONS



# Thank you

- Questions ??
- Comments ??



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