

# **How To Bridge Private Two LAN**

Bridge LANs Over The Internet  
Between Main Office and Branch Office

# MUM Yangon 2015

Kyaw Ko Ko Thu

Network Engineer

CCNA , MTCNA

[kyawkokothu74@gmail.com](mailto:kyawkokothu74@gmail.com)

# How To Bridge Private Two LAN

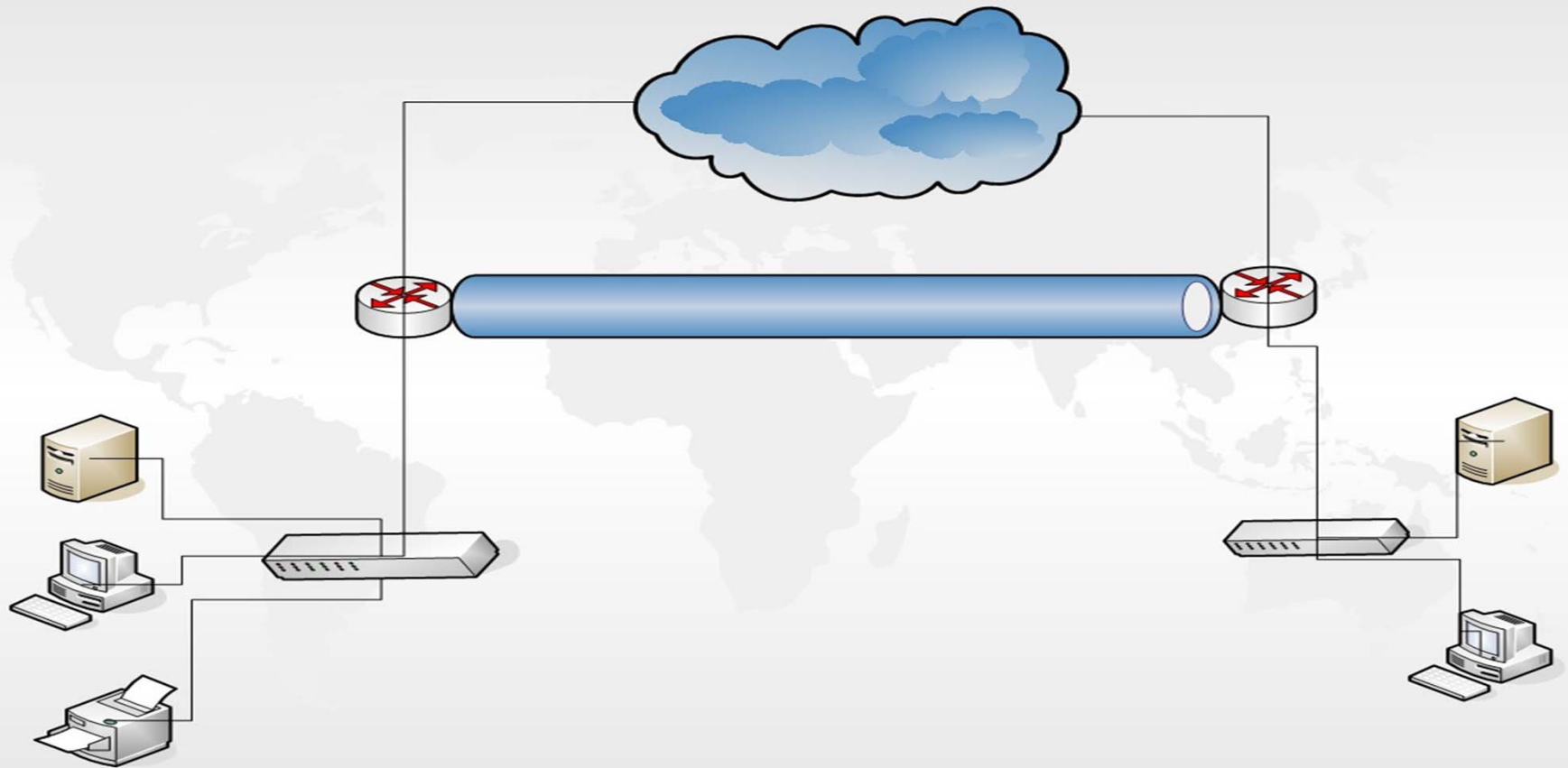
Bridge LANs Over The Internet

Between Main Office and Branch Office Can use EOIP

# VPN Tunneling Protocol

- ☐ PPTP (Point-to-Point Tunneling Protocol)
- ☐ L2TP (Layer 2 Tunnel Protocol)
- ☐ SSTP (Secure Socket Tunneling Protocol)
- ☐ *Open VPN* (OpenVPN is a fairly new open source technology)
- ☐ IKEv2 (Internet Key Exchange (version 2))
- ☐ Etc.....

# VPN (Virtual private network)



# MikroTik Router OS support Protocol

- ☐ PPTP
- ☐ SSTP
- ☐ L2TP
- ☐ OVPN
- ☐ IPIP
- ☐ GRE
- ☐ EOIP (MikroTik Router OS Proprietary protocol)
- ☐ VPLS

# EOIP (Ethernet Over IP)

- ❑ MikroTik RouterOS Proprietary protocol
- ❑ That creates an Ethernet tunnel between two routers on top of an IP connection.
- ❑ EoIP tunnel may run over IPIP tunnel, PPTP tunnel or any other connection capable of transporting IP.
- ❑ When the bridging function of the router is enabled, all Ethernet traffic (all Ethernet protocols) will be bridged just as if there were a physical Ethernet interface and cable between the two routers (with bridging enabled).
- ❑ This protocol makes multiple network schemes possible.

# IANA has reserved

- Media Access Control number of an interface.  
The address numeration authority IANA allows the use of **MAC addresses** in the range from **00:00:5E:80:00:00 - 00:00:5E:FF:FF:FF** freely



# Use for those services

❖ Access Branch Office resource from Main Office

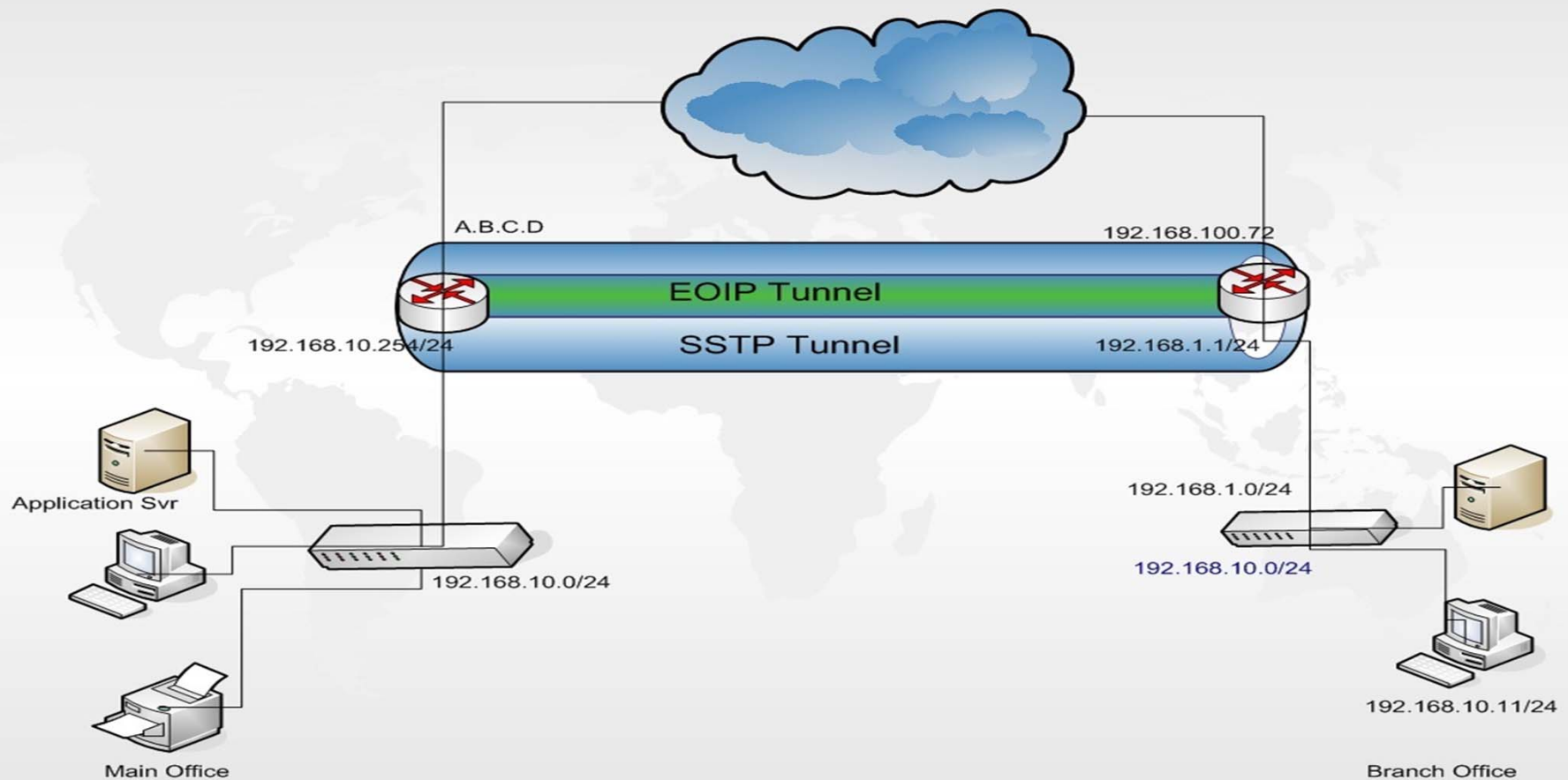
☐ PPPOE

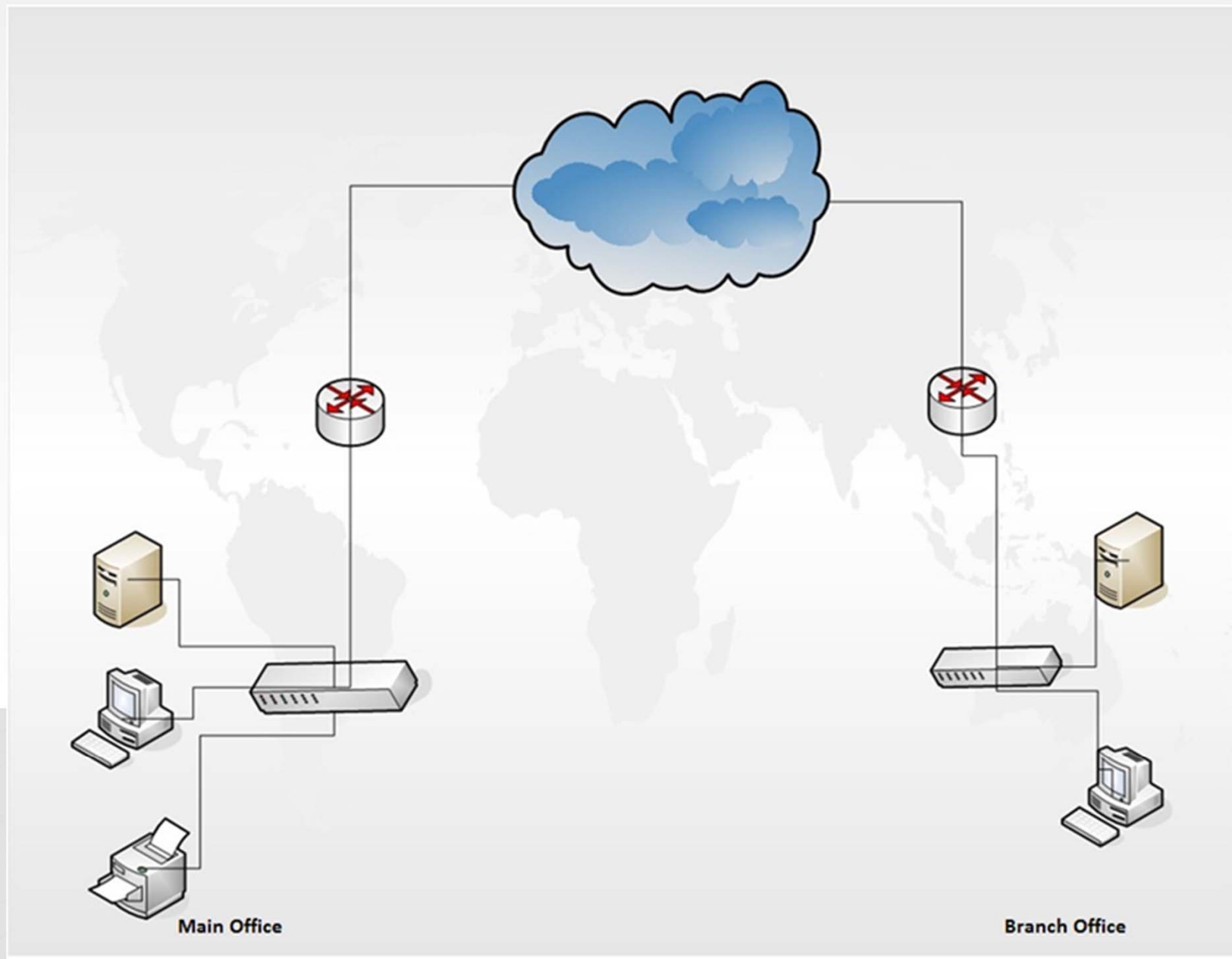
☐ DHCP

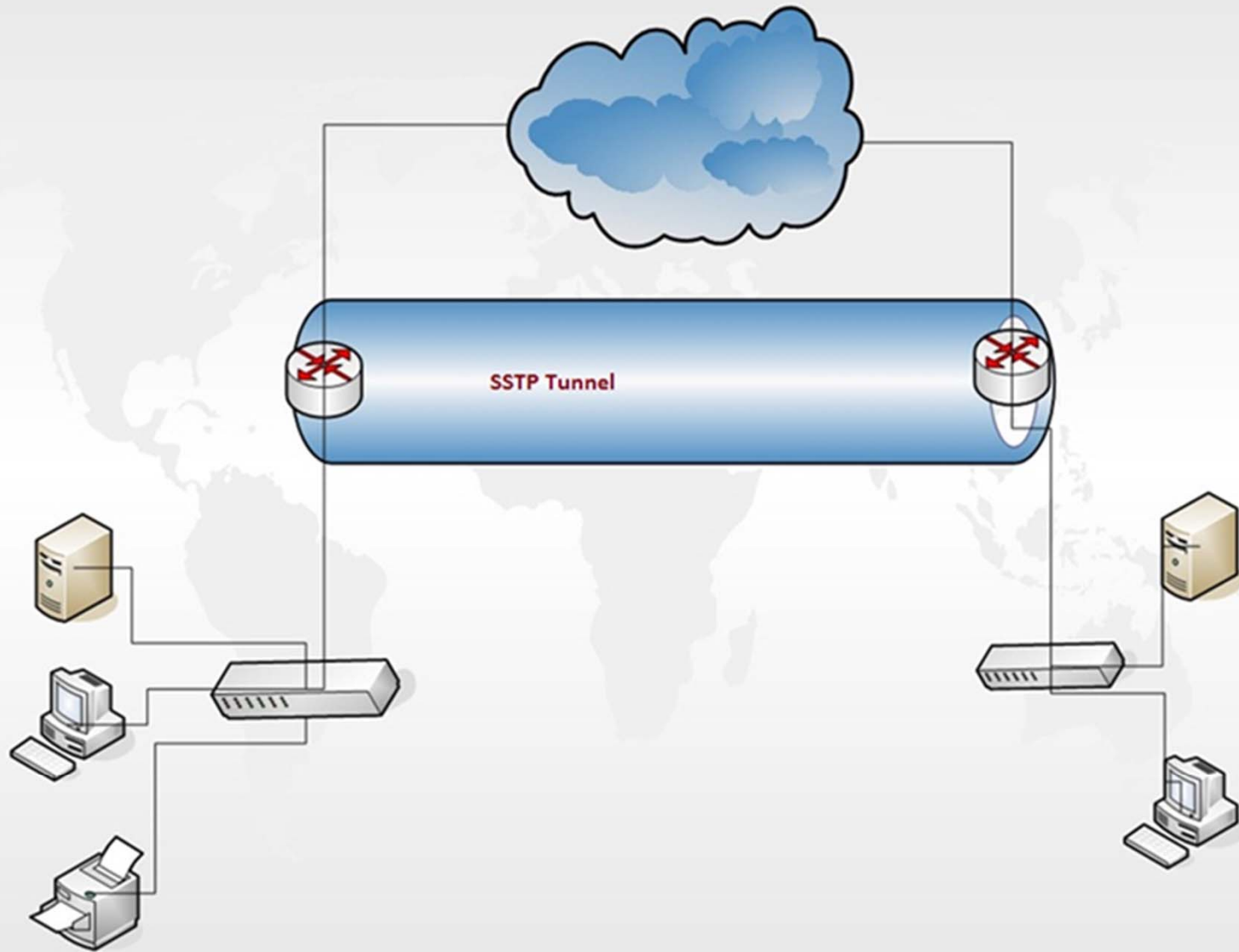
☐ Application Server

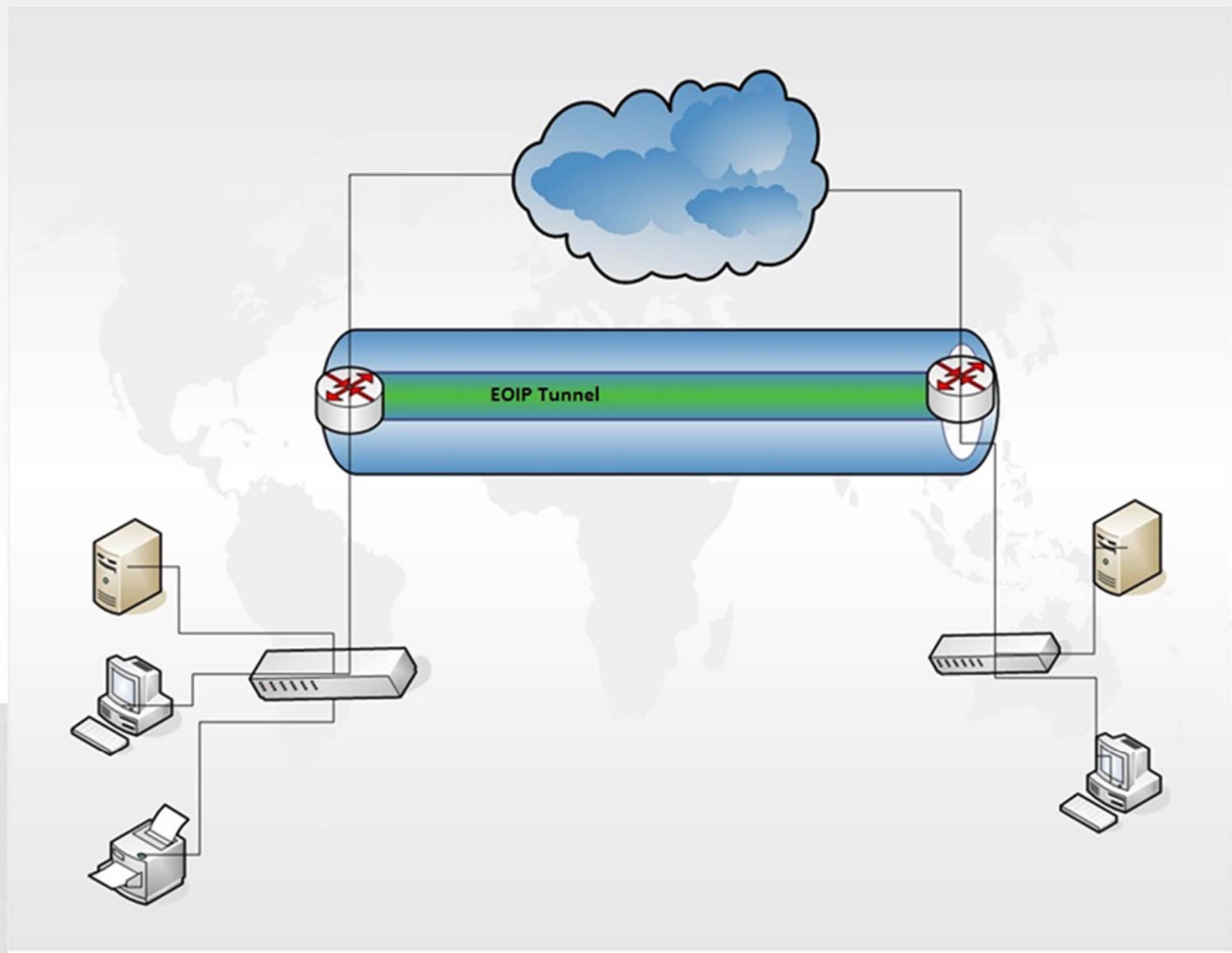
☐ Etc..

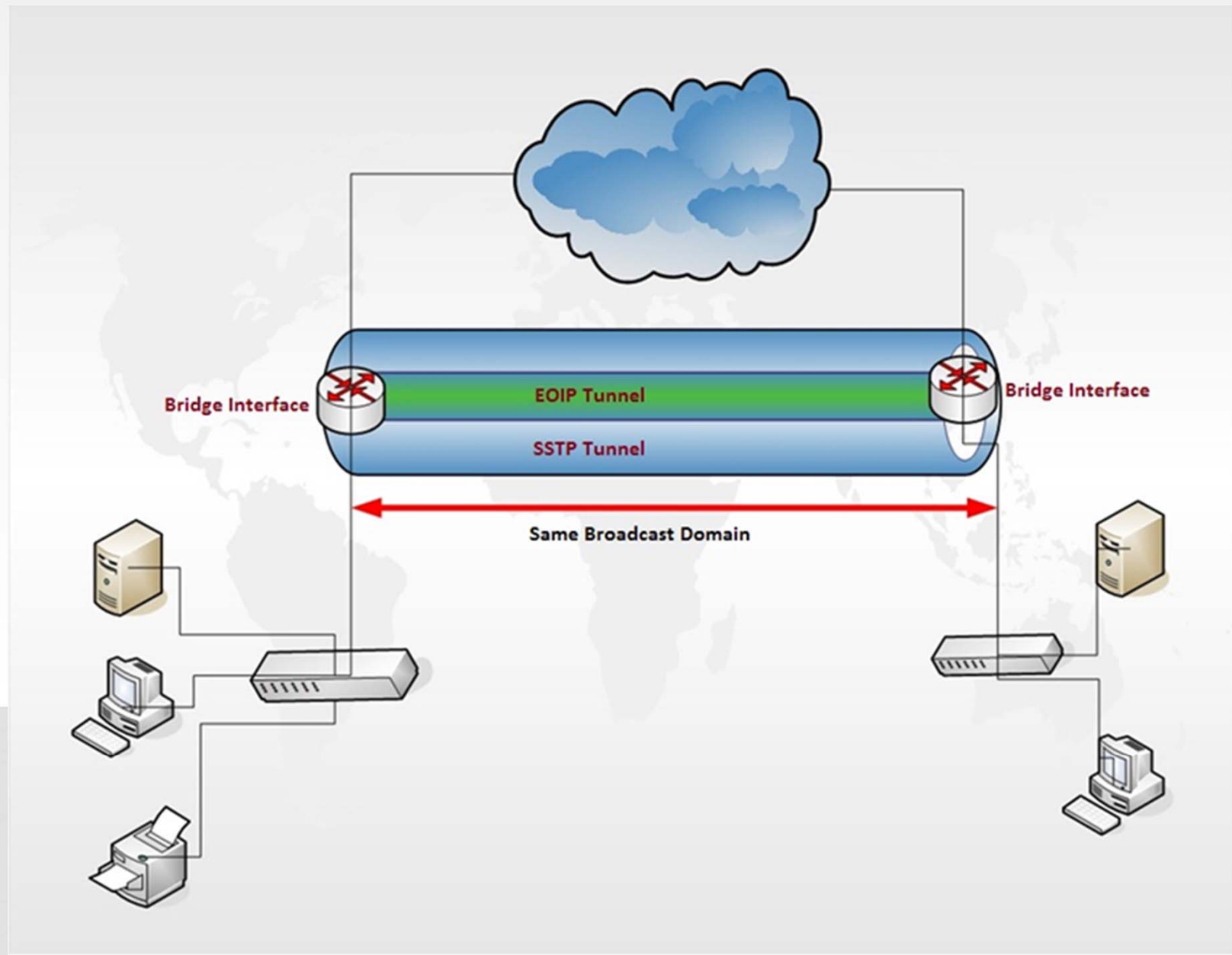
# Bridge LANs Over The Internet Between Main Office and Branch Office











# **SSTP Tunnel**(Secure Socket Tunneling Protocol )

- Secure Socket Tunneling Protocol (SSTP) transports a PPP tunnel over a TLS 1.0 channel. The use of TLS over TCP port 443 allows SSTP to pass through virtually all firewalls and proxy servers.

# EOIP (Ethernet Over IP) Overhead

## SSTP-

- **Note:** EoIP tunnel adds at least **154 byte** overhead (120 byte SSTP + 14 byte Ethernet + 20 byte IP)
- **Note:** RSA Key length must be at least 472 bits if certificate is used by **SSTP**

## PPTP-

- **Note:** EoIP tunnel adds at least 42byte overhead (8byte GRE + 14 byte Ethernet + 20 byte IP)



# Advantages and Disadvantages

## ❖ Advantages

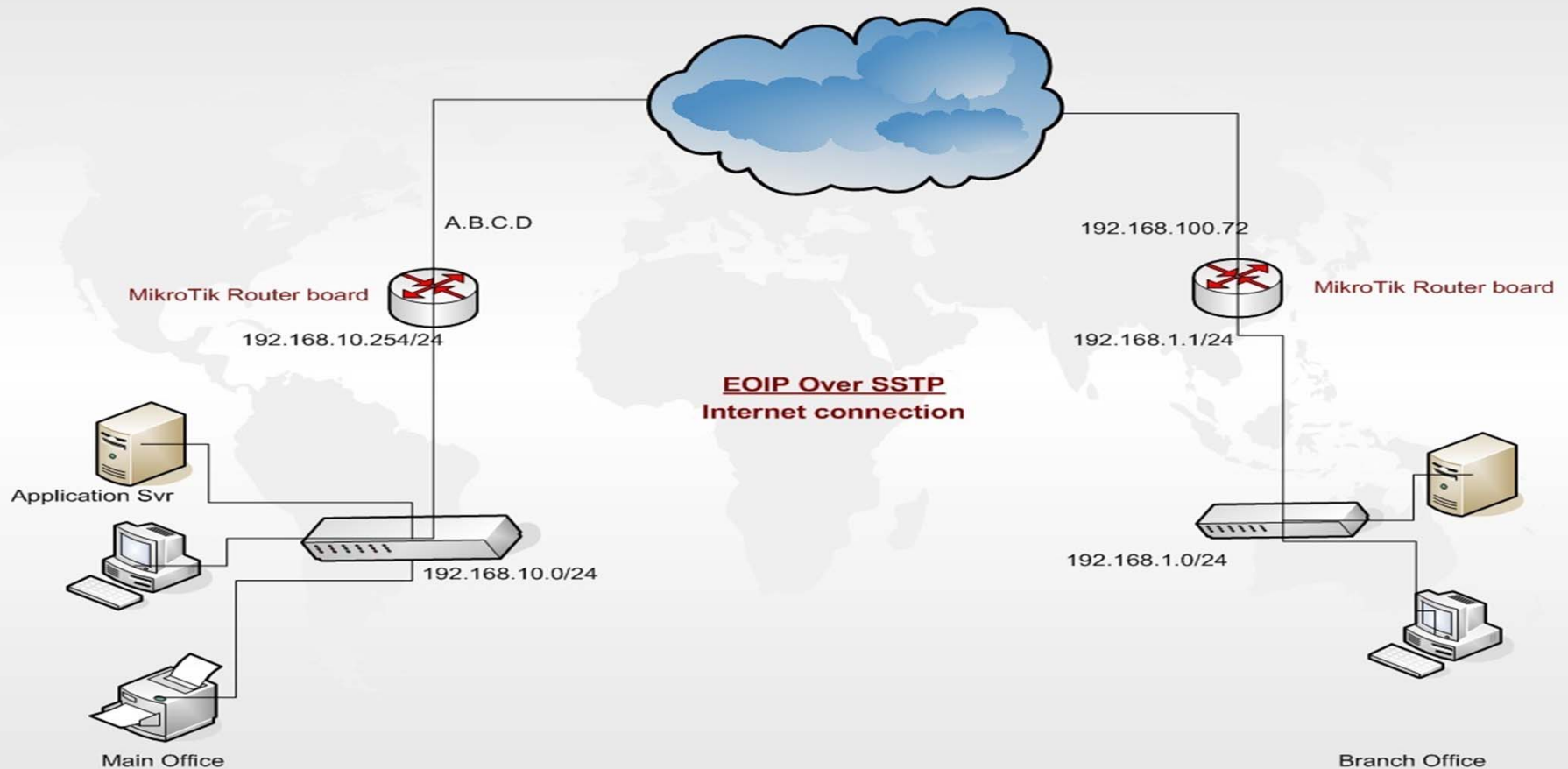
- ❑ ● Easy to setup
- ❑ ● Portability
- ❑ ● Security

## ❖ Disadvantages

- ❑ ● Only for MikroTik Router OS
- ❑ ● Increase Overhead
- ❑ ● More Bandwidth Requirement

# EOIP (Ethernet Over IP) configuration

## -create SSTP Tunnel



# SSTP Server Enable (Main Office)

admin1@1.1.1.1 (Main\_office) - WinBox v5.20 on x86 (x86)

Safe Mode

Uptime: 22d 17:41:45 Memory: 1731.9 MiB CPU: 8% Hide Passwords

Interfaces

Interface List

Interface	Ethernet	EoIP Tunnel	IP Tunnel	GRE Tunnel	VLAN	VRRP	Bonding	LTE				
Name	Type	L2 MTU	Tx	Rx	Tx Pac...	Rx Pac...	Tx Bytes	Rx Bytes	Tx Drops	Rx Drops	Tx Errors	Rx Errors
DR <<< sstp	SSTP Server		0 bps	0 bps	0	0	87.2 KiB	2581.6 KiB	0	0	0	0
DR <<< sstp-	SSTP Server		175.8 kbps	0 bps	137	0	14.3 MiB	38 B	0	0	0	0
DR <<< sstp	SSTP Server		0 bps	0 bps	0	0	52 B	2418 B	0	0	0	0
DR <<< sstp-	SSTP Server		0 bps	0 bps	0	0	104 B	7.5 KiB	0	0	0	0
DR <<< sstp-	SSTP Server		0 bps	0 bps	0	0	52 B	38 B	0	0	0	0
R <<< eoip-tunnel1	EoIP Tunnel	65535	175.8 kbps	0 bps	137	0	212.2 MiB	19.8 MiB	0	0	0	0
DR <<< <	SSTP Server		37.3 kbps	3.1 kbps	9	5	21.7 MiB	6.9 MiB	0	0	0	0
R <<< bridge1	Bridge	16383	17.5 Mbps	1235.1 kbps	1 609	1 309	23.3 GiB	2807.1 MiB	0	0	0	0
R <<< LAN	Ethernet	16383	17.5 Mbps	1381.7 kbps	1 609	1 309	743.8 GiB	157.0 GiB	0	0	0	0
R <<< WAN	Ethernet		1485.7 kbps	16.4 Mbps	1 080	1 579	139.3 GiB	756.1 GiB	0	76	0	8

PPP

Interface PPPoE Servers Secrets Profiles Active Connections

Interface	PPPoE Servers	Secrets	Profiles	Active Connections						
Name	Type	L2 MTU	Tx	Rx	Tx Pac...	Rx Pac...	Tx Drops	Rx Drops	Tx Errors	Rx Errors
DR <<< sst	SSTP Server		37.3 kbps	3.1 kbps	9	5	0	0	0	0
DR <<< sstp-	SSTP Server		0 bps	0 bps	0	0	0	0	0	0
DR <<< sstp-	SSTP Server		0 bps	0 bps	0	0	0	0	0	0
DR <<< sstp-	SSTP Server		175.8 kbps	0 bps	137	0	0	0	0	0
DR <<< sstp-	SSTP Server		0 bps	0 bps	0	0	0	0	0	0
DR <<< sstp-	SSTP Server		0 bps	0 bps	0	0	0	0	0	0
DR <<< sstp-l	SSTP Server		0 bps	0 bps	0	0	0	0	0	0

6 items out of 10

SSTP Server

☒ Enabled

Port: 443

Max MTU: 1500

Max MRU: 1500

MRRU:

Keepalive Timeout: 60

Default Profile: default

Authentication

☒ pap ☒ chap

☒ mschap1 ☒ mschap2

Certificate: none

☐ Verify Client Certificate

OK Cancel Apply

# ADD SSTP User name & password

admin1@1.1.1.1 (Main\_office) - WinBox v5.20 on x86 (x86)

Safe Mode

Uptime: 22d 17:58:32 Memory: 1732.3 MiB CPU: 5% Hide Passwords

Interfaces

Wireless

Bridge

PPP

Mesh

IP

IPv6

MPLS

Routing

System

Queues

Files

Log

Radius

Tools

New Terminal

ISDN Channels

KVM

Make Supout.tif

Manual

Exit

PPP

Interface

PPPoE Servers

Secrets

Profiles

Active Connections

PPP Authentication & Accounting

Find

New PPP Secret

Name: User Name

Password: [REDACTED]

Service: any

Caller ID:

Profile: default

Local Address: 1.1.1.5

Remote Address: 1.1.1.6

Remote IPv6 Prefix:

Routes:

Limit Bytes In:

Limit Bytes Out:

enabled

OK

Cancel

Apply

Disable

Comment

Copy

Remove

Name	Password	Service	Caller ID	Profile	Local Address	Remote Address
					1.1.1.2	
					1.1.1.4	
					1.1.1.6	
					1.1.1.8	
					1.1.1.10	
					1.1.1.101	

6 items

Start

11:36 AM 9/28/2015

# SSTP Client Configuration(Branch Office)

admin@192.168.1.254 - WinBox v6.28 on RB450G (mipsbe)

Sessions Settings Dashboard

Safe Mode Session: 192.168.1.254

RouterOS WinBox

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

PPP

Interface	PPPoE Servers	Secrets	Profiles	Active Conn
R	pppoe-out1		PPPoE Client	
R	sstp-out1		SSTP Client	

2 items out of 7 (1 selected)

Interface <sstp-out1>

General Dial Out Status Traffic

Connect To: A.B.C.D \*

Port: 443

Proxy:

Proxy Port: 443

Certificate: none

☐ Verify Server Certificate

☒ Verify Server Address From Certificate

☐ PFS

User: User Name

Password:

Profile: default-encryption

Keepalive Timeout: 60

☐ Dial On Demand

☐ Add Default Route

Default Route Distance: 1

Allow: ☒ mschap2 ☒ mschap1  
☒ chap ☒ pap

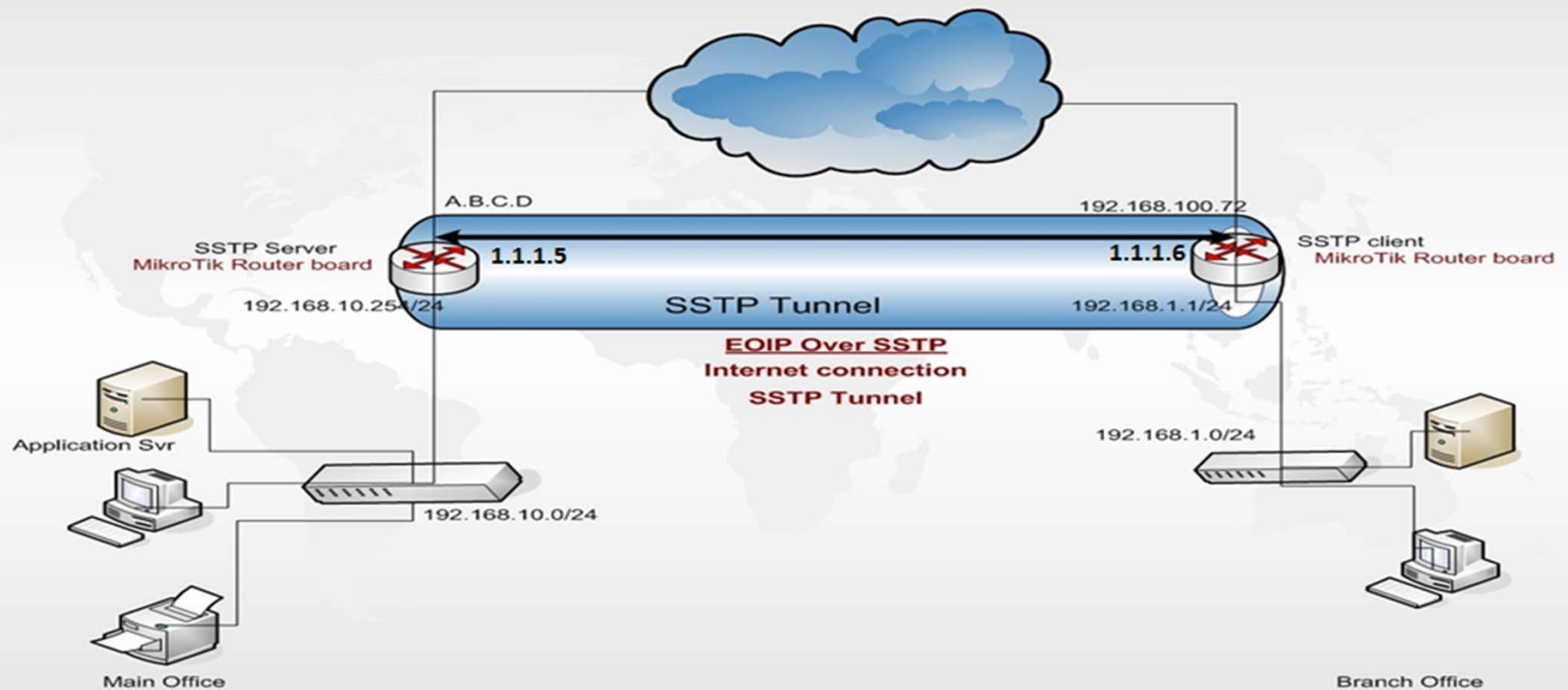
enabled running slave Status: connected

OK Cancel Apply Disable Comment Copy Remove Torch

11:23 AM 9/28/2015

# EOIP (Ethernet Over IP) configuration

-Create EOIP Tunnel



# EOIP (Ethernet Over IP) configuration

- Create EoIP tunnel On Main Office

The screenshot shows the 'New Interface' configuration window with the 'General' tab selected. The configuration details are as follows:

- Name: **eoip-tunnel1**
- Type: **EoIP Tunnel**
- MTU: (empty)
- Actual MTU: (empty)
- L2 MTU: (empty)
- MAC Address: **aa:bb:cc:11:22:33**
- ARP: **enabled**
- Local Address: **1.1.1.5**
- Remote Address: **1.1.1.6**
- Tunnel ID: **0**
- Keepalive: (empty)
- DSCP: **inherit**
- Dont Fragment: **no**
- ☒ **Clamp TCP MSS**

On the right side of the window, there are buttons for: OK, Cancel, Apply, Disable, Comment, Copy, Remove, and Torch. At the bottom, there are three status indicators: **enabled**, **running**, and **slave**.

- Enable EOIP tunnel
- Local Address and Remote Address is SSTP Tunnel Ip address



# EOIP (Ethernet Over IP) configuration

- Create EoIP tunnel On Branch Office

The screenshot shows the 'New Interface' configuration window with the 'General' tab selected. The interface is for creating an EoIP Tunnel. The 'Name' field is 'eolp-tunnel1'. The 'Type' is 'EoIP Tunnel'. The 'MTU' is set to a default value. The 'Actual MTU' and 'L2 MTU' are empty. The 'MAC Address' is 'aa:bb:cc:11:22:33'. The 'ARP' is set to 'enabled'. The 'Local Address' is '1.1.1.6' and the 'Remote Address' is '1.1.1.5'. The 'Tunnel ID' is '0'. The 'Keepalive' is set to a default value. The 'DSCP' is set to 'inherit'. The 'Dont Fragment' is set to 'no'. The 'Clamp TCP MSS' checkbox is checked. The 'Status' tab shows 'enabled', 'running', and 'slave'.

Field	Value
Name	eolp-tunnel1
Type	EoIP Tunnel
MTU	
Actual MTU	
L2 MTU	
MAC Address	aa:bb:cc:11:22:33
ARP	enabled
Local Address	1.1.1.6
Remote Address	1.1.1.5
Tunnel ID	0
Keepalive	
DSCP	inherit
Dont Fragment	no
Clamp TCP MSS	<input checked="" type="checkbox"/>

- Enable EOIP tunnel
- Local Address and Remote Address is SSTP Tunnel Ip address



# EOIP (Ethernet Over IP) configuration

- Create Bridge interface On Both side
- Bridge local interfaces with EoIP tunnel on both side

admin1@1.1.1.1 (Main\_office) - WinBox v5.20 on x86 (x86)

Safe Mode Uptime: 22d 18:02:55 Memory: 1732.4 MiB CPU: 8% Hide Passwords

Interfaces

Wireless

Bridge

PPP

Mesh

IP

IPv6

MPLS

Routing

System

Queues

Files

Log

Radius

Tools

New Terminal

ISDN Channels

KVM

Make Supout.tif

Manual

Exit

RouterOS WinBox

Interface <bridge1>

General STP Status Traffic

Name: bridge1

Type: Bridge

MTU: 1500

L2 MTU: 16383

MAC Address: 02:3B:54:25:E0:1C

ARP: enabled

Admin. MAC Address:

enabled running slave

Bridge

Ports Filters NAT Hosts

Interface	Bridge	Priority (h...)	Path Cost	Horizon	Role	Root Pat...
LAN	bridge1	80	10		designated port	
eoip-tunnel1	bridge1	80	10		designated port	

2 items

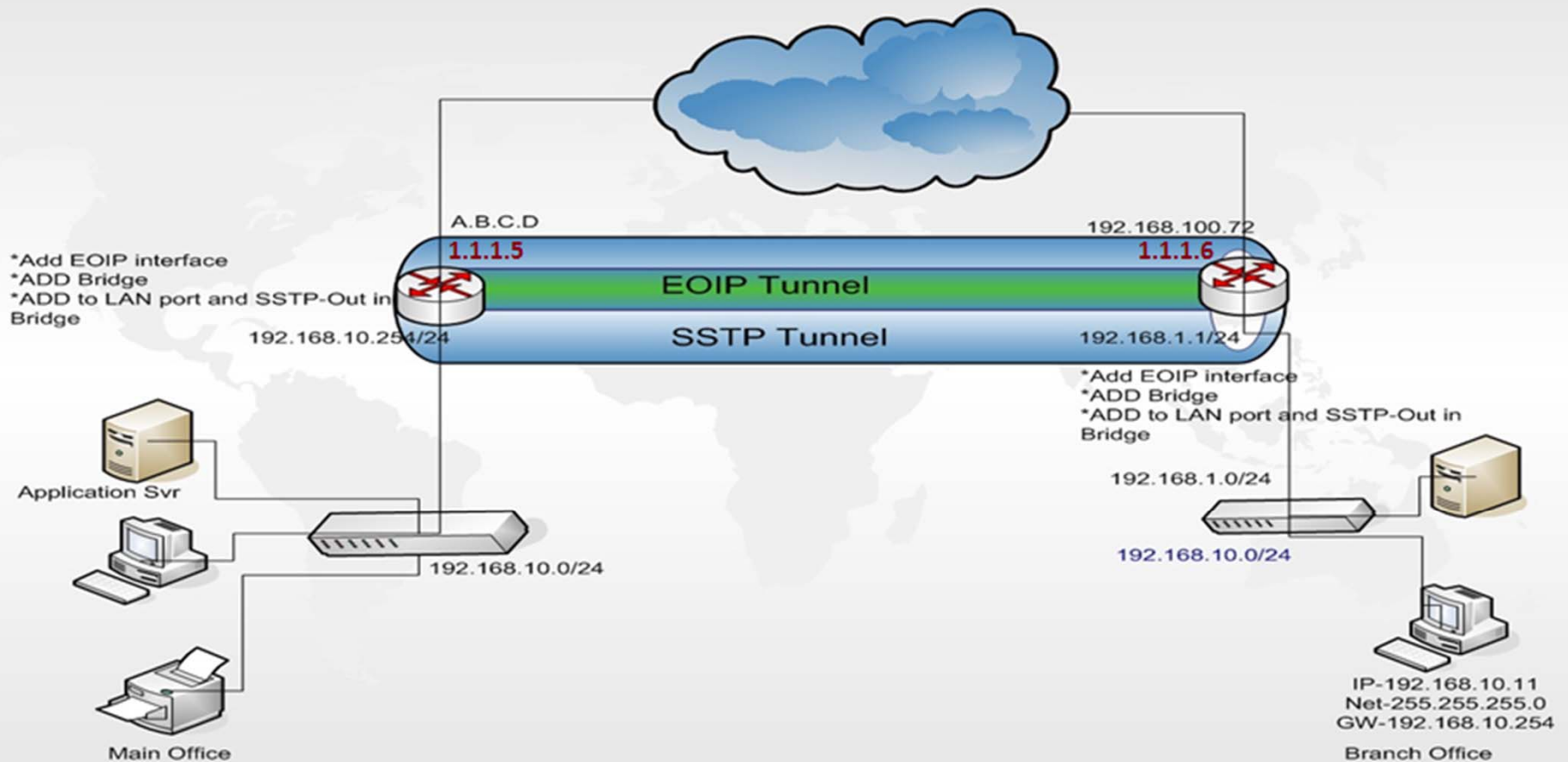
11 items

Start

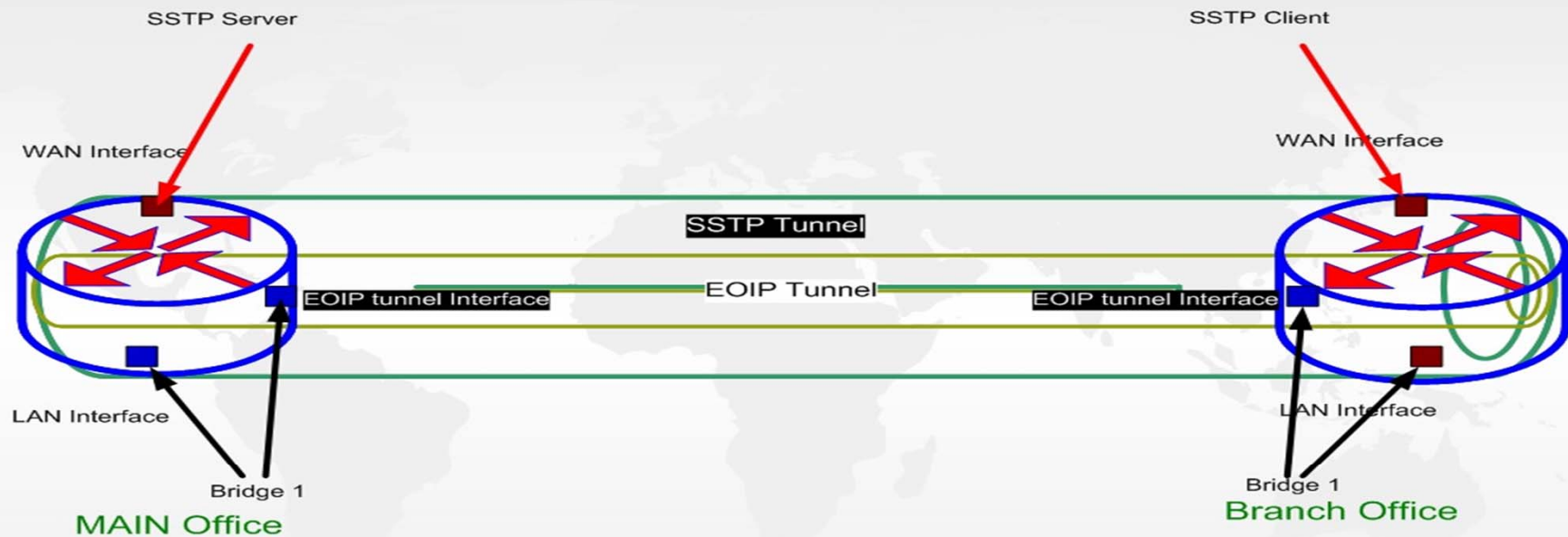
11:40 AM 9/28/2015

# EOIP (Ethernet Over IP) configuration

-Now both sites are in the same Layer2 broadcast domain. You can set up IP addresses from the same network on both sites.



# EOIP (Ethernet Over IP) configuration

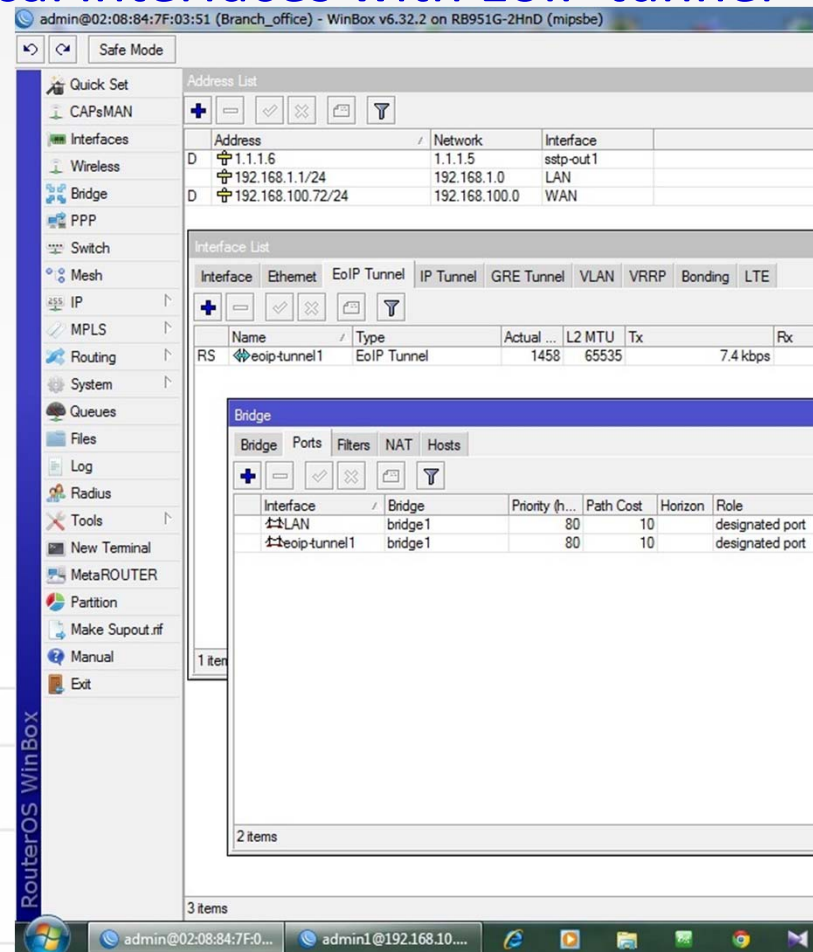
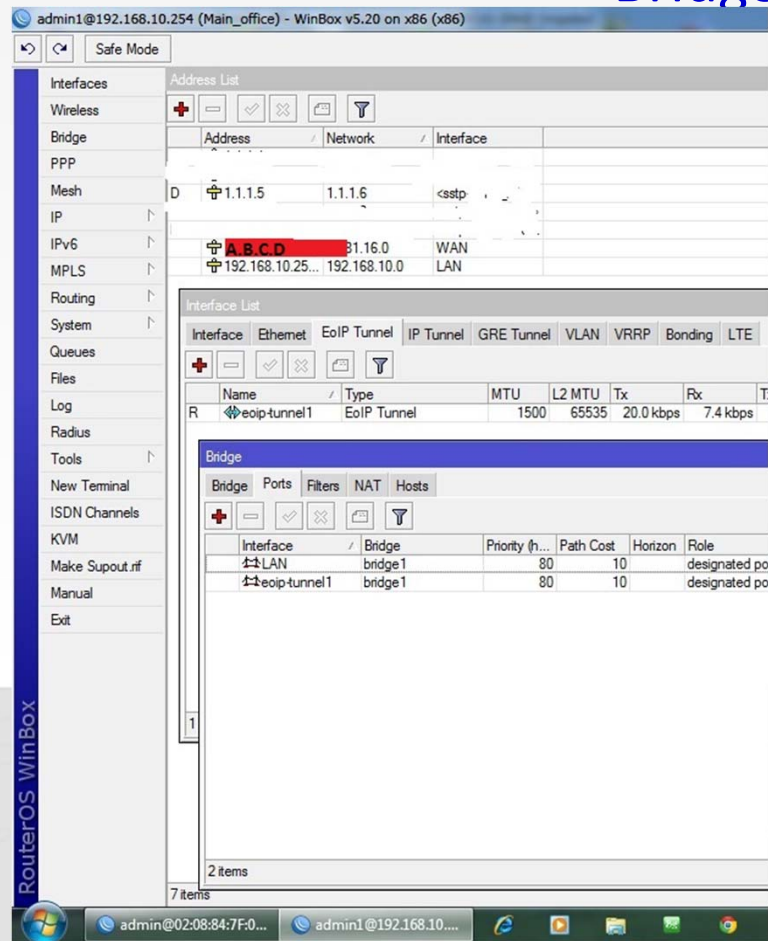


# Enable SSTP Server and SSTP Client ,Create SSTP Tunnel  
# Add to LAN Interface and EOIP Tunnel Interface in Bridge Interface

# Check & Test

# EOIP (Ethernet Over IP) configuration

- Create SSTP tunnel
- Create EoIP tunnel
- Bridge local interfaces with EoIP tunnel



# EOIP (Ethernet Over IP) configuration

-Test DHCP requests over EoIP

The screenshot displays the RouterOS WinBox interface. On the left is a sidebar with navigation options: Quick Set, CAPsMAN, Interfaces, Wireless, Bridge, PPP, Switch, Mesh, IP, MPLS, Routing, System, Queues, Files, Log, Radius, Tools, New Terminal, MetaROUTER, Partition, Make Spout.rtf, Manual, and Exit. The main window is divided into several panes. The top pane shows the 'Address List' with three entries:

Address	Network	Interface
D 1.1.1.6	1.1.1.5	sstp-out1
D 192.168.1.1/24	192.168.1.0	LAN
D 192.168.100.72/24	192.168.100.0	WAN

The middle pane shows the 'Interface List' with a table for EoIP Tunnel interfaces:

Name	Type	Actual ...	L2 MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)
RS eoip-tunnel1	EoIP Tunnel	1458	65535	19.7 kbps	89.8 kbps	10	32

The bottom pane shows the 'Bridge' configuration with a table for bridge interfaces:

Interface	Bridge	Priority (h...)	Path Cost	Horizon	Role
LAN	bridge1	80	10		designated po
eoip-tunnel1	bridge1	80	10		designated po

Overlaid on the WinBox is a Windows command prompt window titled 'Administrator: C:\Windows\system32\cmd.exe'. It shows the output of the 'ipconfig' command:

```
C:\Users\Eastern>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection 2:

    Connection-specific DNS Suffix  . : 
    IPv4 Address. . . . . : 192.168.10.11
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.10.254

Tunnel adapter Teredo Tunneling Pseudo-Interface:

    Connection-specific DNS Suffix  . : 
    IPv6 Address. . . . . : 2001:0:da5d:fa12:3465:2fdf:3f57:f5f4
    Link-local IPv6 Address . . . . . : fe80::3465:2fdf:3f57:f5f4%16
    Default Gateway . . . . . : 

Tunnel adapter isatap.{D7B69C8E-7B46-41F6-9016-061E6D2B5F05}:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 
C:\Users\Eastern>
```



# EOIP (Ethernet Over IP) configuration

-Test Mikrotik Neighbor discovery software (Winbox)

The screenshot displays the Mikrotik WinBox v6.32.2 interface. The left sidebar shows the configuration tree with 'Interfaces' selected. The main window shows the 'Address List' and 'Interface List' sections. The 'Address List' contains three entries:

Address	Network	Interface
1.1.1.6	1.1.1.5	sstp-out1
192.168.1.1/24	192.168.1.0	LAN
192.168.100.72/24	192.168.100.0	WAN

The 'Interface List' shows the 'eoip-tunnel1' interface configured as an 'EoIP Tunnel'.

Overlaid on the WinBox interface is the 'MikroTik WinBox Loader v2.2.18' dialog box. It shows a 'Connect To' field with the IP address '192.168.10.254'. Below this is a table with login credentials:

MAC Address	IP Address	Identity	Version	Board Name
02:08:84:	192.168.1.1	Branch_office	6.32.2	RB951G-2HnD
02:3B:54:	192.168.10.254	Main_office	5.20	x86
D4:CA:6D:	192.168.88.1	MikroTik	1.13	RB260GSP
D4:CA:6D:	192.168.88.4	MikroTik	1.13	RB260GSP

The dialog also includes a 'Note' field and an 'Address' field with the value '192.168.1.1'.

Applications Places FreeRDP: 192.168.1.253 Wed 10:11 AM mtgit

Start 10:06 AM 9/30/2015

admin@192.168.1.254 - WinBox v6.28 on RB450G (mipsbe) CPU: 8% Memory: 226.5 MiB Hide Passwords

Safe Mode

RouterOS WinBox

Quick Set  
Interfaces  
Bridge  
PPP  
Switch  
Mesh  
IP  
System  
Queues  
Files  
Log  
Radius  
Tools  
New Terminal  
MetaROUTER  
Partition  
Make Supout.tif  
Manual  
Exit

Interface List

Interface	Ethernet	EoIP Tunnel	IP Tunnel	GRE Tunnel	VLAN	VRRP	Bonding	LTE
Name	Type	L2 MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)		
R WiFi_network	Ethernet	1520	1120 bps	5.6 kbps	2	2		
R bridge1	Bridge	1520	316.8 kbps	227.5 kbps	95	198		
RS eoip-tunnel1	EoIP Tunnel	65535	3.7 kbps	122.4 kbps	5	113		
R ether1	Ethernet	1520	236.0 kbps	2.0 Mbps	239	884		
RS ether2	Ethernet	1520	678.5 kbps	245.8 kbps	250	116		
R ether4	Ethernet	1520	1352.6 kbps	23.8 kbps	113	96		
R ether5	Ethernet	1520	3.8 kbps	4.0 kbps	7	6		
R pppoe-out1	PPPoE Client		160.6 kbps	559.4 kbps	166	176		
R sstp-out1	SSTP Client		8.0 kbps	203.1 kbps	14	123		

9 items (1 selected)

[mtgit@mail:~/Desktop] [mtgit@mail:~/Desktop] FreeRDP: 192.168.1.253 [FreeRDP: 192.168.1.200] 1 / 4



ApplicationsPlaces

FreeRDP: 192.168.1.253

Start

admin@192.168.1.254

WinBox v6.28 on RB450G (mipsbe)

10:27 AM 9/30/2015

Safe Mode

CPU: 27% Memory: 225.3 MiB

Hide Passwords

Quick Set

Interfaces

Bridge

PPP

Switch

Mesh

IP

System

Queues

Files

Log

Radius

Tools

New Terminal

MetaROUTER

Partition

Make Supout.tif

Manual

Exit

Torch (Running)

Basic

Interface: sstp-out1

Entry Timeout: 00:00:03

Collect

☒ Src. Address
 ☐ Src. Address6

☒ Dst. Address
 ☐ Dst. Address6

☒ MAC Protocol
 ☒ Port

☒ Protocol
 ☐ VLAN Id

☒ DSCP
 ☐

Filters

Src. Address: 1.1.1.1

Dst. Address: 1.1.1.2

Src. Address6: ::/0

Dst. Address6: ::/0

MAC Protocol: all

Protocol: any

Port: any

VLAN Id: any

DSCP: any

Start

Stop

Close

New Window

Et...	Protocol	Src.	Dst.	VLAN Id	DSCP	Tx Rate	Rx Rate	Tx Pack...	Rx Pack...
800 (ip)		47 1.1.1.1	1.1.1.2			4.9 kbps	116.9 k...	6	110
800 (ip)		6 (tcp) 1.1.1.1:8291 (winbox)	1.1.1.2:64337			2.3 kbps	33.0 kbps	4	4

2 items

Total Tx: 7.3 kbps

Total Rx: 149.9 kbps

Total Tx Packet: 10

Total Rx Packet: 114

[mtgit@mail:~/Desktop]

[mtgit@mail:~/Desktop]

FreeRDP: 192.168.1.2...

[FreeRDP: 192.168.1....]

[mtgit@mail:~/Desktop]

[Wireshark · Downloa...]

1 / 4

1

MUM Myanmar 2015

Kyaw Ko Ko Thu

ApplicationsPlaces

FreeRDP: 192.168.1.253

Start

10:45 AM

9/30/2015

admin@192.168.1.254

WinBox v6.28 on RB450G (mipsbe)

Safe Mode

CPU: 5% Memory: 225.2 MiB

Hide Passwords

Quick Set

Interfaces

Bridge

PPP

Switch

Mesh

IP

System

Queues

Files

Log

Radius

Tools

New Terminal

MetaROUTER

Partition

Make Supout.tif

Manual

Exit

Torch (Running)

Basic

Interface: eoip-tunnel1

Entry Timeout: 00:00:03

Collect

☒ Src. Address
 ☐ Src. Address6

☒ Dst. Address
 ☐ Dst. Address6

☐ MAC Protocol
 ☒ Port

☒ Protocol
 ☐ VLAN Id

☒ DSCP
 ☐

Filters

Src. Address: 0.0.0.0/0

Dst. Address: 0.0.0.0/0

Src. Address6: ::/0

Dst. Address6: ::/0

MAC Protocol: all

Protocol: any

Port: any

VLAN Id: any

DSCP: any

Start

Stop

Close

New Window

Et...	Prot...	Src.	Dst.	VLAN Id	DSCP	Tx Rate	Rx Rate	Tx Pack...	Rx Pack...
800 (ip)	17 (...)	192.168.1.255:137 (netbio...	192.168.1.66:137 (netbios...			0 bps	0 bps	0	0
86dd...	17 (...)	547	0.0.0.0:546			1320 bps	0 bps	1	0

2 items

Total Tx: 1320 bps

Total Rx: 0 bps

Total Tx Packet: 1

Total Rx Packet: 0

[mtgit@mail:~/Desktop]

[mtgit@mail:~/Desktop]

FreeRDP: 192.168.1.2...

FreeRDP: 192.168.1.2...

[mtgit@mail:~/Desktop]

[Wireshark · Downloa...

1 / 4

1

MUM Myanmar 2015

Kyaw Ko Ko Thu

FreeRDP: 192.168.1.253

12:22 PM  
9/30/2015

101258 220.754307000 1.1.1.1 1.1.1.2 GRE 478 Encapsulated 0x6400 (unknown)

[-] User Datagram Protocol, Src Port: 37230 (37230), Dst Port: 37008 (37008)

[-] TZSP: Ethernet:

[-] Ethernet II, Src: 00:00:00\_00:00:00 (00:00:00:00:00:00), Dst: 00:00:00\_00:00:00 (00:00:00:00:00:00)

[-] Internet Protocol Version 4, Src: 192.168.1.254 (192.168.1.254), Dst: 192.168.1.253 (192.168.1.253)

[-] User Datagram Protocol, Src Port: 37230 (37230), Dst Port: 37008 (37008)

[-] TZSP: Ethernet:

[-] Ethernet II, Src: 00:00:00\_00:00:00 (00:00:00:00:00:00), Dst: 00:00:00\_00:00:00 (00:00:00:00:00:00)

[-] Internet Protocol Version 4, Src: 1.1.1.1 (1.1.1.1), Dst: 1.1.1.2 (1.1.1.2)

Version: 4

Header Length: 20 bytes

[-] Differentiated Services Field: 0x00 (DSCP 0x00: Default; ECN: 0x00: Not-ECT (Not ECN-Capable Transport))

0000 00.. = Differentiated Services Codepoint: Default (0x00)

.... 00.. = Explicit Congestion Notification: Not-ECT (Not ECN-Capable Transport) (0x00)

Total Length: 88

Identification: 0x42b8 (17080)

[-] Flags: 0x00

Fragment offset: 0

Time to live: 64

[-] Protocol: Generic Routing Encapsulation (47)

[-] Header checksum: 0x33bb [validation disabled]

[Good: False]

[Bad: False]

Source: 1.1.1.1 (1.1.1.1)

Destination: 1.1.1.2 (1.1.1.2)

[Source GeoIP: Unknown]

[Destination GeoIP: Unknown]

[-] Generic Routing Encapsulation (0x6400 - unknown)

[-] Flags and Version: 0x2001

0... .. = Checksum Bit: No

.0.. .. = Routing Bit: No

..1. .... = Key Bit: Yes

...0 .... = Sequence Number Bit: No

.... 0... .. = Strict Source Route Bit: No

.... .000 .... = Recursion control: 0

.... .... 0000 0... = Flags (Reserved): 0

.... .... .001 = Version: Enhanced GRE (1)

Protocol Type: Unknown (0x6400)

Key: 0x003c0000

[-] Data (60 bytes)

Data: ffffffff0c8bfd30c4b080600010800060400010c8b...

[Length: 60]

0180 00 00 00 00 08 00 45 00 00 58 42 b8 00 00 40 2f .....E..XB...@

0190 33 bb 01 01 01 01 01 01 01 02 20 01 64 00 00 3c 3.....d..<

01a0 00 00 ff ff ff ff ff 0c 8b fd f3 0c 4b 08 06 .....K..

01b0 00 01 08 00 06 04 00 01 0c 8b fd f3 0c 4b c0 a8 .....K..

01c0 0b 0c 00 00 00 00 00 00 c0 a8 0a ff 00 00 00 00 .....K..

01d0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....K..

Applications Places Wed 10:11 AM mtgit

FreeRDP: 192.168.1.253

Start

admin@192.168.1.254 - WinBox v6.28 on RB450G (mipsbe)

Safe Mode CPU:22% Memory:226.5 MiB Hide Passwords

Quick Set

Interfaces

Bridge

PPP

Switch

Mesh

IP

System

Queues

Files

Log

Radius

Tools

New Terminal

MetaROUTER

Partition

Make Supout.tif

Manual

Exit

Interface List

Interface	Ethernet	EoIP Tunnel	IP Tunnel	GRE Tunnel	VLAN	VRPP	Bonding	LTE
Name	Type	L2 MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)		
R WiFi_network	Ethernet	1500	0 kbps	0 kbps	0	0		
R bridge1	Bridge	1520	246.5 kbps	207.6 kbps	92	229		
RS eoip-tunnel1	EoIP Tunnel	65535	76.3 kbps	112.9 kbps	23	124		
R ether1								
RS ether2								
R ether4								
R ether5								
R pppoe-out1								
R sstp-out1								

Administrator: C:\Windows\system32\cmd.exe - ping 192.168.10.200 -t

Microsoft Windows [Version 6.4.2601.3]

Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Administrator.SERVER>ping 192.168.10.200 -t

Pinging 192.168.10.200 with 32 bytes of data:

Reply from 192.168.10.200: bytes=32 time=3ms TTL=64

Reply from 192.168.10.200: bytes=32 time=38ms TTL=64

Reply from 192.168.10.200: bytes=32 time=2ms TTL=64

Reply from 192.168.10.200: bytes=32 time=33ms TTL=64

Reply from 192.168.10.200: bytes=32 time=43ms TTL=64

Reply from 192.168.10.200: bytes=32 time=2ms TTL=64

Reply from 192.168.10.200: bytes=32 time=2ms TTL=64

Reply from 192.168.10.200: bytes=32 time=2ms TTL=64

Reply from 192.168.10.200: bytes=32 time=4ms TTL=64

Reply from 192.168.10.200: bytes=32 time=2ms TTL=64

Reply from 192.168.10.200: bytes=32 time=43ms TTL=64

Reply from 192.168.10.200: bytes=32 time=3ms TTL=64

Reply from 192.168.10.200: bytes=32 time=2ms TTL=64

Reply from 192.168.10.200: bytes=32 time=37ms TTL=64

Reply from 192.168.10.200: bytes=32 time=38ms TTL=64

9 items (1 selected)

[mtgit@mail:~/Desktop] [mtgit@mail:~/Desktop] FreeRDP: 192.168.1.253 [FreeRDP: 192.168.1.200] 1 / 4



Applications Places Tue 9:15 AM mtgit

FreeRDP: 192.168.1.253

Start

admin@192.168.1.254 ( ) - WinBox v6.28 on RB450G (mipsbe)

Safe Mode CPU: 12% Memory: 226.9 MiB Hide Passwords

RouterOS WinBox

Quick Set

Interfaces

Bridge

PPP

Switch

Mesh

IP

System

Queues

Files

Log

Radius

Tools

New Terminal

MetaROUTER

Partition

Make Supout.tif

Manual

Exit

Interface List

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

Interface <esp-out1>

General

Tx/Rx Rate: 6.7 kbps / 34.0 kbps

Tx/Rx Packet Rate: 9 p/s / 7 p/s

Tx/Rx Bytes: 10.9 MiB / 36.5 MiB

Tx/Rx Packets: 98 488 / 261 898

Tx/Rx Drops: 0 / 0

Tx/Rx Errors: 0 / 0

Tx: 6.7 kbps

Rx: 34.0 kbps

Tx Packet: 9 p/s

Rx Packet: 7 p/s

enabled running slave Status: connected

7 items (1 selected)

192.168.10.200 - Remote Desktop Connection

Computer

dhcp

TV User

new dhcp

old DHCP

reservation dhcp

Recycle Bin

scope option

Foxit Reader

ESET

Mozilla Firefox

TeamViewer 10

[remode desktop.odt ~...] [mtgit@mail:~/Desktop] [cisco - Google Search...] [FreeRDP: 192.168.1....] mtgit@mail:~/Desktop FreeRDP: 192.168.1.2... 1 / 4

Applications Places

FreeRDP: 192.168.1.253

Start

10:07 AM

9/30/2015

admin@192.168.1.254

WinBox v6.28 on RB450G (mipsbe)

Safe Mode

CPU:17% Memory:226.4 MiB

Hide Passwords

Quick Set

Interfaces

Bridge

PPP

Switch

Mesh

IP

System

Queues

Files

Log

Radius

Tools

New Terminal

MetaROUTER

Partition

Make Supout.tif

Manual

Exit

Interface List

Interface

Ethernet

EoIP Tunnel

IP Tunnel

GRE Tunnel

VLAN

VRRP

Bonding

LTE

+

-

✓

✗

📄

🔍

Find

Name	Type	L2 MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)
R WiFi_network	Ethernet	1520	46.6 kbps	96.2 kbps	17	18
R bridge1	Ethernet	1520	173.2 kbps	304.4 kbps	236	264
RS eoip-tunnel1	EoIP Tunnel	65535	62.4 kbps	1863.8 kbps	83	222
R ether1	Ethernet	1520	525.7 kbps	4.4 Mbps	360	467
RS ether2	Ethernet	1520	3.7 Mbps	238.9 kbps	439	253
R ether4	Ethernet	1520	257.3 kbps	51.4 kbps	37	68
R ether5	Ethernet	1520	1016 bps	0 bps	2	0
R pppoe-out1	PPPoE Client		450.5 kbps	4.0 Mbps	368	459
R sstp-out1	SSTP Client		64.5 kbps	1936.6 kbps	84	366

2 Minutes remaining

Copying 1 item (43.2 MB)

Name: UniFi-installer

From: STD Softwares

To: Desktop(C:\Users\Administrator.SERVER\Desktop)

Time remaining: About 2 Minutes

Items remaining: 1 (39.2 MB)

Speed: 273 KB/second

Fewer details

Cancel

9 items (1 selected)

RouterOS WinBox

[mtgit@mail:~/Desktop]

[mtgit@mail:~/Desktop]

FreeRDP: 192.168.1.253

[FreeRDP: 192.168.1.200]

1 / 4

Applications Places Wed 10:15 AM mtgit

FreeRDP: 192.168.1.253

Start

Speedtest.net by Ookla - The... x

www.speedtest.net

OOKLA SPEEDTEST PINGTEST AWARDS The Global Standard in Internet Metrics

SPEEDTEST

ADVERTISE BECOME A HOST MY RESULTS SUPPORT SETTINGS LOGIN CREATE ACCOUNT

SatSite 2.5G macro BTS  
Lightweight, low power base station Software upgrade to 4G LTE

Slow speeds?  
Make your PC faster by fixing system issues

PING 5 ms

DOWNLOAD SPEED 1.16 Mbps

UPLOAD SPEED 1.33 Mbps

SHARE THIS RESULT

SLOW PC PERFORMANCE?  
Run a test to identify issues and speed up your PC

START NOW

Are you on Yatanarpon Teleport, Internet Service?  
Take our Broadband Internet Survey!

Measure the quality of your connection.

BEGIN TEST

122.248.100.20  
Yatanarpon Teleport, Internet Service  
★★★★★ Rate your ISP

TEST AGAIN

NEW SERVER

Yangon  
Hosted by Myanmar Posts and

2 Minutes remaining

Copying 1 item (43.2 MB)

Name: UniFi-installer  
From: STD Softwares  
To: Desktop (C:\Users\Administrator\SERVER\Desktop)  
Time remaining: About 2 Minutes  
Items remaining: 1 (17.2 MB)  
Speed: 140 KB/second

Fewer details Cancel

TELEBREEZE

Satellite Internet  
Global Satellite Services - Satellite Internet

START SCAN

Advertise on Speedtest.net

[mtgit@mail:~/Desktop] [mtgit@mail:~/Desktop] FreeRDP: 192.168.1.253 [FreeRDP: 192.168.1.200] [mtgit@mail:~/Desktop] 1 / 4

# Thank You



# Good Bye

-----

## Myanmar MikroTik User Meeting Welcome To Next Years