

BCP

Servidor Cloud em Camada 2 com BCP/L2TP

Sobre mim

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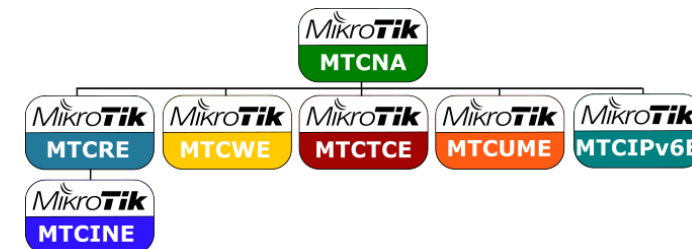
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Objetivo

- Demonstrar a funcionalidade BCP com L2TP
- Comparar desempenho dos tuneis de camada 2

Agenda

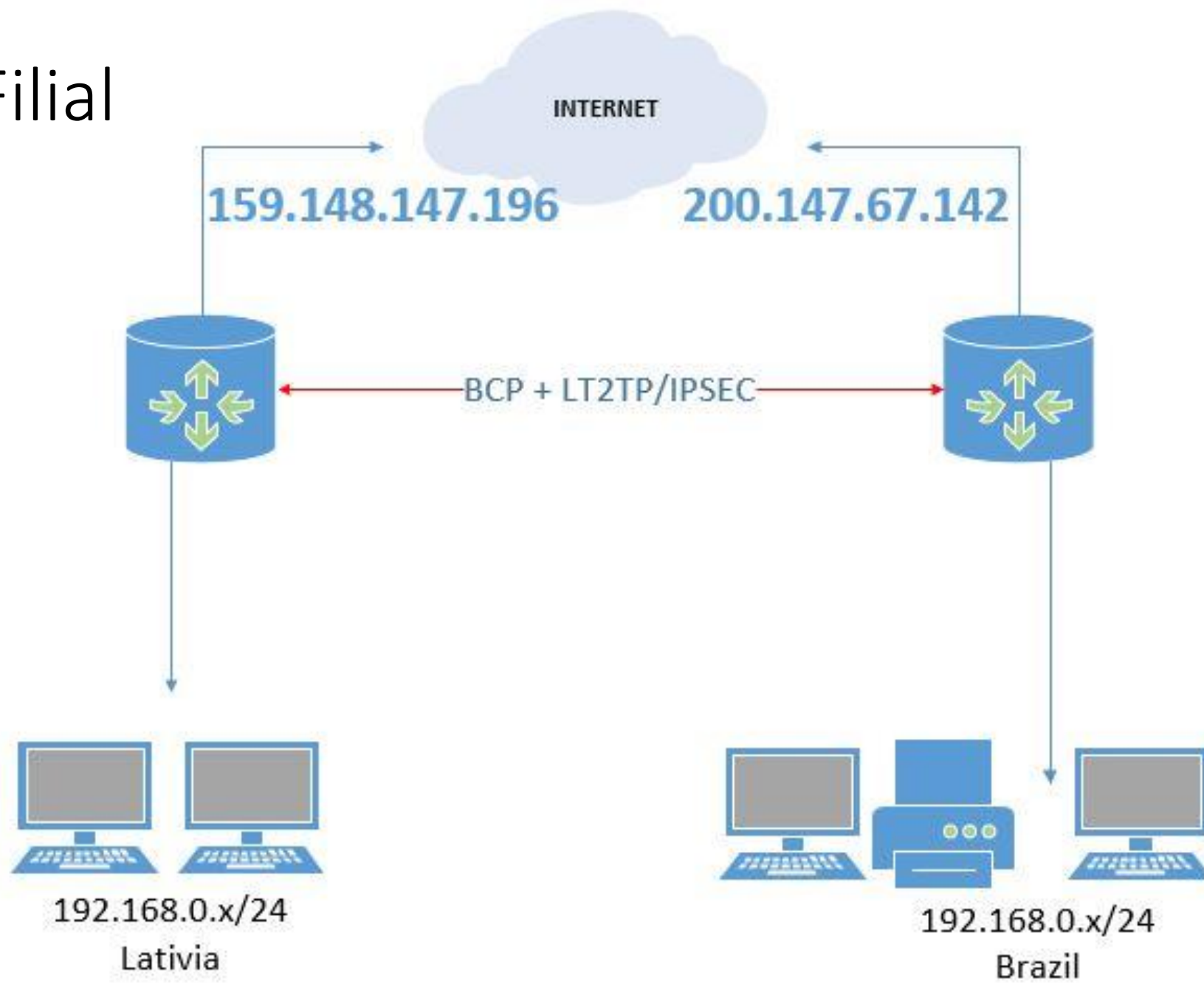
- O que é BCP
- Exemplo de aplicação do BCP
- Tuneis de camada 2
- Overhead L2TP x EOIP
- Como configurar o L2TP com BCP

BCP

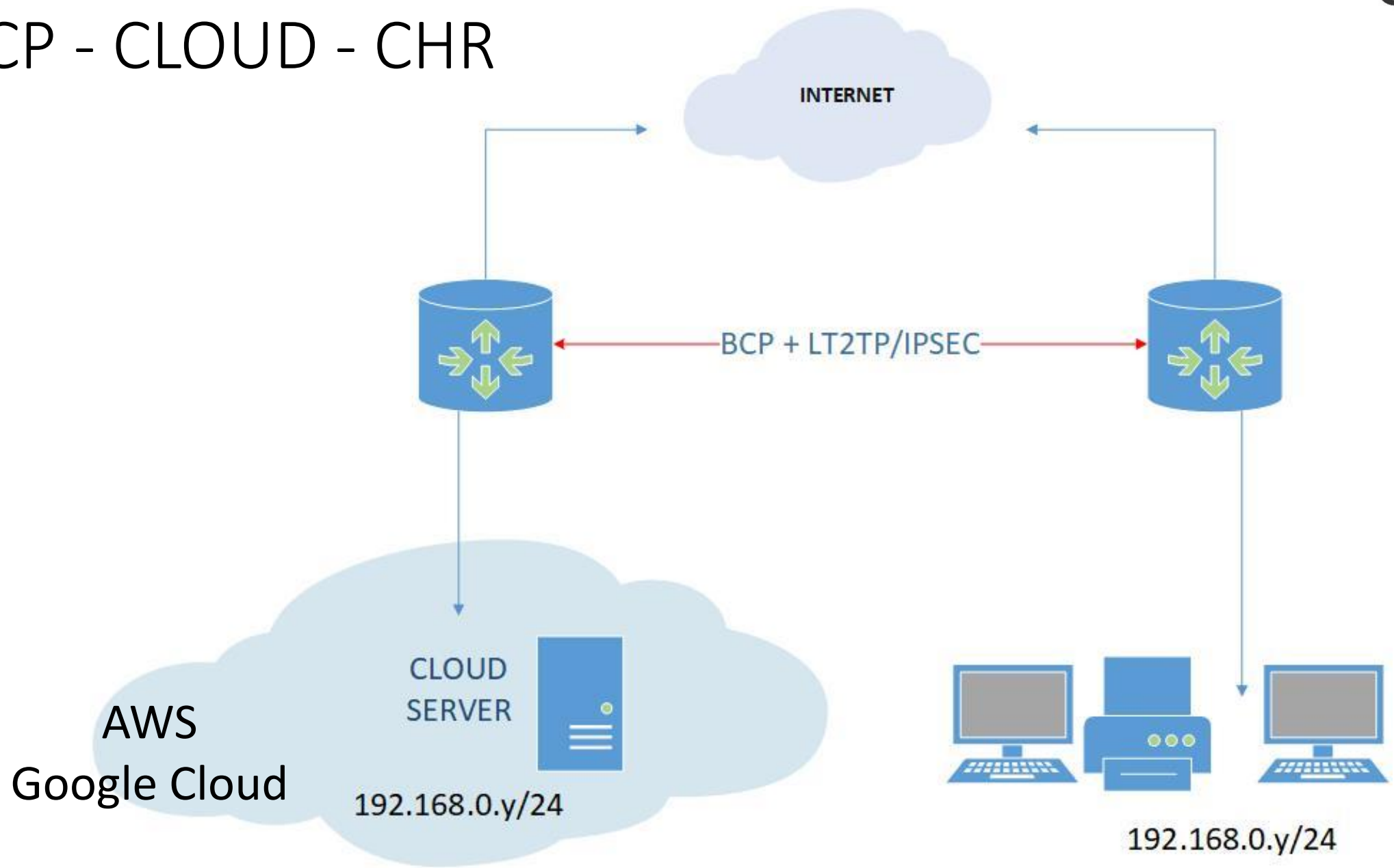


- BCP (Bridge Control Protocol) – RFC3518
- BCP é responsável por interligar as extremidades em camada 2
- Não está relacionado a nenhum endereço de IP do tunel PPP

Matriz x Filial



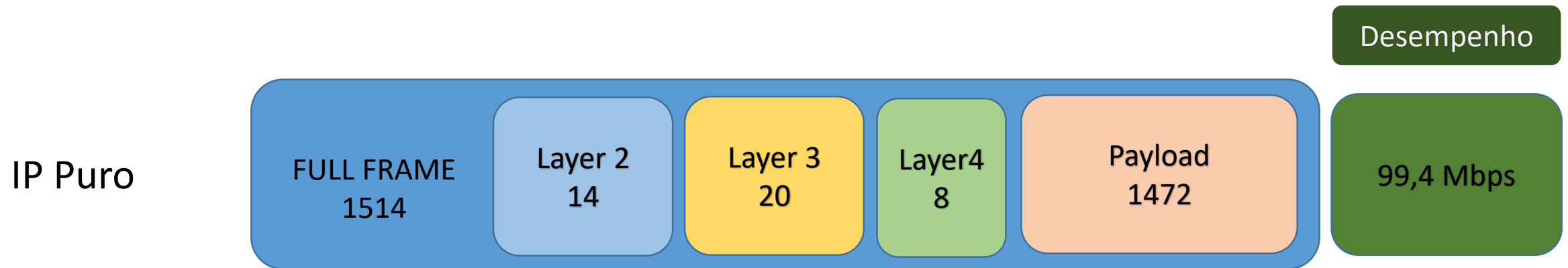
BCP - CLOUD - CHR



Tuneis suporte a BCP

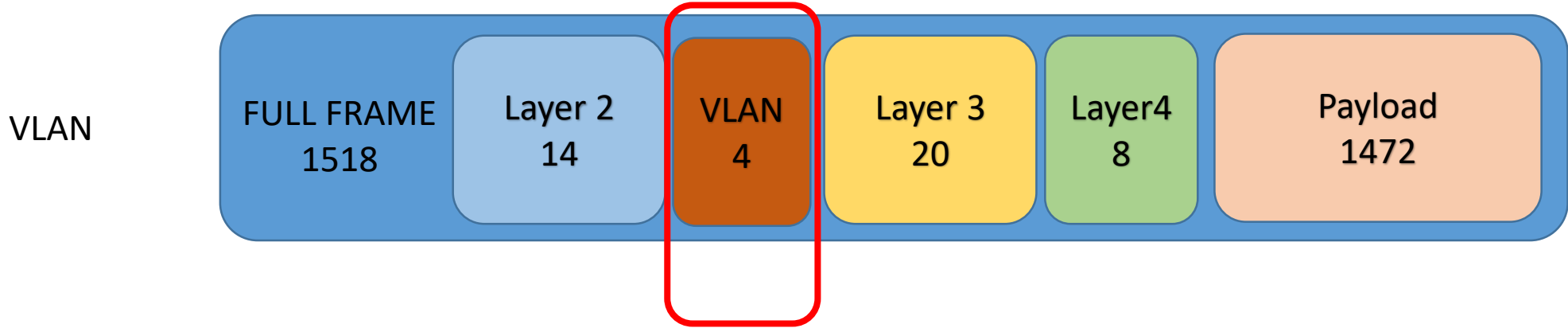
- PPP – Point to Point Protocol
- PPTP – Point to Point Tunneling Protocol
- SSTP – Secure Socket Tunneling Protocol
- **L2TP – Layer 2 Tunneling Protocol**

Desempenho



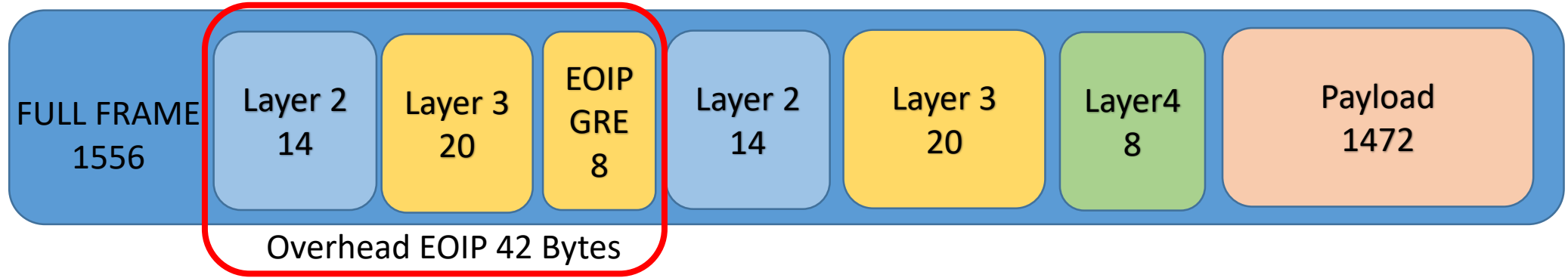
Testes usando utilizando um ping de 1500 Bytes
“não permitindo fragmentar”

VLAN x EOIP



Overhead

EOIP



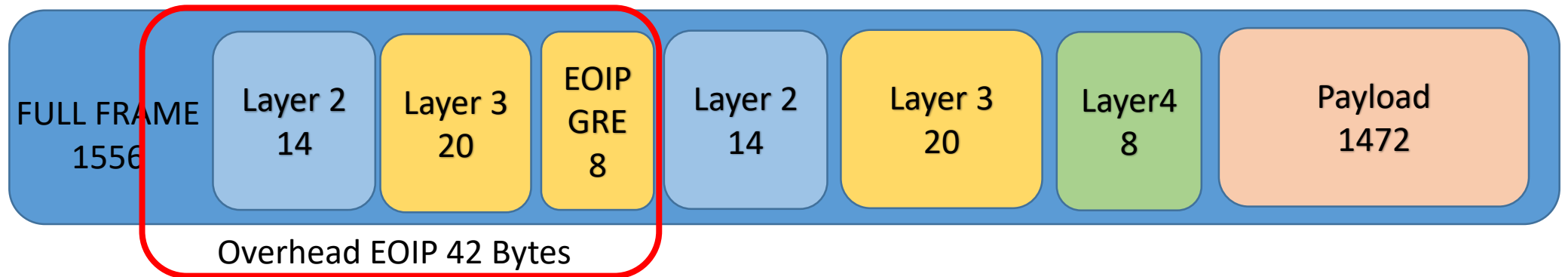
Overhead EOIP 42 Bytes

VLAN x EOIP (REDE LAN)

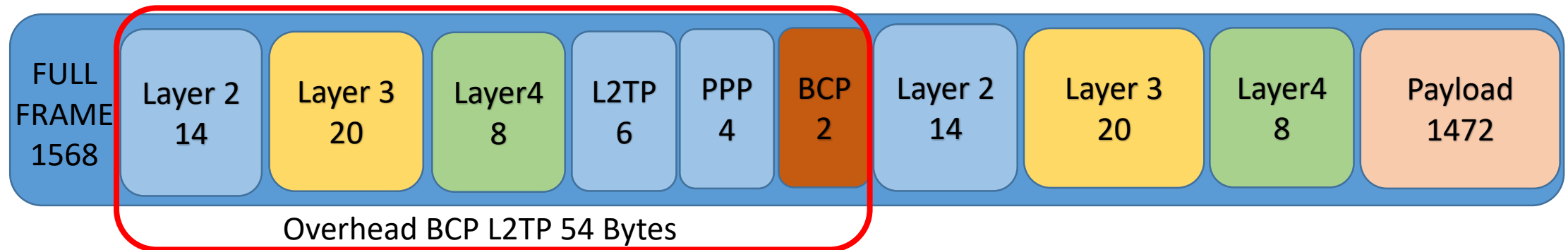
	IP Puro	VLAN	EOIP
BANDA	99,4 Mbps	97 Mbps	95.5 Mbps
OVERHEAD		4 Bytes	42 Bytes

EOIP x BCP-L2TP

EOIP



BCP L2TP



EOIP x BCP-L2TP (Internet)

	BCP-L2TP	EOIP
BANDA	95,1 Mbps	95.5 Mbps
OVERHEAD	54 Bytes	42 Bytes

EOIP x L2TP

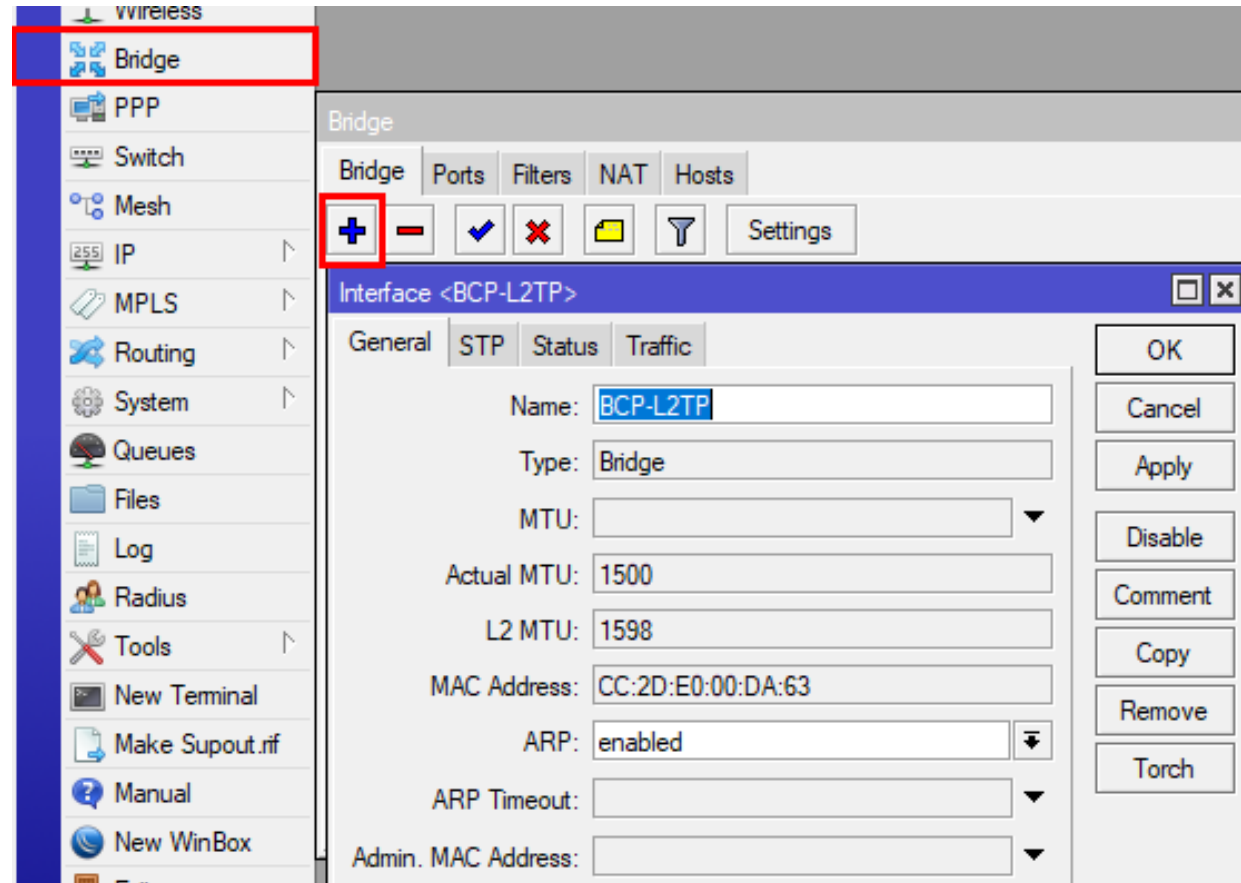
- EOIP é necessário IP Público “fixo” em ambos os lados.
- L2TP/BCP Apenas um dos lados precisa de IP Público

Layer 2 – Site-to-Site

- Compartilha a mesma subrede
- Mesmo domínio de broadcast
- DHCP Server centralizado
- Gateway – Acesso internet centralizado
- Baseado em Bridge
- Não requer rota entre os hosts.
- Compartilhamento de arquivos.

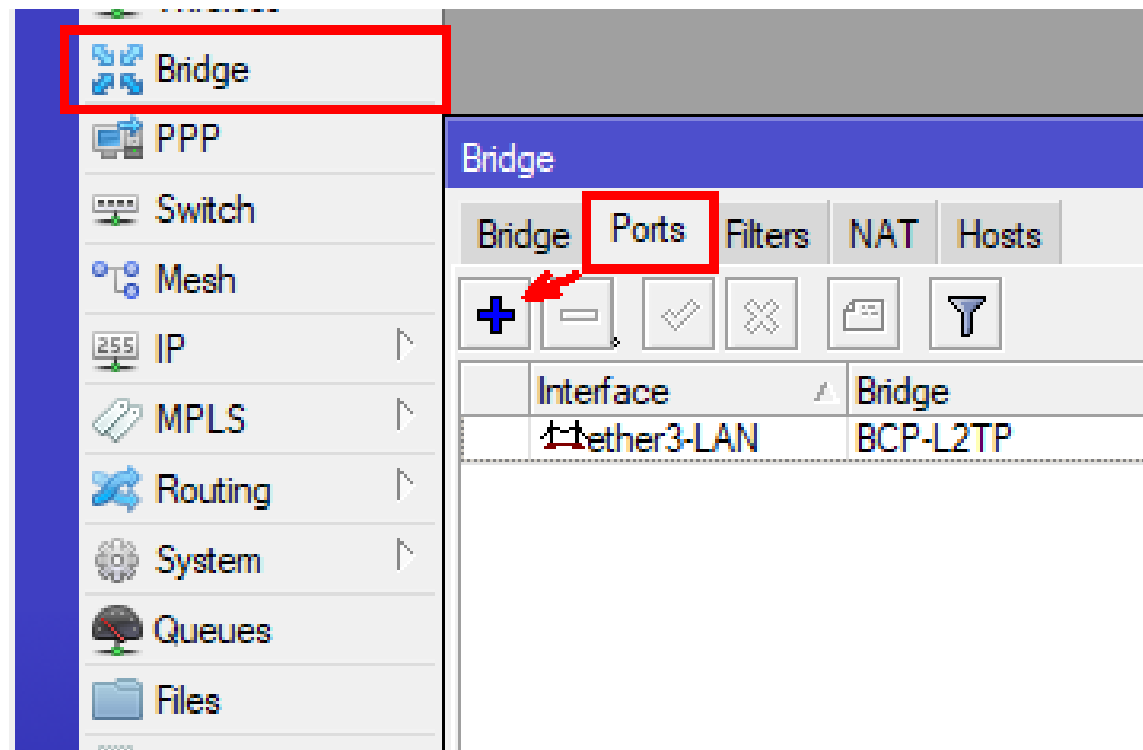
Configurando o RouterOS BCP Lado Servidor

Bridge



Bridge → +

Bridge - Ports



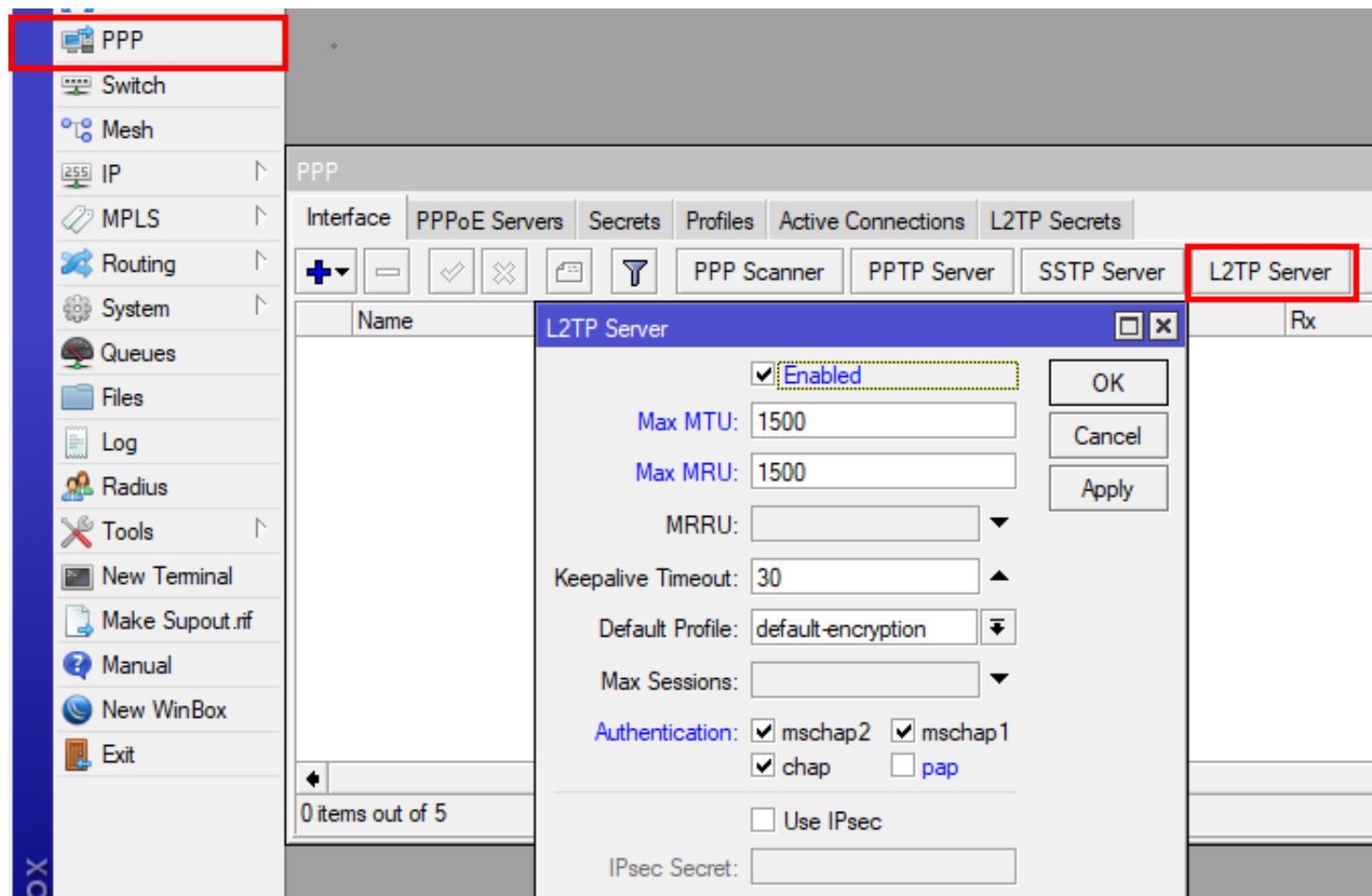
Bridge → Ports → +

PPP -> Profile

The screenshot shows the Mikrotik WinBox interface. On the left sidebar, the 'PPP' menu item is highlighted with a red box. In the main window, the 'Profiles' tab is selected under the 'PPP' section. A red box highlights the '+' icon for adding a new profile. A dialog box titled 'New PPP Profile' is open, showing the 'Name' field set to 'BCP-Profile' and the 'Bridge' dropdown set to 'BCP-L2TP'. Red arrows point from the sidebar 'PPP' menu to the 'Profiles' tab and from the '+' icon to the dialog box.

PPP → Profiles → +

L2TP Server



PPP → Profiles → +

PPP -> Secrets

- Para cada filial 1 Login

The screenshot shows the Mikrotik WinBox interface. On the left sidebar, the 'PPP' menu item is highlighted with a red box. In the main window, the 'Secrets' tab is selected and also highlighted with a red box. A 'New PPP Secret' dialog box is open, showing the following configuration:

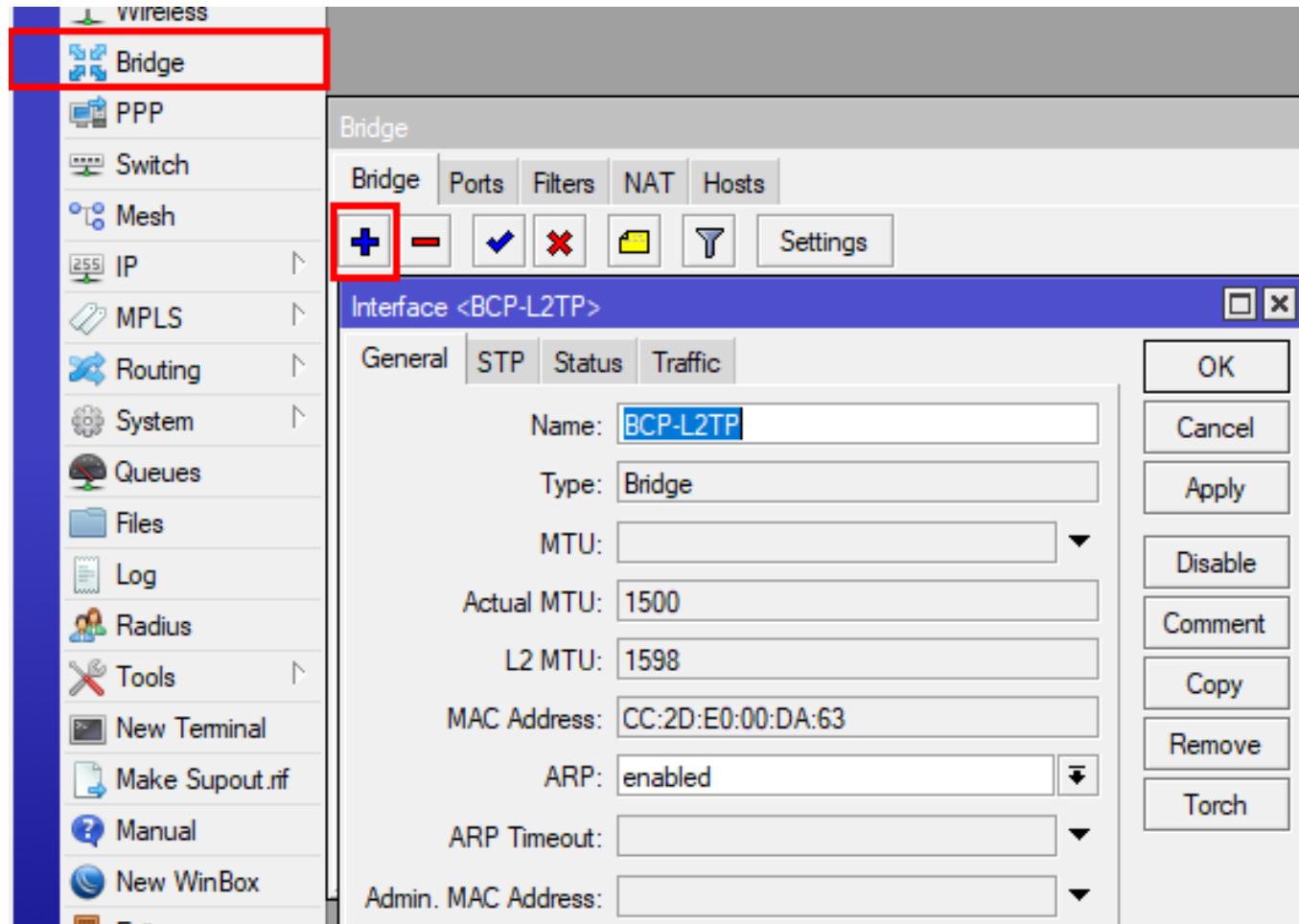
- Name: test
- Password: test
- Service: l2tp
- Caller ID: (empty)
- Profile: BCP-PROFILE
- Local Address: 10.10.10.1
- Remote Address: 10.10.10.2

Red arrows indicate the navigation path: from the 'PPP' menu item in the sidebar to the 'Secrets' tab, and then to the '+' button in the 'New PPP Secret' dialog box.

PPP → Secrets → +

Configurando RouterOS Lado Cliente – Filial

Bridge



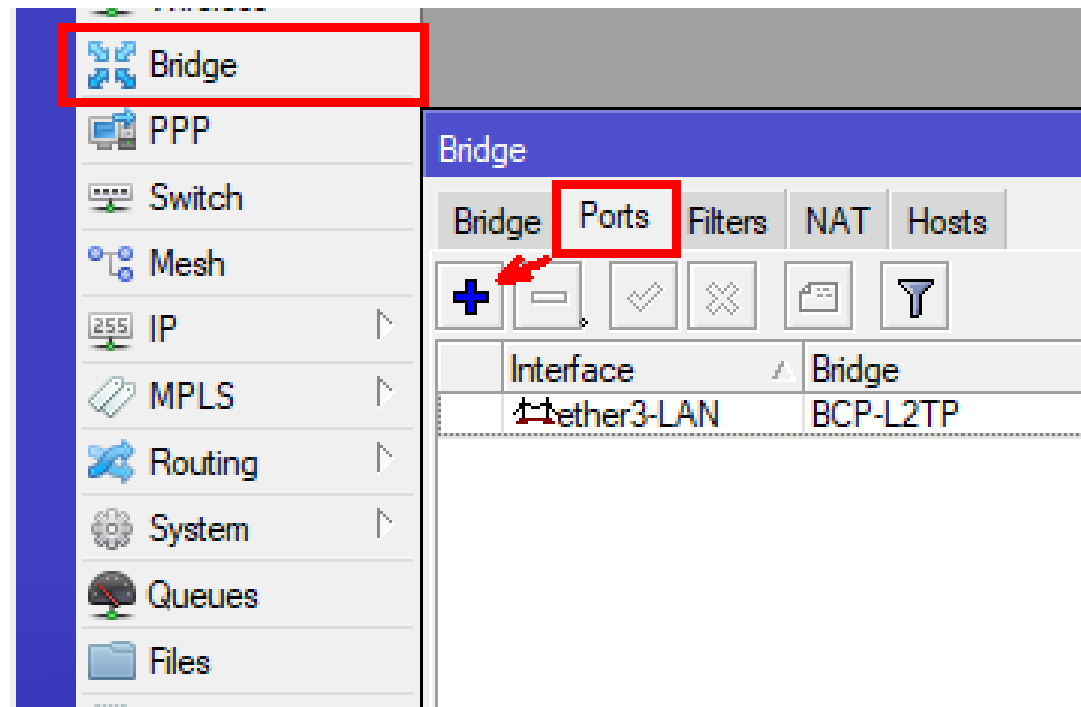
Bridge → +

PPP -> Profile

The screenshot shows the Mikrotik WinBox interface. On the left sidebar, the 'PPP' menu item is highlighted with a red box. A red arrow points from this menu item to the 'Profiles' tab in the main configuration window. In the main window, the 'Profiles' tab is active, and the '+' icon is highlighted with a red box. A second red arrow points from this icon to the 'New PPP Profile' dialog box. In the dialog box, the 'Name' field contains 'BCP-Profile' and the 'Bridge' dropdown menu is set to 'BCP-L2TP', both of which are highlighted with red boxes.

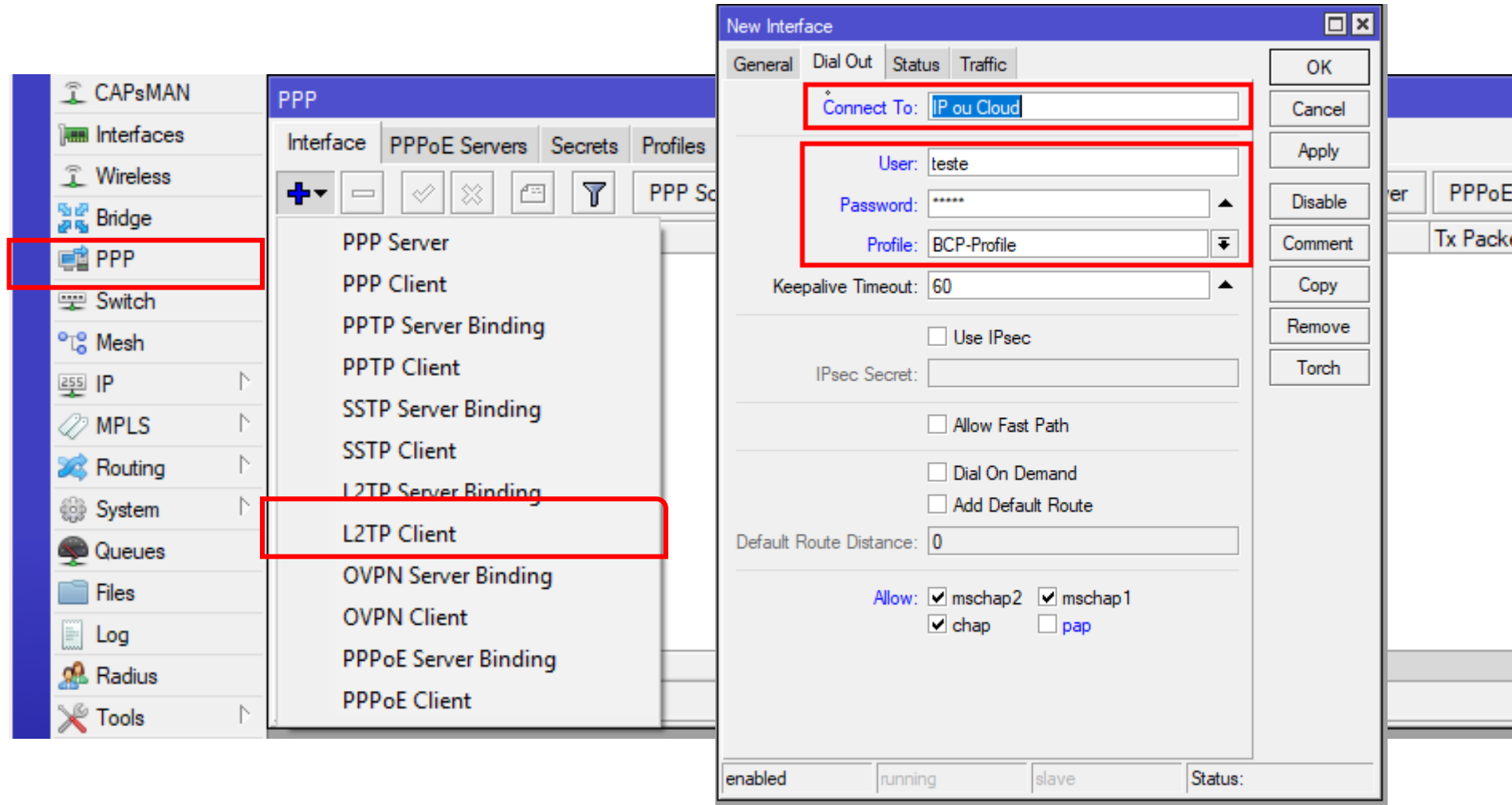
PPP → Profiles → +

Bridge Ports



Bridge → Ports → +

L2TP Client



PPP → + → L2TP Client

/Bridge Ports

The screenshot shows the Mikrotik WinBox interface for configuring a bridge. The 'Bridge' tab is active, and the 'Ports' sub-tab is selected. Below the sub-tabs are several icons: a plus sign, a minus sign, a checkmark, a red X, a folder, and a funnel. The main area contains a table with the following data:

#		Interface	Bridge	Horizon	Priority (h...	Path Cost	Role
2	H	ether3-LAN	BCP-Bridge-CLI		80	10	designated port
1	D	l2tp-BCP-CLI	BCP-Bridge-CLI		80	10	designated port

A interface do L2TP é adicionada dinamicamente na bridge

Conclusão

- Apenas o server precisa de acesso direto com IP Público.
- Para cada novo client, basta criar o login e senha em PPP no Server.
- A escolha de qual túnel usar pode influenciar no seu resultado do projeto.

Obrigado,

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