

Herramientas para Gestión y Administración MikroTik



Contenido

- The Dude
- RoMon
- CAPsMAN
- API

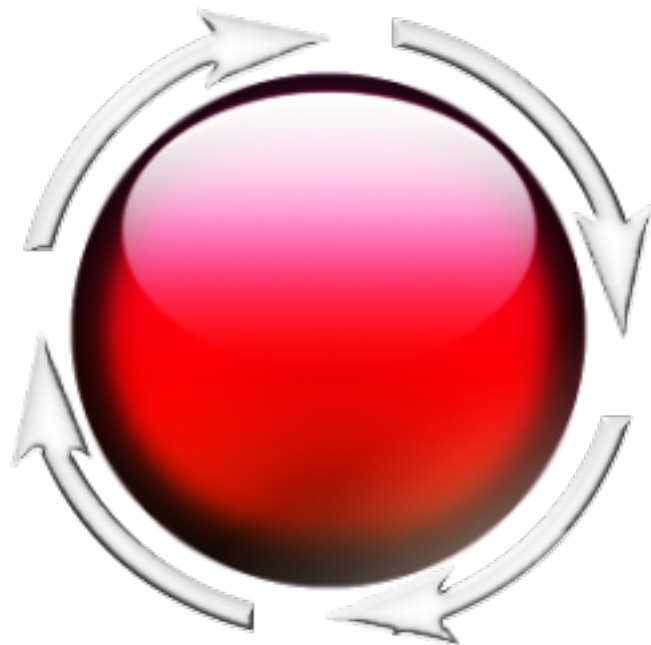
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- Administrador de redes desde el año 2000
- Certificaciones Mikrotik:
MTCNA, MTCWE, MTCRE, MTCINE
- Administrador Windows y Linux
- CTO Index Datacom

Objetivos

- Compartir cómo mejorar la administración y gestión en dispositivos, (Routers, APs) de la familia MikroTik.
- Minimizar tiempos offline.
- Eficientar el soporte a la infraestructura.

The Dude V6



Administración The Dude V6

- Sistema de monitoreo, gestiona dispositivos y elementos de la red.
- Soporta autodescubrimiento.
- Cliente nativo en Windows, en Linux y Mac Os (con Wine).

Administración The Dude V6

- ❑ Disponible como paquete opcional a partir de la versión 6.34 rc13.
- ❑ Hay que instalar la nueva versión del cliente (pcs).
- ❑ Esta versión esta en desarrollo por lo que puede presentar inconsistencias, para producción se recomienda v3.6 o v4 beta3.

The Dude V6

Hardware

- ❑ Mikrotik CCRs
- ❑ RouterOS X86
- ❑ RouterOS CHR (Cloud Hosted Router)

The Dude V6

Características

- ✓ Rápida implementación
- ✓ Versátil
- ✓ Gestión a través de SNMP v1, v2, v3
- ✓ Notificación de eventos por audio, Popup, Correo, SMS
- ✓ Syslog integrado
- ✓ Customizable (iconos, fondos, información, etc)

The Dude V6

Características

- ✓ Winbox integrado con la herramienta
- ✓ Gráficos de servicios (latencias, ancho de banda, señal wireless, etc.)
- ✓ Análisis de espectro
- ✓ Programación de respaldos vía scripts
- ✓ No hay que pagar por el uso

The Dude V6

Migrando de versión 3.6 o beta 4

- ✓ Exporte y salve su DB en formato .tgz o .xml según la versión
- ✓ Habilite the dude V6xx
 - `/dude set enabled=yes`
- ✓ Cargue el respaldo al host de ROS en el que se instaló el paquete The Dude
- ✓ Importe la DB al server V6

```
/dude import-db backup-file=(file_name_path)
```

The Dude V6

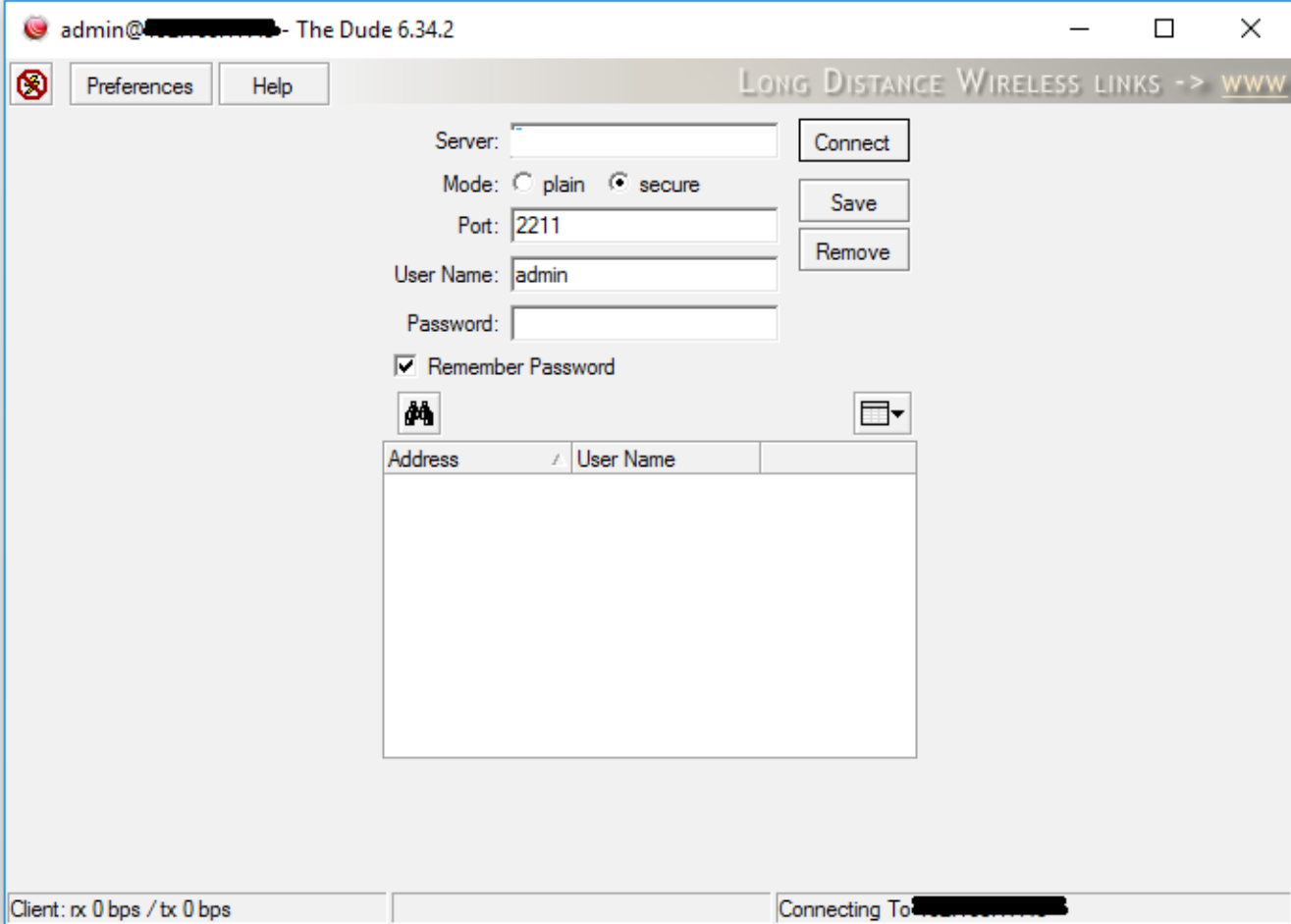
Instalar Nuevo Cliente

wiki.mikrotik.com/wiki/Manual:The_Dude_v6/Installation

MIPSLE					RB1xx, RB5xx, Crossroads
Main package		-		-	
Extra packages		-		-	
GENERAL					
Netinstall					
The Dude client	-	-	-		
Changelog					
MD5	Σ	Σ	Σ	Σ	

The Dude V6

Primer Inicio



The screenshot shows the 'The Dude' web interface for version 6.34.2. The browser window title is 'admin@[REDACTED] - The Dude 6.34.2'. The interface includes a top navigation bar with 'Preferences' and 'Help' buttons, and a status bar at the bottom showing 'Client: rx 0 bps / tx 0 bps' and 'Connecting To [REDACTED]'. The main content area is titled 'LONG DISTANCE WIRELESS LINKS -> WWW' and contains a form for adding a new link. The form fields are: 'Server:' (empty), 'Mode:' with radio buttons for 'plain' and 'secure' (selected), 'Port:' (2211), 'User Name:' (admin), and 'Password:' (empty). To the right of these fields are 'Connect', 'Save', and 'Remove' buttons. Below the form is a checkbox labeled 'Remember Password' which is checked. At the bottom, there is a table with two columns: 'Address' and 'User Name'. The table is currently empty.

admin@[REDACTED] - The Dude 6.34.2

Preferences Help

LONG DISTANCE WIRELESS LINKS -> WWW

Server: Connect

Mode: ☐ plain ☒ secure

Port: Save

User Name: Remove

Password:

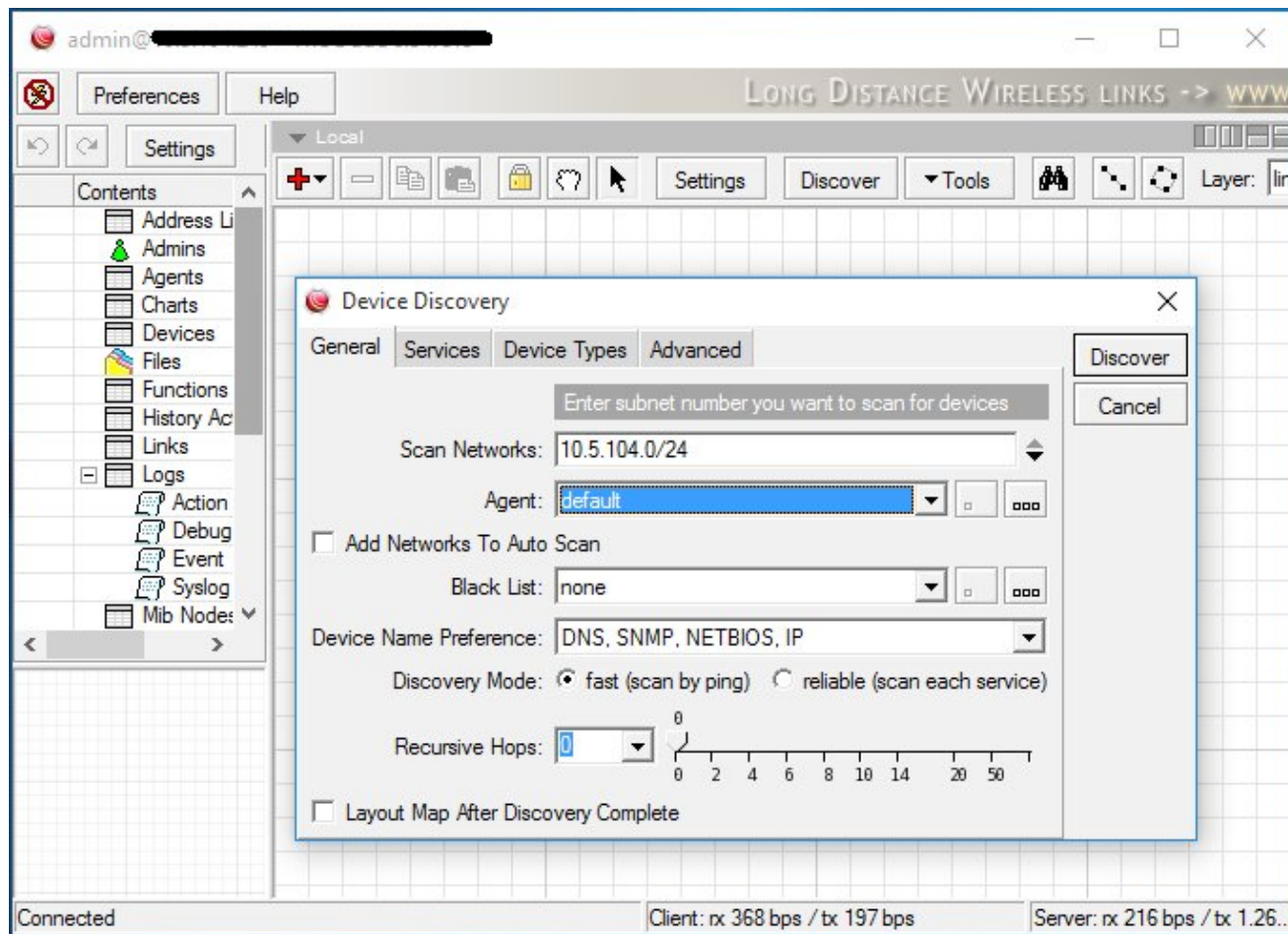
☒ Remember Password

Address	User Name
---------	-----------

Client: rx 0 bps / tx 0 bps Connecting To [REDACTED]

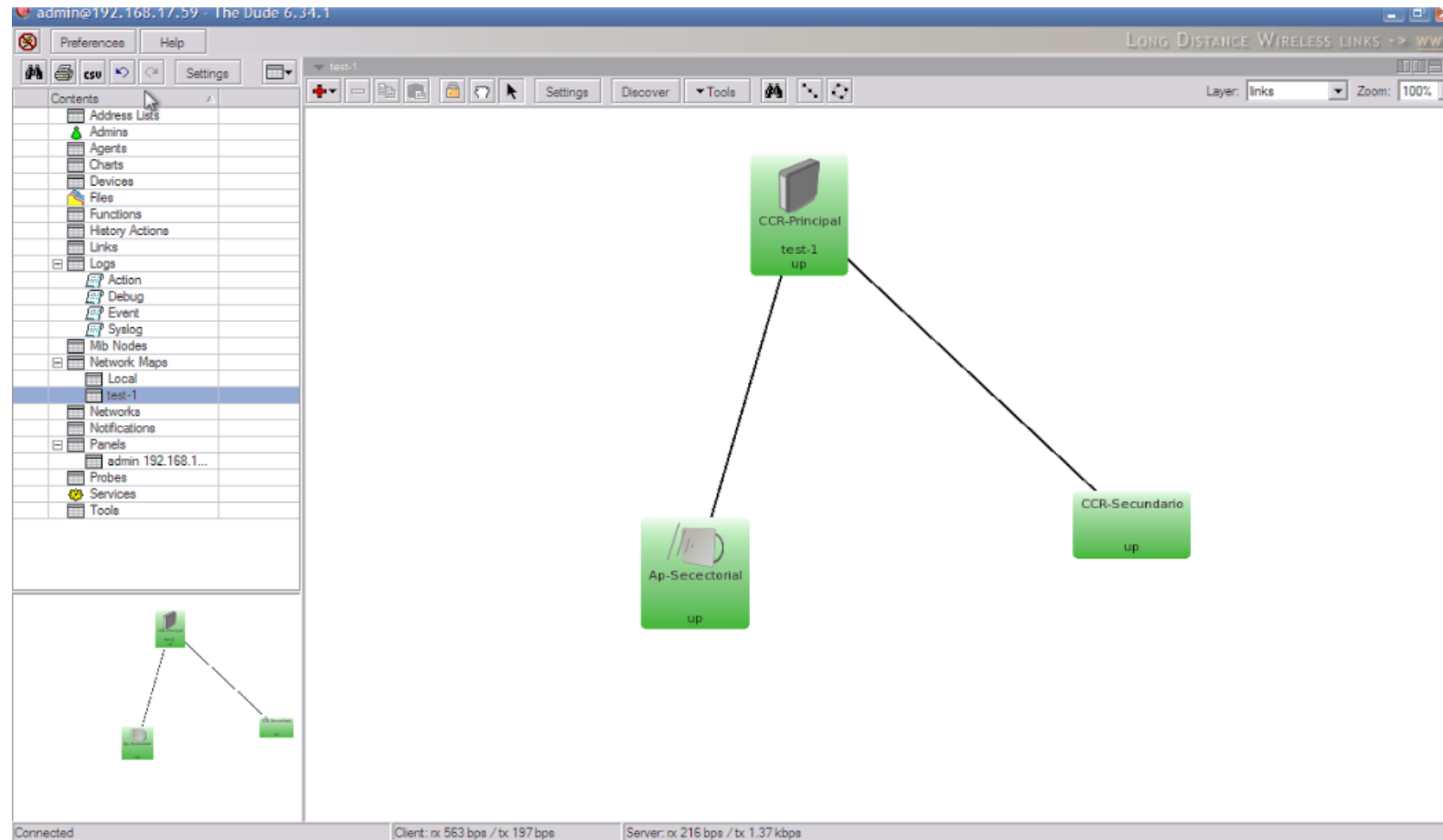
The Dude V6

Primer Inicio



The Dude V6

Mapa simple etiquetas básicas



The Dude V6

Etiquetas dinámicas Basadas en SNMP

AP: CENTRO DE NEGOCIOS
Mac-2.4 Reg:
=====

9c:d9:17:37:54:dd

--Mac-REg 5.8 --
=====

a8:8e:24:b9:31:f5


AP: Edif700_POSICION3
Mac-2.4 Reg:
=====

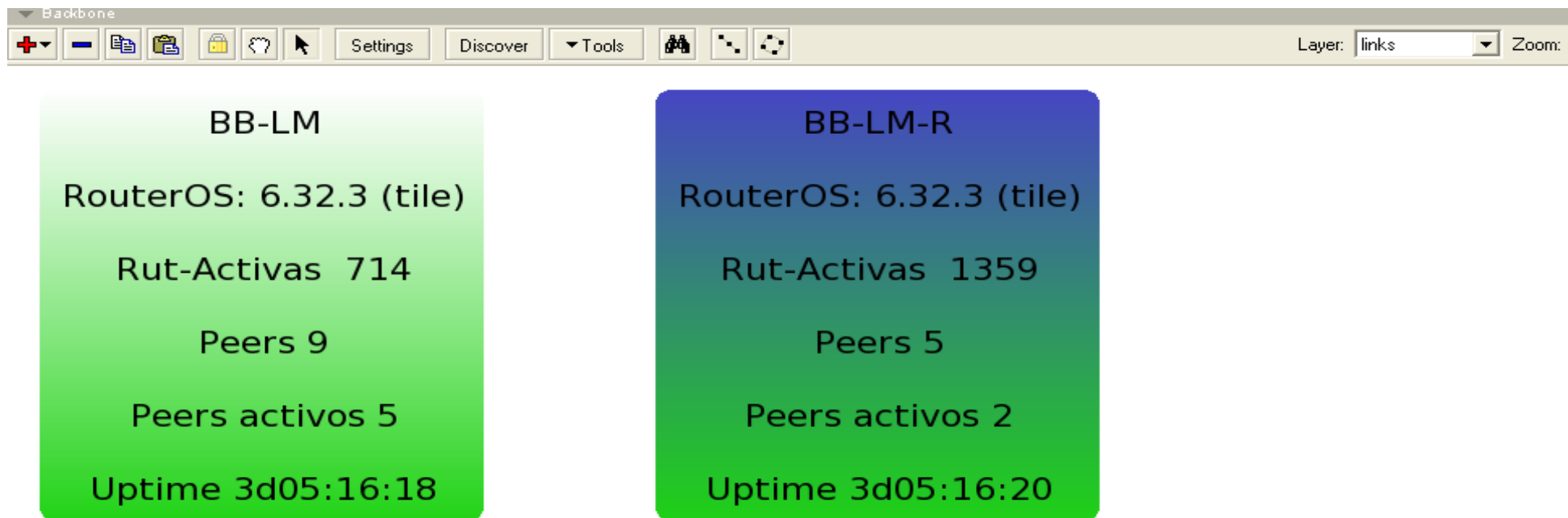
60:be:b5:09:36:e8
a4:e4:b8:2b:f2:3d
e4:90:7e:ef:0e:1a
90:b6:86:1d:d9:f9

--Mac-REg 5.8 --
=====


192.168.0.23
AP: TORRE2_3POCISION
Clientes Reg: 1
Uptime 0000 days, 00 hours, 20 minutes, 52 seconds.

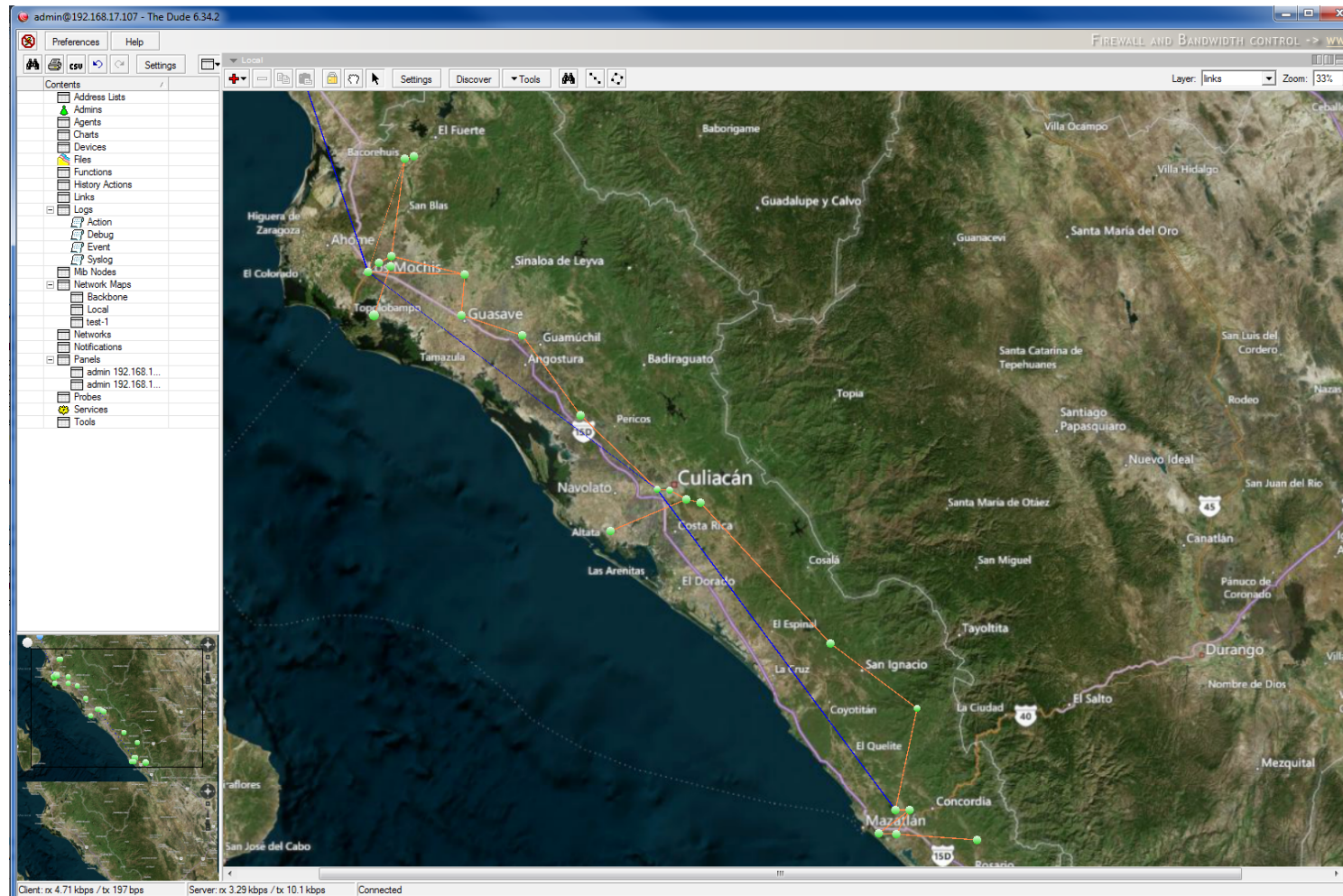
The Dude V6

Etiquetas dinámicas basadas en ros_command



❑ Ejemplo: Rut-Activas [ros_command ("/ip ro pr count-only")]

The Dude V6



□ Mapa
monitoreando
dispositivos

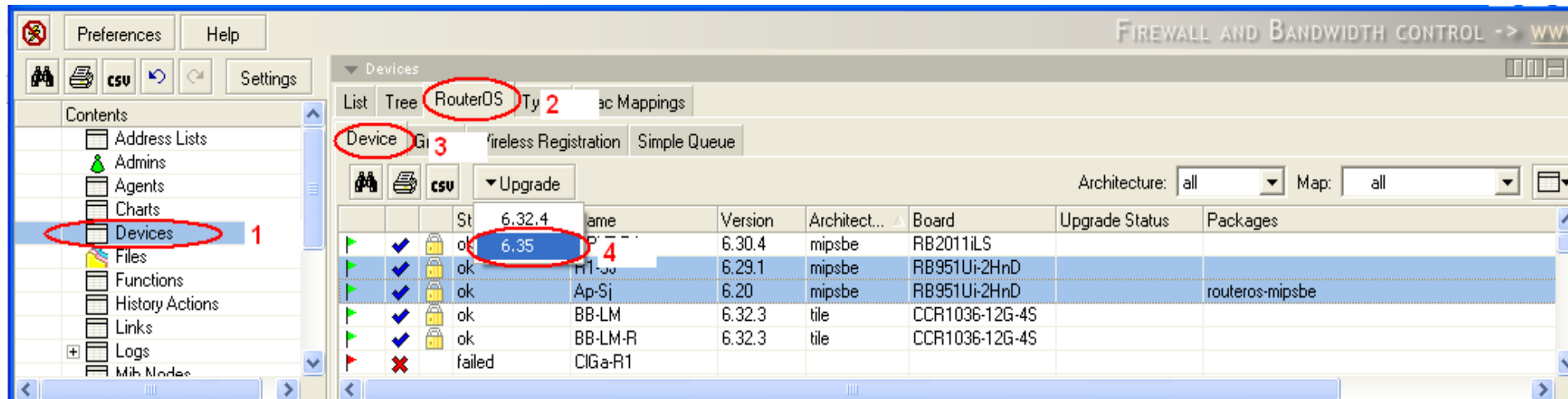
The Dude V6

Actualizando Firmware con The Dude

- ☐ La centralización y actualización de equipos mikrotik es posible realizarla de manera centralizada
- ☐ Las diferentes versiones de Firmware se agregan dentro de files

The Dude V6

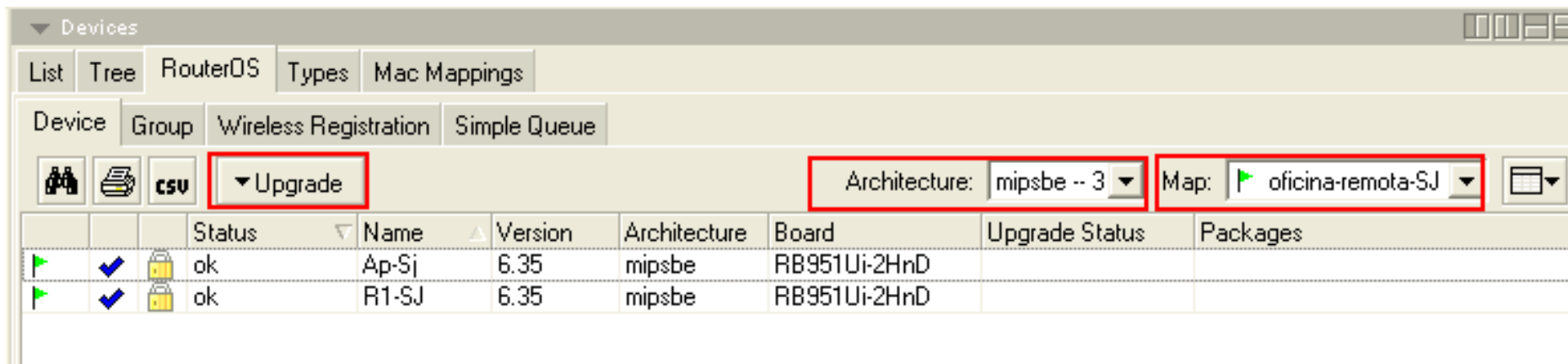
Método de actualización



- ❑ Seleccionamos el equipo y la versión de Firmware a instalar

The Dude V6

Gestión de paquetes y firmware



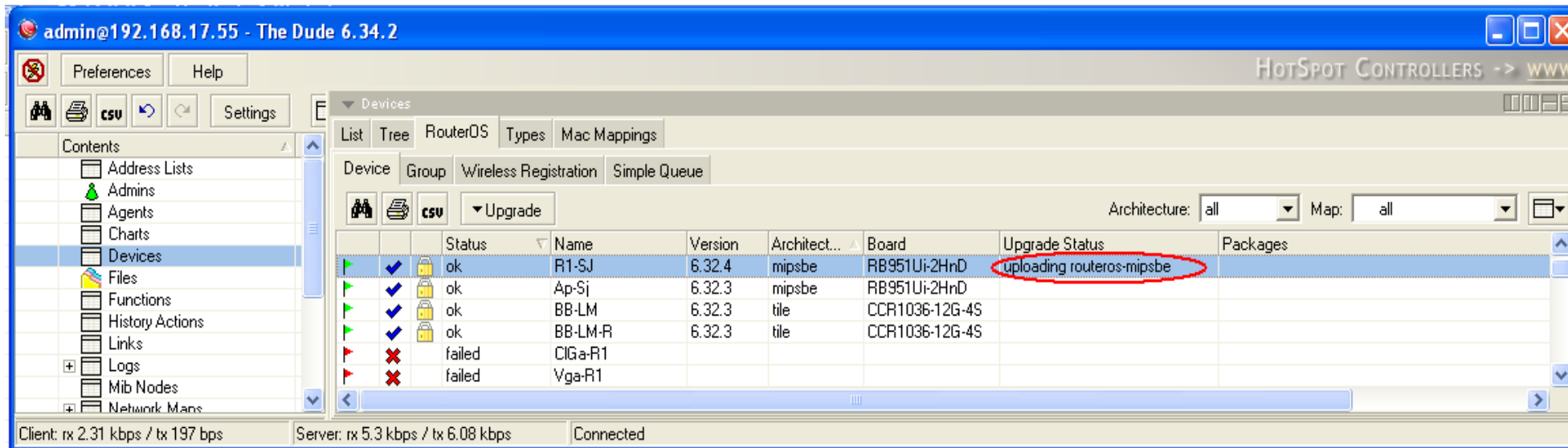
The screenshot shows the 'Devices' section of The Dude V6 interface. The 'Upgrade' button is highlighted with a red box. The 'Architecture' filter is set to 'mipsbe -- 3' and the 'Map' filter is set to 'oficina-remota-SJ', both also highlighted with red boxes. Below the filters is a table with columns: Status, Name, Version, Architecture, Board, Upgrade Status, and Packages. Two devices are listed: 'Ap-Sj' and 'R1-SJ', both with a status of 'ok' and version '6.35'.

Status	Name	Version	Architecture	Board	Upgrade Status	Packages
ok	Ap-Sj	6.35	mipsbe	RB951Ui-2HnD		
ok	R1-SJ	6.35	mipsbe	RB951Ui-2HnD		

- ☐ Filtro por Arquitectura
- ☐ Filtro por Mapa

The Dude V6

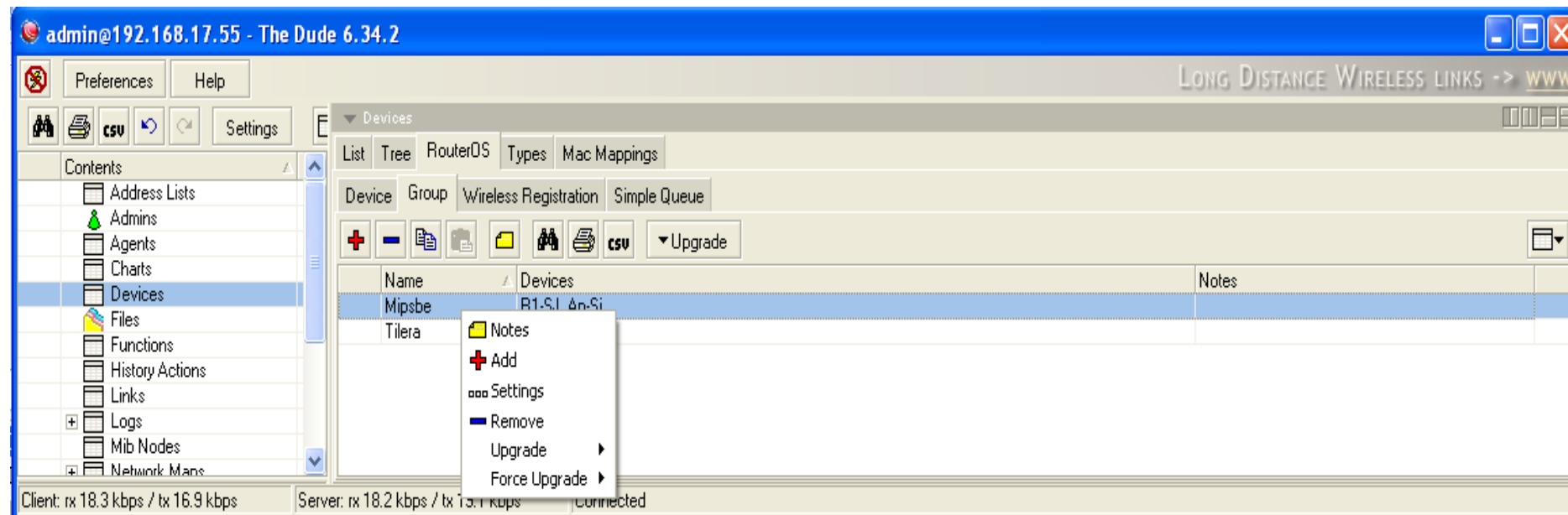
Gestión de paquetes y firmware



- ☐ Mantenemos información del estado de la actualización
- ☐ Es posible formar grupos de dispositivos para la actualización masiva

The Dude V6

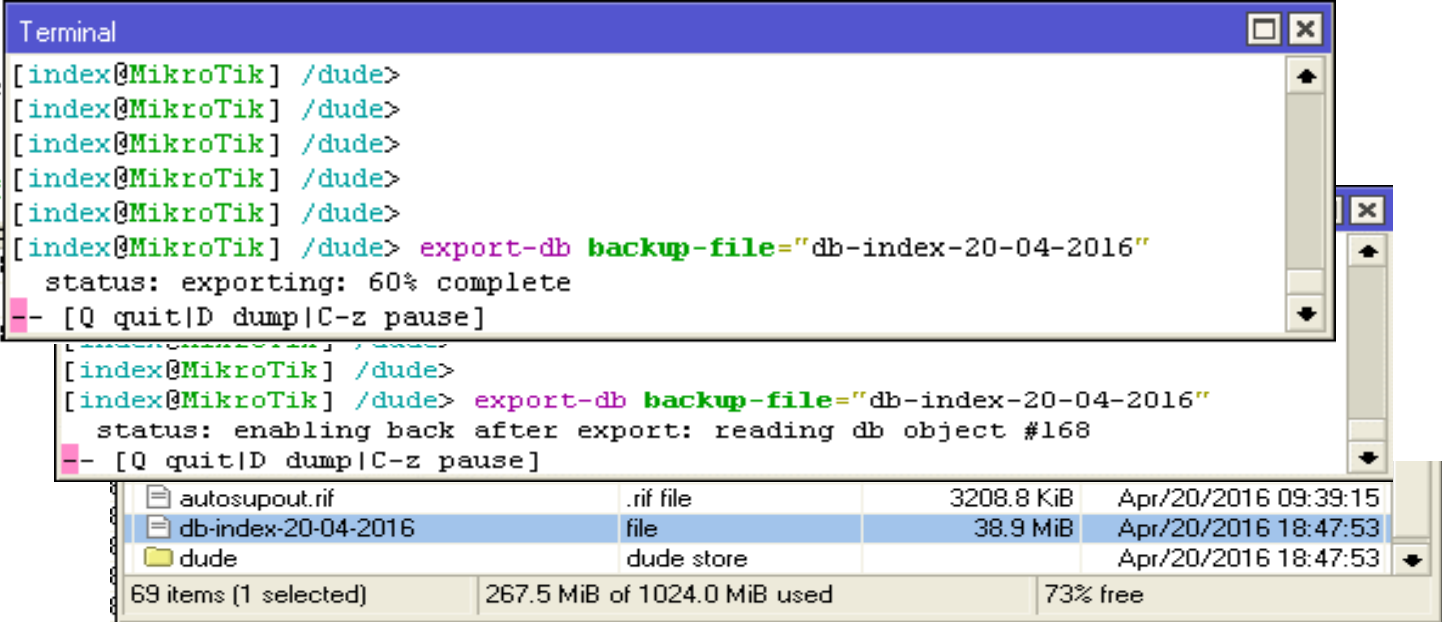
Gestión de paquetes y firmware



- ☐ Upgrade sube la versión
- ☐ Force upgrade subimos o bajamos de versión

The Dude V6

Respaldando la BD



The screenshot shows a terminal window titled 'Terminal' with the following commands and output:

```
[index@MikroTik] /dude>
[index@MikroTik] /dude>
[index@MikroTik] /dude>
[index@MikroTik] /dude>
[index@MikroTik] /dude>
[index@MikroTik] /dude> export-db backup-file="db-index-20-04-2016"
status: exporting: 60% complete
- [Q quit|D dump|C-z pause]
```

Below the terminal, a file manager window shows the contents of the '/dude' directory:

File Name	Type	Size	Date
autosupout.rif	.rif file	3208.8 KiB	Apr/20/2016 09:39:15
db-index-20-04-2016	file	38.9 MiB	Apr/20/2016 18:47:53
dude	dude store		Apr/20/2016 18:47:53

At the bottom of the file manager, it shows: 69 items [1 selected], 267.5 MiB of 1024.0 MiB used, 73% free.

- ❑ **export-db file=** realiza un respaldo desde ROS
- ❑ **import-db** restablece un respaldo

The Dude V6

Mantenimiento la BD

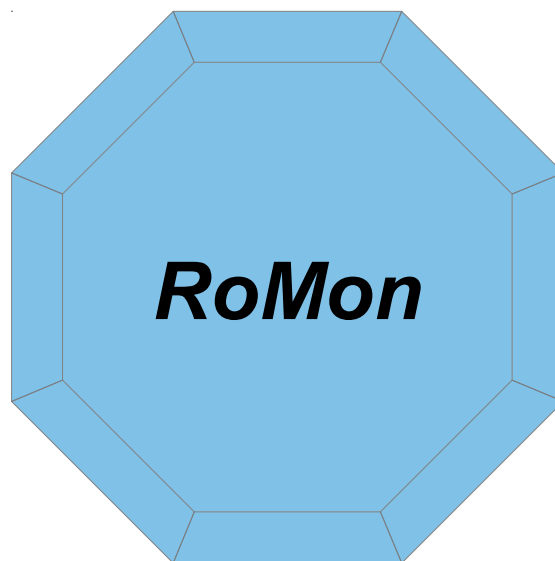
- ☐ Con V6 se a integrado Vacuum-db
- ☐ Compactar la DB desde la consola de ROS es posible
- ☐ Vacuum reconstruye la DB y reindexa de manera continua reduciendo así el tamaño

The Dude V6

Aplicativos

- ✓ Administración centralizada de los dispositivos e infraestructura
- ✓ Almacenamiento de las credenciales de los equipos de manera que esto agiliza el soporte
- ✓ Tools para agregar accesos customizados
- ✓ Etiquetado de equipos que están en migración, fuera de operación o dañados.

Gestión y Administración



RoMon (Router Manager Overlay Network)

RoMon



RoMon (Router Manager Overlay Network)

- Es un protocolo propietario de MikroTik no activo por defecto que permite enlazar hacia los dispositivos routerOs con versión 6.28 o superior en una red a través de winbox v3.x

RoMon

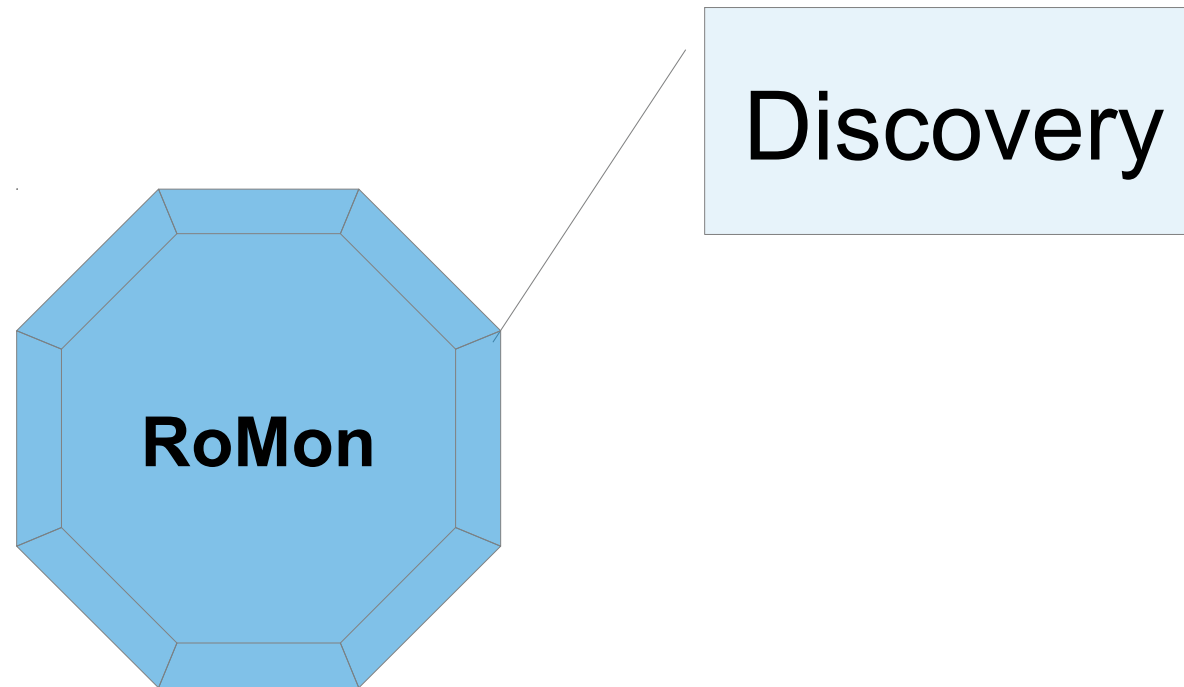
RoMon (Router Manager Overlay Network)

- ❑ A cada router en la red Romon se le asigna su ID de manera dinámica en base a la MAC Address este identificador también puede ser customizado por el usuario.
- ❑ Podemos definir la o las interfaces sobre las que va a anunciarse.

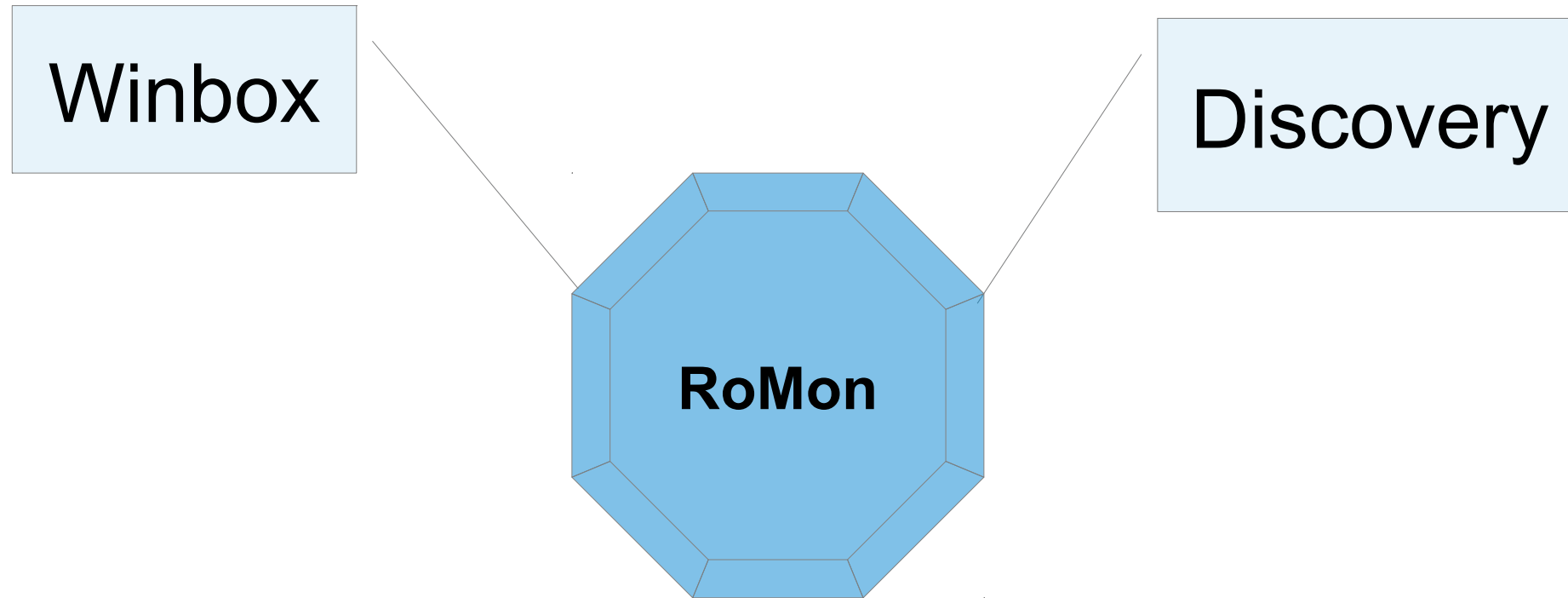
RoMon (Router Manager Overlay Network)

- ❑ Solo opera con interfaces Ethernet y wireless
- ❑ Es posible gestionar múltiples secrets globales o por interfaces

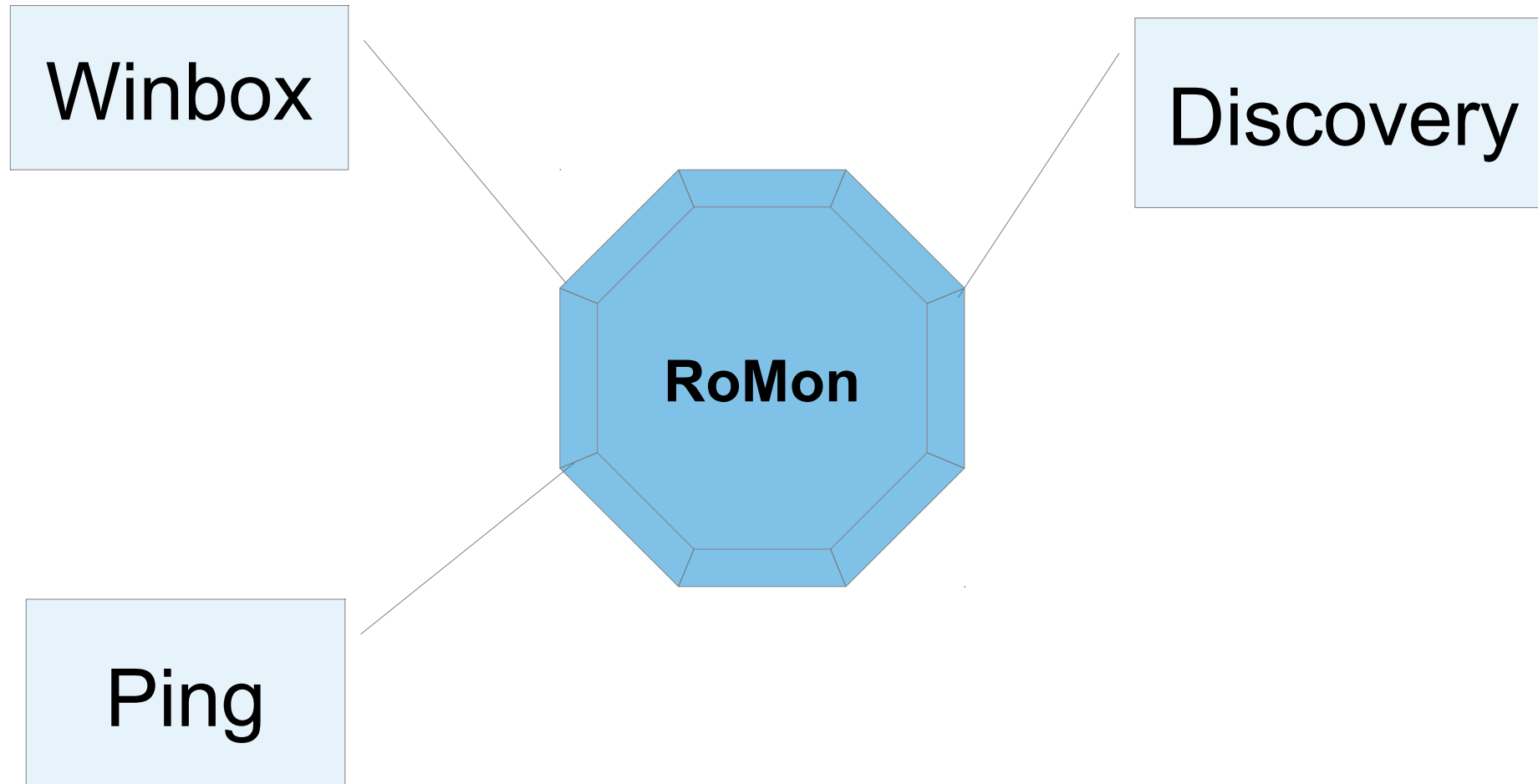
RoMon



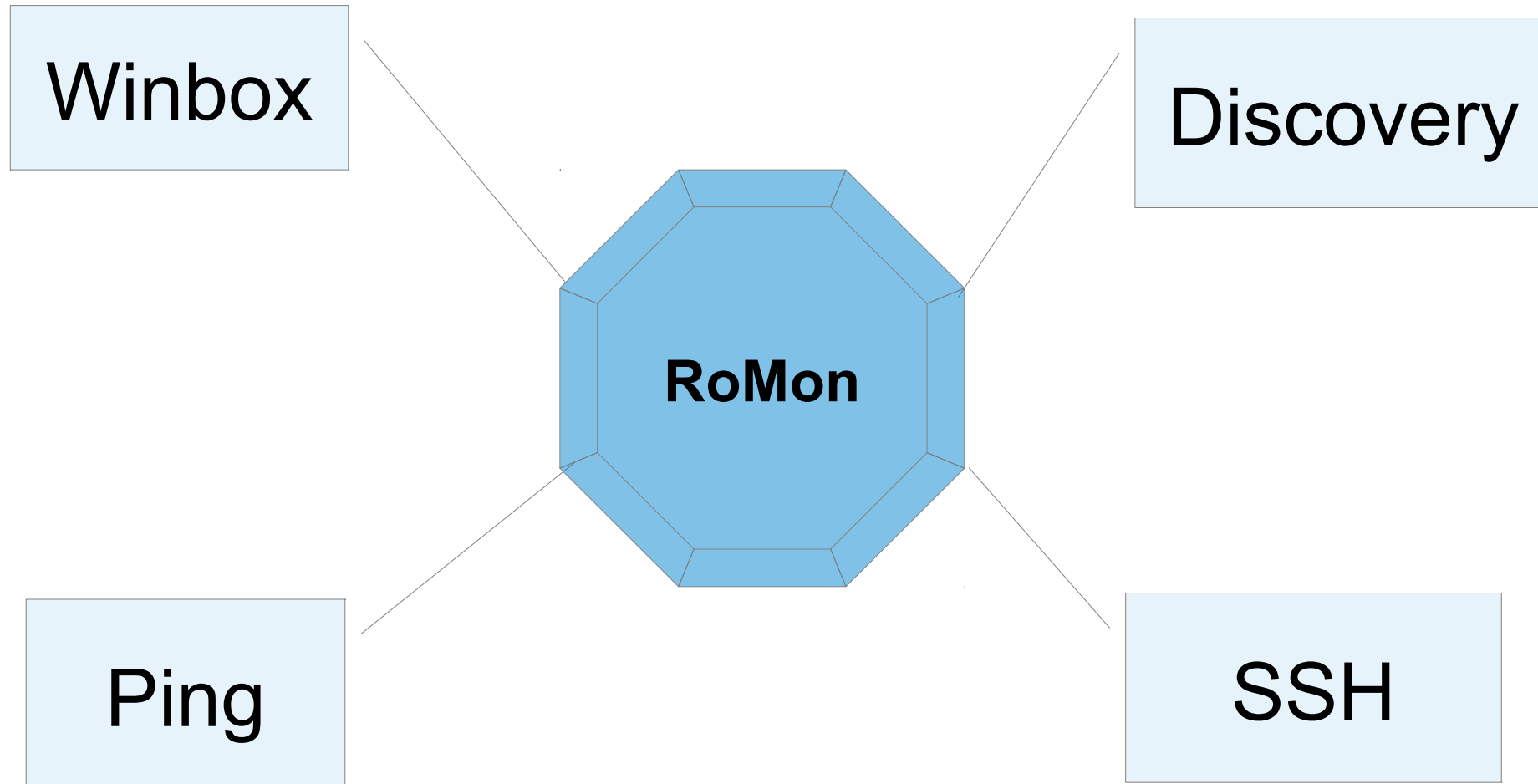
RoMon



RoMon

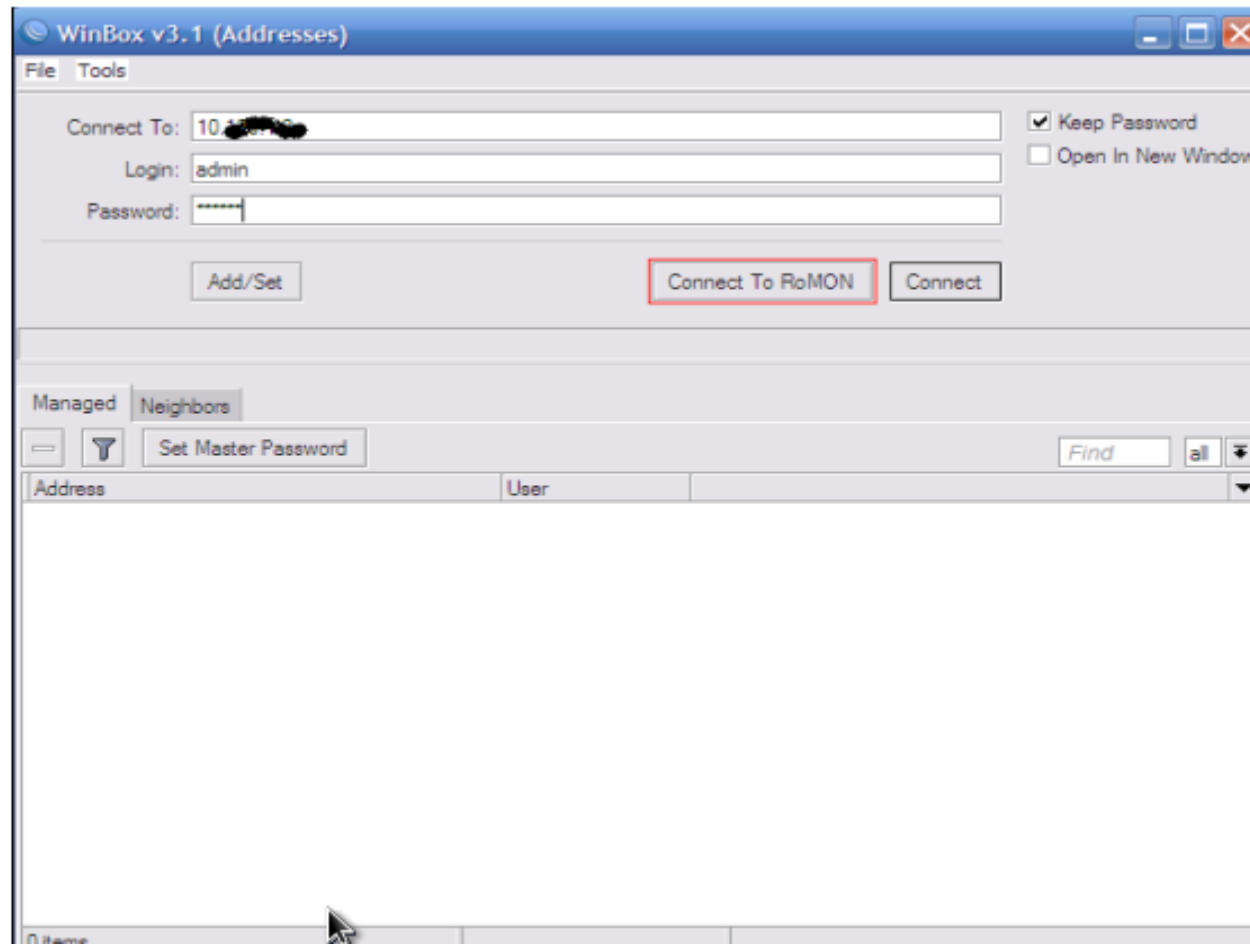


RoMon



RoMon

Conectando con peer RoMon



The image shows the WinBox v3.1 (Addresses) window. The 'Connect To' field contains the IP address 10.10.10.10. The 'Login' field contains 'admin' and the 'Password' field is masked with asterisks. The 'Connect To RoMON' button is highlighted with a red rectangle. Below the connection fields, there are tabs for 'Managed' and 'Neighbors'. The 'Managed' tab is active, showing a table with columns 'Address' and 'User'. The 'Neighbors' tab is also visible. A 'Set Master Password' button is located below the tabs. A search bar with the text 'Find' and a dropdown menu is also present.

WinBox v3.1 (Addresses)

File Tools

Connect To: 10.10.10.10

Login: admin

Password: *****

☒ Keep Password

☐ Open In New Window

Add/Set

Connect To RoMON

Connect

Managed Neighbors

Set Master Password

Find all

Address	User
---------	------

RoMon



WinBox v3.1 (Addresses)

File Tools

Connect To: 10. [redacted]

Login: IcASd

Password: [redacted]

Session: <own> [dropdown] Browse...

Note: [text area]

Group: [dropdown]

RoMON Agent: 10.22 [dropdown]

Add/Set Disconnect From RoMON Connect

Managed RoMON Neighbors

Refresh Find

Address	Cost	Hops	Path	L2MTU	Identity	Version	Board
4C:5E:0C:64:E1:DA	200	1	4C:5E:0C:64:E1:DA	1500	ProduccionTil...	6.32.3	

1 item

- Una vez conectados a un equipo corriendo RoMon podemos ver a los vecinos que también corren RoMon

RoMon

Aplicativos

- ❑ Cuando soportamos clientes que están detrás de un firewall y solo tenemos acceso a alguno de los equipos.
- ❑ Cuando los técnicos de campo registran nuevos clientes en una célula y aun no tenemos configurado todos los parámetros solo requerimos que lleven activo el **RoMon**.

Gestión y Administración

CAPsMAN

- ❑ Protocolo propietario para la centralización de la configuración y gestión WIFI de los APs (Controlled Access Point System Manager).
- ❑ CAPsMAN V2 esta soportado a partir de RouterOs 6.22 rc7.

CAPsMAN

- ❑ Consta de dos partes el equipo centralizador donde corre **CAPsMAN** y los aps que forman parte del controlador a través de el **CAP**
- ❑ **CAP** requiere al menos RouterOS L4
- ❑ No hay restricción de la cantidad de **CAPs** a provisionar

CAPsMAN



- ❑ Conexión entre **CAPsMAN** y **CAP** es segura usando DTLS
- ❑ El trafico de los clientes de los **CAPS** no lleva encriptación
- ❑ Opera en capa 2 o en capa 3

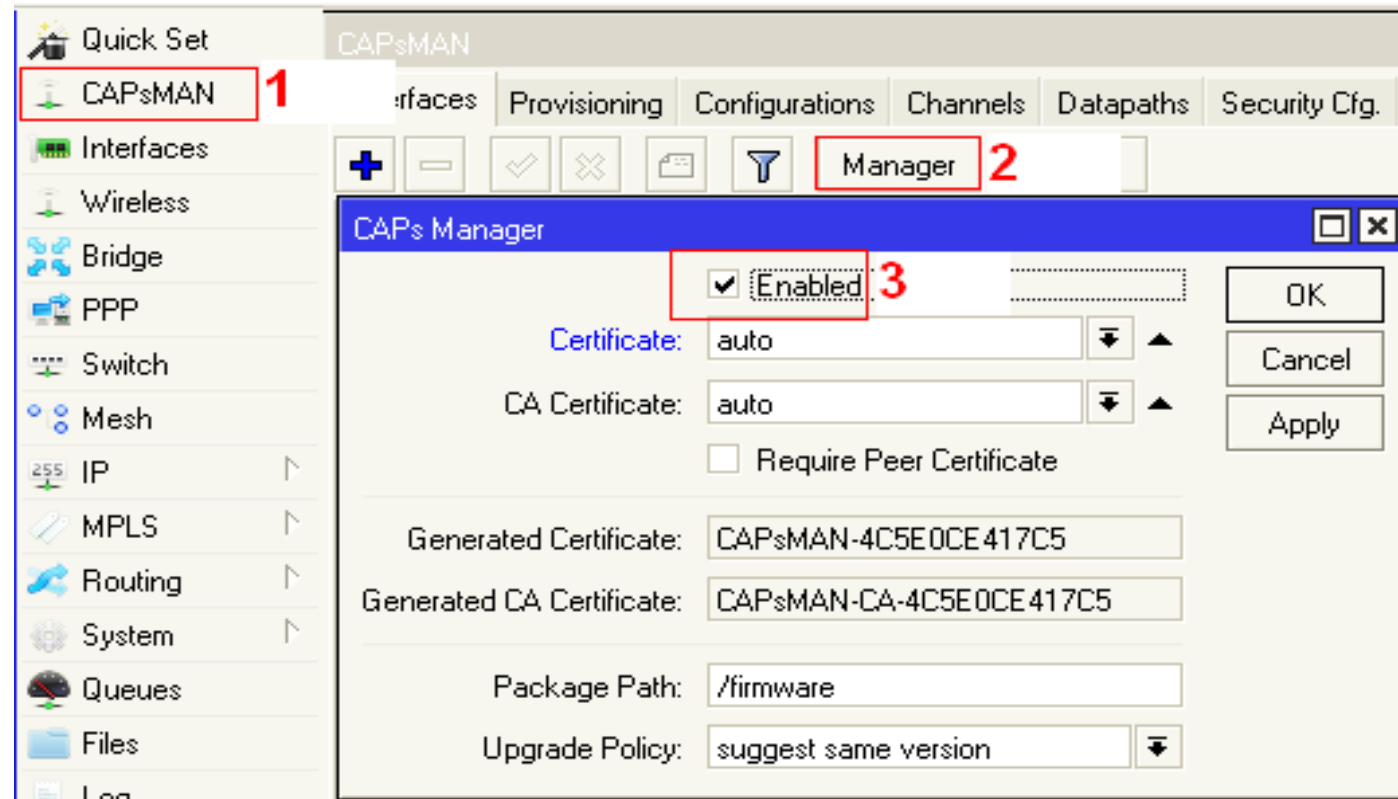
CAPsMAN



- ❑ Controla interfaces físicas y Aps virtuales
- ❑ Es capaz de gestionar equipos en 2.4 y 5.8
- ❑ Gestión manual o automática de frecuencias

CAPsMAN

Habilitando CAPsMAN



The screenshot displays the CAPsMAN configuration interface. On the left sidebar, the 'CAPsMAN' option is highlighted with a red box and the number 1. The main panel shows the 'Manager' tab selected, indicated by a red box and the number 2. Within this tab, the 'CAPs Manager' dialog box is open, showing the 'Enabled' checkbox checked, highlighted with a red box and the number 3. The dialog also displays fields for 'Certificate' (set to 'auto'), 'CA Certificate' (set to 'auto'), 'Generated Certificate' (CAPsMAN-4C5E0CE417C5), 'Generated CA Certificate' (CAPsMAN-CA-4C5E0CE417C5), 'Package Path' (/firmware), and 'Upgrade Policy' (suggest same version). Buttons for 'OK', 'Cancel', and 'Apply' are visible on the right side of the dialog.

Quick Set
CAPsMAN 1
Interfaces
Wireless
Bridge
PPP
Switch
Mesh
IP
MPLS
Routing
System
Queues
Files
Log

CAPsMAN
Interfaces
Provisioning
Configurations
Channels
Datapaths
Security Cfg.

+ - ✓ ✗ Manager 2

CAPs Manager

☒ Enabled 3

Certificate: auto

CA Certificate: auto

☐ Require Peer Certificate

Generated Certificate: CAPsMAN-4C5E0CE417C5

Generated CA Certificate: CAPsMAN-CA-4C5E0CE417C5

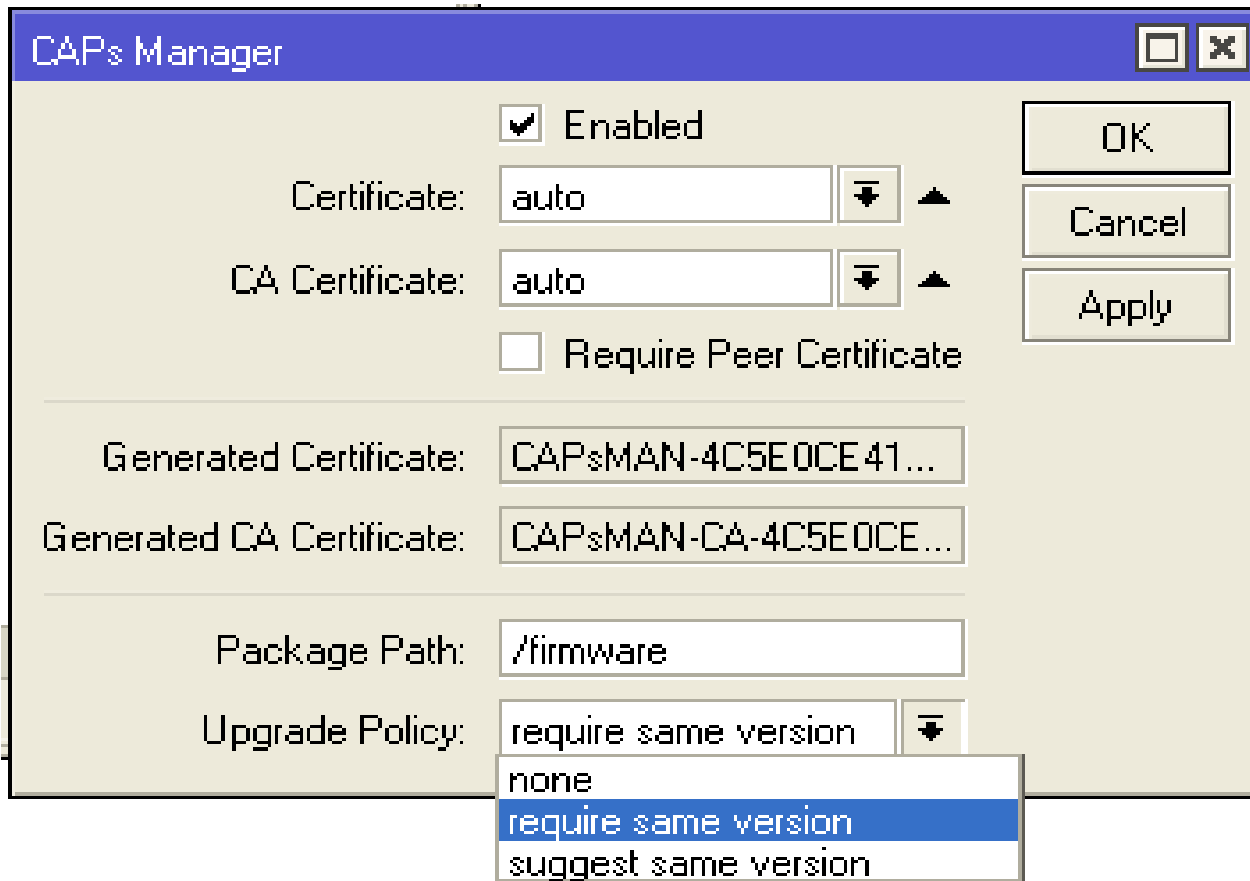
Package Path: /firmware

Upgrade Policy: suggest same version

OK
Cancel
Apply

CAPsMAN

Estableciendo la política de actualización



The image shows a screenshot of the 'CAPs Manager' dialog box. The title bar is blue with the text 'CAPs Manager' and standard window controls. The main area has a light beige background. At the top, there is a checkbox labeled 'Enabled' which is checked. Below this are two rows, each with a label and a text box: 'Certificate:' with 'auto' and 'CA Certificate:' with 'auto'. To the right of each text box is a dropdown arrow and an up/down arrow. Below these is a checkbox labeled 'Require Peer Certificate' which is unchecked. On the right side of the dialog are three buttons: 'OK', 'Cancel', and 'Apply'. Below the 'Enabled' checkbox, there are two rows of text boxes: 'Generated Certificate:' with 'CAPsMAN-4C5E0CE41...' and 'Generated CA Certificate:' with 'CAPsMAN-CA-4C5E0CE...'. Below these is a 'Package Path:' text box with '/firmware'. At the bottom is an 'Upgrade Policy:' dropdown menu which is currently open, showing three options: 'none', 'require same version' (which is highlighted in blue), and 'suggest same version'.

CAPs Manager

☒ Enabled

Certificate: auto

CA Certificate: auto

☐ Require Peer Certificate

Generated Certificate: CAPsMAN-4C5E0CE41...

Generated CA Certificate: CAPsMAN-CA-4C5E0CE...

Package Path: /firmware

Upgrade Policy: require same version

OK

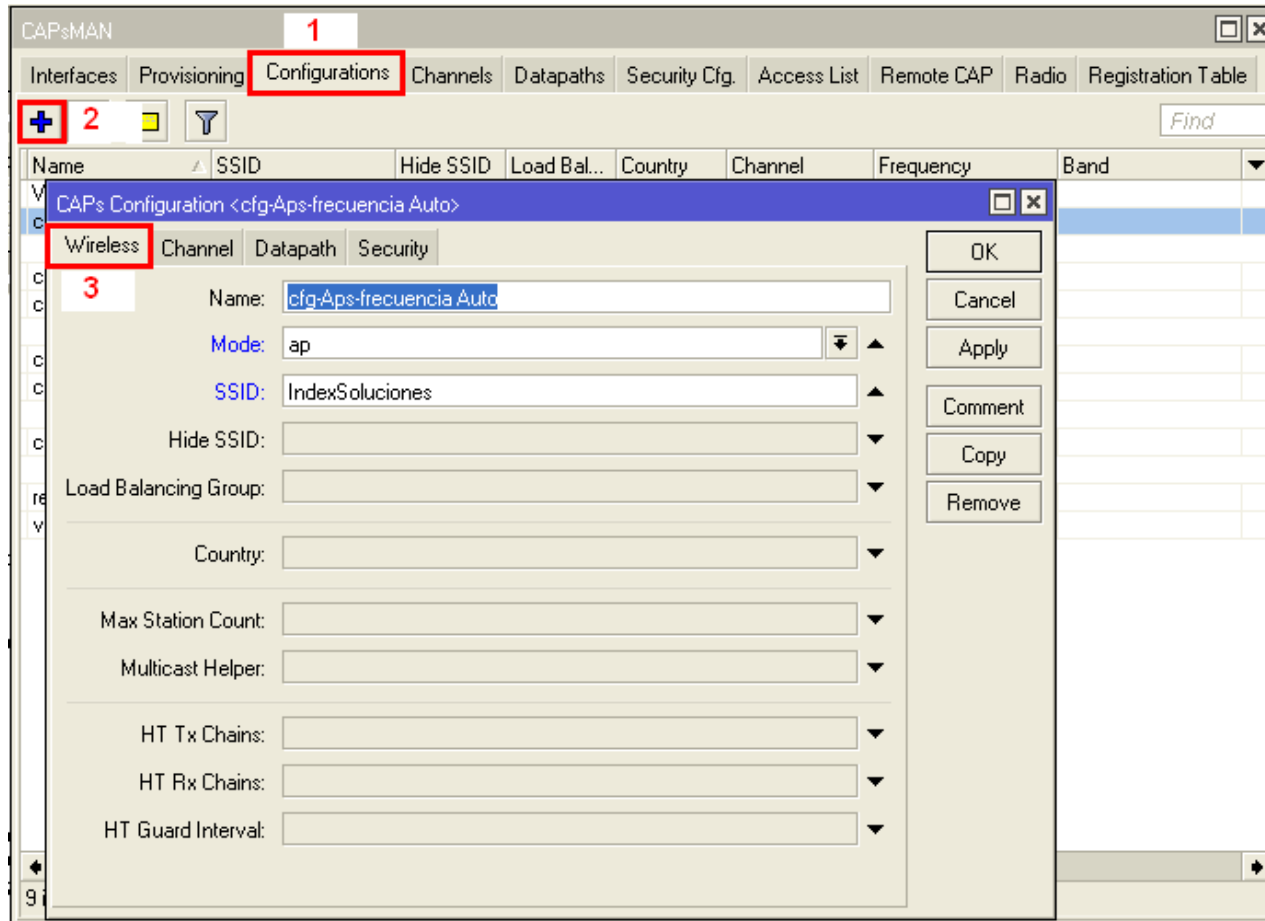
Cancel

Apply

- ☐ suggest – trata de actualizar el firmware al CAP si no lo logra le permite registrarse
- ☐ require – Forza la actualización si no se logra no permite el registro del CAP

CAPsMAN

Opciones de Configuración



The screenshot displays the CAPsMAN configuration window. The 'Configurations' tab is selected and highlighted with a red box and the number 1. Below the tabs, a toolbar contains a plus icon (labeled with a red box and the number 2) and a filter icon. A table lists configurations, with the first entry 'CAPs Configuration <cfg-Aps-frecuencia Auto>' selected. The 'Wireless' sub-tab for this entry is also highlighted with a red box and the number 3. The configuration details for this entry are shown below the sub-tabs:

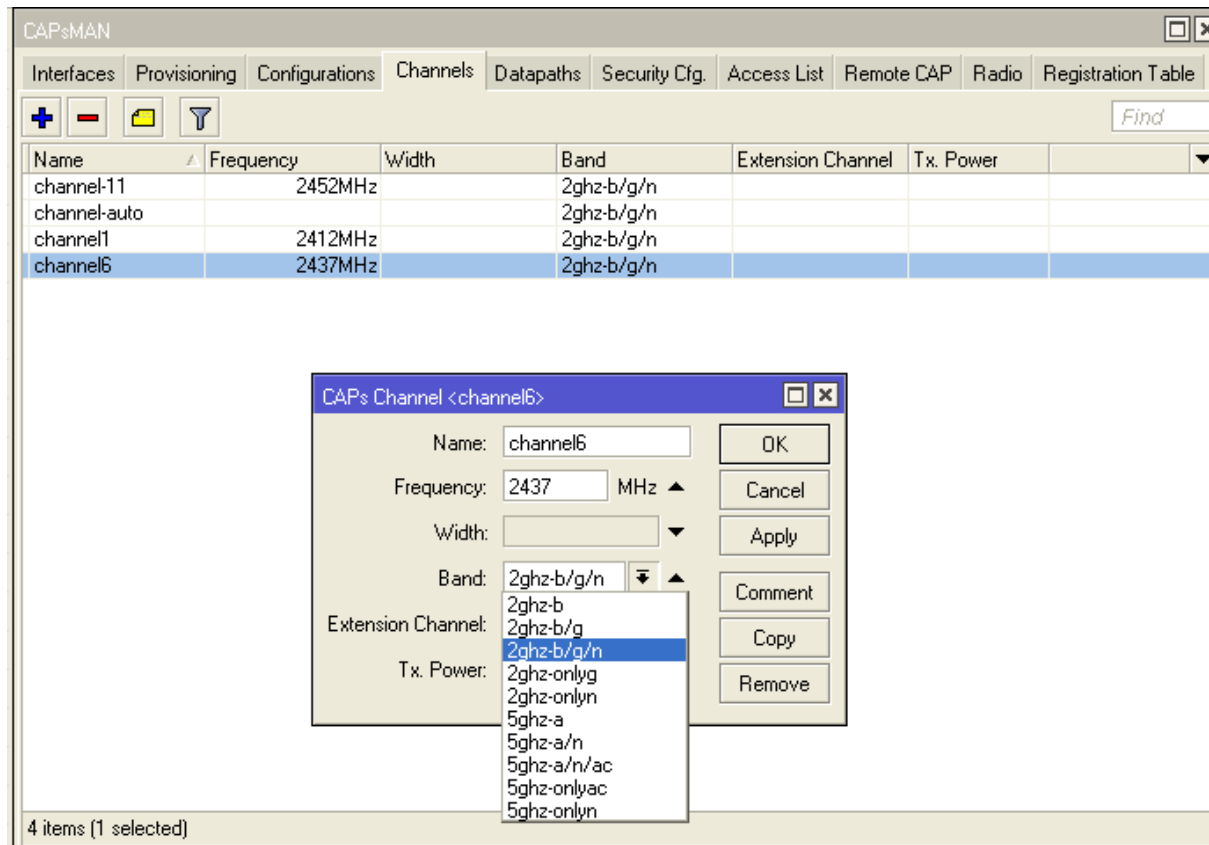
- Name:
- Mode:
- SSID:
- Hide SSID:
- Load Balancing Group:
- Country:
- Max Station Count:
- Multicast Helper:
- HT Tx Chains:
- HT Rx Chains:
- HT Guard Interval:

On the right side of the configuration form, there are buttons for OK, Cancel, Apply, Comment, Copy, and Remove.

- ❑ Definición de SSID y resto de parámetros basado en plantillas preconfiguradas o llenado de parámetros manuales

CAPsMAN

Manejo de canales de manera manual o dinámica



- ☐ Es posible definir las plantillas con los canales a utilizar
- ☐ Tenemos la opción de autoselección de canal

CAPsMAN

Controlamos las credenciales de conexión

CAPsMAN

Interfaces Provisioning Configurations Channels Datapaths Security Cfg. Access List Remote CAP Radio Registration Table

+ - [icon] [icon] Find

Name	Authentication Type	Encryption	Group Encryption	Passphrase	EAP Methods
hotspot	WPA PSK WPA2 ...	aes ccm		xxxxxx	
password1	WPA PSK WPA2 ...	aes ccm		xxxxxx	

New CAPs Security Configuration

Name: security1

Authentication Type: ☐ WPA PSK ☐ WPA2 PSK ☐ WPA EAP ☐ WPA2 EAP ▲

Encryption: ☒ aes ccm ☐ tkip ▲

Group Encryption: ▼

Passphrase: ▼

EAP Methods: ▼

EAP Radius Accounting: ▼

TLS Mode: ▼

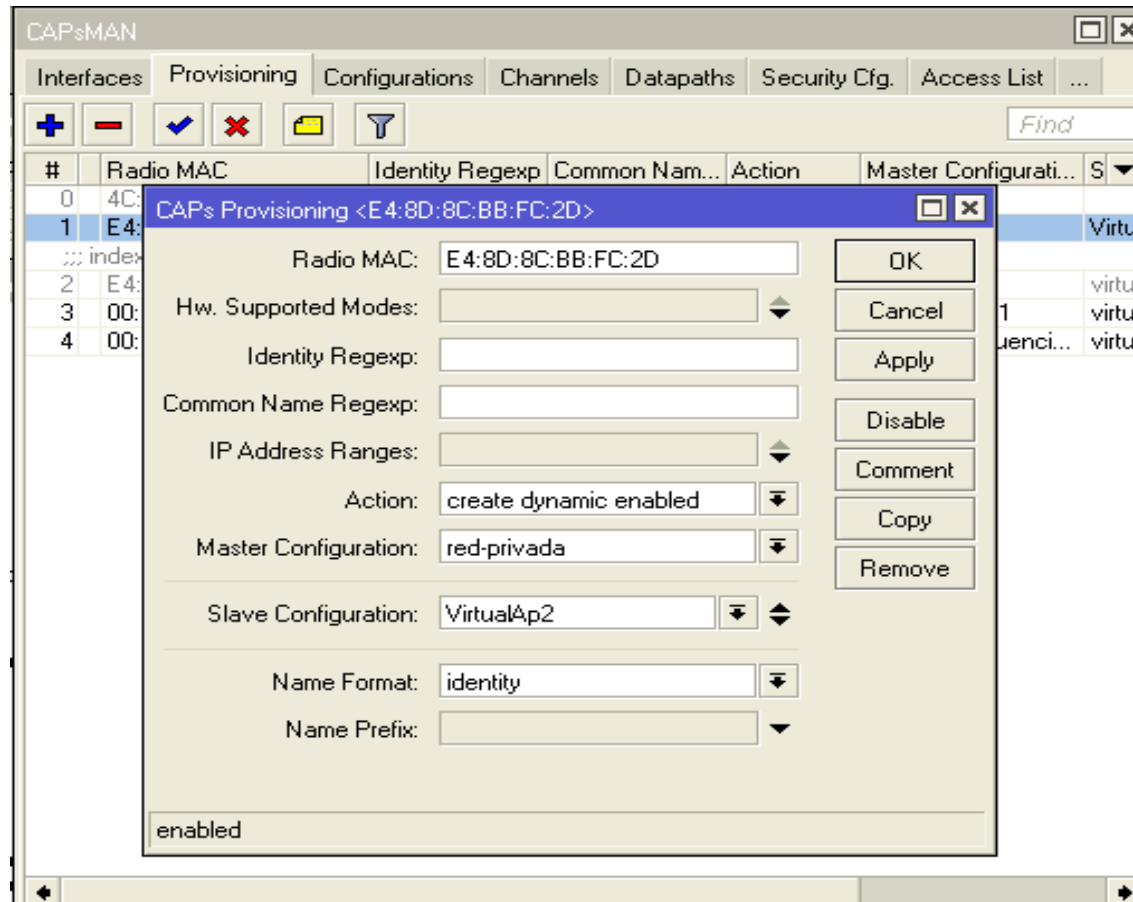
TLS Certificate: ▼

OK Cancel Apply Comment Copy Remove

2 items

CAPsMAN

- Gestión de el CAP + la interface o interfaces



The screenshot shows the CAPsMAN Provisioning dialog box. The main window has tabs for Interfaces, Provisioning, Configurations, Channels, Datapaths, Security Cfg., and Access List. The Provisioning tab is active. A table lists radio MACs with columns for #, Radio MAC, Identity Regexp, Common Name, Action, Master Configuration, and Slave Configuration. Row 1 is selected, showing MAC E4:8D:8C:BB:FC:2D. A modal dialog box is open for this radio, titled 'CAPs Provisioning <E4:8D:8C:BB:FC:2D>'. It contains fields for Radio MAC, Hw. Supported Modes, Identity Regexp, Common Name Regexp, IP Address Ranges, Action (set to 'create dynamic enabled'), Master Configuration (set to 'red-privada'), Slave Configuration (set to 'VirtualAp2'), Name Format (set to 'identity'), and Name Prefix. Action buttons include OK, Cancel, Apply, Disable, Comment, Copy, and Remove. The 'enabled' checkbox is checked at the bottom.

#	Radio MAC	Identity Regexp	Common Name	Action	Master Configuration	Slave Configuration
0	4C:					
1	E4:					Virtu...
2	E4:					virtu...
3	00:					virtu...
4	00:					virtu...

Radio MAC: E4:8D:8C:BB:FC:2D

Hw. Supported Modes: [dropdown]

Identity Regexp: [text box]

Common Name Regexp: [text box]

IP Address Ranges: [text box]

Action: create dynamic enabled [dropdown]

Master Configuration: red-privada [dropdown]

Slave Configuration: VirtualAp2 [dropdown]

Name Format: identity [dropdown]

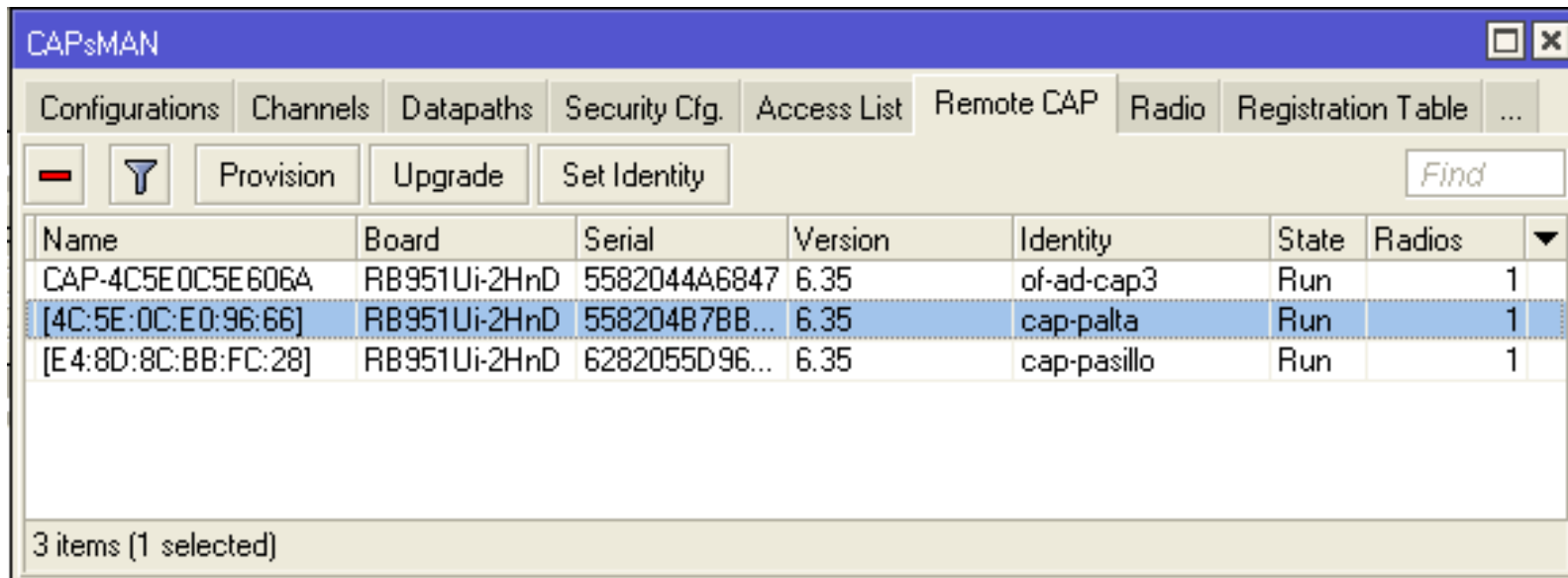
Name Prefix: [text box]

enabled

- declaración de filtros y acciones para provisionar el o los CAPs

CAPsMAN

Estado de CAPs Remotos



The screenshot shows the CAPsMAN interface with the 'Remote CAP' tab selected. It features a table with columns for Name, Board, Serial, Version, Identity, State, and Radios. Three items are listed, with the second one selected. Below the table, it indicates '3 items (1 selected)'.

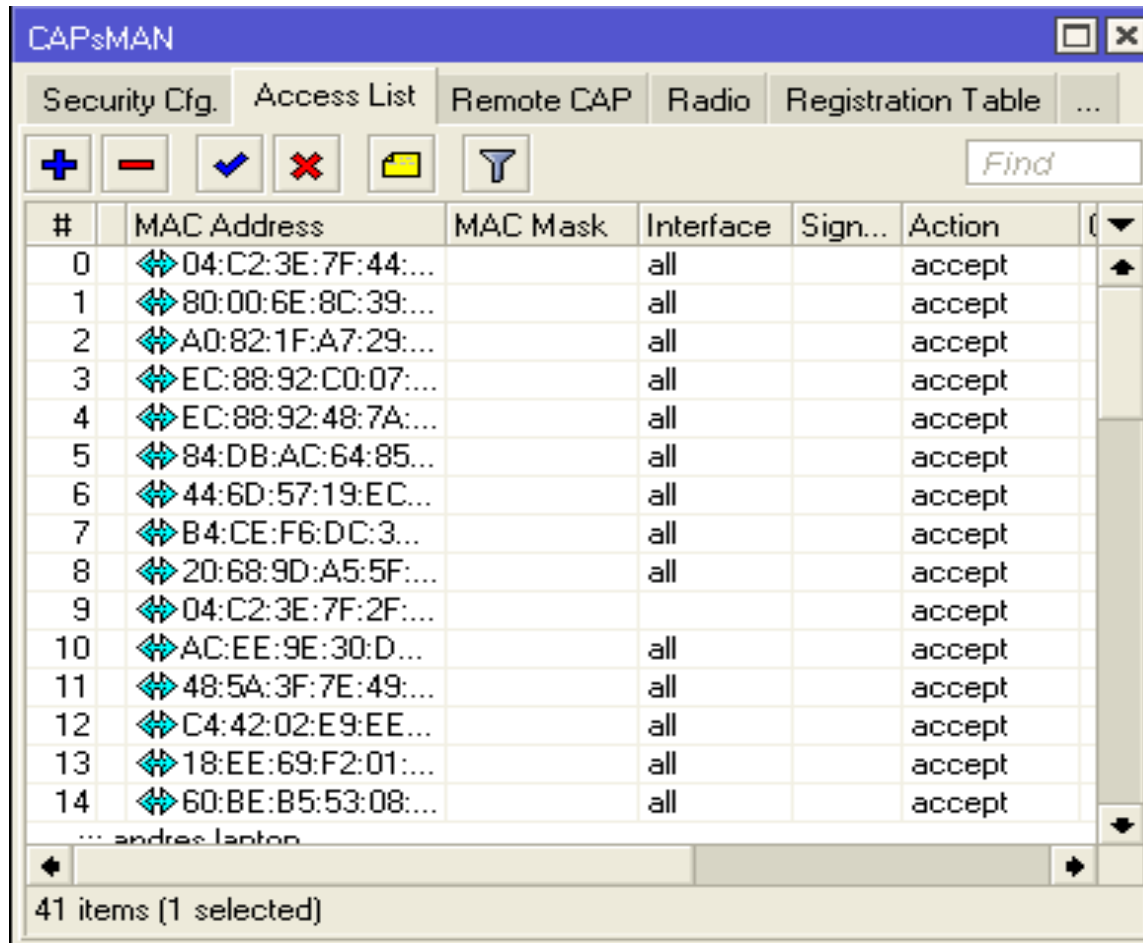
Name	Board	Serial	Version	Identity	State	Radios
CAP-4C5E0C5E606A	RB951Ui-2HnD	5582044A6847	6.35	of-ad-cap3	Run	1
[4C:5E:0C:E0:96:66]	RB951Ui-2HnD	558204B7BB...	6.35	cap-palta	Run	1
[E4:8D:8C:BB:FC:28]	RB951Ui-2HnD	6282055D96...	6.35	cap-pasillo	Run	1

3 items (1 selected)

- ❑ Provisión : Registramos al CAP
- ❑ Upgrade: Actualizacion Manual
- ❑ Set Identity: Identificación de el CAP Remoto

CAPsMAN

Políticas de Access List centralizada



The screenshot shows the CAPsMAN software interface with the 'Access List' tab selected. The window title is 'CAPsMAN'. Below the tabs, there are several icons: a plus sign, a minus sign, a checkmark, an 'X', a folder, and a funnel, along with a 'Find' search box. The main area contains a table with 15 rows of configuration data. The columns are: #, MAC Address, MAC Mask, Interface, Sign..., and Action. The first 15 rows are visible, showing various MAC addresses and the 'all' interface, all with an 'accept' action. At the bottom, there is a status bar indicating '41 items (1 selected)'.

#	MAC Address	MAC Mask	Interface	Sign...	Action
0	04:C2:3E:7F:44:...		all		accept
1	80:00:6E:8C:39:...		all		accept
2	A0:82:1F:A7:29:...		all		accept
3	EC:88:92:C0:07:...		all		accept
4	EC:88:92:48:7A:...		all		accept
5	84:DB:AC:64:85:...		all		accept
6	44:6D:57:19:EC:...		all		accept
7	B4:CE:F6:DC:3:...		all		accept
8	20:68:9D:A5:5F:...		all		accept
9	04:C2:3E:7F:2F:...				accept
10	AC:EE:9E:30:D:...		all		accept
11	48:5A:3F:7E:49:...		all		accept
12	C4:42:02:E9:EE:...		all		accept
13	18:EE:69:F2:01:...		all		accept
14	60:BE:B5:53:08:...		all		accept

41 items (1 selected)

CAPsMAN

Tabla de Clientes registrados

CAPsMAN

InterfacesProvisioningConfigurationsChannelsDatapathsSecurity Cfg.Access ListRemote CAPRadioRegistration Table

Find

Interface	MAC Address	Tx Rate	Rx Rate	Rx Signal	Uptime
AP10-HAB202-203	9C:2A:70:31:A8:27	108Mbps-40MHz/1S	121.5Mbps-40MHz/1S	-50	00:04:17.57
AP19-Estacionamiento	30:19:66:D1:8E:03	54Mbps	54Mbps	-58	04:39:27.06
AP19-Estacionamiento	F8:CF:C5:81:AF:CE	54Mbps	18Mbps	-59	00:18:19.17
AP19-Estacionamiento	34:23:BA:B6:58:F8	11Mbps	5.5Mbps	-79	00:17:56.92
AP19-Estacionamiento	28:BA:B5:A0:B2:A2	24Mbps	36Mbps	-73	00:04:08.62
AP9-HAB430-432	78:A8:73:3E:AC:1F	58.5Mbps-20MHz/1S	13Mbps-20MHz/1S	-67	00:58:57.11
AP9-HAB430-432	0C:15:39:14:AA:06	6.5Mbps-20MHz/1S	13Mbps-20MHz/1S	-79	00:22:35.29

❑ Información Centralizada de los dispositivos

CAPsMAN

Provisionando el CAP

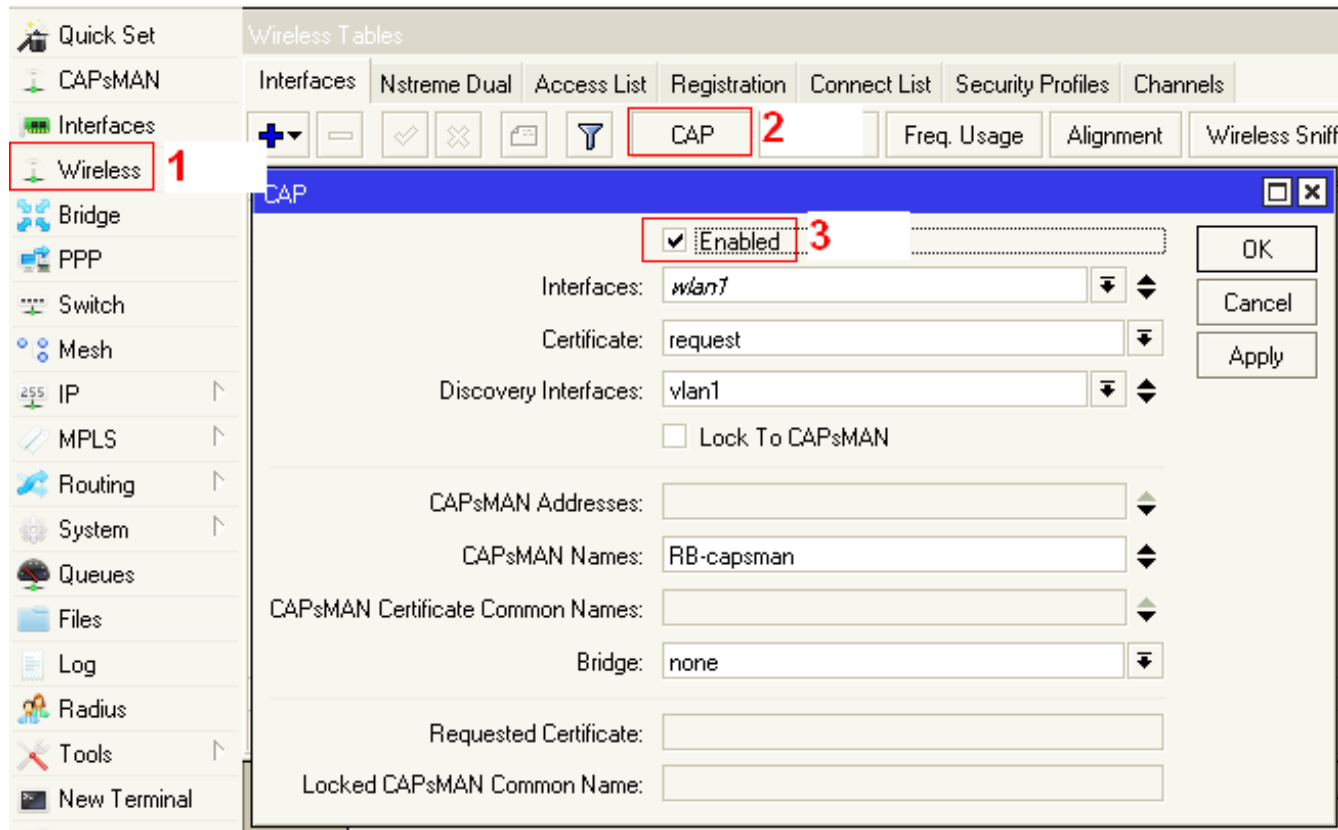
Package List

	Check For Updates	Enable	Disable	Uninstall	Unschedule	Downgrade
Name	Version	Build Time	Scheduled			
 routers-mipsbe	6.34.1	Feb/02/2016 14:08:42				
 advanced-tools	6.34.1	Feb/02/2016 14:08:42				
 dhcp	6.34.1	Feb/02/2016 14:08:42				
 hotspot	6.34.1	Feb/02/2016 14:08:42				
 ipv6	6.34.1	Feb/02/2016 14:08:42				
 mpls	6.34.1	Feb/02/2016 14:08:42				
 ppp	6.34.1	Feb/02/2016 14:08:42				
 routing	6.34.1	Feb/02/2016 14:08:42				
 security	6.34.1	Feb/02/2016 14:08:42				
 system	6.34.1	Feb/02/2016 14:08:42				
 wireless-cm2	6.34.1	Feb/02/2016 14:08:42				
 wireless-fp	6.34.1	Feb/02/2016 14:08:42				

- ❑ Se sugiere tener instalado y habilitado el paquete **Wireless-cm2** en el CAP

CAPsMAN

Provisionando el CAP



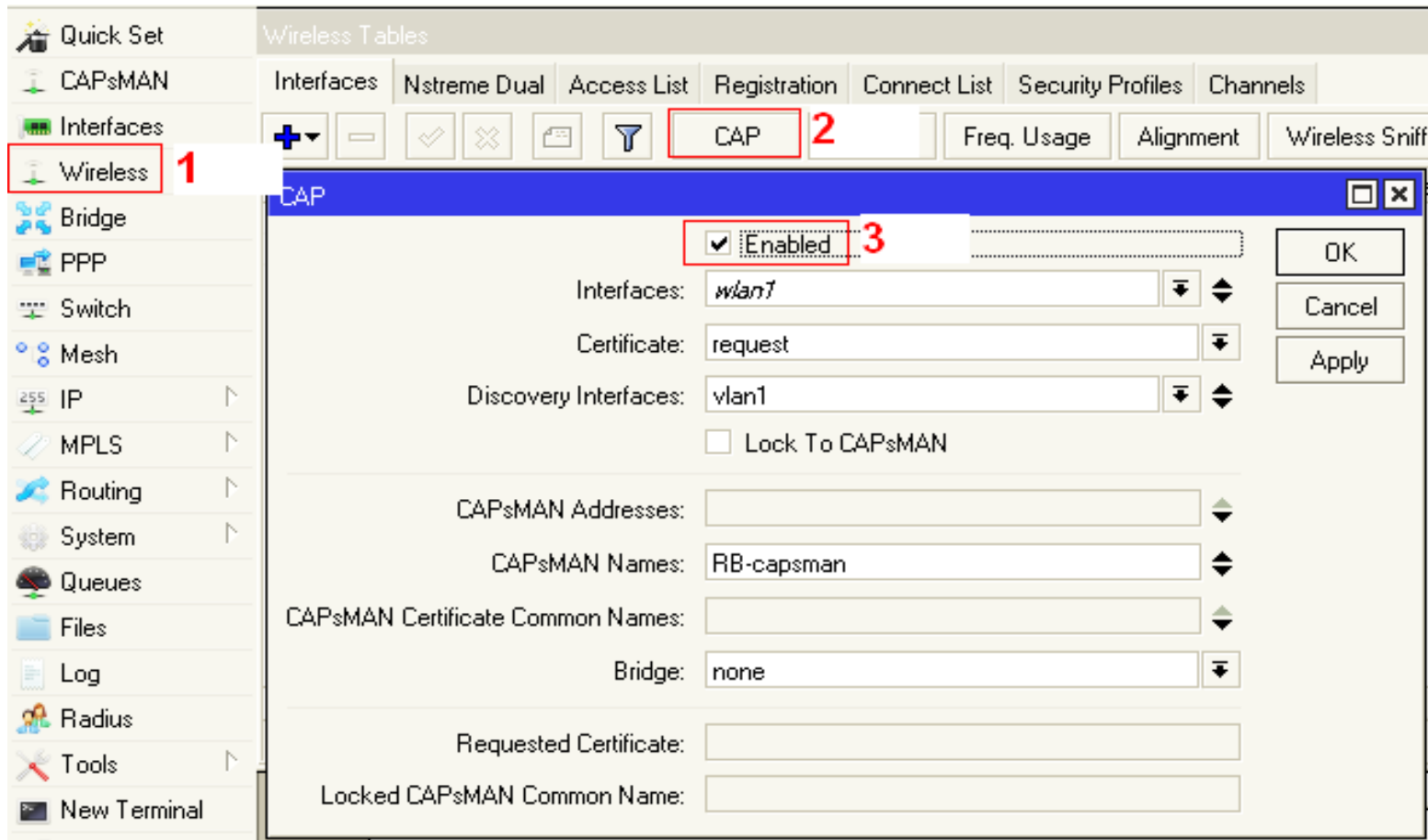
The screenshot shows the CAPsMAN configuration interface. On the left sidebar, the 'Wireless' option is highlighted with a red box and the number 1. The main window displays the 'Wireless Tables' tab, with the 'CAP' option highlighted by a red box and the number 2. The 'CAP' configuration window is open, showing the 'Enabled' checkbox checked with a red box and the number 3. The configuration fields are as follows:

- Interfaces: wlan1
- Certificate: request
- Discovery Interfaces: vlan1
- ☐ Lock To CAPsMAN
- CAPsMAN Addresses: (empty)
- CAPsMAN Names: RB-capsman
- CAPsMAN Certificate Common Names: (empty)
- Bridge: none
- Requested Certificate: (empty)
- Locked CAPsMAN Common Name: (empty)

- ☐ Definiendo la interface Wifi e interface de búsqueda de controlador
- ☐ Asignamos la IP o el nombre de el servidor CAPsMAN

CAPsMAN

- Provisionando el CAP



The screenshot shows the CAPsMAN configuration interface. On the left sidebar, the 'Wireless' option is highlighted with a red box and a red number '1'. The main window displays the 'Wireless Tables' tab, with the 'CAP' tab selected and highlighted with a red box and a red number '2'. The 'CAP' configuration window is open, showing the 'Enabled' checkbox checked with a red box and a red number '3'. The configuration fields are as follows:

- Interfaces: wlan1
- Certificate: request
- Discovery Interfaces: wlan1
- Lock To CAPsMAN: ☐
- CAPsMAN Addresses: (empty)
- CAPsMAN Names: RB-capsman
- CAPsMAN Certificate Common Names: (empty)
- Bridge: none
- Requested Certificate: (empty)
- Locked CAPsMAN Common Name: (empty)

Buttons for OK, Cancel, and Apply are visible on the right side of the window.

❑ Definimos el bridge para local forwarding en caso de aplicar

CAPsMAN

- Interface wireless controlada por CAPsMAN

Wireless Tables

Interfaces						
Nstreme Dual						
Access List						
Registration						
Connect List						
Security Profiles						
Channels						
CAP						
Scanner						
Freq. Usage						
Alignment						
Wi						
Name	Type	Tx	Rx	Tx Packet (p/s)	Rx Pa	
--- managed by CAPsMAN						
--- channel: 2437/20-Ce/gn(30dBm), SSID: Red-Privada, CAPsMAN forwarding						
XS	wlan1	Wireless (Atheros AR9...	0 bps	0 bps	0	
--- managed by CAPsMAN						
--- SSID: hotspotDEMOs, CAPsMAN forwarding						
DX	wlan17	Virtual AP	0 bps	0 bps	0	

2 items out of 8

□ Una vez establecida la conexión con CAPsMAN nos da un informe de el canal potencia SSID y si el tráfico es local o a través de el controlador

CAPsMAN

- CAP con 1 interface física y 2 Virtuales

CAPsMAN

Interfaces Provisioning Configurations Channels Datapaths Security Cfg. Access List Remote C

+ - ✓ ✗ [Icon] [Icon] Manager AAA

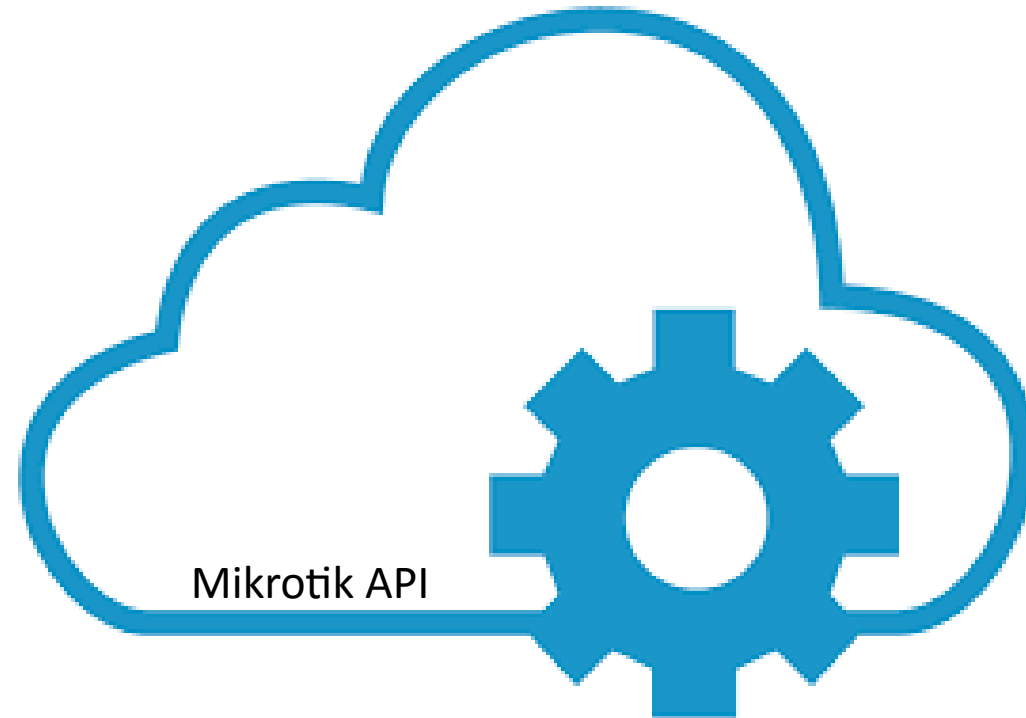
	Name	Type	MTU	L2 MTU	Tx
DRSMB	↔ cap2-1	Interfaces	1500	1600	
DRSB	↔ cap2-1-1	Interfaces	1500	1600	
DSB	↔ cap2-1-2	Interfaces	1500	1600	
DSMB	↔ of-ad-cap3-1	Interfaces	1500	1600	
DSB	↔ of-ad-cap3-1-1	Interfaces	1500	1600	
DRSB	↔ of-ad-cap3-1-2	Interfaces	1500	1600	
DMB	↔ vtas-admon-1	Interfaces	1500	1600	
DSB	↔ vtas-admon-1-1	Interfaces	1500	1600	

AP Master
+ 2
APs Virtuales

Aplicativos

Nos brinda la unificación y centralización de el WIFI, dándonos visualización y detalle de lo que sucede con los dispositivos conectados en los diferentes CAPs ya no mas dolores de cabeza en el soporte de alguna eventualidad con la conexión de algún dispositivo (iphones,ipads,Android,etc).

Gestión Vía API



Gestión Vía API

Application Programmable Interface

- Está implementada en diferentes lenguajes como PHP C C++ etc, en la wiki podemos encontrar mayor información

- <http://wiki.mikrotik.com/wiki/Manual:API#Summary>

- La API envía cadenas de instrucciones al Router, este las procesa y nos devuelve el resultado.

Gestion Via API

Application Programmable Interface

- Permite a los usuarios crear soluciones a la medida
- Disponible a partir de la version 3x
- Utiliza por default el puerto 8728 y con SSL el puerto 8729

Gestión Vía API

>ip service set api disabled=no/yes

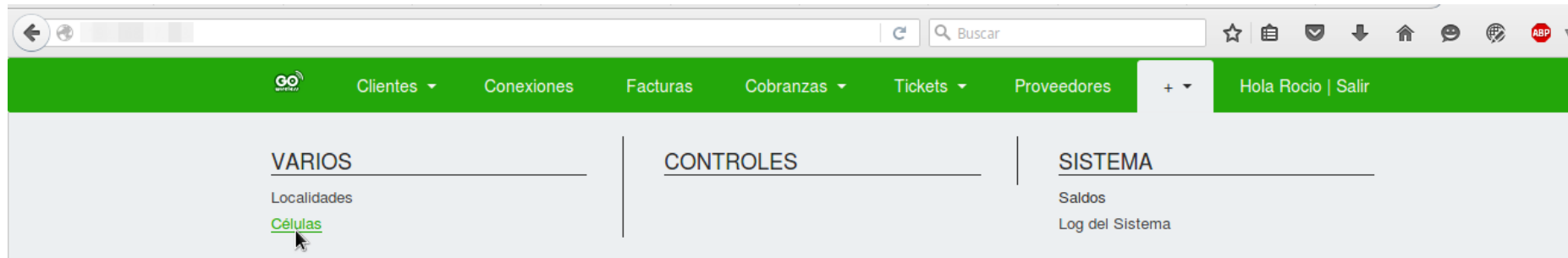
> ip service set api-ssl disabled=no/yes

IP Service List				
☒ ☐ ☐ Find				
	Name ▲	Port	Available From	Certificate ▼
	api	8728		
	api-ssl	8729		none
X	ftp	21		
	ssh	22222		
	telnet	2323		
	winbox	8291		
	www	8088		
X	www-ssl	443		none
8 items (1 selected)				

Gestion Via API

Ejemplo Implementación API

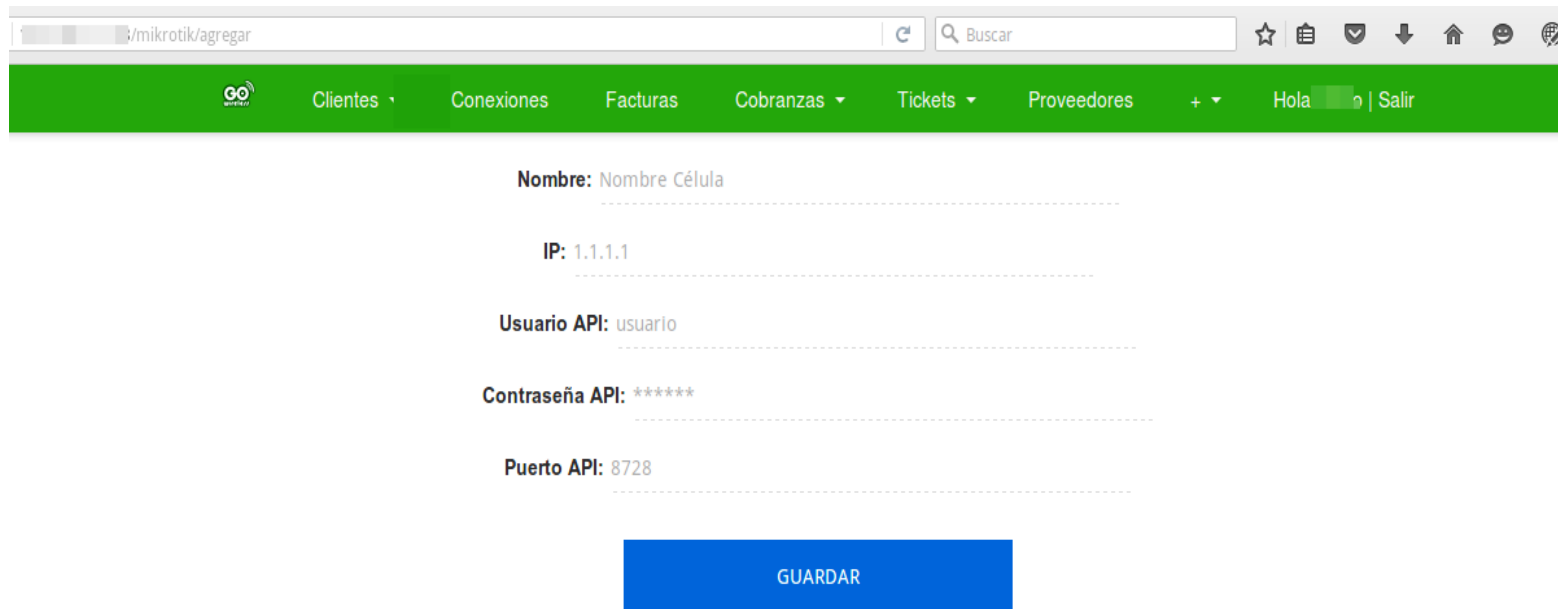
Sistema para gestión unificada de células y clientes



Gestión Vía API

Ejemplo Implementación API

Sistema para gestión unificada de células y clientes



The screenshot shows a web browser window with the address bar displaying "/mikrotik/agregar". The page has a green header bar with a navigation menu containing "Clientes", "Conexiones", "Facturas", "Cobranzas", "Tickets", and "Proveedores". A user greeting "Hola [avatar] | Salir" is visible on the right. The main content area contains a form with the following fields:

- Nombre:** Nombre Célula
- IP:** 1.1.1.1
- Usuario API:** usuario
- Contraseña API:** *****
- Puerto API:** 8728

At the bottom of the form is a blue button labeled "GUARDAR".

□ Damos de alta una célula con los parámetros de gestión

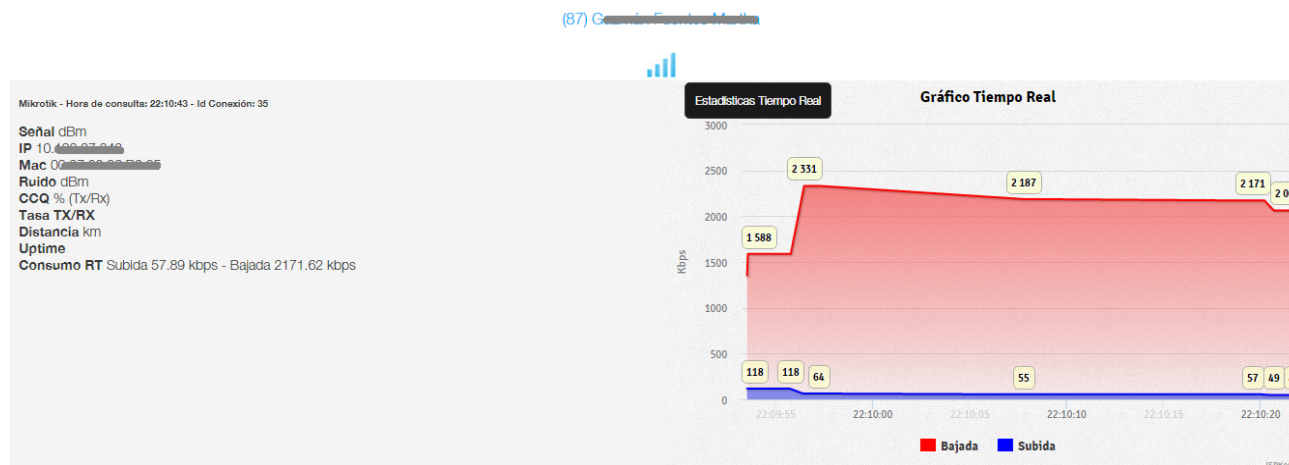
Gestión Vía API

Mikrotik
12 DE OCTUBRE (10.221 2.60)
Plan
██████████
Localidad
Fracc. Brisas del Valle (sonora)
Domicilio
Rendon 522
Entre Calle 1
██████████
Entre Calle 2
██████████
Extra
Porción verde, al lado de Oxxo
Fecha de Alta
21/04/2016
MAC
AA:BB:CC:DD:11:22
IP
192.168.1.1
Gratis ☐

Agregar

❑ Asignación de célula y plan para la creación de configuración via API

Gestión Vía API



Generación de gráficas y lectura de parámetros

Gestión Vía API

El Resultado

SMS						
ID	Dia	Hora	Numero	Mensaje	Usuario	Tipo
83				Agradecemos liquidar su factura antes del 10/may/2016, para evitar la suspensión del servicio.		Saliente
82	21/04/2016	13:30:38		informamos que sus días de pago son del día 01 al día 07 del mes		Saliente

[Mostrando últimos 10 registros]

Numero:

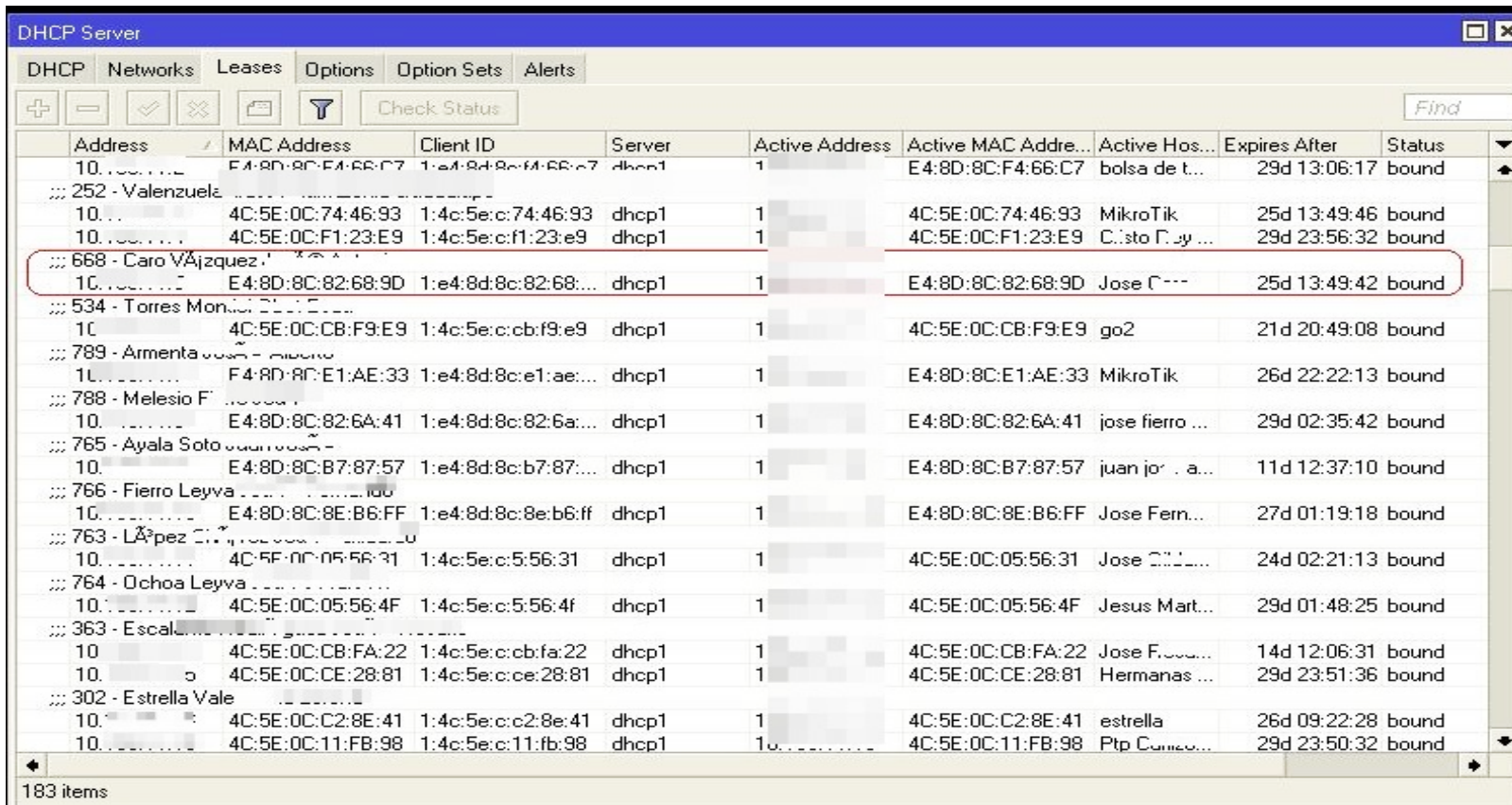
Mensaje: Escriba aqui el mensaje a enviar

ENVIAR SMS

❑ Envio de SMS
via Sistema con
Router Mikrotik

Gestión Vía API

El Resultado



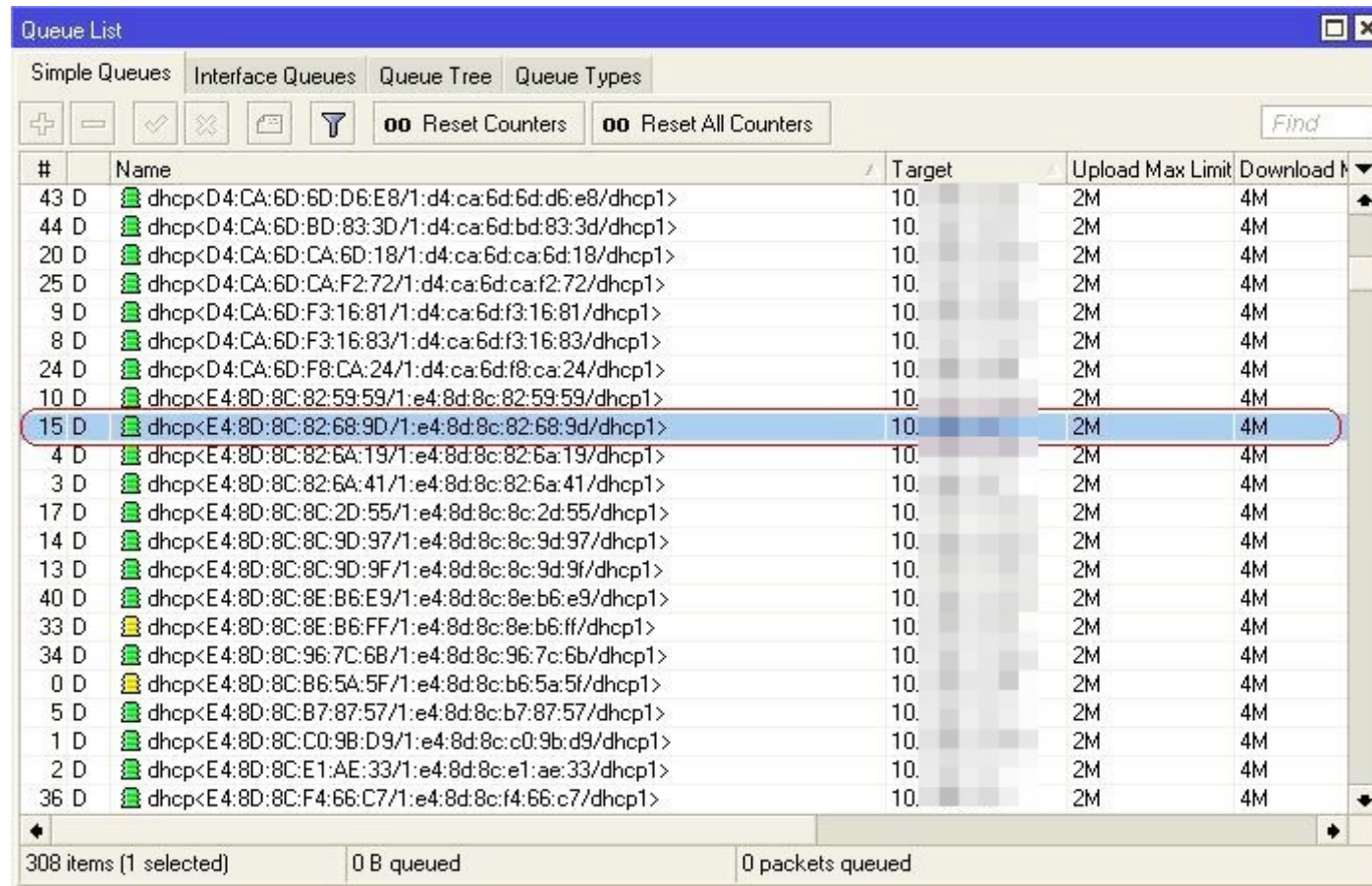
Address	MAC Address	Client ID	Server	Active Address	Active MAC Address	Active Hostname	Expires After	Status
10.100.1.1	E4:8D:8C:F4:66:C7	1-e4:8d:8c:f4:66:c7	dhcp1	1	E4:8D:8C:F4:66:C7	bolsa de t...	29d 13:06:17	bound
252 - Valenzuela	4C:5E:0C:74:46:93	1:4c:5e:c:74:46:93	dhcp1	1	4C:5E:0C:74:46:93	MikroTik	25d 13:49:46	bound
10.100.1.1	4C:5E:0C:F1:23:E9	1:4c:5e:c:f1:23:e9	dhcp1	1	4C:5E:0C:F1:23:E9	Cristo F. Jy ...	29d 23:56:32	bound
668 - Caro Vázquez	E4:8D:8C:82:68:9D	1-e4:8d:8c:82:68:9d	dhcp1	1	E4:8D:8C:82:68:9D	Jose C...	25d 13:49:42	bound
534 - Torres Montal	4C:5E:0C:CB:F9:E9	1:4c:5e:c:cb:f9:e9	dhcp1	1	4C:5E:0C:CB:F9:E9	go2	21d 20:49:08	bound
789 - Armenta	F4:8D:8C:E1:AE:33	1-e4:8d:8c:e1:ae:33	dhcp1	1	E4:8D:8C:E1:AE:33	MikroTik	26d 22:22:13	bound
788 - Melesio F	E4:8D:8C:82:6A:41	1-e4:8d:8c:82:6a:41	dhcp1	1	E4:8D:8C:82:6A:41	jose fierro ...	29d 02:35:42	bound
765 - Ayala Soto	E4:8D:8C:B7:87:57	1-e4:8d:8c:b7:87:57	dhcp1	1	E4:8D:8C:B7:87:57	juan jo... a...	11d 12:37:10	bound
766 - Fierro Leyva	E4:8D:8C:8E:B6:FF	1-e4:8d:8c:8e:b6:ff	dhcp1	1	E4:8D:8C:8E:B6:FF	Jose Fern...	27d 01:19:18	bound
763 - López C	4C:5E:0C:05:56:31	1:4c:5e:c:05:56:31	dhcp1	1	4C:5E:0C:05:56:31	Jose C...	24d 02:21:13	bound
764 - Ochoa Leyva	4C:5E:0C:05:56:4F	1:4c:5e:c:05:56:4f	dhcp1	1	4C:5E:0C:05:56:4F	Jesus Mart...	29d 01:48:25	bound
363 - Escalante	4C:5E:0C:CB:FA:22	1:4c:5e:c:cb:fa:22	dhcp1	1	4C:5E:0C:CB:FA:22	Jose F...	14d 12:06:31	bound
10.100.1.1	4C:5E:0C:CE:28:81	1:4c:5e:c:ce:28:81	dhcp1	1	4C:5E:0C:CE:28:81	Hermanas ...	29d 23:51:36	bound
302 - Estrella Vale	4C:5E:0C:C2:8E:41	1:4c:5e:c:c2:8e:41	dhcp1	1	4C:5E:0C:C2:8E:41	estrella	26d 09:22:28	bound
10.100.1.1	4C:5E:0C:11:FB:98	1:4c:5e:c:11:fb:98	dhcp1	1	4C:5E:0C:11:FB:98	Ptp Camer...	29d 23:50:32	bound

183 items

- Asignación de IP y conversión a estática en DHCP server

Gestión Vía API

El Resultado



#	Name	Target	Upload Max Limit	Download Max Limit
43 D	dhcpc<D4:CA:6D:6D:D6:E8/1:d4:ca:6d:6d:d6:e8/dhcp1>	10.	2M	4M
44 D	dhcpc<D4:CA:6D:BD:83:3D/1:d4:ca:6d:bd:83:3d/dhcp1>	10.	2M	4M
20 D	dhcpc<D4:CA:6D:CA:6D:18/1:d4:ca:6d:ca:6d:18/dhcp1>	10.	2M	4M
25 D	dhcpc<D4:CA:6D:CA:F2:72/1:d4:ca:6d:ca:f2:72/dhcp1>	10.	2M	4M
9 D	dhcpc<D4:CA:6D:F3:16:81/1:d4:ca:6d:f3:16:81/dhcp1>	10.	2M	4M
8 D	dhcpc<D4:CA:6D:F3:16:83/1:d4:ca:6d:f3:16:83/dhcp1>	10.	2M	4M
24 D	dhcpc<D4:CA:6D:F8:CA:24/1:d4:ca:6d:f8:ca:24/dhcp1>	10.	2M	4M
10 D	dhcpc<E4:8D:8C:82:59:59/1:e4:8d:8c:82:59:59/dhcp1>	10.	2M	4M
15 D	dhcpc<E4:8D:8C:82:68:9D/1:e4:8d:8c:82:68:9d/dhcp1>	10.	2M	4M
4 D	dhcpc<E4:8D:8C:82:6A:19/1:e4:8d:8c:82:6a:19/dhcp1>	10.	2M	4M
3 D	dhcpc<E4:8D:8C:82:6A:41/1:e4:8d:8c:82:6a:41/dhcp1>	10.	2M	4M
17 D	dhcpc<E4:8D:8C:8C:2D:55/1:e4:8d:8c:8c:2d:55/dhcp1>	10.	2M	4M
14 D	dhcpc<E4:8D:8C:8C:9D:97/1:e4:8d:8c:8c:9d:97/dhcp1>	10.	2M	4M
13 D	dhcpc<E4:8D:8C:8C:9D:9F/1:e4:8d:8c:8c:9d:9f/dhcp1>	10.	2M	4M
40 D	dhcpc<E4:8D:8C:8E:B6:E9/1:e4:8d:8c:8e:b6:e9/dhcp1>	10.	2M	4M
33 D	dhcpc<E4:8D:8C:8E:B6:FF/1:e4:8d:8c:8e:b6:ff/dhcp1>	10.	2M	4M
34 D	dhcpc<E4:8D:8C:96:7C:6B/1:e4:8d:8c:96:7c:6b/dhcp1>	10.	2M	4M
0 D	dhcpc<E4:8D:8C:B6:5A:5F/1:e4:8d:8c:b6:5a:5f/dhcp1>	10.	2M	4M
5 D	dhcpc<E4:8D:8C:B7:87:57/1:e4:8d:8c:b7:87:57/dhcp1>	10.	2M	4M
1 D	dhcpc<E4:8D:8C:C0:9B:D9/1:e4:8d:8c:c0:9b:d9/dhcp1>	10.	2M	4M
2 D	dhcpc<E4:8D:8C:E1:AE:33/1:e4:8d:8c:e1:ae:33/dhcp1>	10.	2M	4M
36 D	dhcpc<E4:8D:8C:F4:66:C7/1:e4:8d:8c:f4:66:c7/dhcp1>	10.	2M	4M

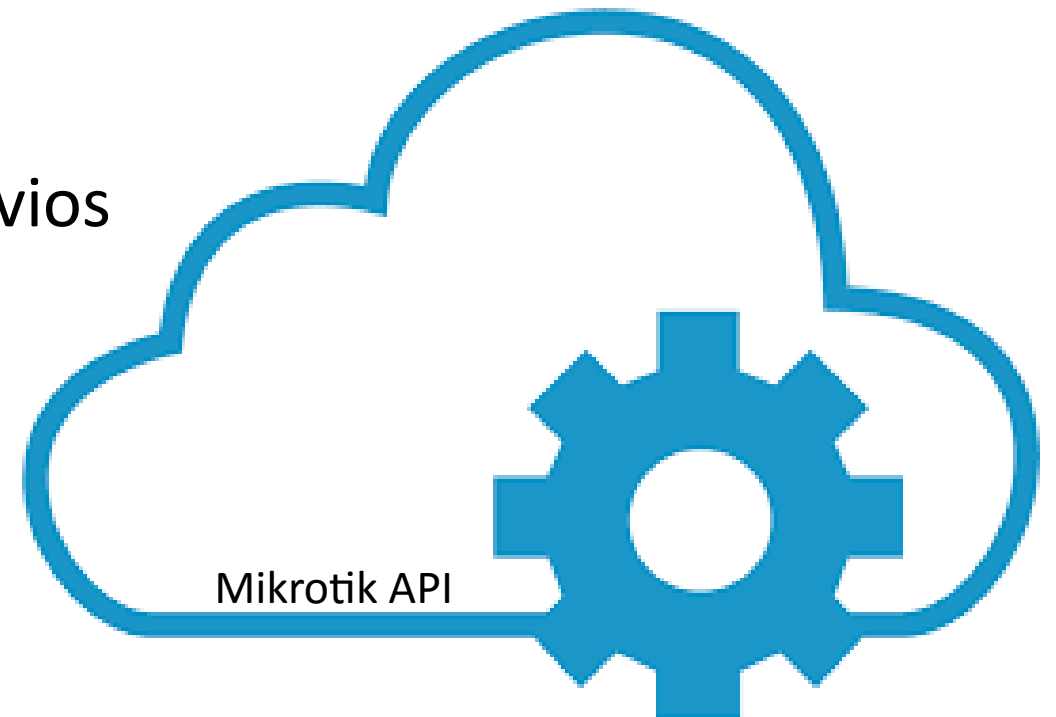
308 items (1 selected) 0 B queued 0 packets queued

- Asignación de colas simples, subida, bajada, ráfagas

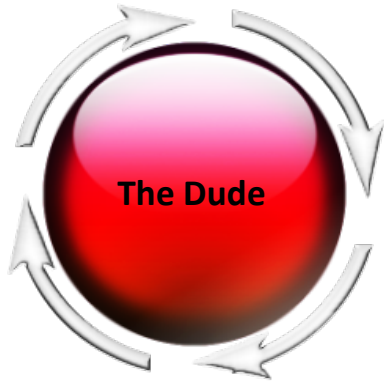
Gestión Vía API

Algunos Beneficios:

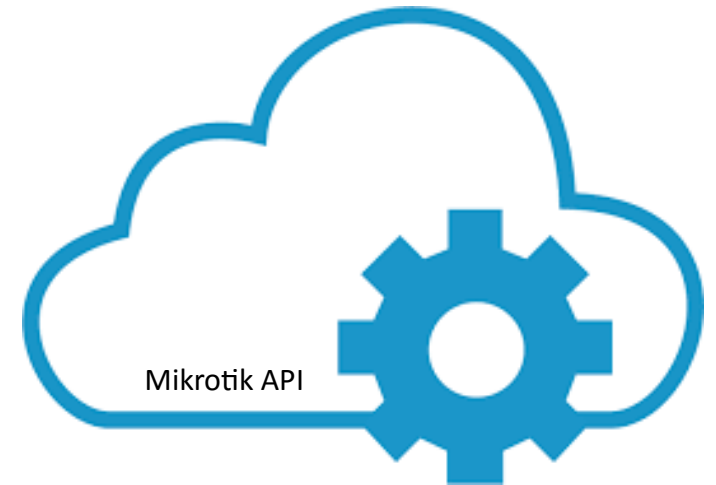
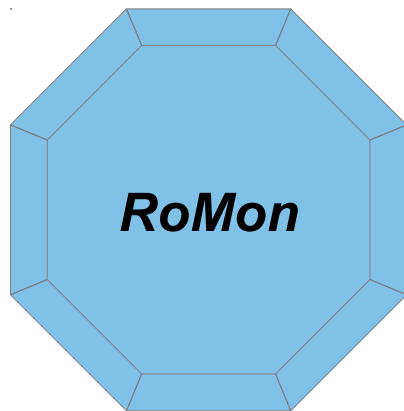
- Control de el/los equipos
- Desarrollo a la medida
- Acceso a usuarios sin conocimientos previos
- Rapidez de gestión
- Centralización



Herramientas para Gestión y Administración



CAPsMAN



Muchas Gracias !!!

<http://www.index.com.mx> <http://www.mikrotik-mexico.com.mx>

Email: adiaz@index.com.mx

