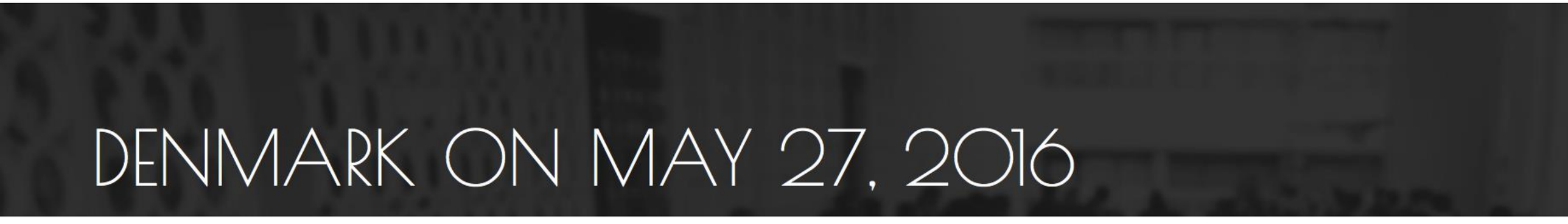
UserManager:
a free radius server for Wireless, Hotspot, PPP, users and DHCP.

(UserManager PlayBook)

by Lorenzo Busatti



About me

Lorenzo Busatti

- Founder of Grifonline S.r.l. [ISP] (1997)
- Founder of Linkwave [WISP] (2006)
- MikroTik Trainer [NA,RE,WE,TCE,INE,UME](2010)
- Member of RIPE, AMS-IX, MIX-IT

About me

Lorenzo Busatti

- Worldwide Trainer and Consultant, previous experiences in:
- Italy, USA, UnitedArabEmirates, Brasil, Slovenia, Poland, Croatia, Czech Republic, etc ….


linkwave
2006 2016
10 anni di wireless!

About me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Svizzera
Switzerland
Graz
Klagenfurt am Wörthersee
Maribor
Slovenija
Slovenia
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Poggibonsi
Montevarchi
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Castiglion Fiorentino
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E35
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Cortona
Sinalunga
Campiglia Marittima
Massa Marittima
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Marsciano
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Todi
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Orvieto
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Castiglione della Pesc
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Pitigliano
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Amelia
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Montalto di Castro
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Vetralla
Tarquinia
Civitavecchia
Bracciano
Cerveteri
Ladispoli
Roma
Fiumicino

I'm a MikroTik *evangelist*

About me

- Founder (2016) of the

ROUTING & WIRELESS® ACADEMY

Non **P**rofit **O**rganization for

High Quality Training Partners

Dedicated to Max

The UserManager

- Additional “package” for RouterOS;
- A powerful radius server that can be used for managing authentication in:
  - ✓ Hotspot
  - ✓ PPP
  - ✓ RouterOS Users
  - ✓ Wireless
  - ✓ DHCP server

The UserManager

And it's **free.**

Why this presentation?

Doing trainings the students are used to ask info about radius servers.

The UserManager is not well known

There are reasons for not to use a radius included in RouterOS for free?

Why this presentation?

Is also not well known where RouterOS can ask authentication at a radius server:

Most used:

Hotspot

PPP

Not well known:

RouterOS Users

Wireless *(and in the CAPsMAN)*

DHCP server

Why this presentation?

And now **the** question:

How many are using the UserManager?

My style

1. I don’t have “hours” into the time slot
2. I don’t like “boring” presentations

So

- I’ll not show you ALL the things about the UserManager (will not be possible);
- You can use the wiki.mikrotik.com
- You can take the MTCUME training class

RADIUS server

The UserManager is a radius server.

Remote **A**uthentication **D**ial-**I**n **U**ser **S**ervice

Is a networking protocol that provides **centralized**:

Authentication, **A**uthorization, and **A**ccounting (**AAA** or Triple A), using UDP packets.

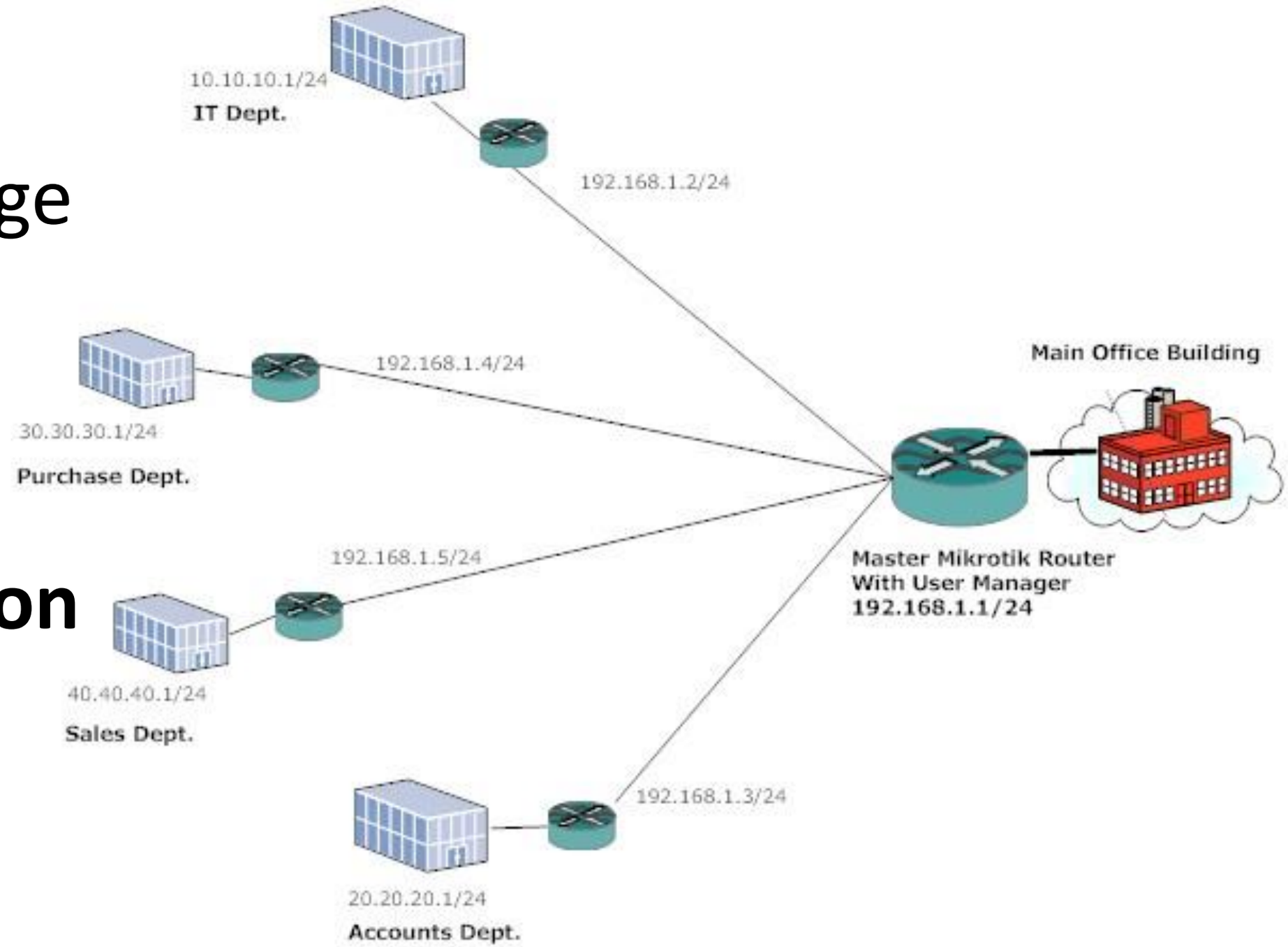
RADIUS server

He will allow

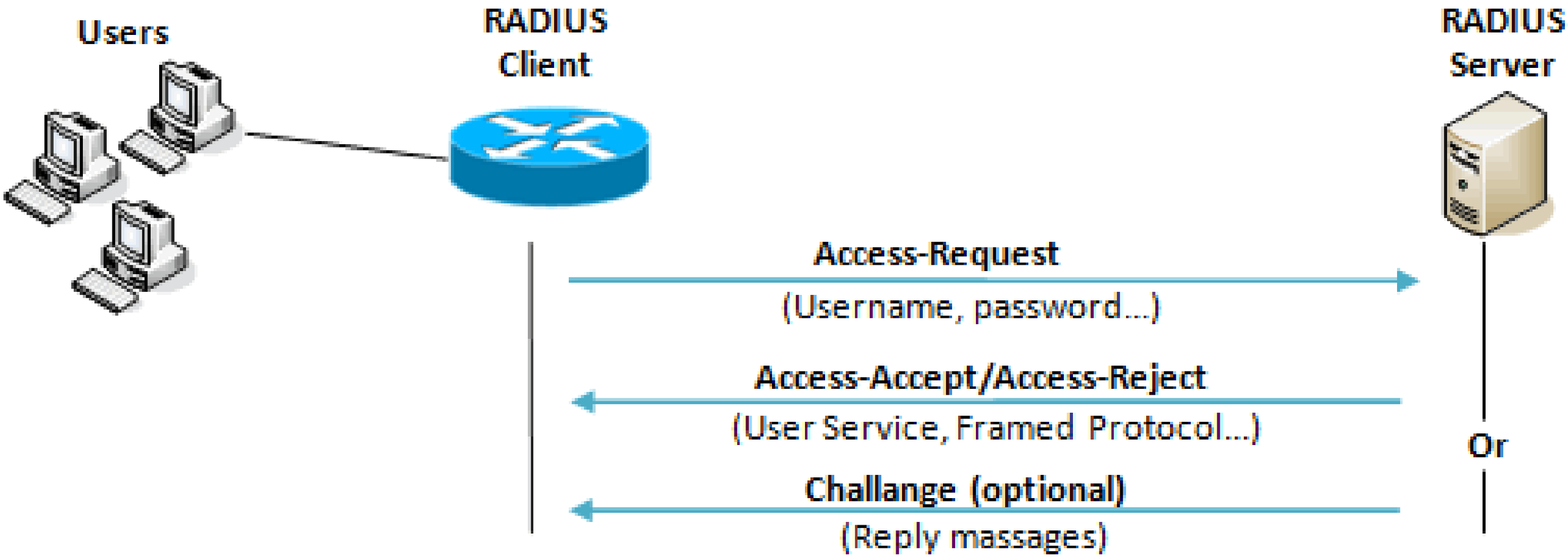
You to manage

Centralized

authentication



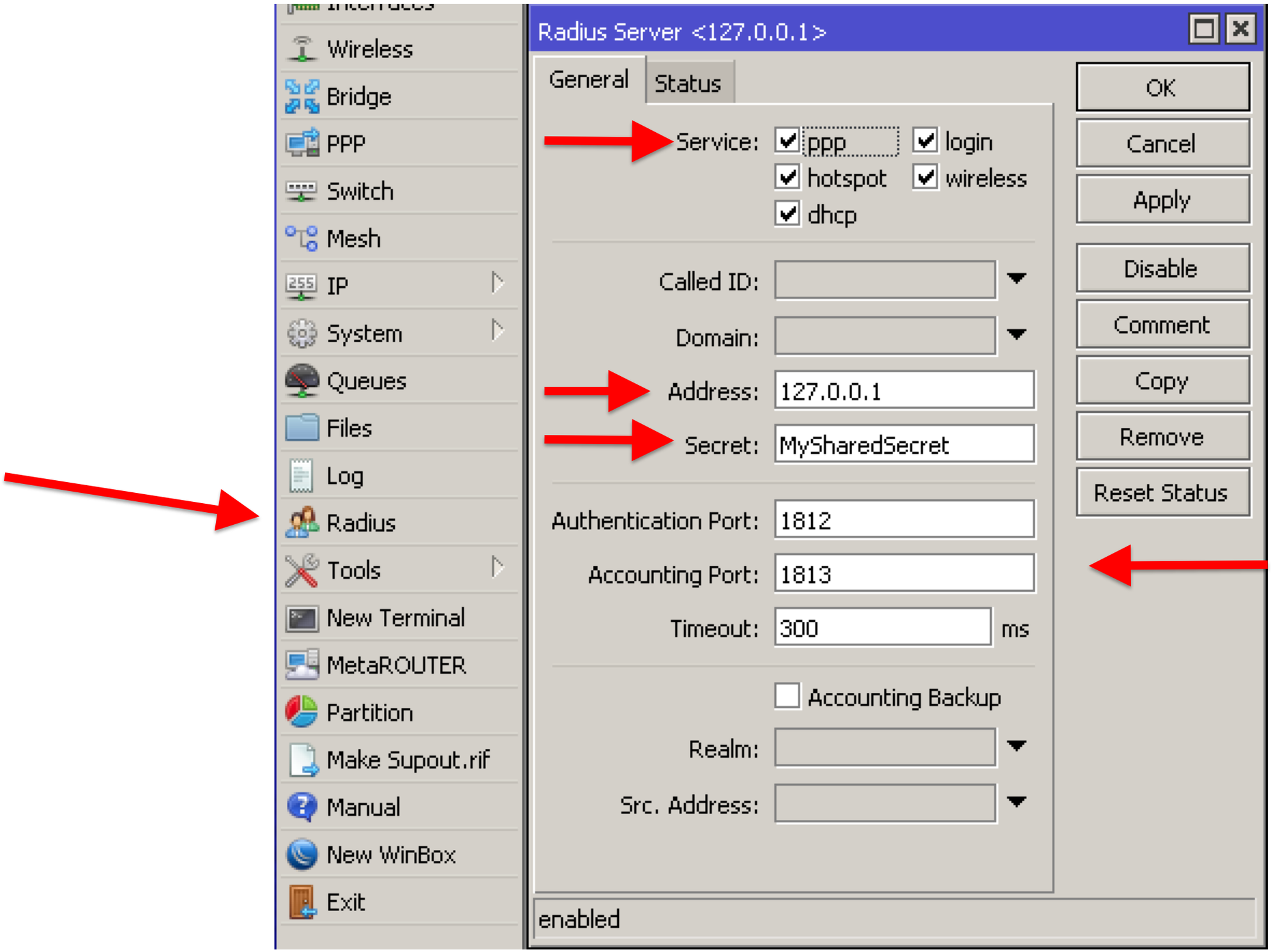
RADIUS server



RADIUS client

- RouterOS have a radius client, included in the system;
- Don’t require optional packages or special licenses;
- Can ask authentication at ANY standard radius server.
- It’s free

RADIUS client



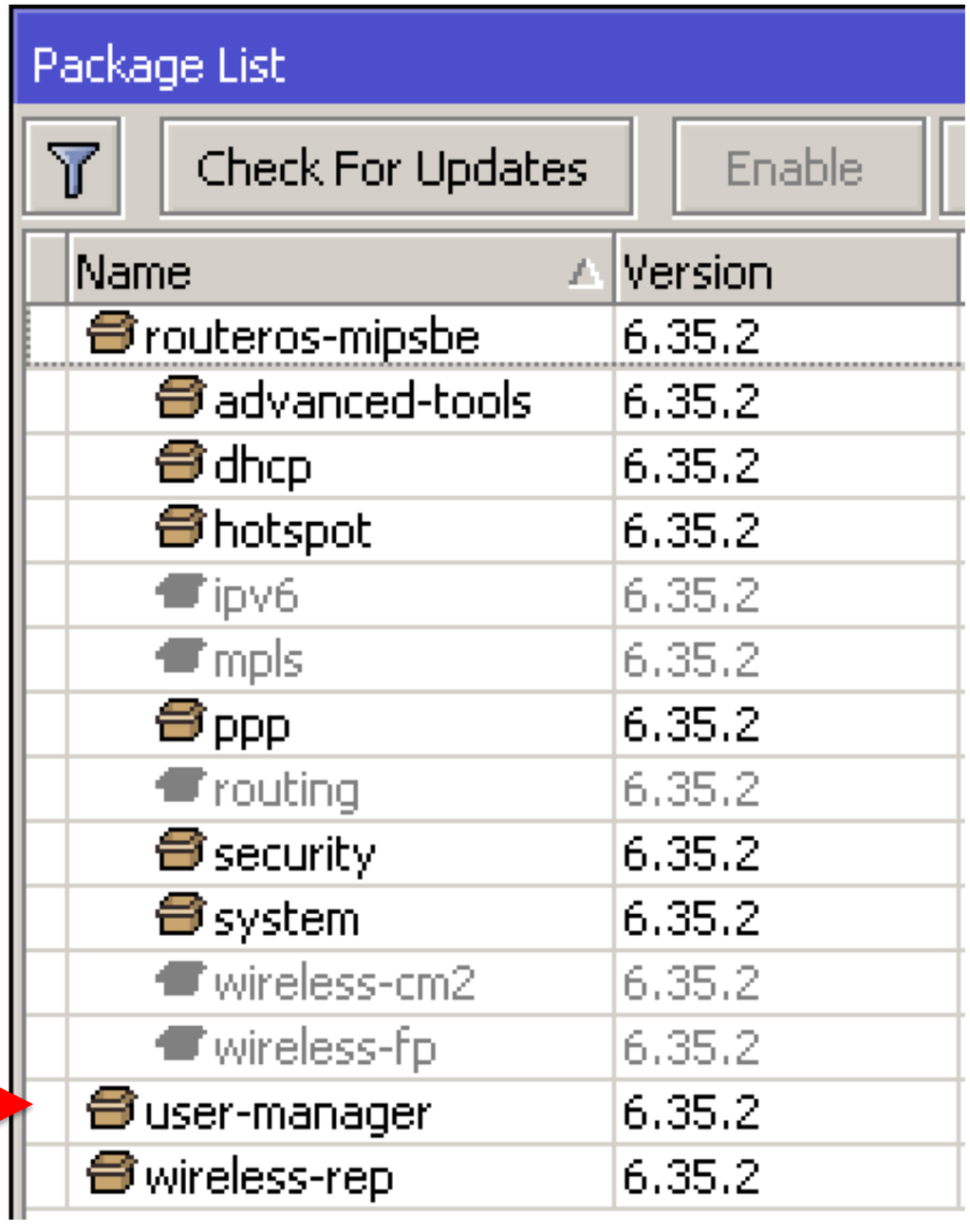
RADIUS client

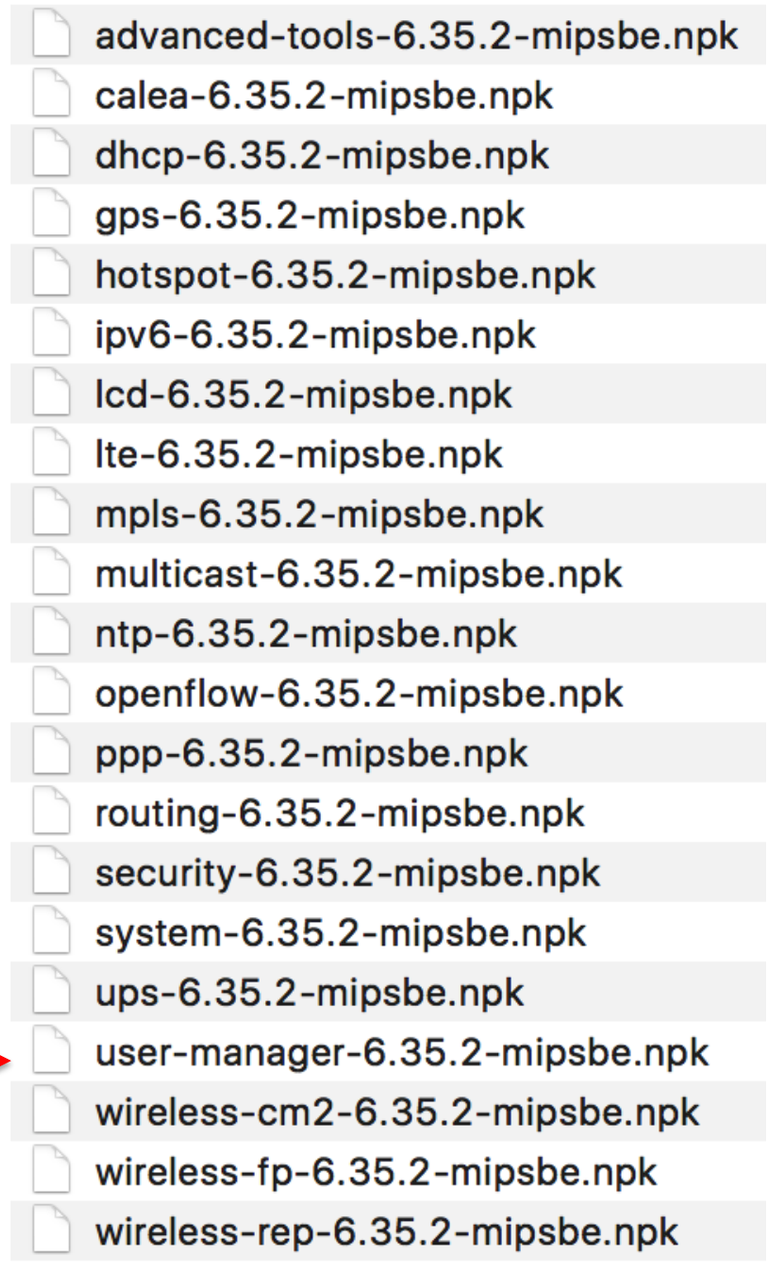
The rules of thumb is:

- RouterOS will use the **LOCAL** users database **FIRST**;
- **THEN** will ask at a **RADIUS** server (if set)

Where is the UserManager?

You have to manually install this optional package:

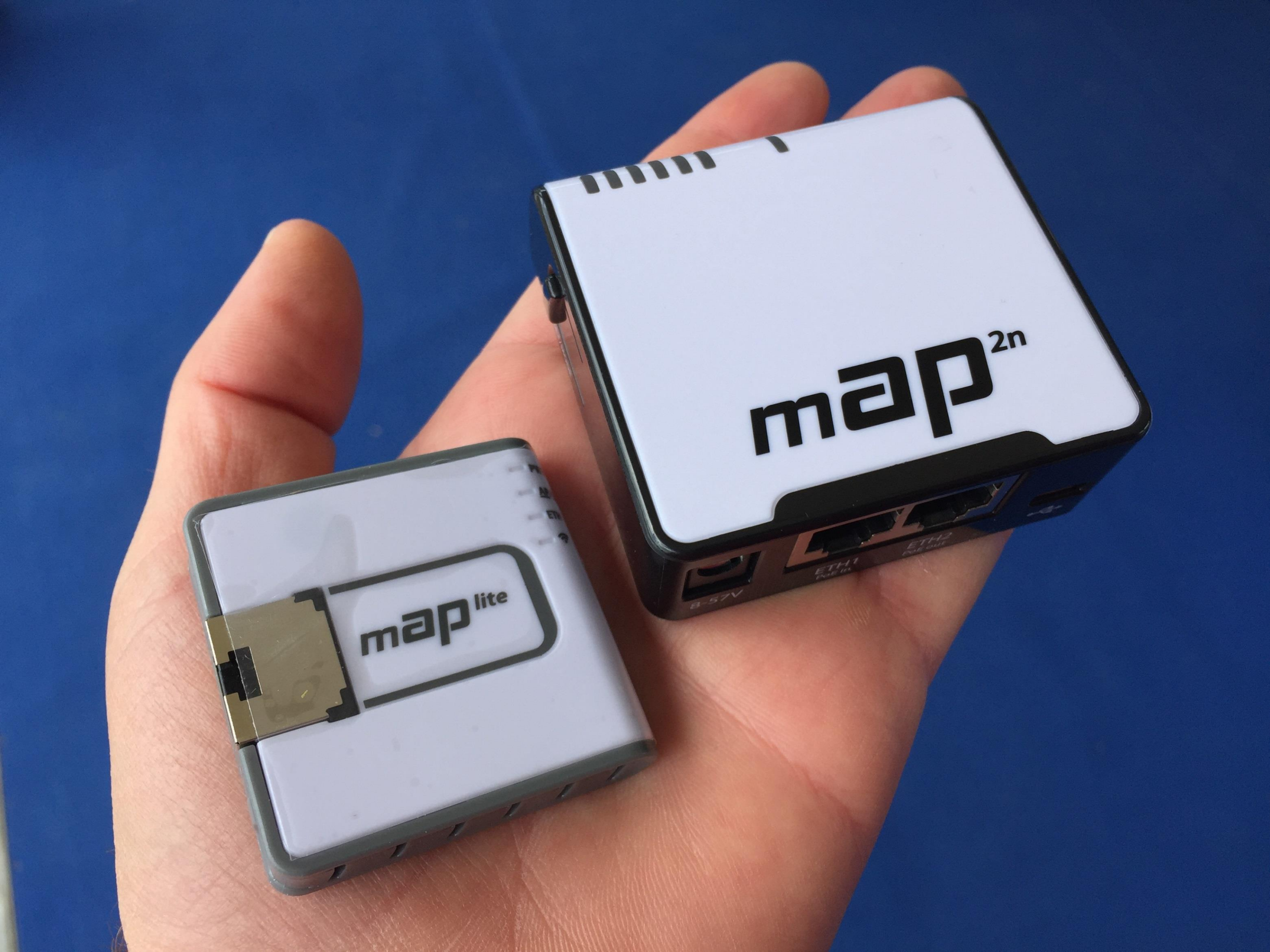




Requirements

You can install the UserManager in any RouterBoard with at least 32MB RAM and 2MB free space.

Will work on x86 or CHR also.


map 2n
map lite
8-57V
ETH1
ETH2

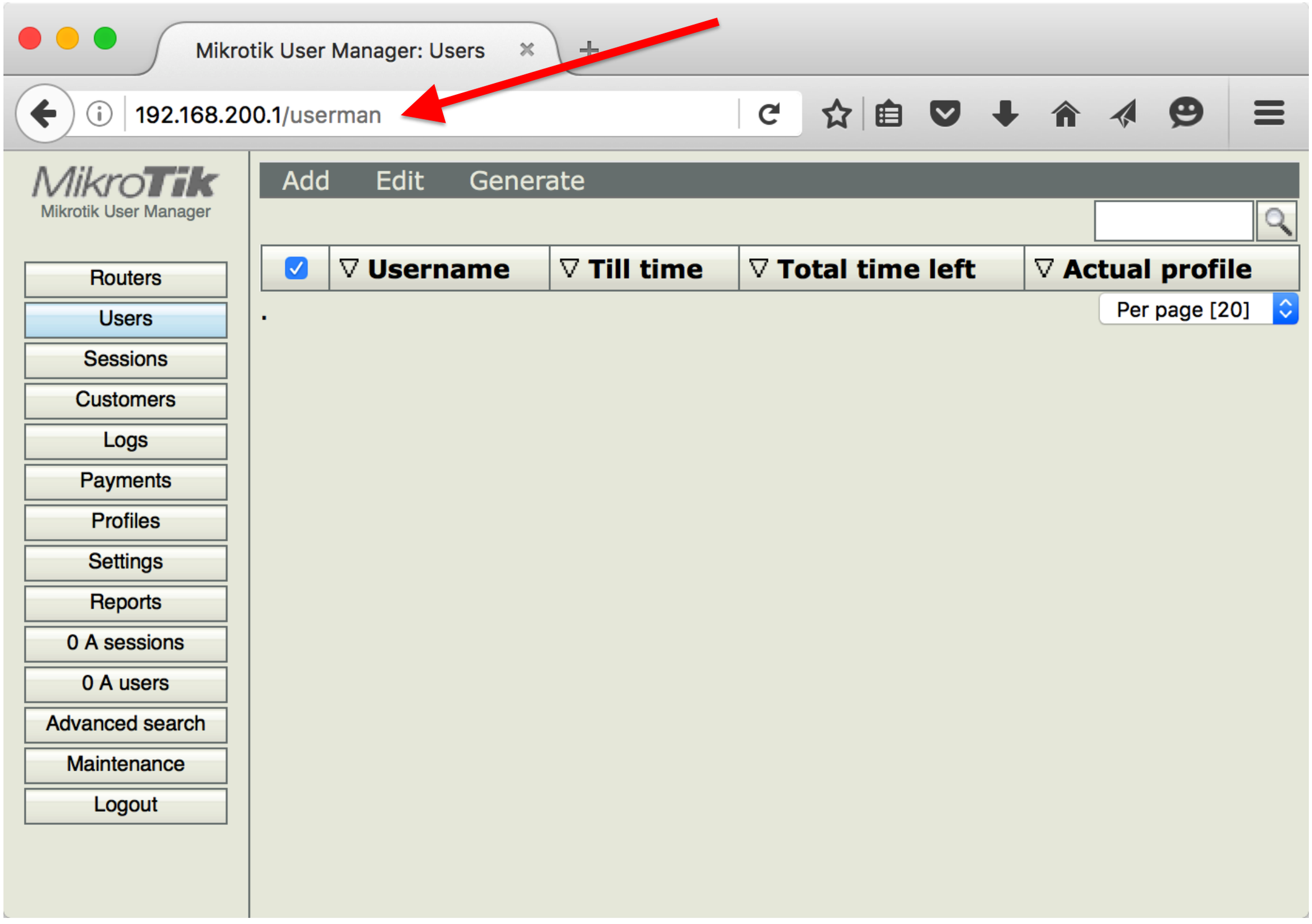

map lite

Licensing

The UserManager is free, but have different limitations depending your RouterOS license level:

	L3 (CPE)	L4 (WISP)	L5 (WISP)	L6 (Controller)
Max active sessions	10	20	50	Unlimited

The web interface



The CLI interface

```
/tool user-manager>
customer  database  history
log  payment  profile  router
session  user  export
```

The User Guide

http://wiki.mikrotik.com/wiki/Manual:User_Manager

Manual:User Manager

(Redirected from User Manager)

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1 Introduction
2 Getting started
3 Quick start
4 Concepts explained
    4.1 Common
    4.2 Version 4.x test package specific
    4.3 Version 3.x specific
5 Reference
    5.1 Web interface
    5.2 Customer page
    5.3 User page
    5.4 User sign-up
    5.5 User payments
    5.6 Backup and restore
6 Questions and answers

Tips

Don’t forget:

- To change the UserManager default password
- That all the users/customers of the UserManager are not shared into RouterOS

- To add routers to be managed
- To create PROFILES (and limitations) BEFORE adding Users

Tips

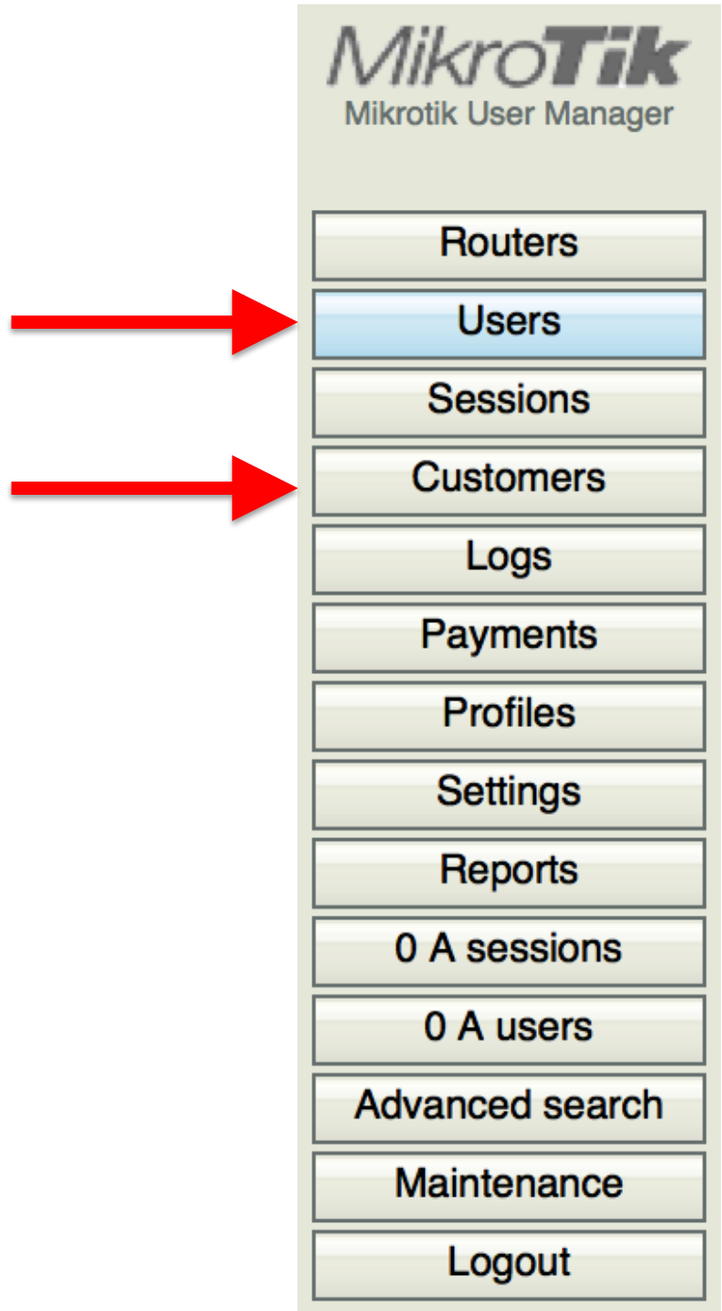
Don’t mess up between Users and Customers:

Users

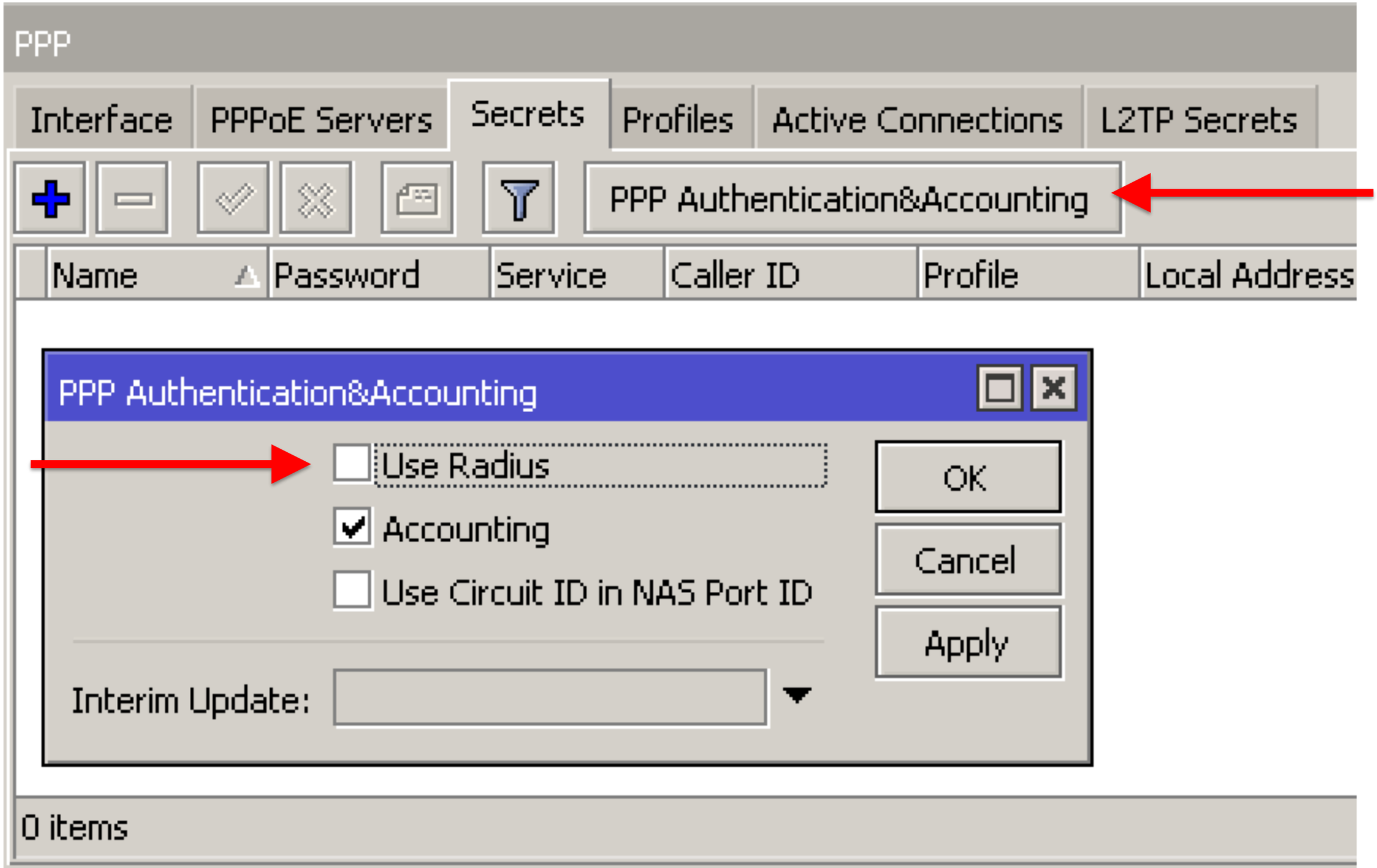
The **users** the Userman will authenticate

Customers

The Userman **administrators**



PPP Services



PPP Services

Enabling the radius client for the PPP services will be used by ALL the PPP services:

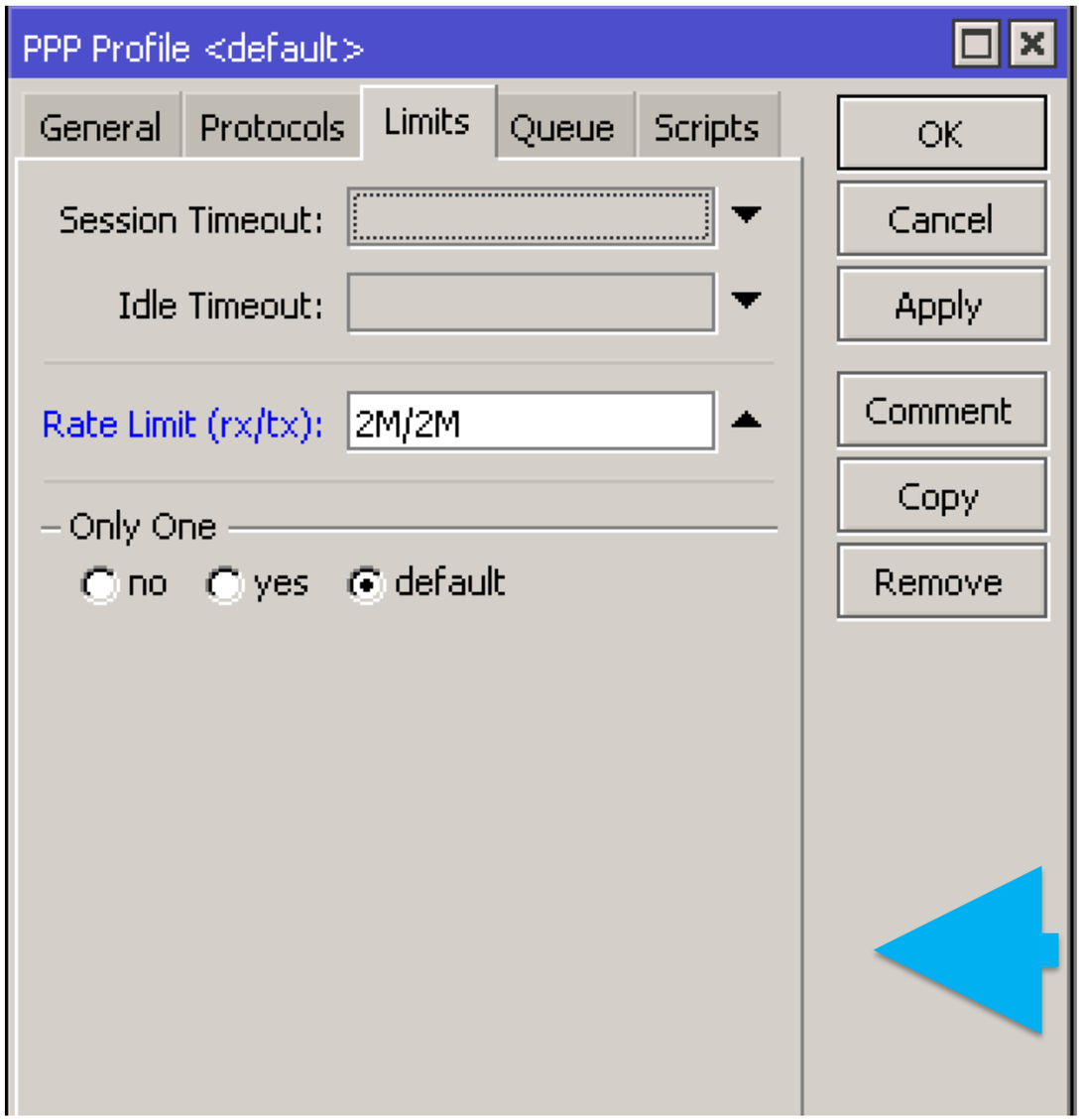
PPPoE, PPTP, L2TP, OVPN, SSTP

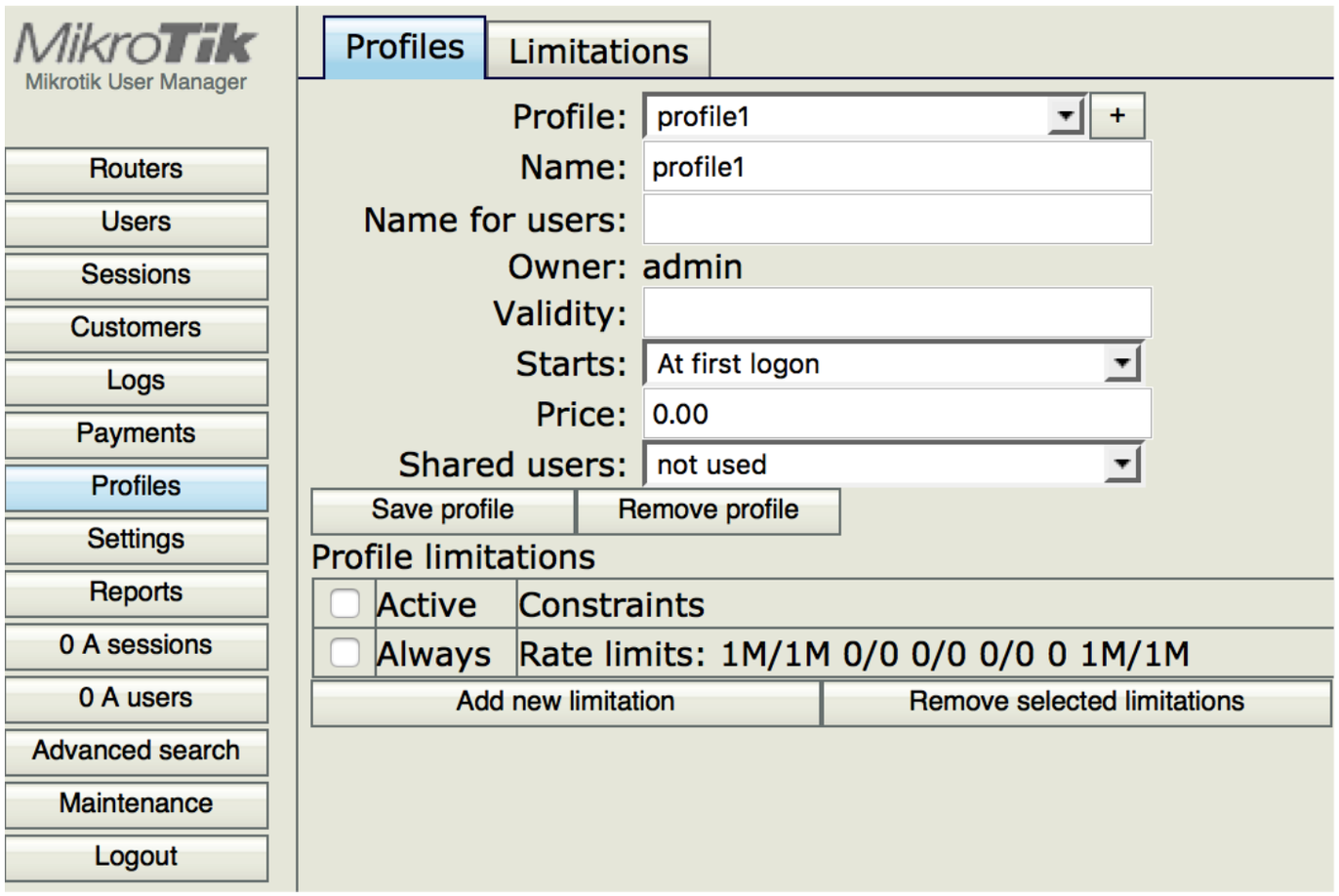
You can easily manage VPN authentication via one radius server.

Centralized Management of VPN Servers.

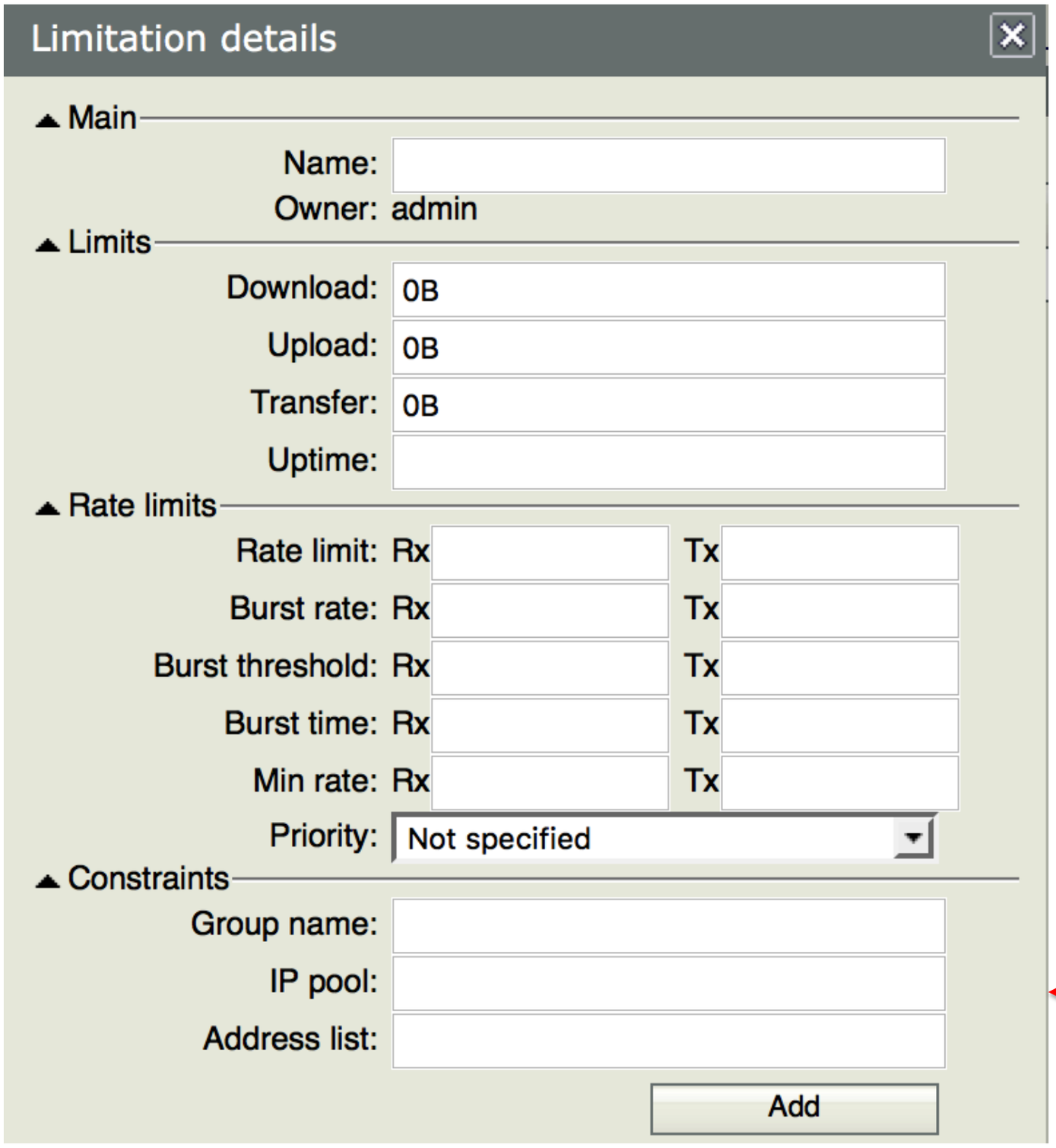
Tips

Radius attributes (replied to the client) will override settings into the Profiles in RouterOS.





PPP Profile's limitations

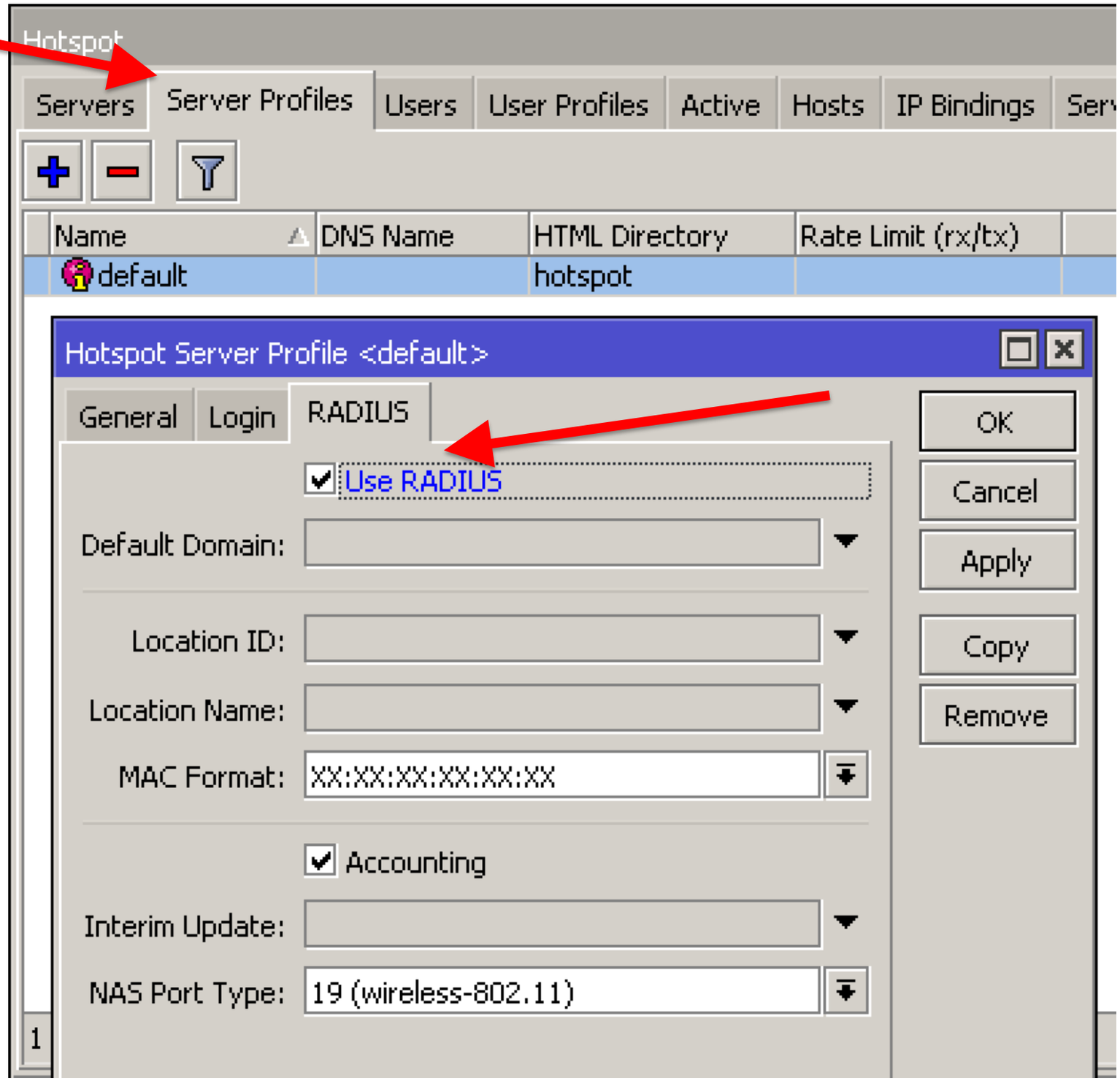


Group name:

"/user group" for RouterOS users

"/user profile" for HotSpot users

HotSpot Services



HotSpot Services

With the radius you can easily manage tons of hotspots with just one user DB.

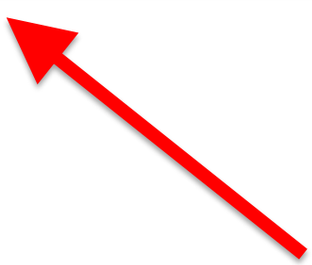
Centralized Management of HotPot Servers.

RouterOS Users

One of my favourite Radius client apps.

A question for you:
Do you think is possible to disconnect a RouterOS user from Winbox or CLI ?

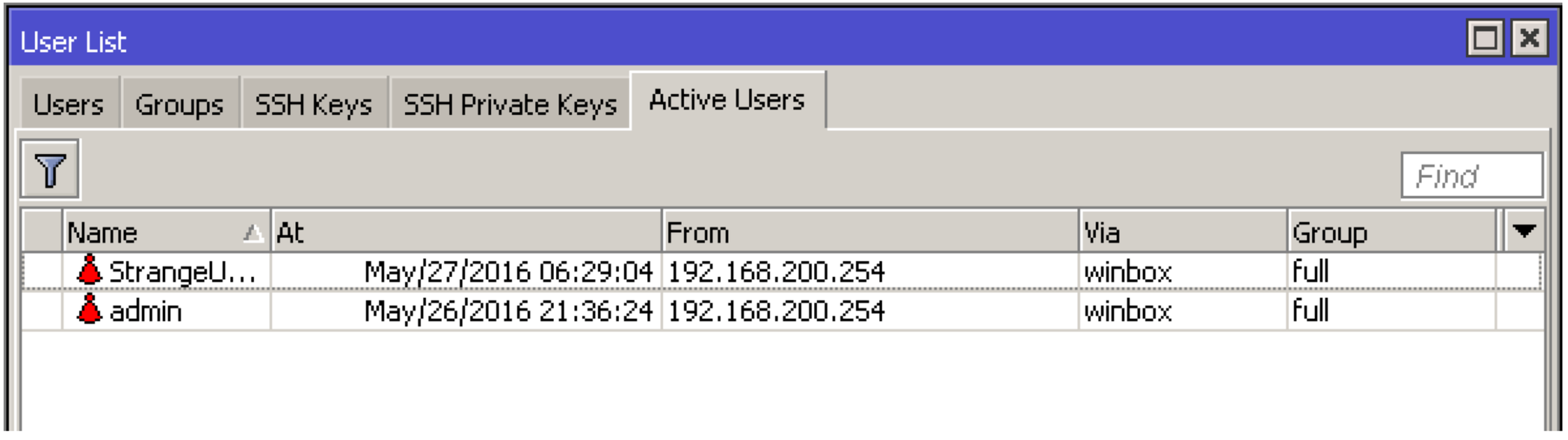
Name	At	From	Via	Group
admin	May/26/2016 21:36:24	192.168.200.254	winbox	full
StrangeUser	May/27/2016 06:27:18	192.168.200.254	winbox	full



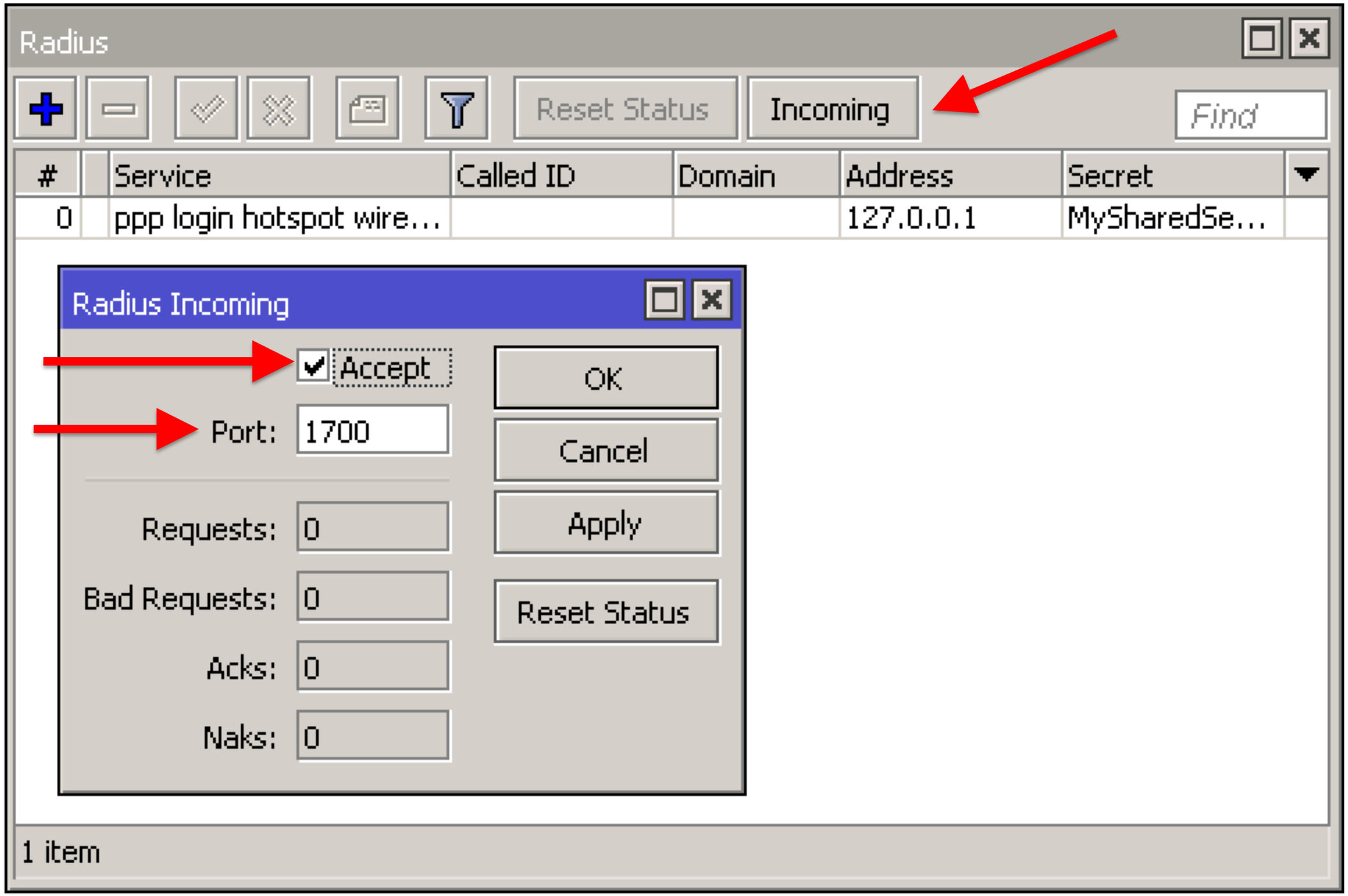
RouterOS Users

No!

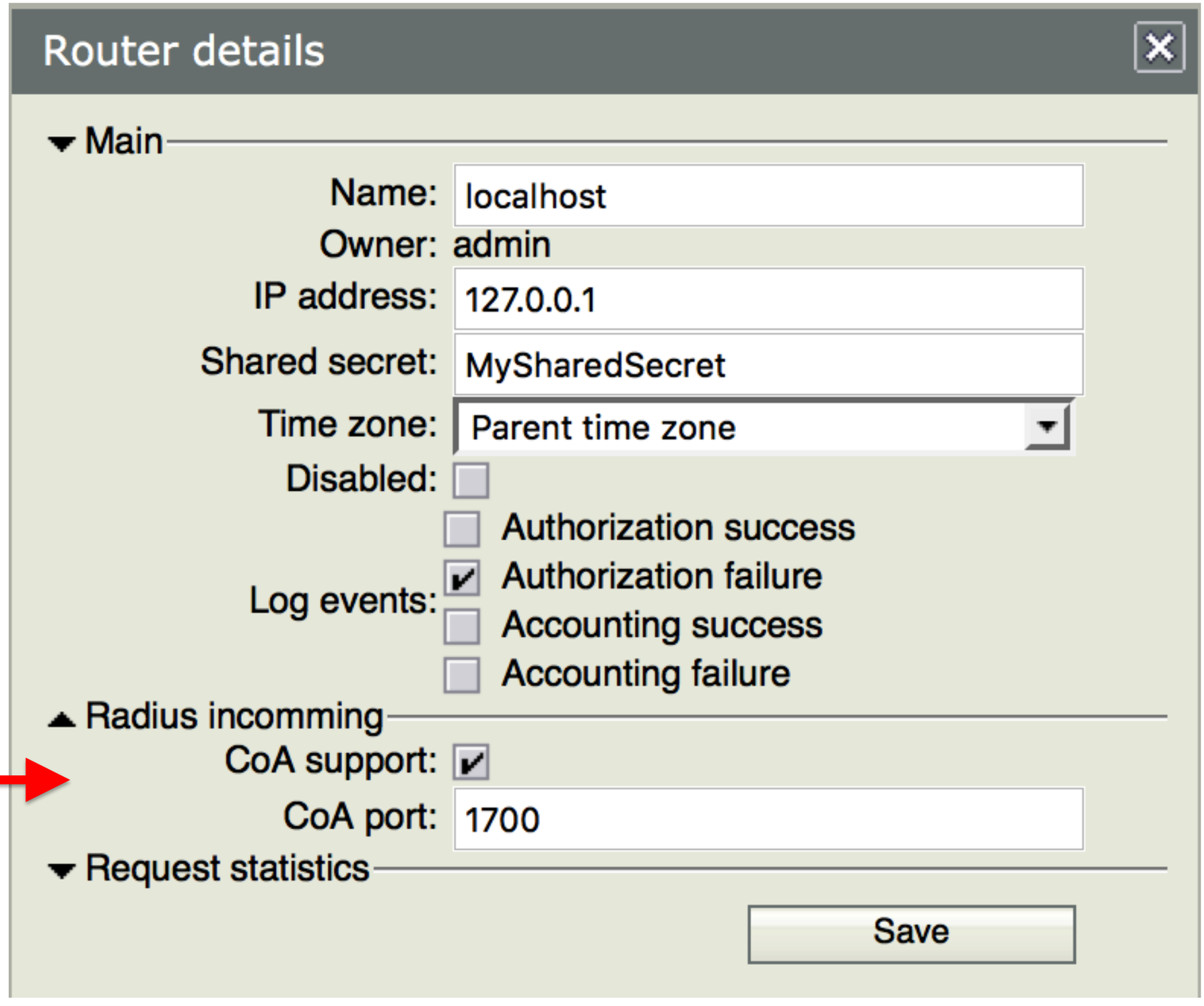
Once connected you can’t disconnect them.



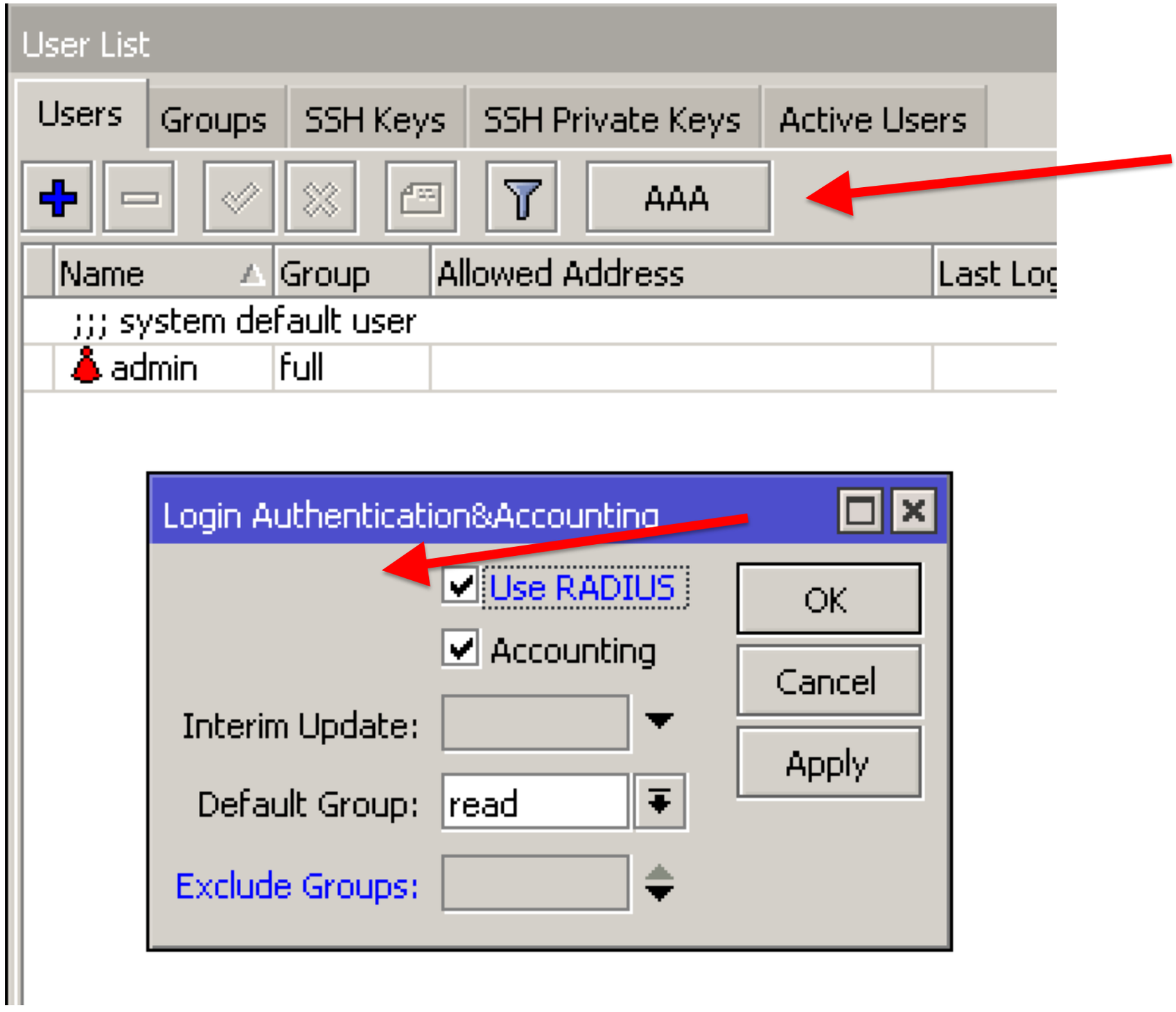
RADIUS client - incoming



RADIUS client - incoming



RouterOS Users

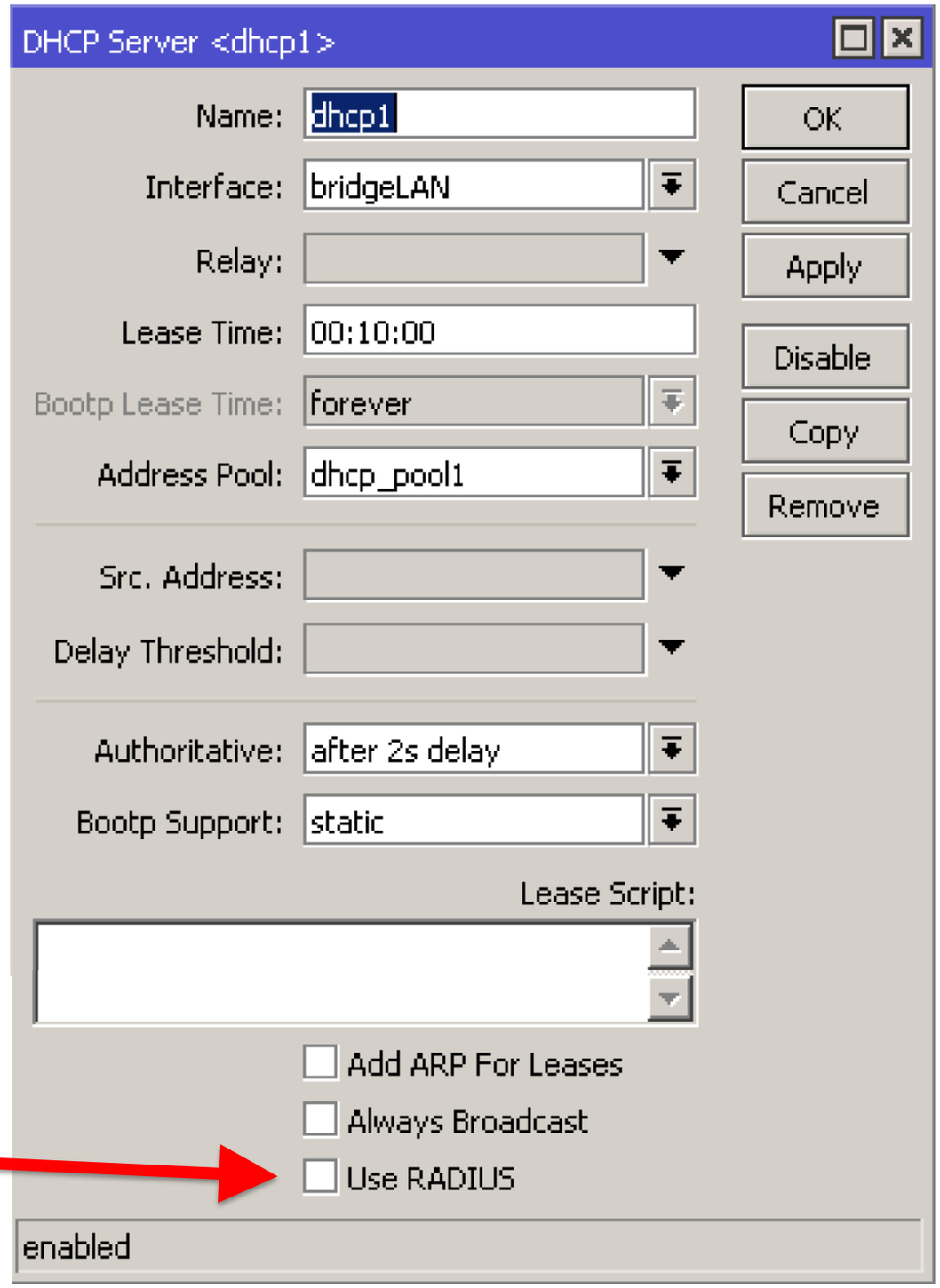


DHCP Server

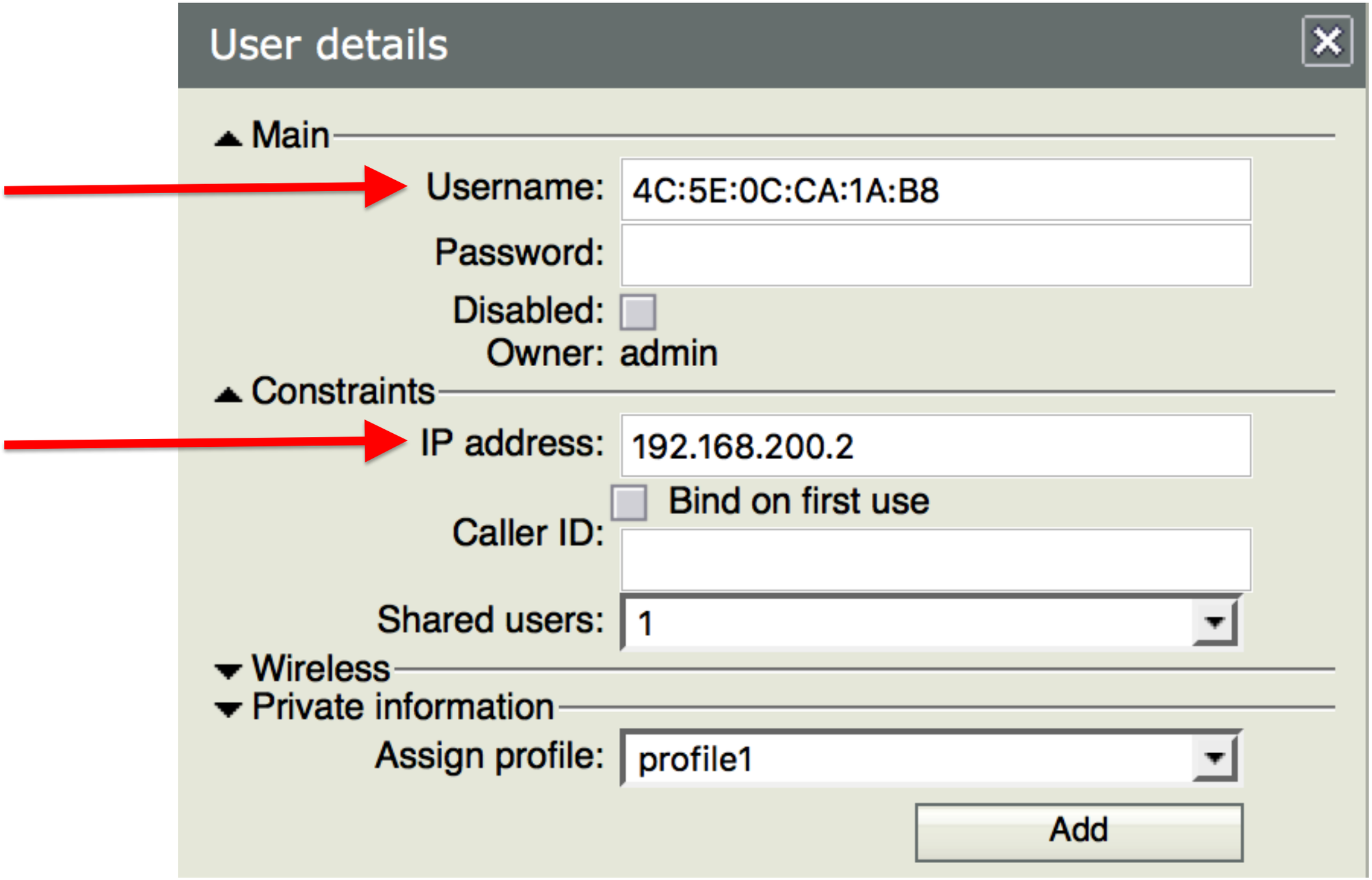
Is possible to use the radius for managing DHCP lease by DHCP servers.

Centralized Management of DNS Servers.

DHCP Server


DHCP Server <dhcp1>
Name: dhcp1
Interface: bridgeLAN
Relay:
Lease Time: 00:10:00
Bootp Lease Time: forever
Address Pool: dhcp_pool1
Src. Address:
Delay Threshold:
Authoritative: after 2s delay
Bootp Support: static
Lease Script:
Add ARP For Leases
Always Broadcast
Use RADIUS
OK
Cancel
Apply
Disable
Copy
Remove
enabled

DHCP Server


User details
Main
Username: 4C:5E:0C:CA:1A:B8
Password:
Disabled:
Owner: admin
Constraints
IP address: 192.168.200.2
Bind on first use
Caller ID:
Shared users: 1
Wireless
Private information
Assign profile: profile1
Add

Wireless Clients

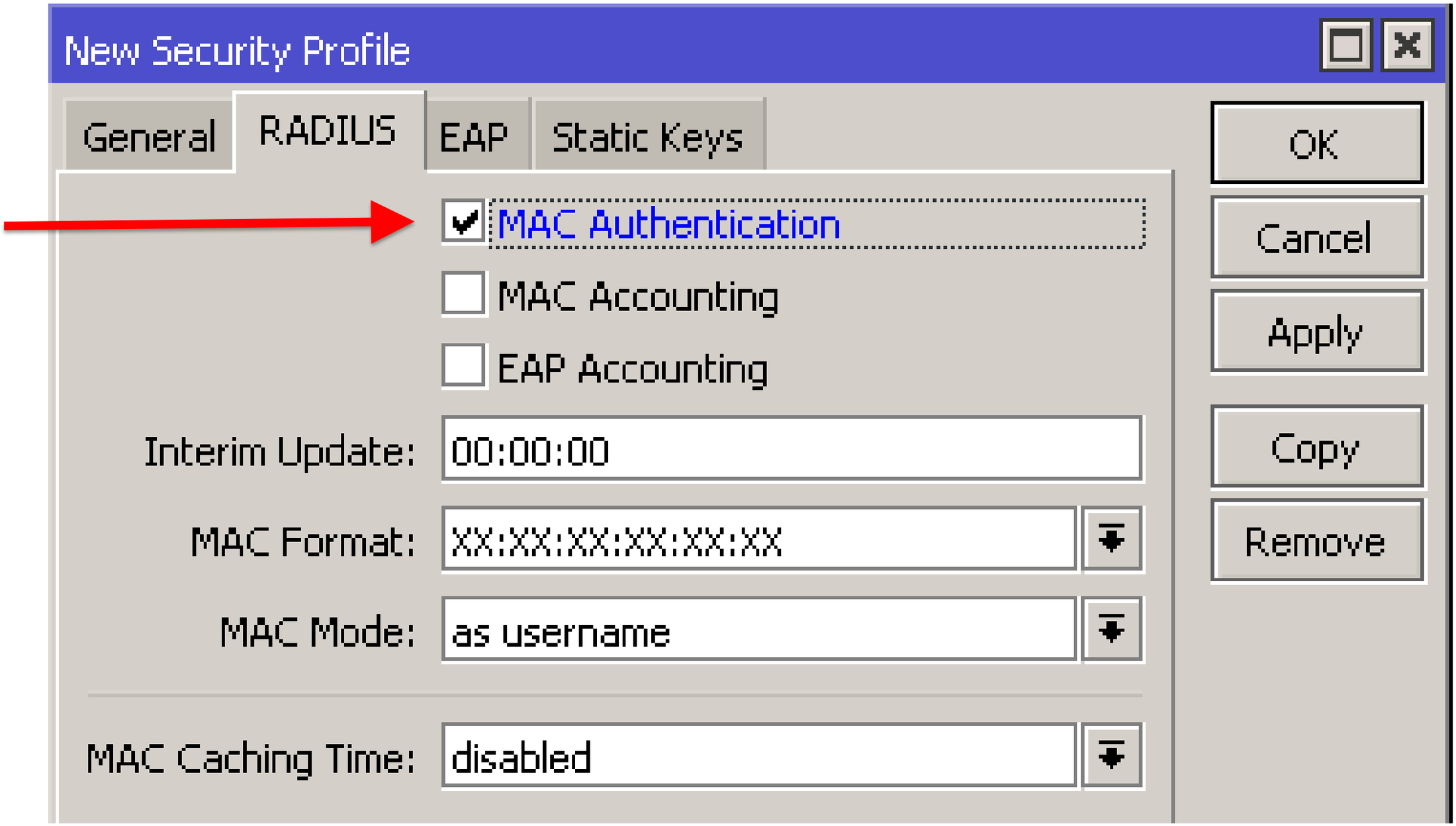
Is possible to use the radius for managing Wireless Clients connecting to an AP.

Will work “against” Access List.

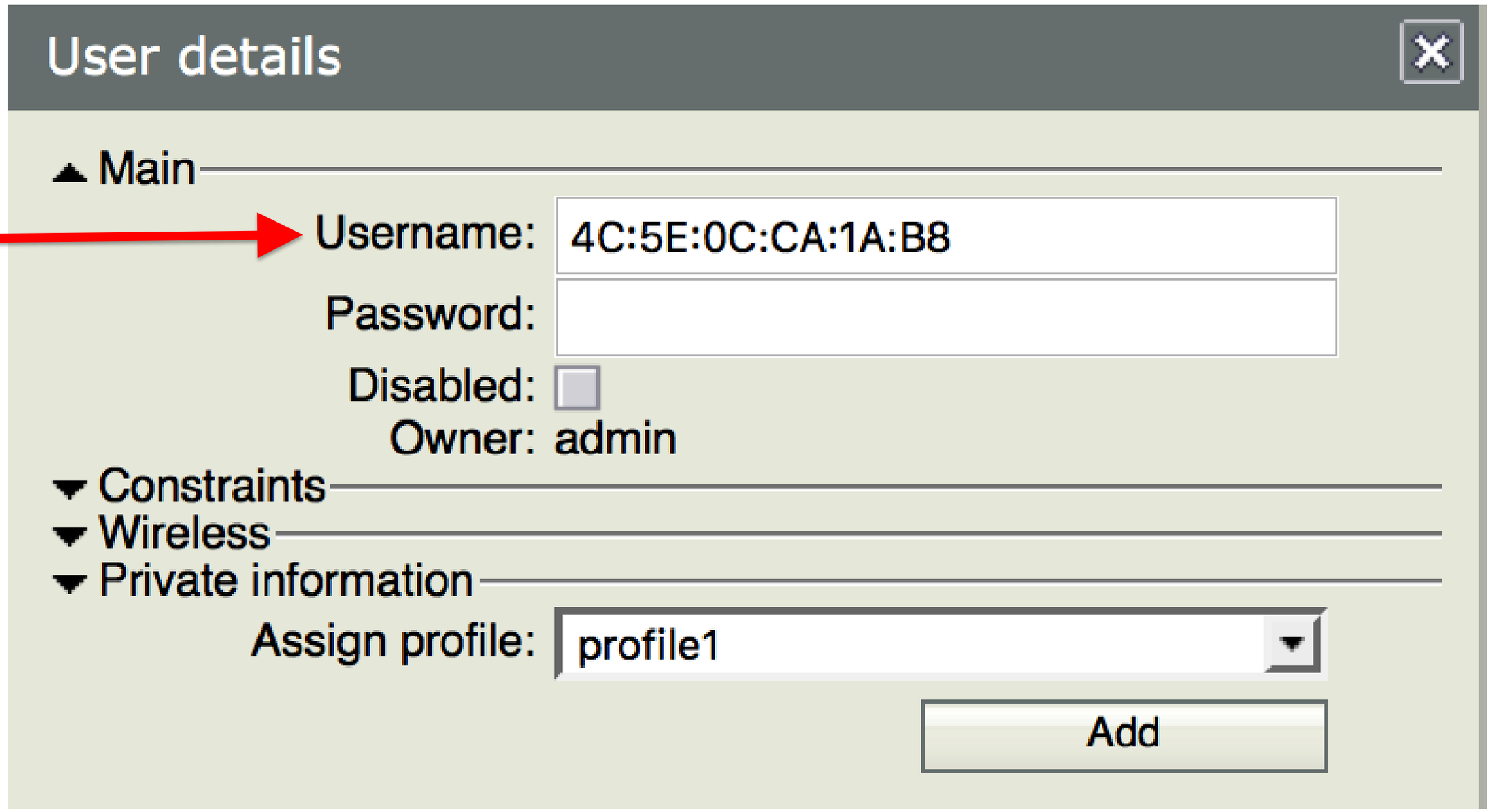
Centralized Management of Wireless Clients.

(and will be possibile to disconnect them **by** the radius)

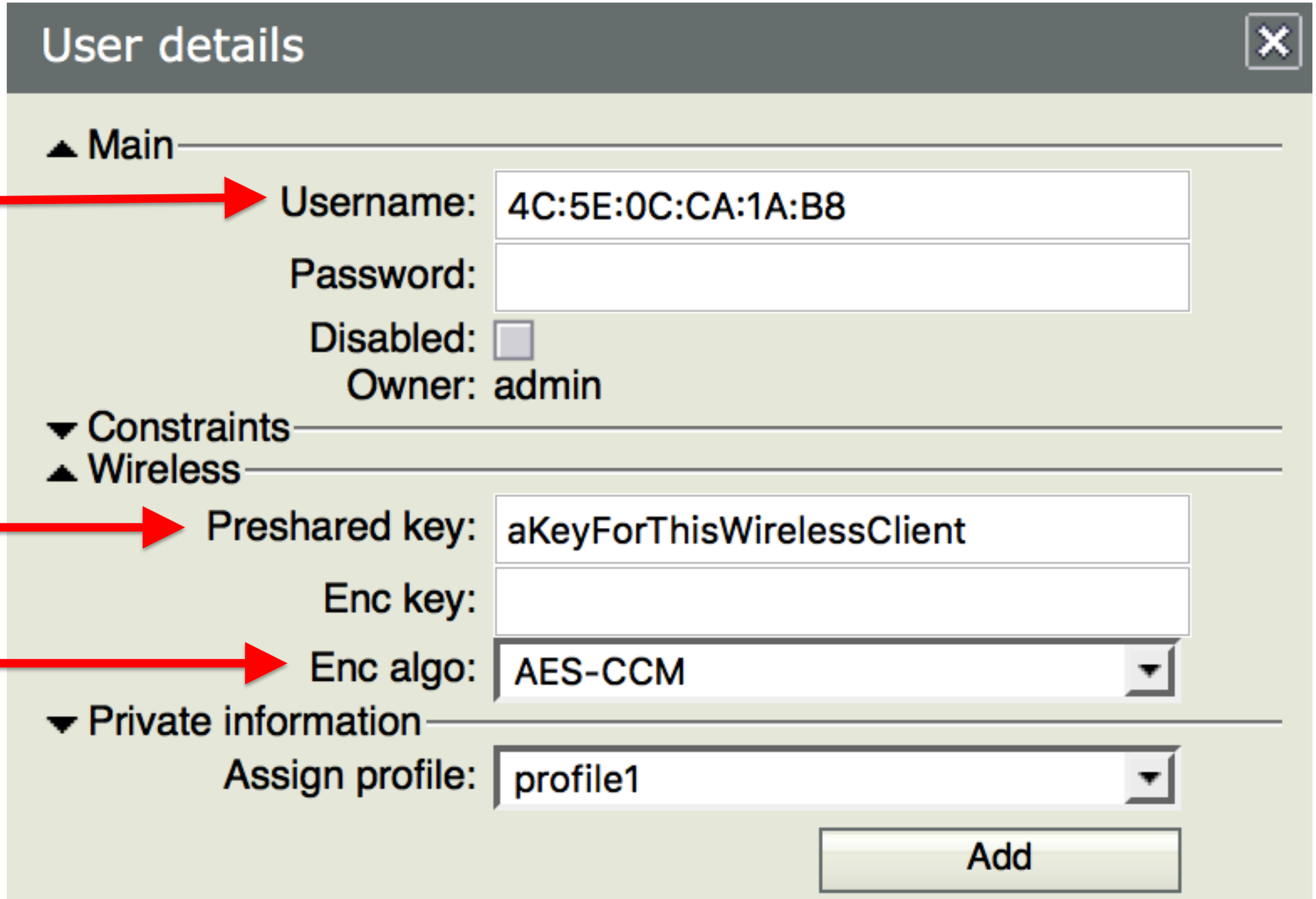
Wireless Clients



Wireless Clients



Wireless Clients



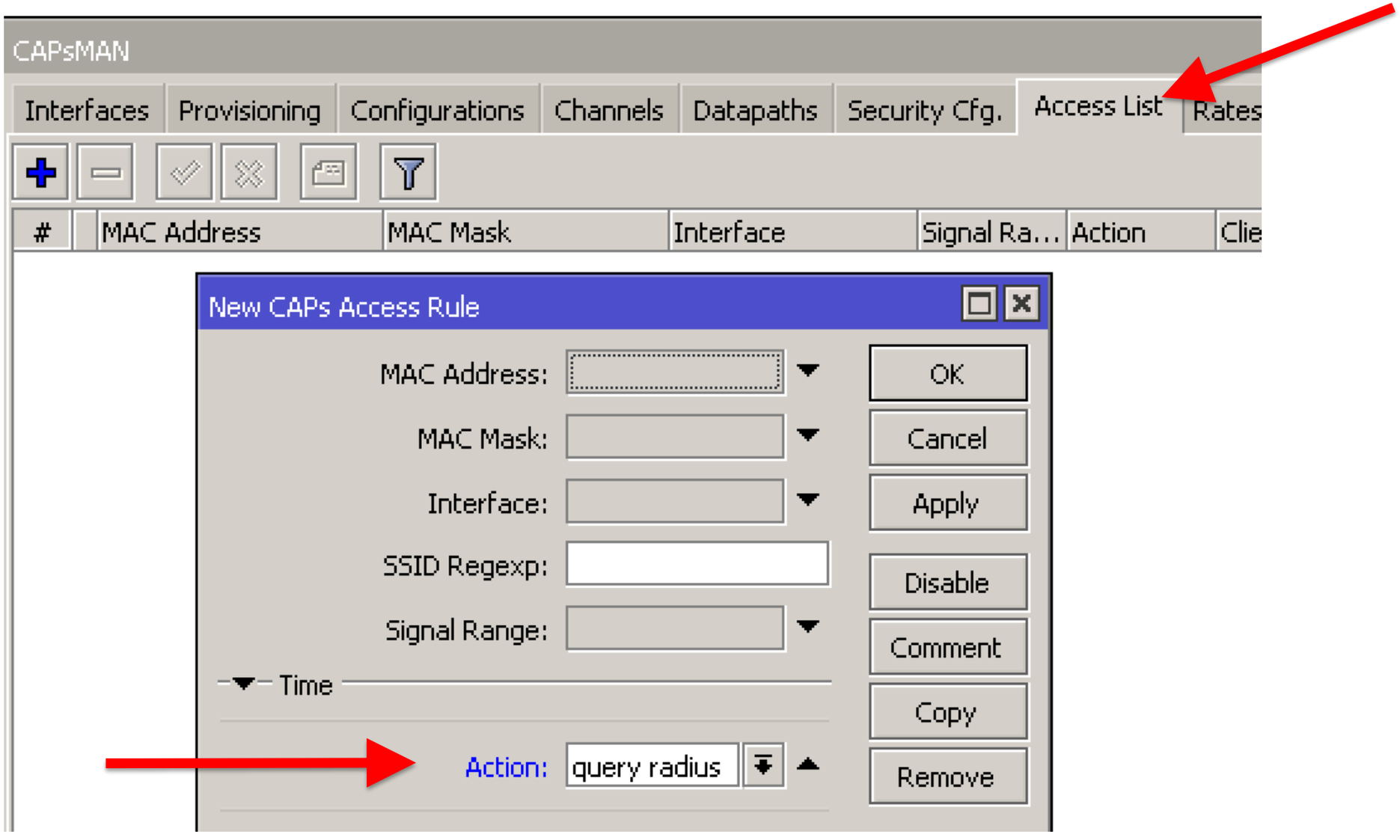
CAPsMAN Wireless Clients

Is possible to use the radius for managing Wireless Clients connecting to an AP managed by a CAPsMAN.

(and will be possibile to disconnect them **by** the radius)

CAPsMAN Wireless Clients

In this case the radius server will be query by a **CAPs Access List rule**:



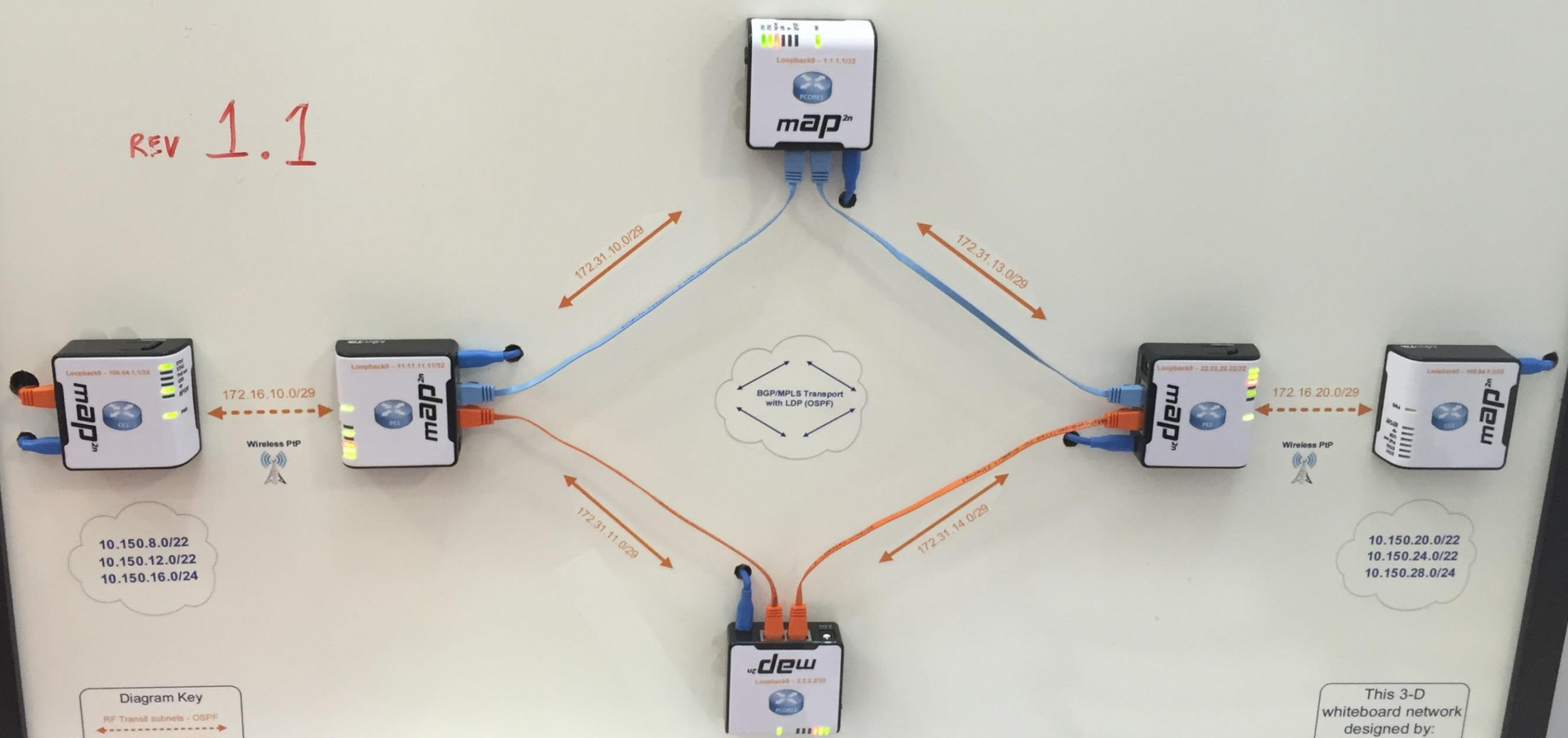
The power of RouterOS

- ALL the functions and his POWER into small devices also!
- APs, firewall, traffic shaper, hotspot, ospf, …. and also MPLS, BGP and the usermanager!
- Awesome!

WORLD'S SMALLEST MPLS ISP

Powered by MikroTik

REV 1.1



PACKETS

An LSA Type 6 packet walks into a bar and asks the bartender for a drink.

FRAMES

Wrap up

- ✓ I hope you enjoyed my presentation;
- ✓ And from today you'll start to increase to use the UserManager more than before ☺

Thank you!

Q & A

http://training.grifonline.it
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