The Dude is dead

long live The Dude

Agenda

- FMS Company Profile
- The Dude’s history
- The Dude on CHR
- Basic security settings
- The Dude’s RouterOS features
- Custom Statistics

FMS Internetservice GmbH

Value Added Distribution

FMS Internetservice GmbH

- Value Added Distributor
  - Distribution
  - Training
  - Consulting
  - Support

- Founded 1997
- 11 employees
- Southern Germany

Get in Touch

- Website: http://www.fmsweb.de
- MikroTik Mirror: http://www.mikrotik-software.de
- Shop: http://www.mikrotik-shop.de
- Wiki: http://wiki.fmsweb.de
- Twitter: https://twitter.com/fmsweb_de
- Facebook: https://www.facebook.com/fmsinternetservice

- Phone: +49 761 2926500
- Email: sales@fmsweb.de

Training Center

- Official MikroTik trainings
- All certification levels
- First German speaking partner
- Two trainers
- Own training facility
- Inquiries: sales@fmsweb.de

Sebastian Inacker: TR11

Patrik Schaub: TR23

Distributor Table

Distributor Table

- See our MikroTik based appliances
- Learn about VDSLplus and G.FAST with Alcatel-Lucent
- Get an update on SAF Tehnika 2048 QAM support
- See new Spectrum Analysers

Distributor Table

Do you need towers or masts? Contact sales@fmsweb.de

The Dude’s history

Unique NMS threatened by extinction

History

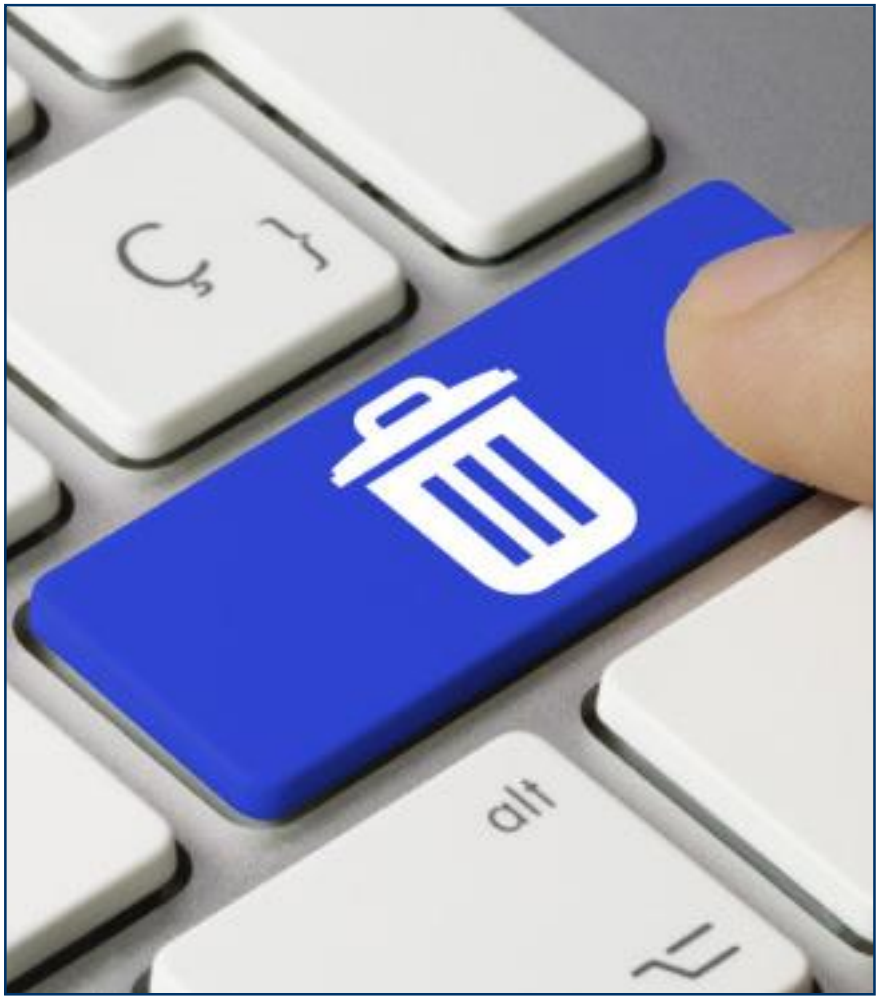
- First NMS choice for many IT professionals
- Users outside the MikroTik community

- easy to use
- fast creation of maps
- little overhead
- free but powerful
- no web application

Development stopped

- No updates for years
- RouterOS functionality breaking
- Bugs not fixed

- A lot of complains
- No alternatives
- Even more frustration



The Dude is finally back

- During 6.34:

***) dude - The reports of my death have been greatly exaggerated;**

Major changes

	4.0 Beta 3	From 6.33.5
Server, RouterOS Plattforms	All	CHR, x86, CCR (Tile)
Server, Windows	Yes	No
Web GUI	Yes	No
Language	Multi language	English only

Get The Dude running

Installing from scratch

Choose the Platform

- Tile, Bare Metal x86, Virtualisation?
- Virtualisation with x86 or CHR?

- CHR optimized for virtualisation
  - 64Bit Kernel
  - Driver Support

Download CHR Image

	6.32.4 (Bugfix only)	6.34.2 (Current)	5.26 (Legacy)	6.35rc12 (Release candidate)
images	img, vmdk, vhdx, vdi			
The Dude client	-		-	
The Dude server	-		-	
VMDK image	-		-	
VHDX image	-		-	
VDI image	-		-	
Raw disk image	-		-	
Extra packages	-		-	
Changelog	-		-	
MD5	-	Σ	-	Σ

- Download VMDK CHR Image
- Create Guest with VMware Workstation Player
- Use downloaded VMDK image as disk

CHR Licensing

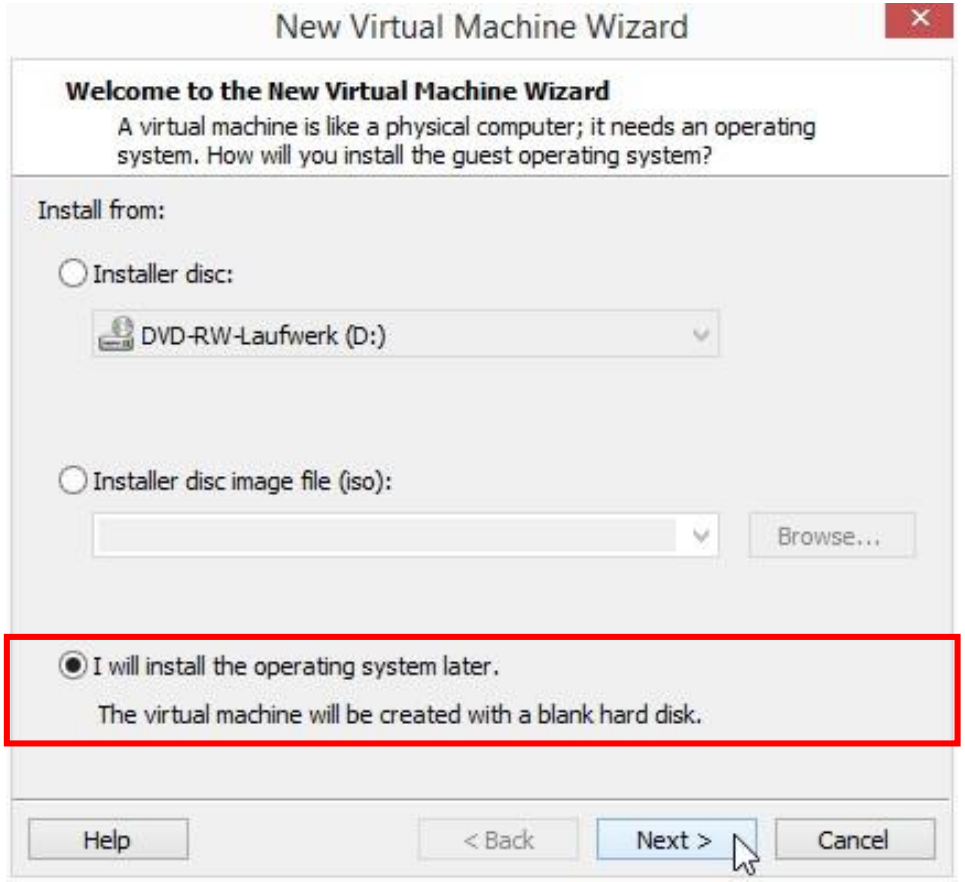
- Option A: Use free license

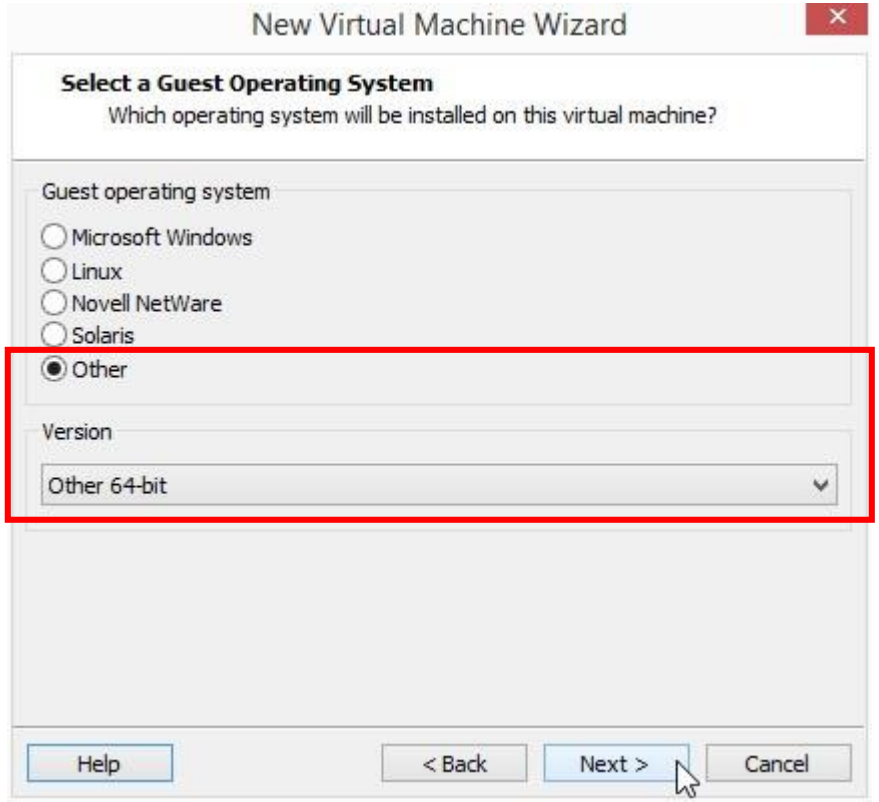
License	Speed limit
Free	1Mbit
P1	1Gbit
P10	10Gbit
P-Unlimited	Unlimited

- Option B: Use MikroTik cloud hosting from FMS (contact sales@fmsweb.de)
- Option C: Buy a license for your installation
- P1 will be sufficient in most cases (= 1Gbps per interface)

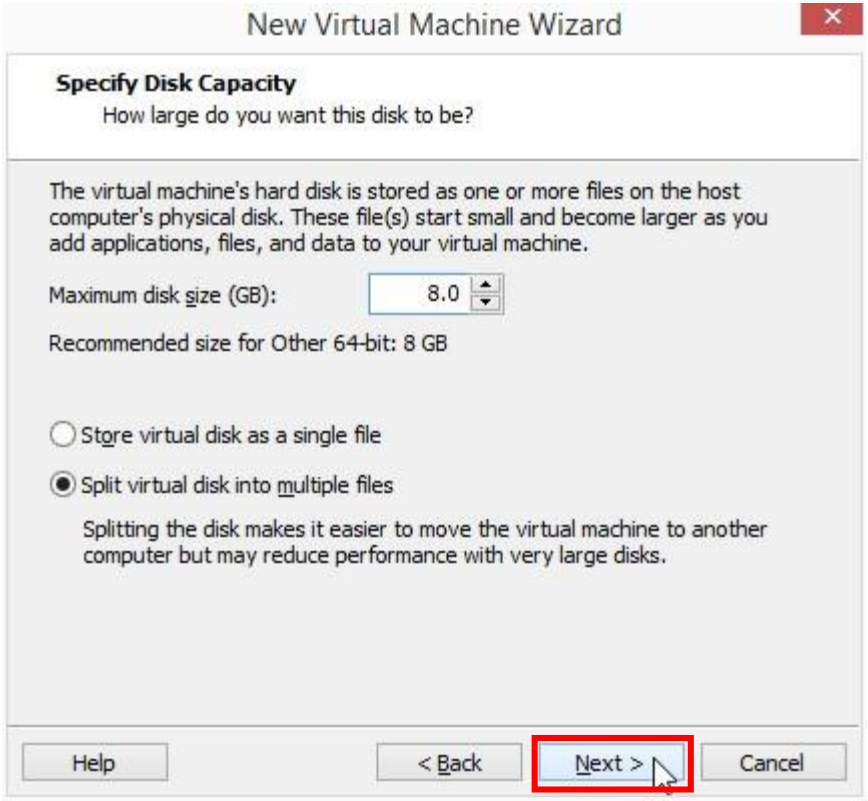
CHR Installation

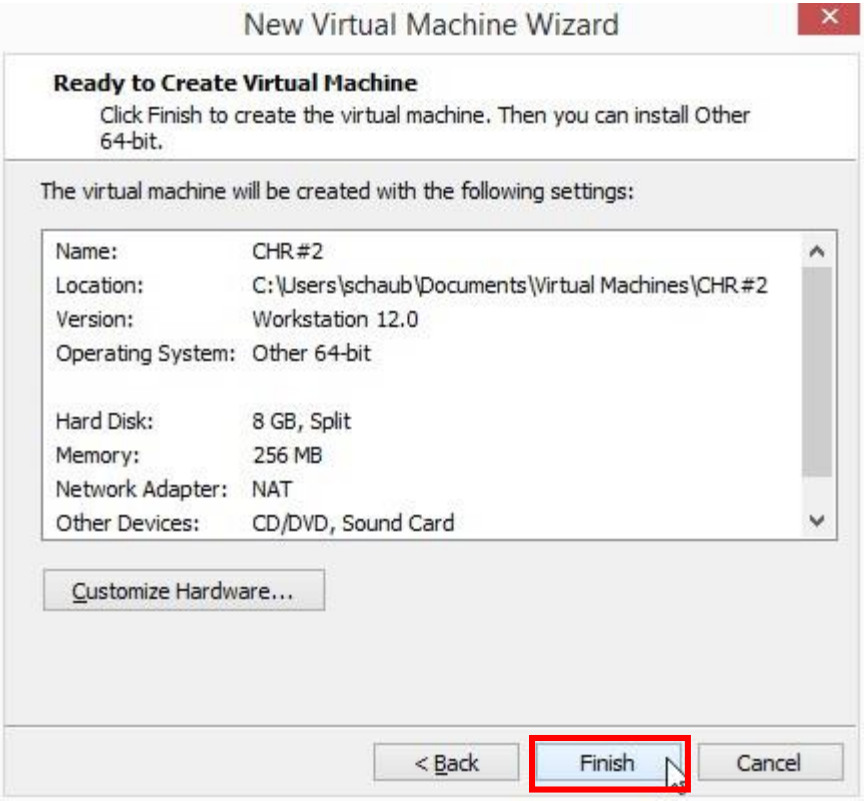
CHR Installation



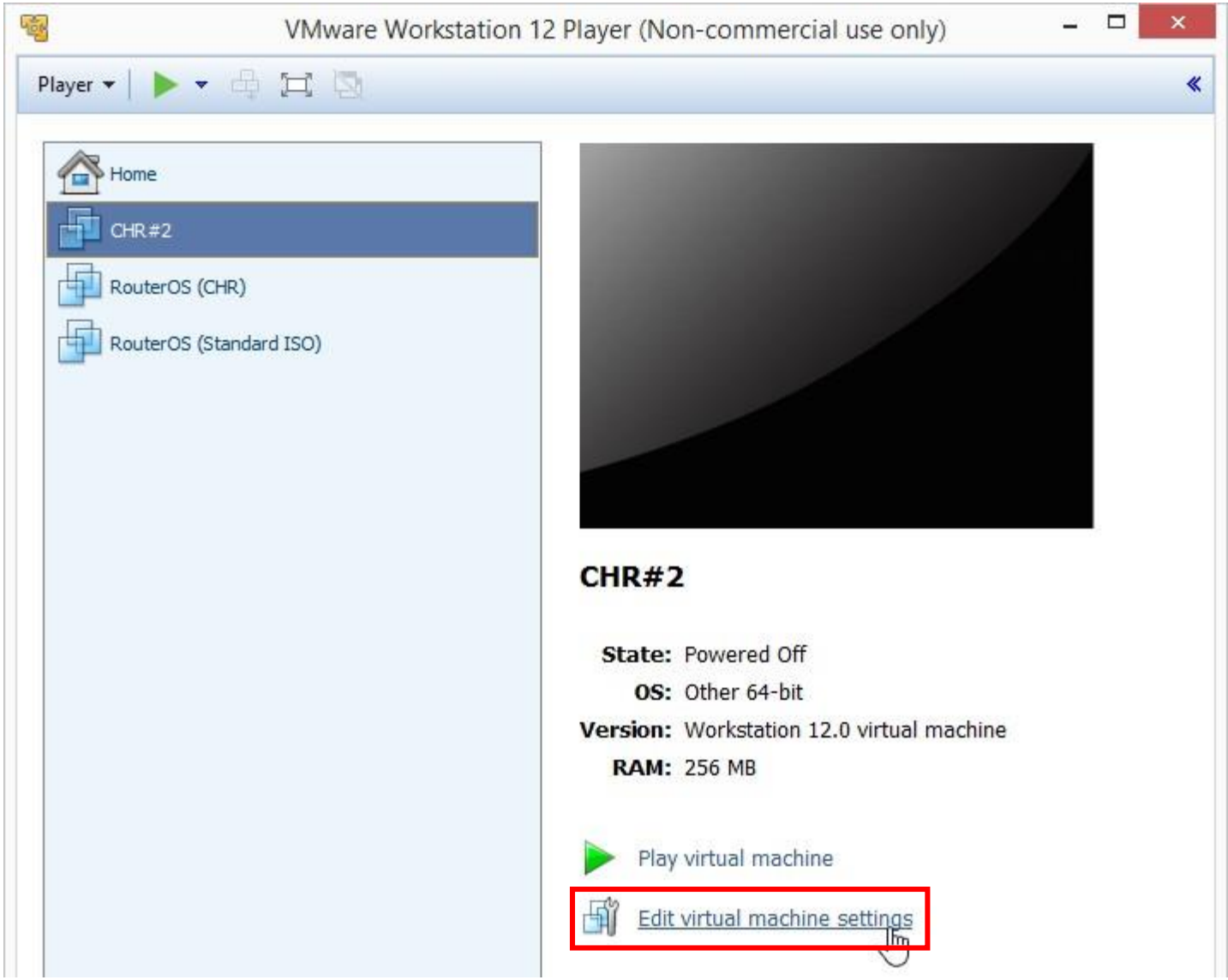


CHR Installation

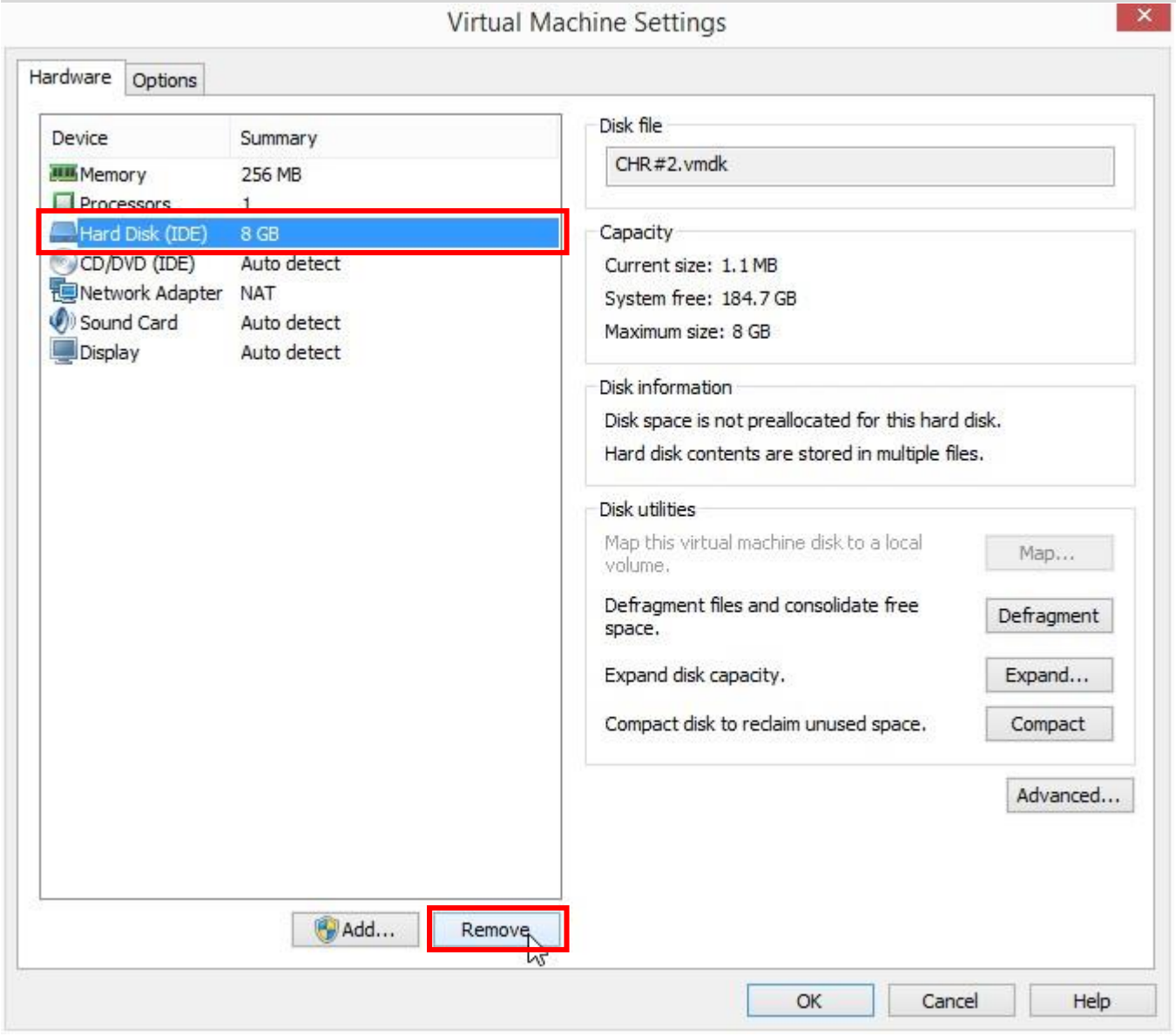




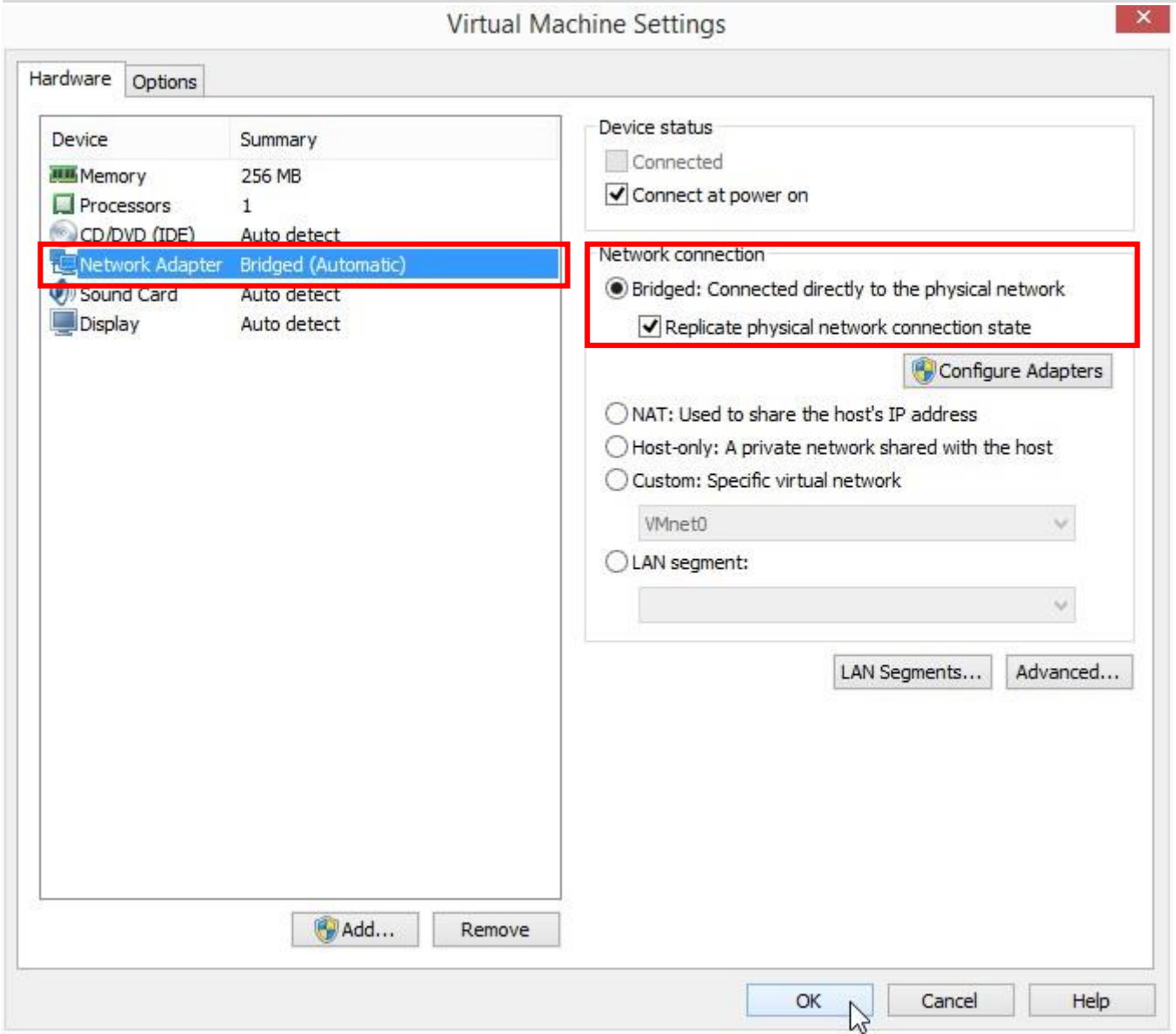
CHR Installation



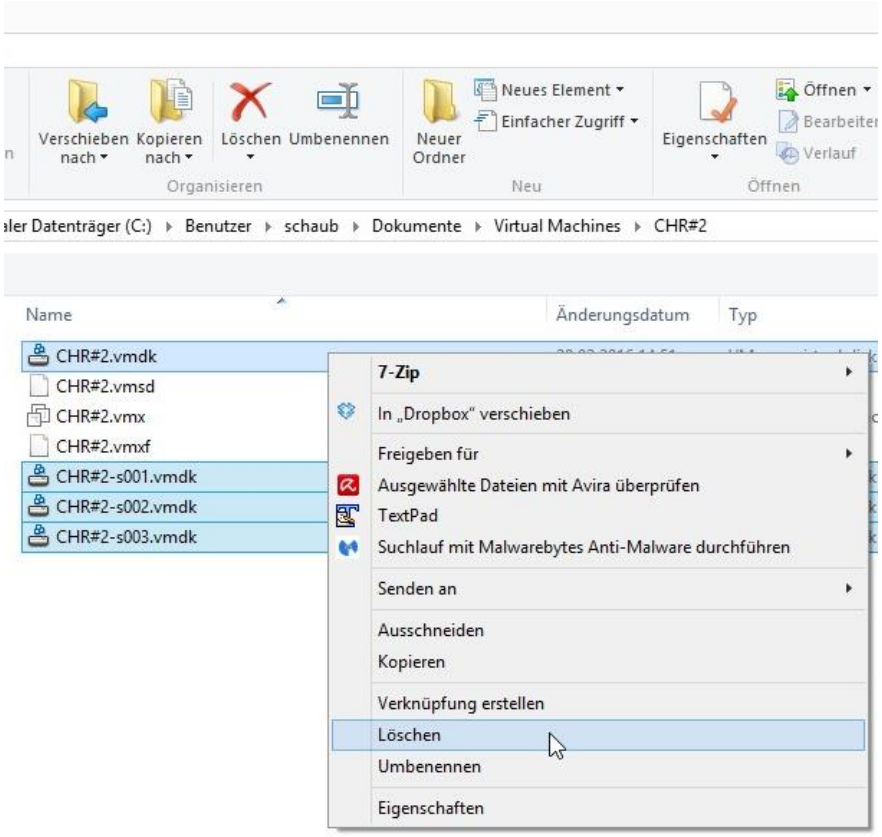
CHR Installation



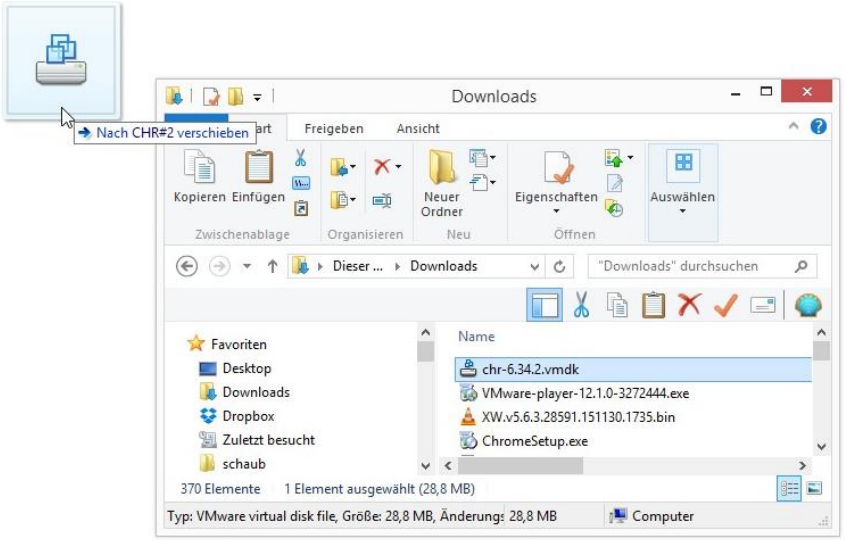
CHR Installation



CHR Installation

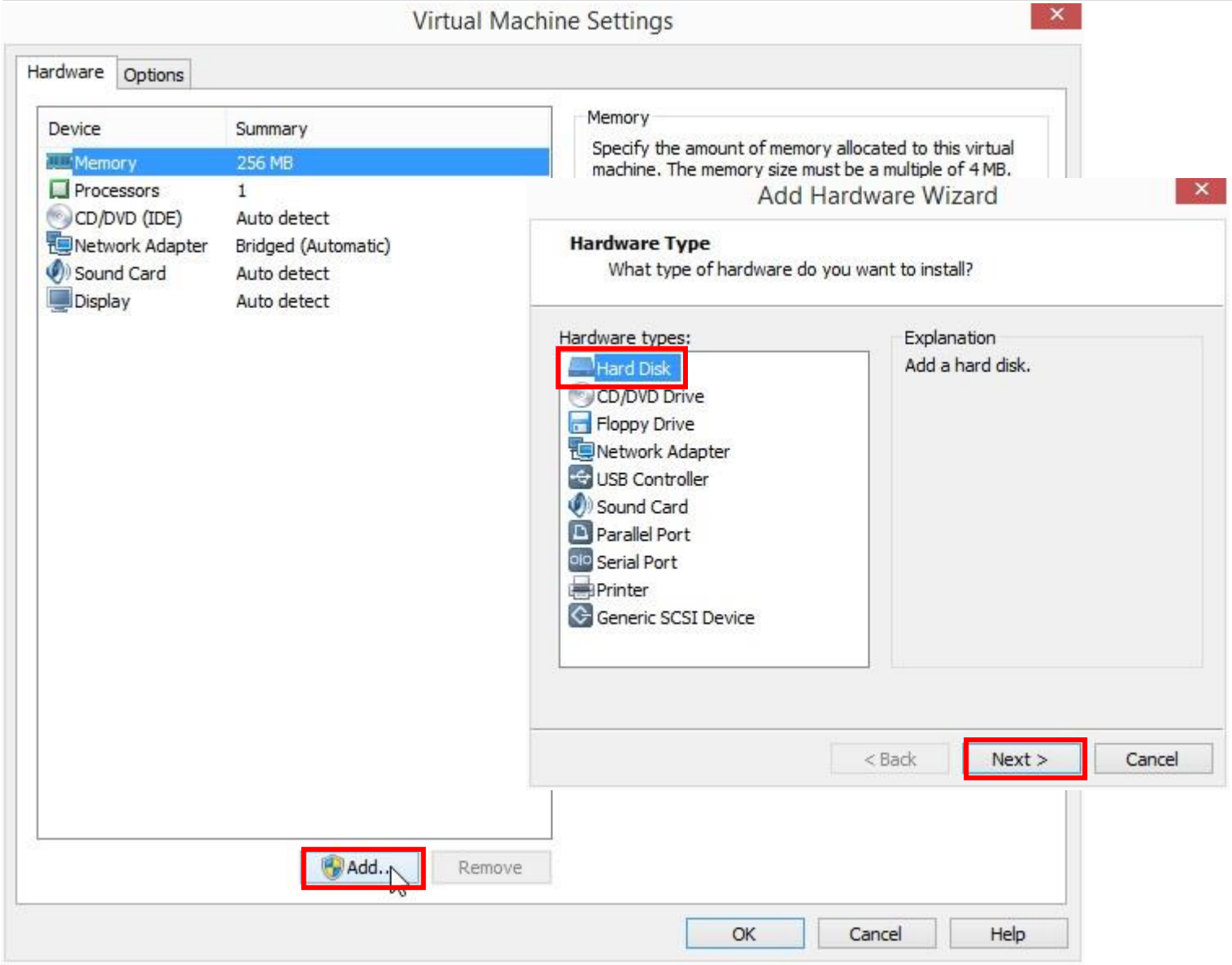


- Copy CHR image

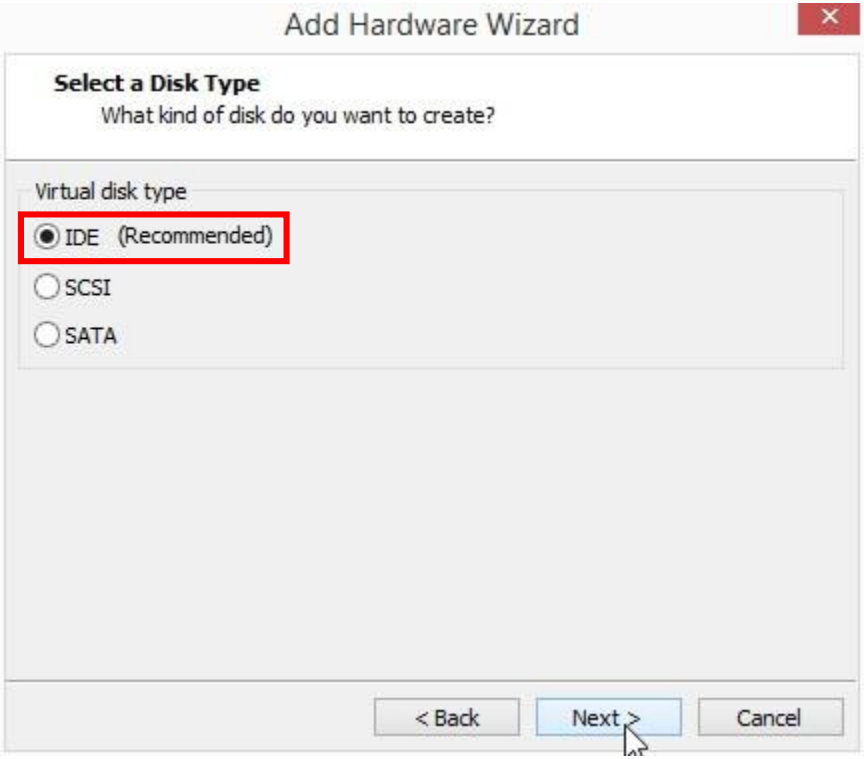


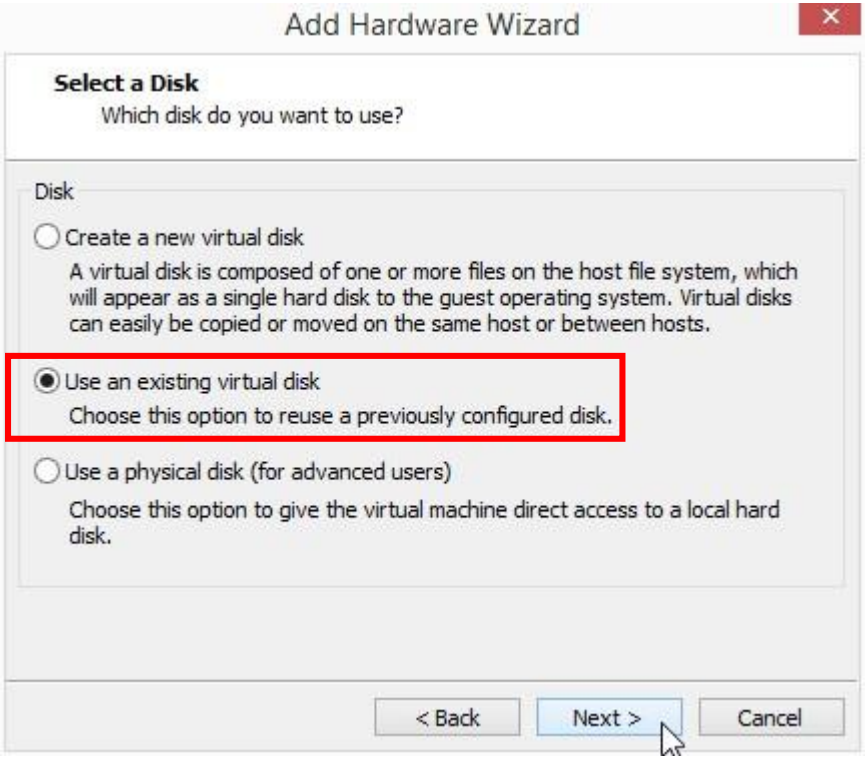
- Delete unused disk files

CHR Installation

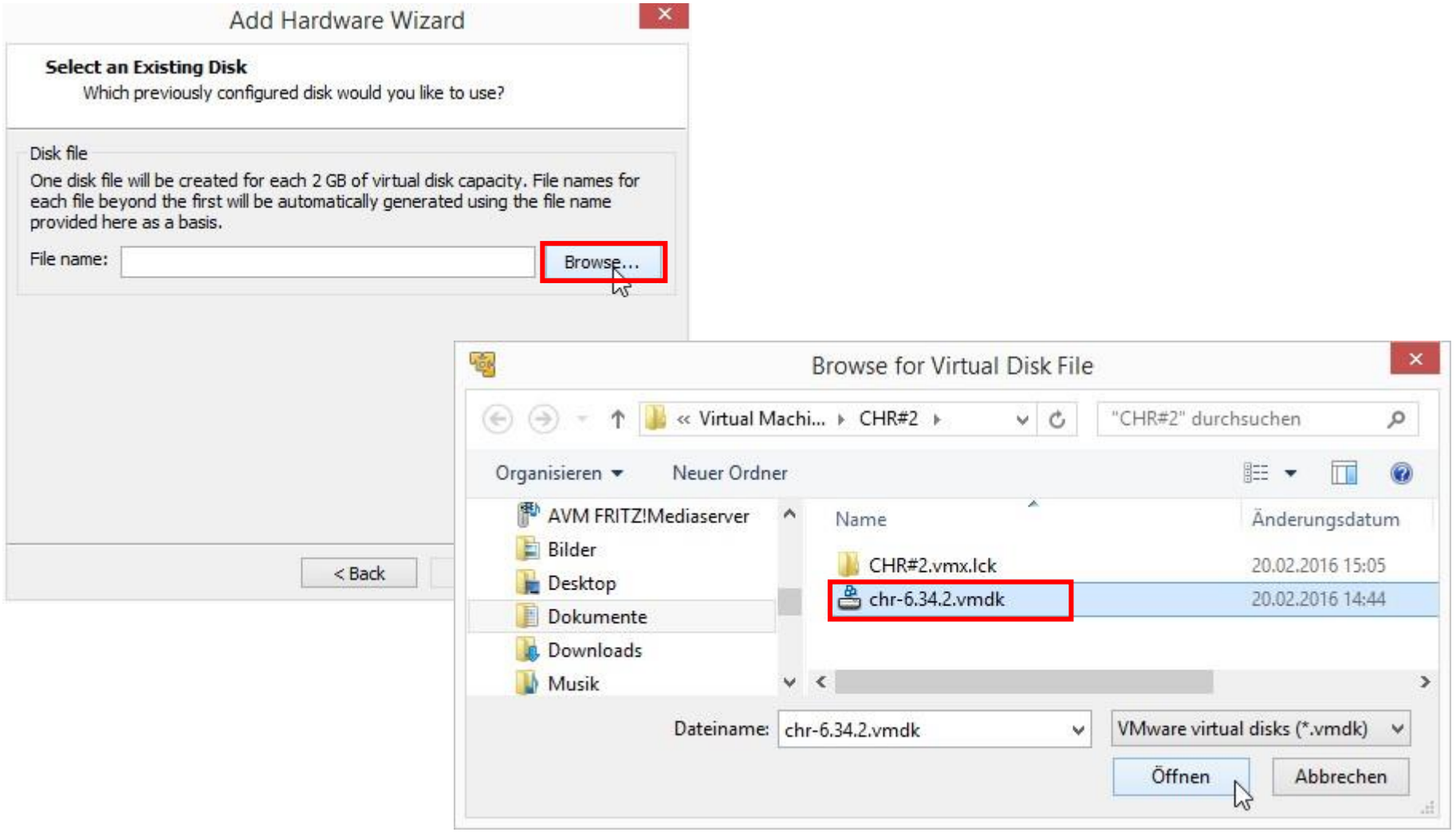


CHR Installation

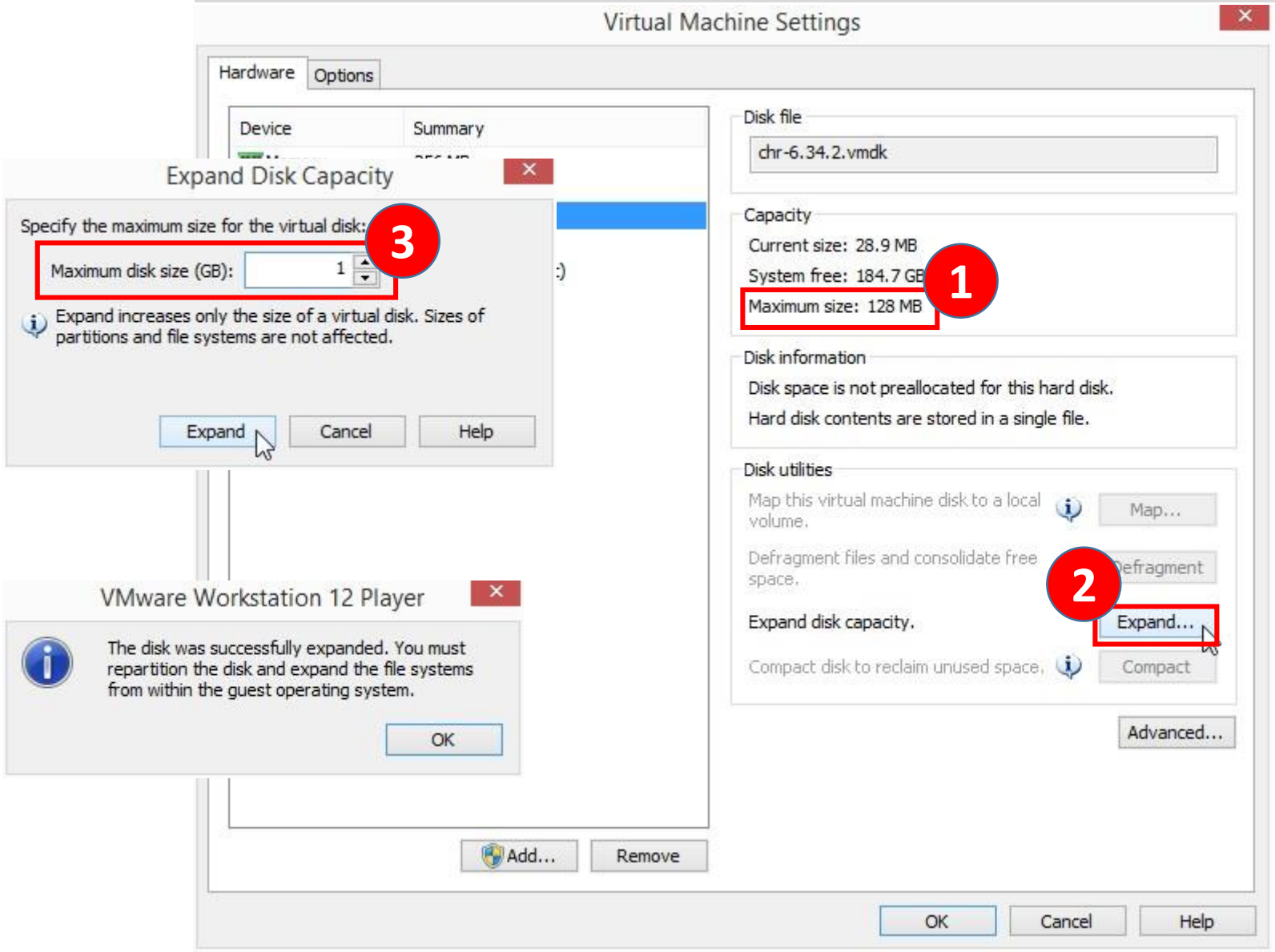




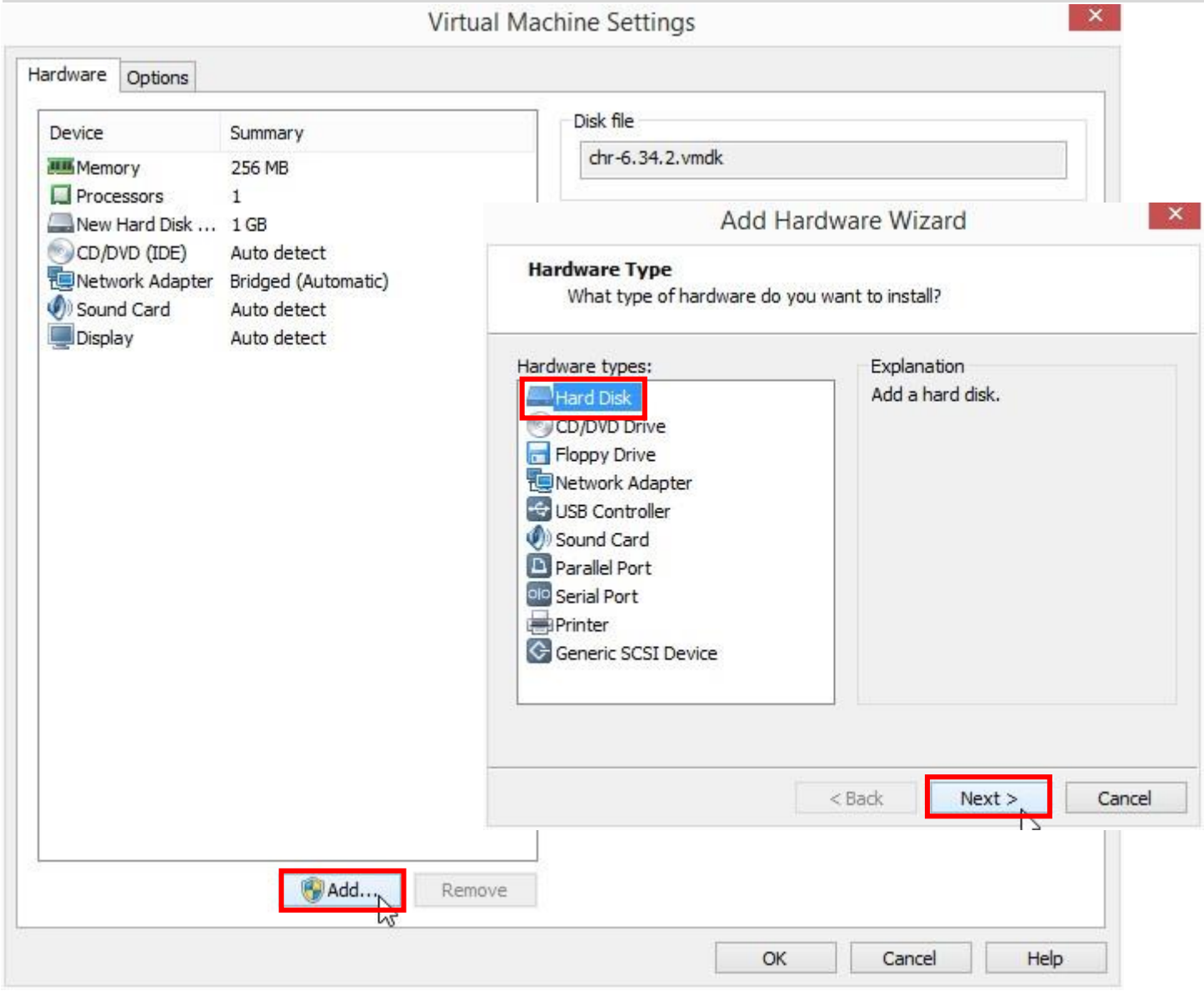
CHR Installation



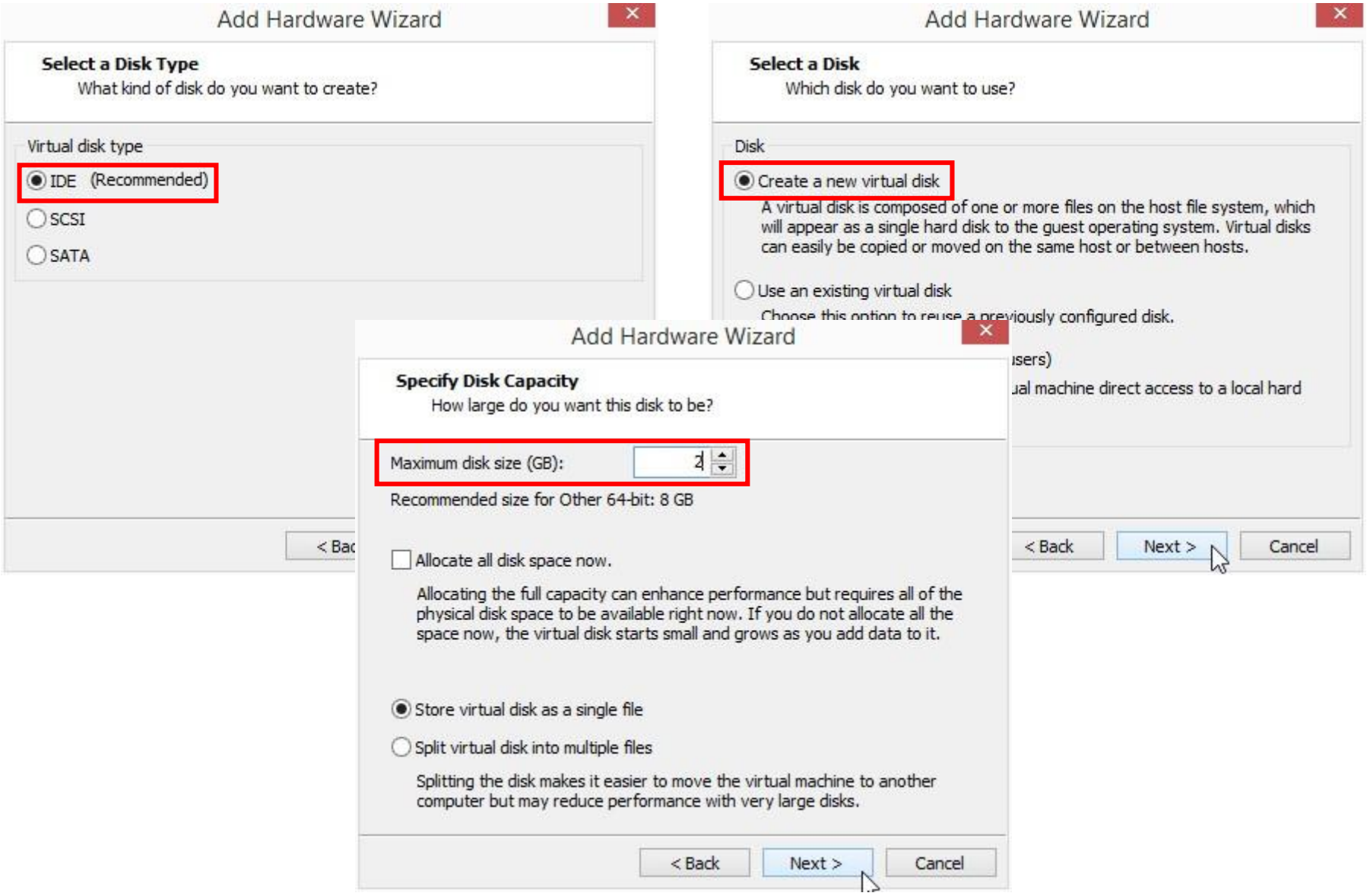
Resize Disk


Virtual Machine Settings
Hardware
Options
Device
Summary
Disk file
chr-6.34.2.vmdk
Capacity
Current size: 28.9 MB
System free: 184.7 GB
Maximum size: 128 MB
1
Disk information
Disk space is not preallocated for this hard disk.
Hard disk contents are stored in a single file.
Disk utilities
Map this virtual machine disk to a local volume.
Map...
Defragment files and consolidate free space.
Defragment
2
Expand disk capacity.
Expand...
Compact disk to reclaim unused space.
Compact
Advanced...
Add...
Remove
OK
Cancel
Help
Expand Disk Capacity
Specify the maximum size for the virtual disk:
3
Maximum disk size (GB):
1
Expand increases only the size of a virtual disk. Sizes of partitions and file systems are not affected.
Expand
Cancel
Help
VMware Workstation 12 Player
The disk was successfully expanded. You must repartition the disk and expand the file systems from within the guest operating system.
OK

Add second Disk

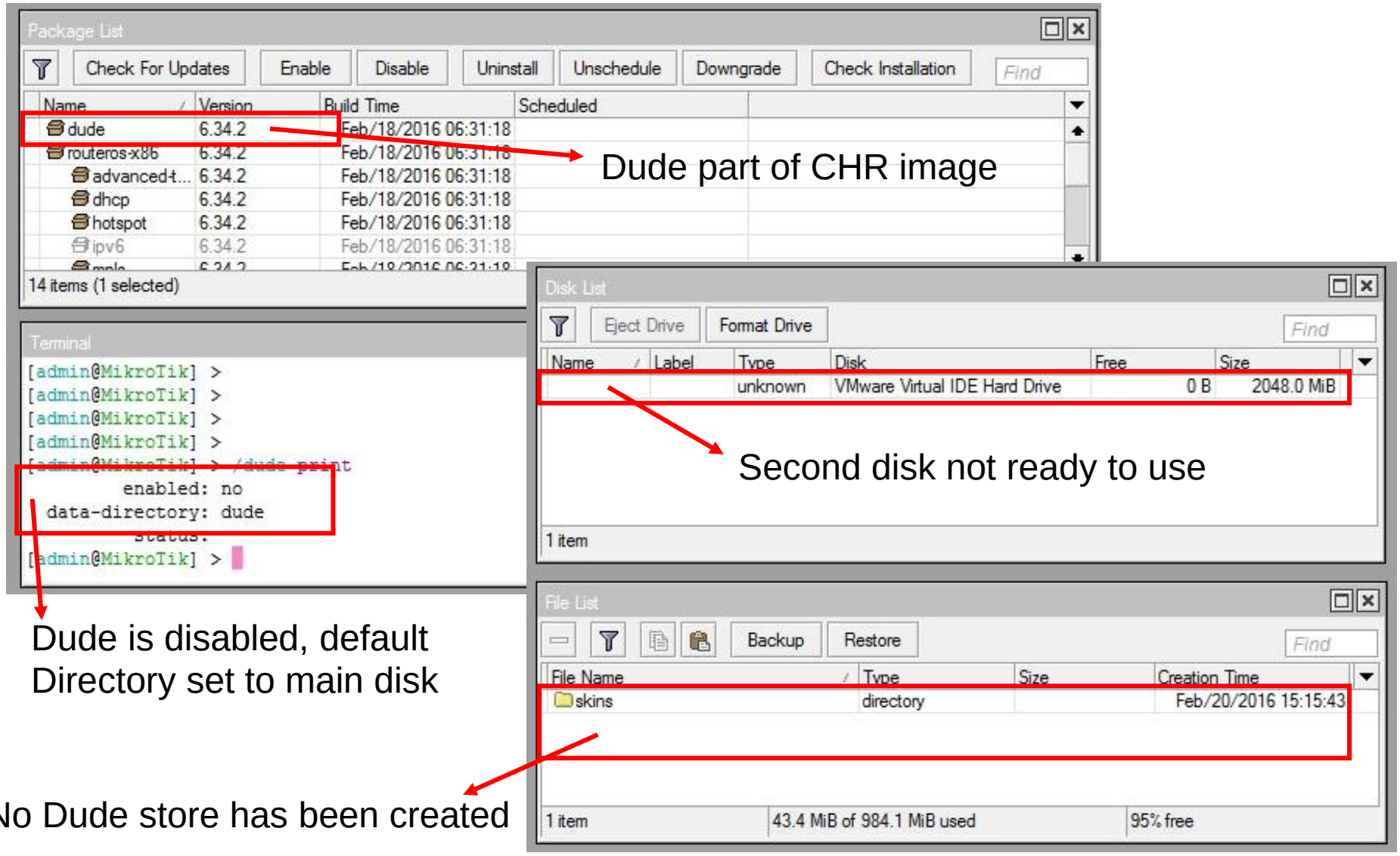


Configure Second Disk

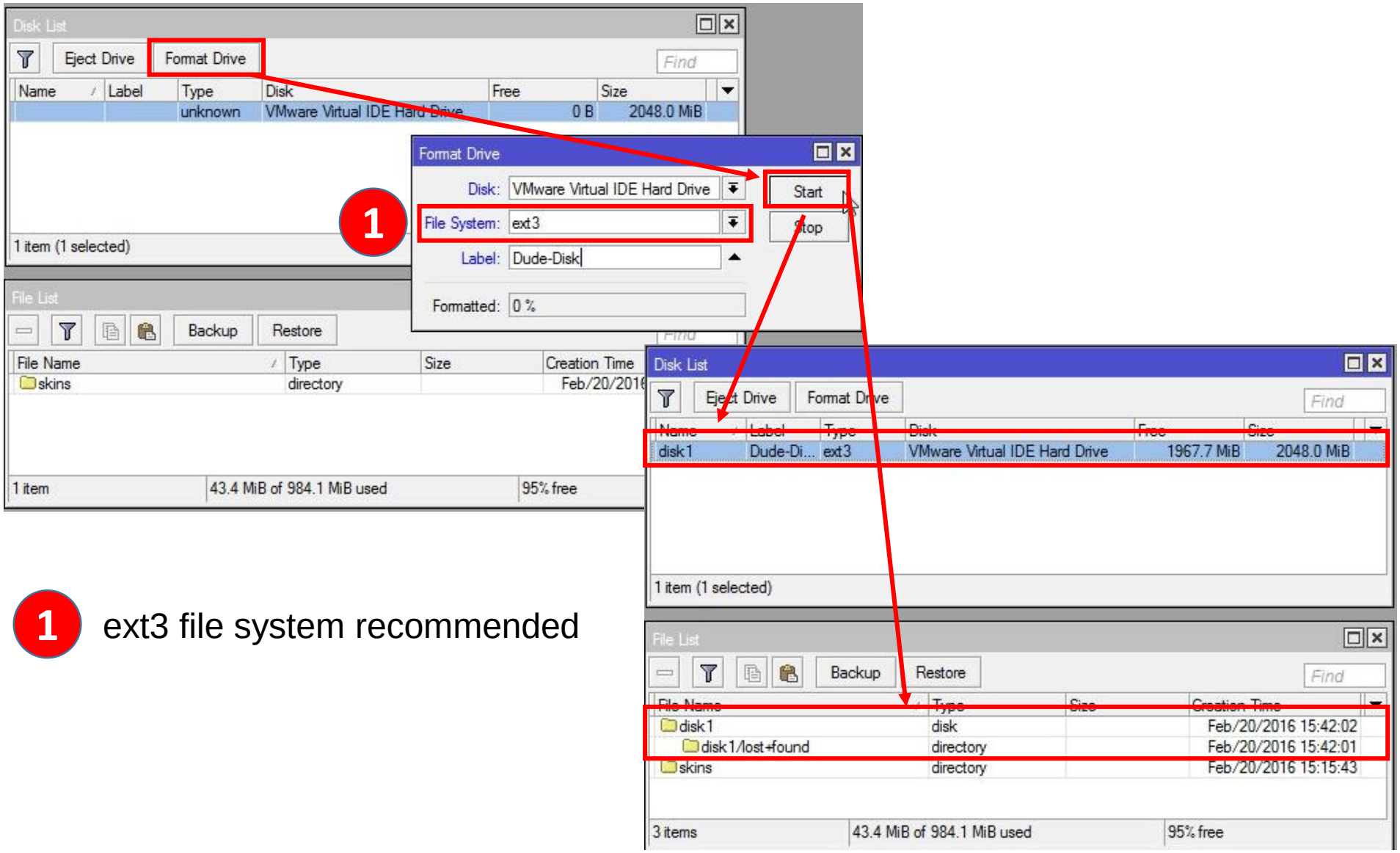


First Boot of Guest

Default Situation

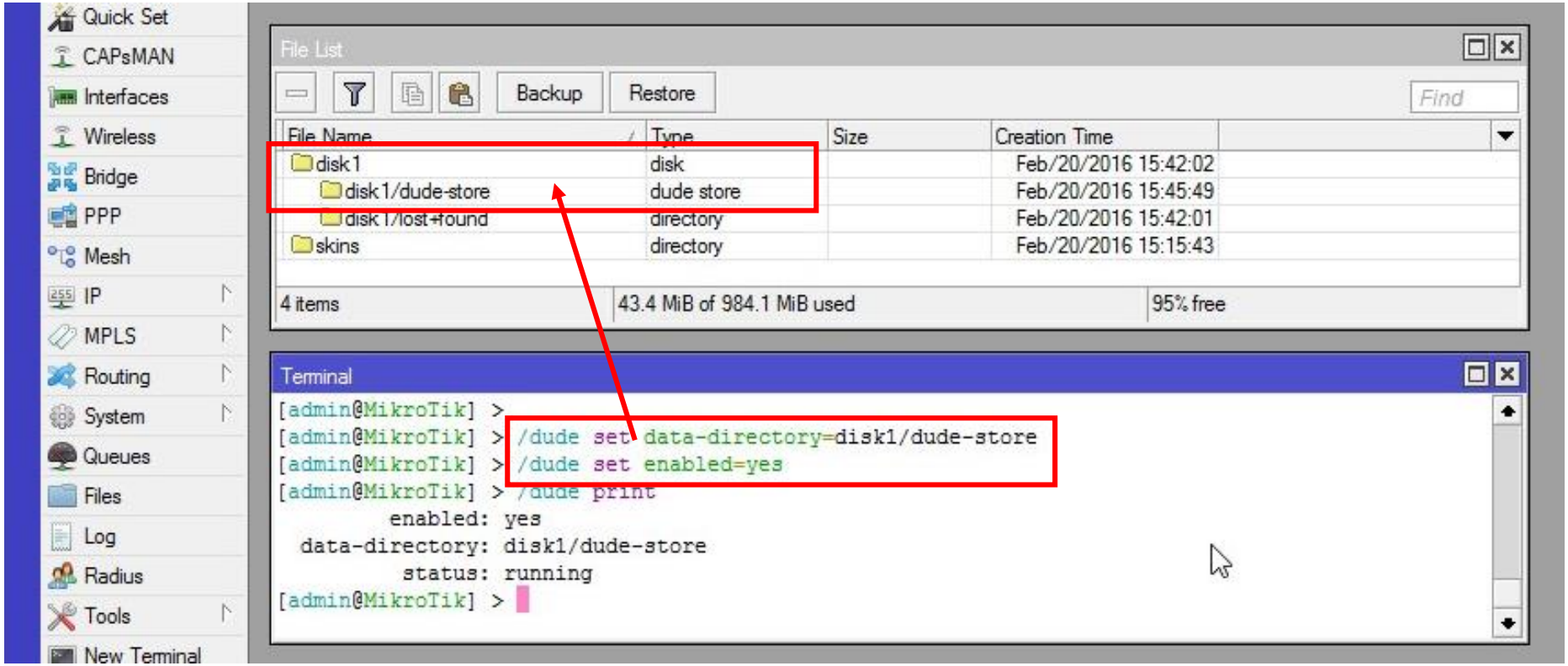


Format second Drive

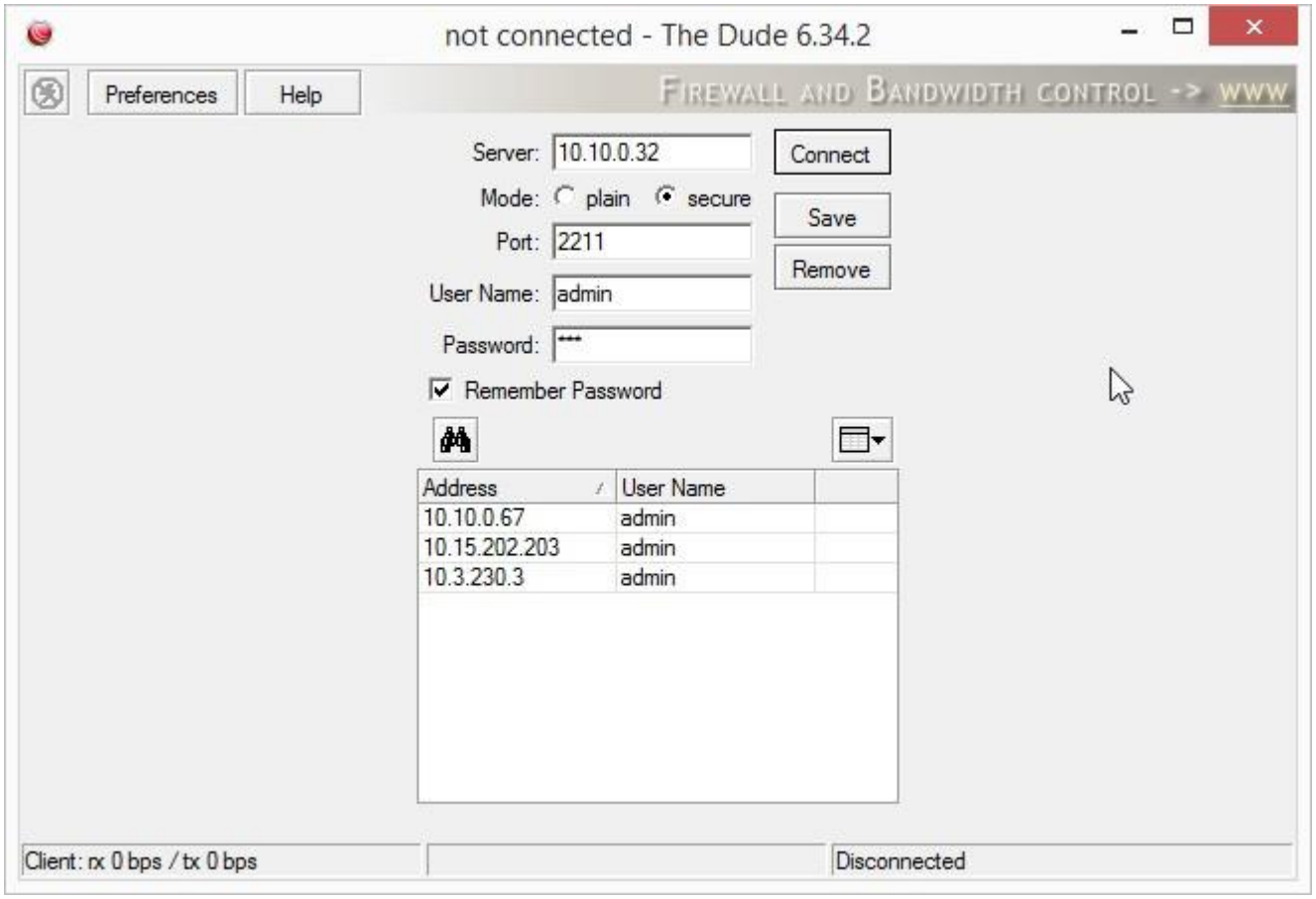


1 ext3 file system recommended

Change Data-Store and Enable Dude



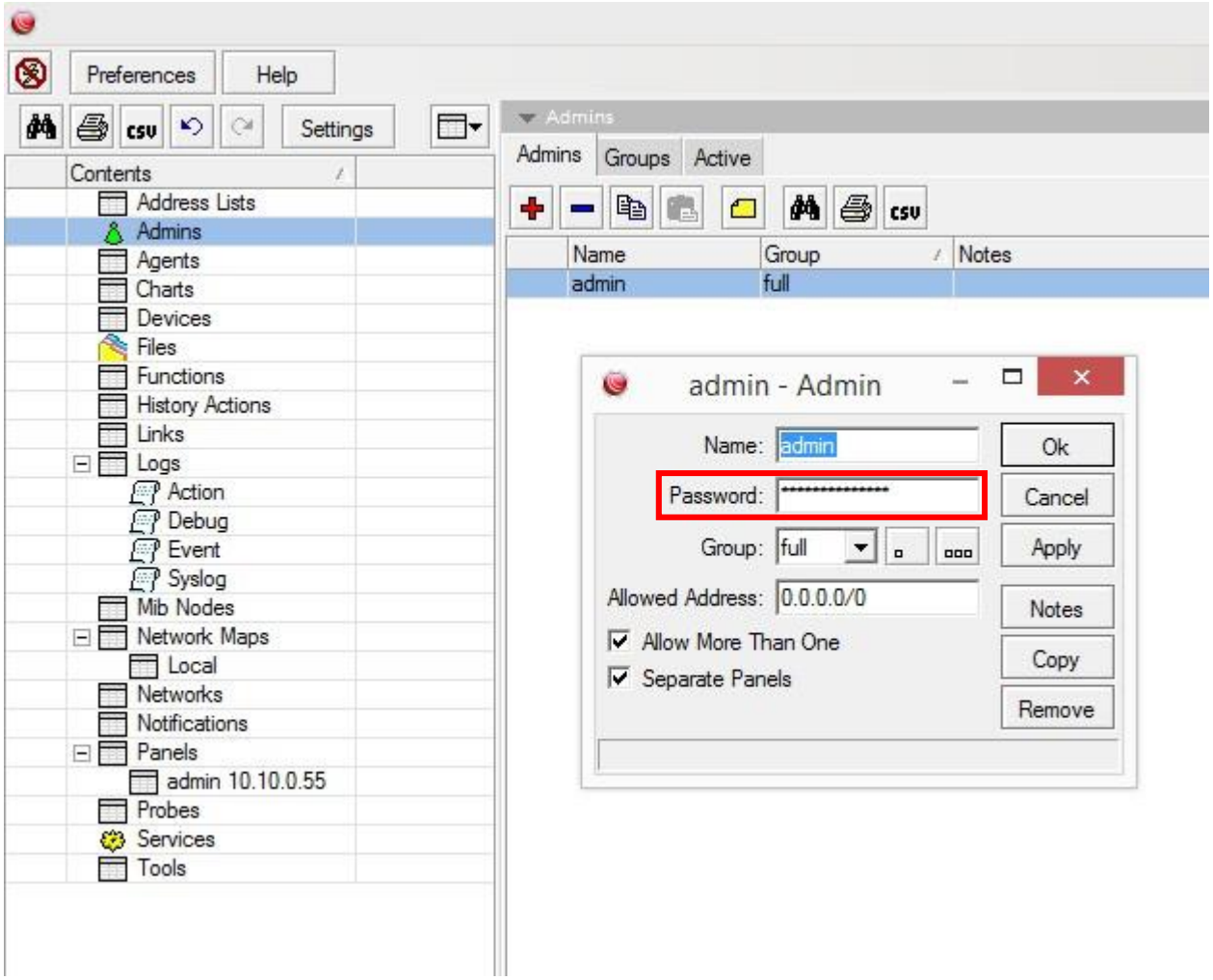
Connect using the Dude Client



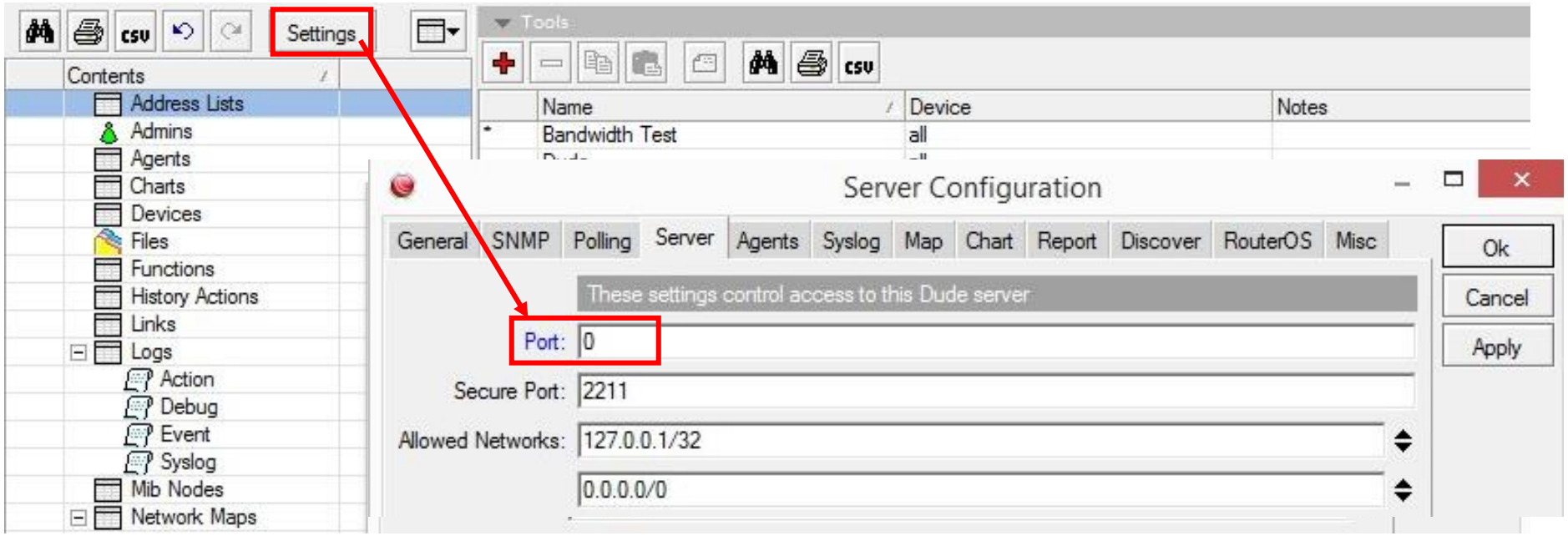
Basic Security Setting

Securing the Dude

Setting the Admin Password

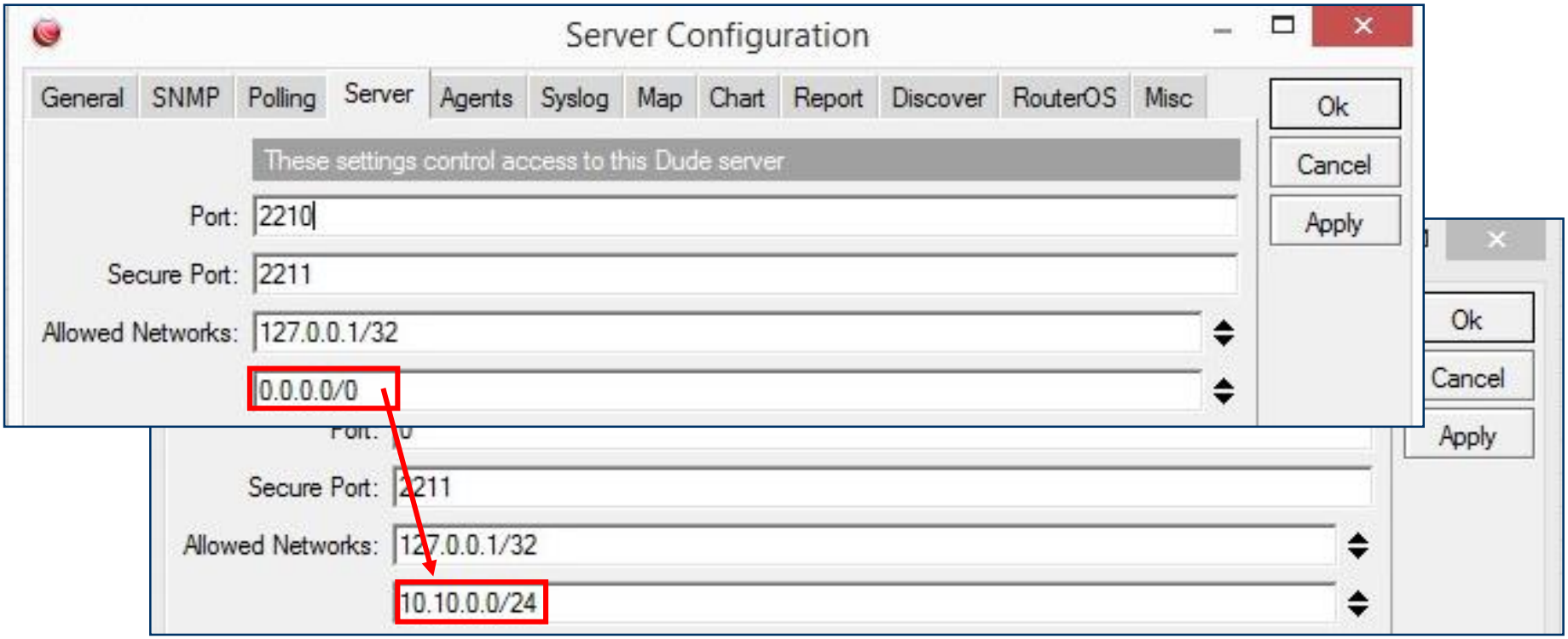


Disable Plain Access



- Change from 2210 to 0 to disable

Set ACL



- Limit Dude access to the 10.10.0.0/24 network

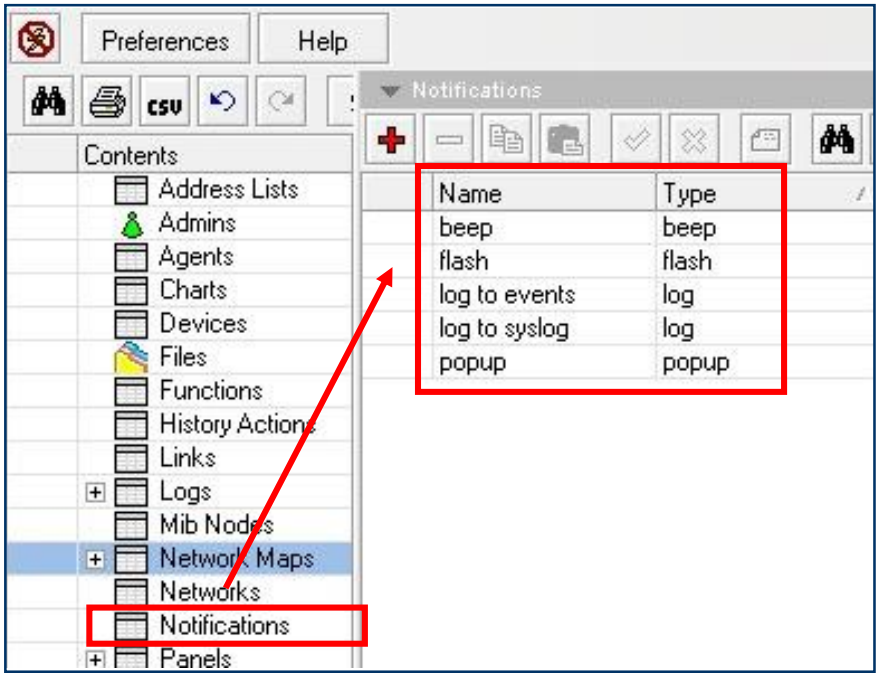
Setup Email Notifications

Sending email alerts by Gmail

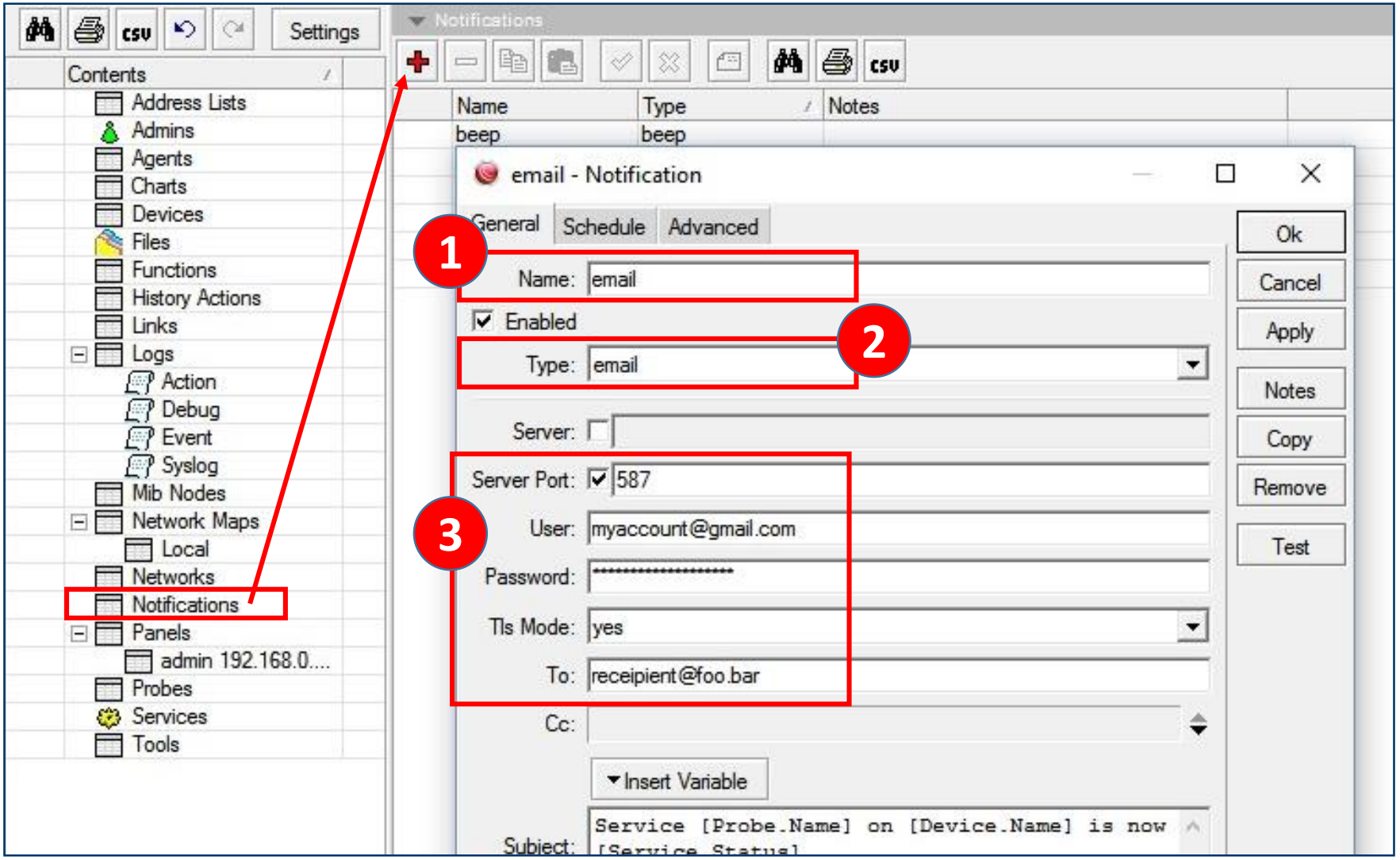
Preconfigure Notifications

- Notification types for events like outages
- Some preconfigured
- Some unused types

- Not preconfigured: Email
- Generic email notification using Gmail



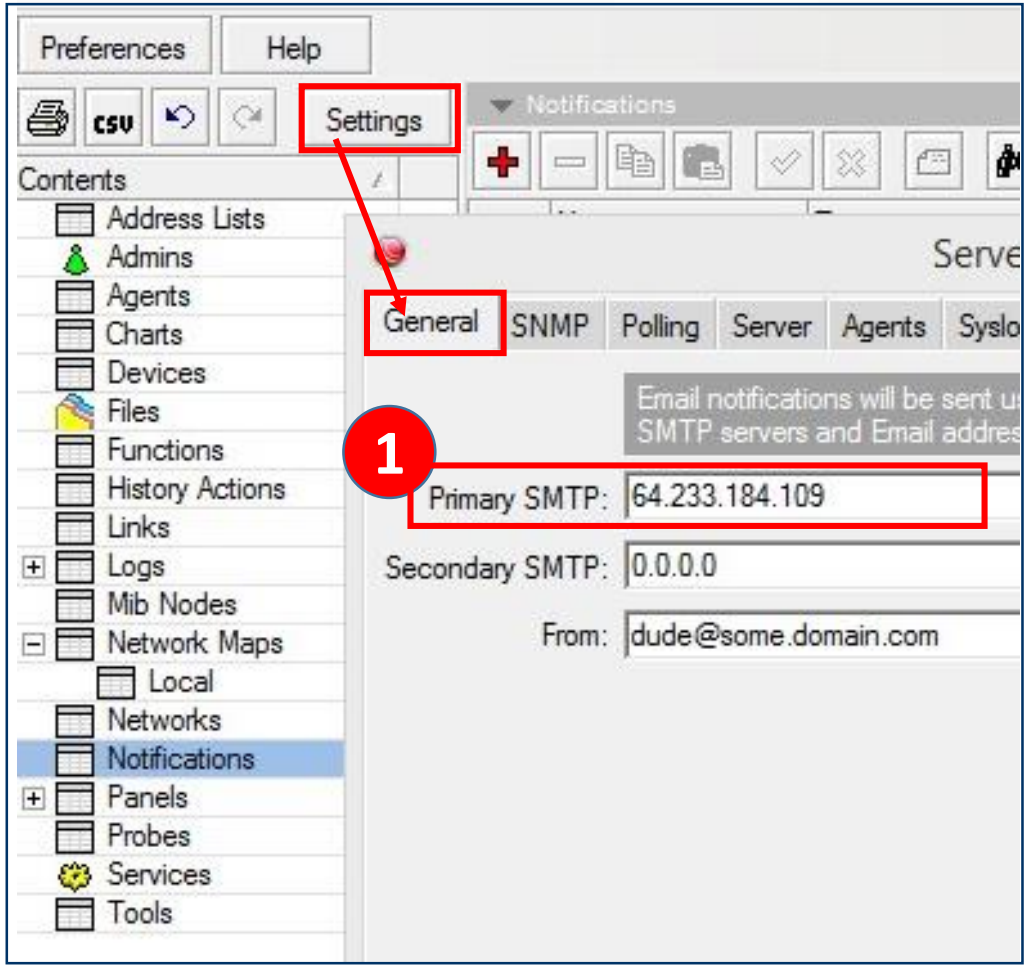
Email Notification



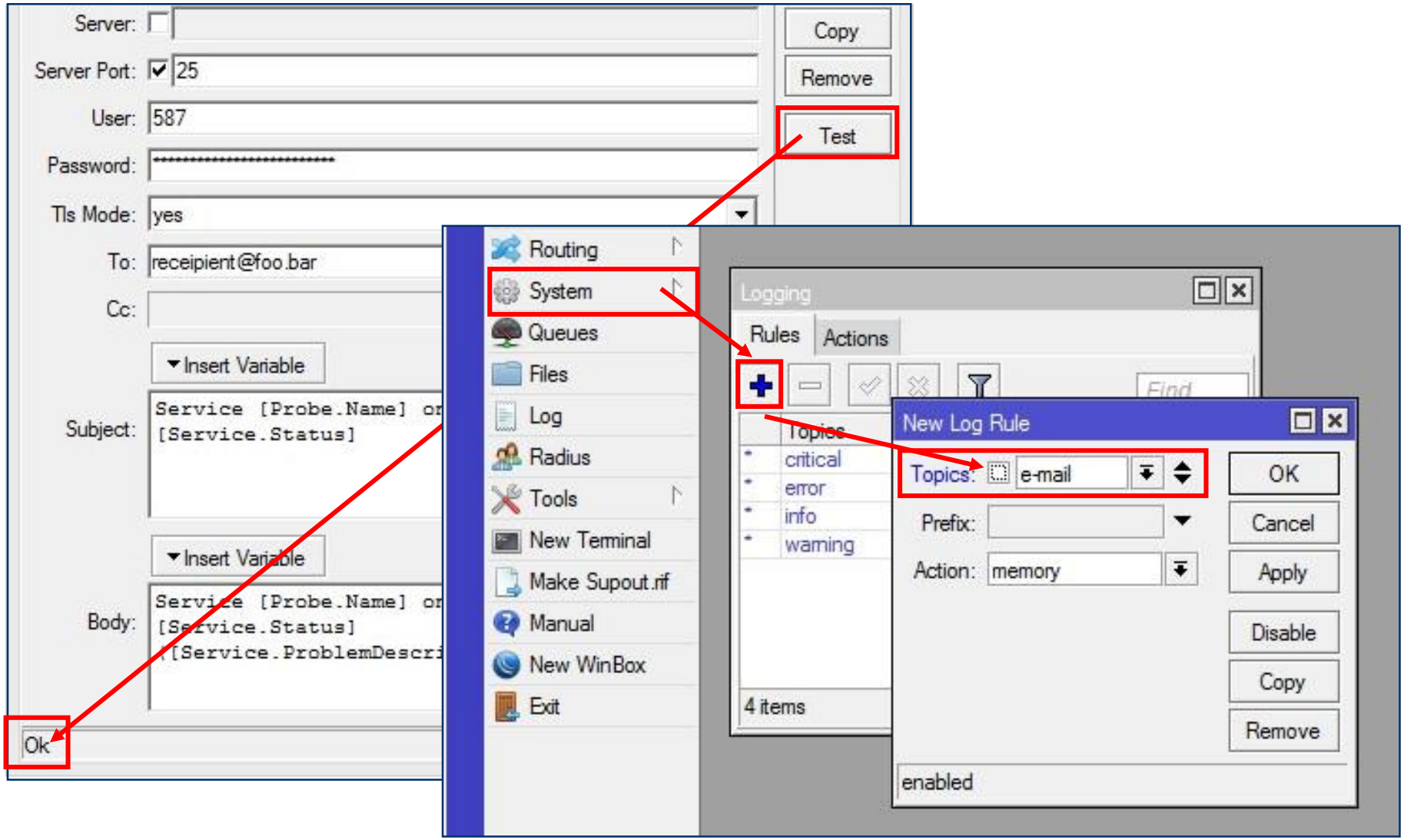
Email Notification

- Server setup in general settings
- Default for new notifications
- Can be superseded

- IP (not URL) of Gmail SMTP



Testing Email Notification



Gmail Consideration

e-mail, debug	send AUTH PLAIN AHRwdGVjaDAxMEBnbWFpbC5jb20AbnVyMWtvbWlzY2hlc0xvZ2luMg==
e-mail, debug	recv: 534-5.7.14 <https://accounts.google.com/ContinueSignIn?sarp=1&scc=1&plt=AKgnsbvTi
e-mail, debug	recv: 534-5.7.14 FiAliAW-fjiqfJ9B0a6YYaSB5Nfr0aUQ8JGvWus9cSWEdCRPEhBbSJy-LOwFGXaJc6
e-mail, debug	recv: 534-5.7.14 yVUaJyhSdWwbNOgtNaVOOA14HSnOgrlmuyGWj6qAqTMRqGvU4xi9suSh2d5F7X
e-mail, debug	recv: 534-5.7.14 UXTIBgjvd0j0KGuVrUXgskPmfzjtqOjHc3HS6eU0pE5oUjvQ40\A-eh-MfwVCBnXaXC
e-mail, debug	recv: 534-5.7.14 vDo2vsDFRN9w36NshUcQRIILEe0I> Please log in via your web browser and
e-mail, debug	recv: 534-5.7.14 then try again.
e-mail, debug	recv: 534-5.7.14 Learn more at
e-mail, debug	recv: 534 5.7.14 https://support.google.com/mail/answer/78754 jc7sm17523957wjb.33 - gsmtp
system, e-mail, error	Error sending e-mail <Service [Probe.Name] on [Device.Name] is now [Service.Status]>: AUTH failed
e-mail, debug	send RSET

- Watch log for

  “Please log in via your web browser and then try again.”
- Turn on "Access for less secure apps"
- Probably referring to “OAuth2.0”
- Not referring to lack of encryption

Email Header

Message-ID:

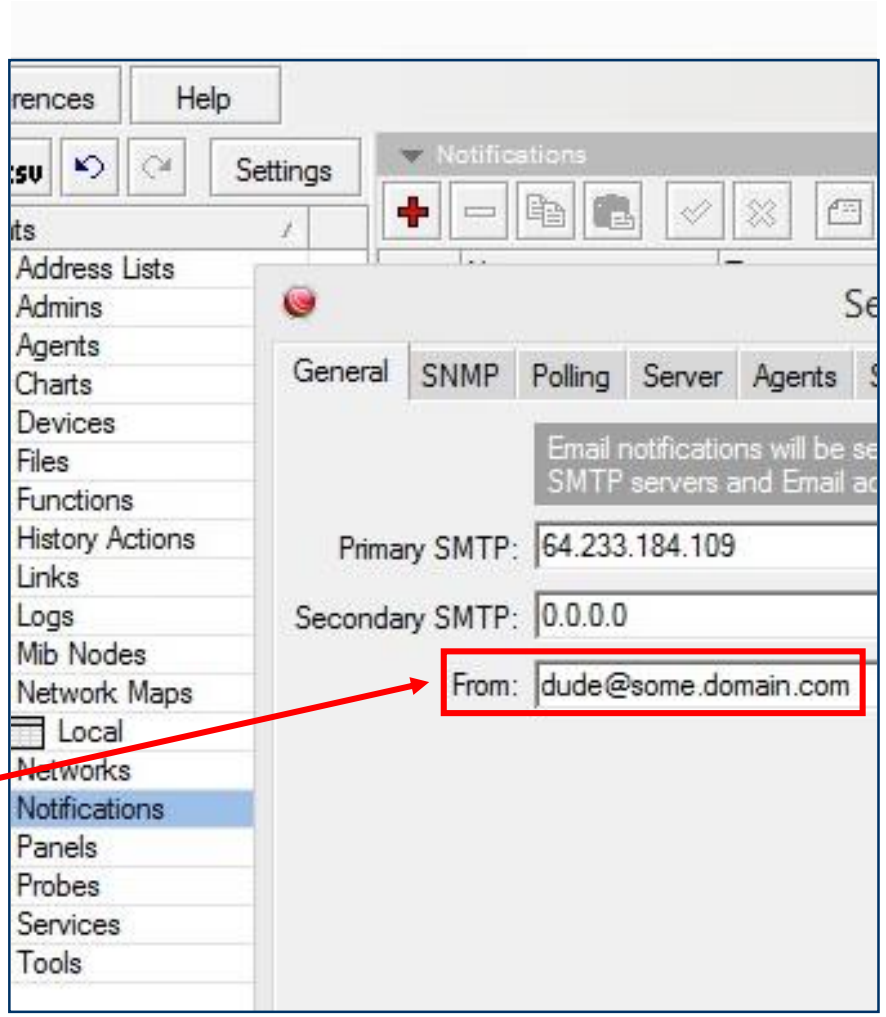
56c7f2db.45312c0a.ac355.ffffc

9a2@mx.google.com

From: myaccount@gmail.com

X-Google-Original-From:

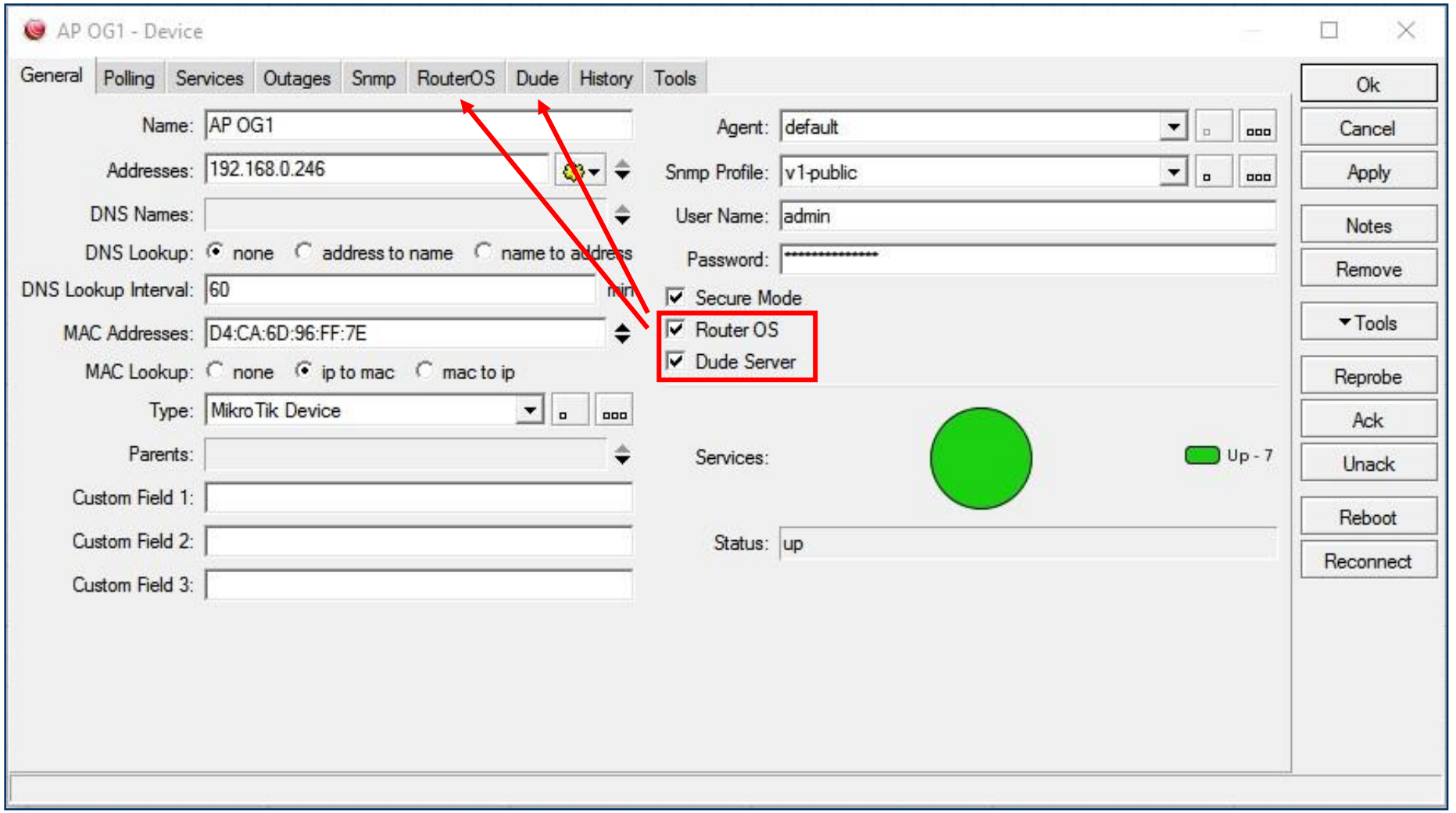
dude@some.domain.com



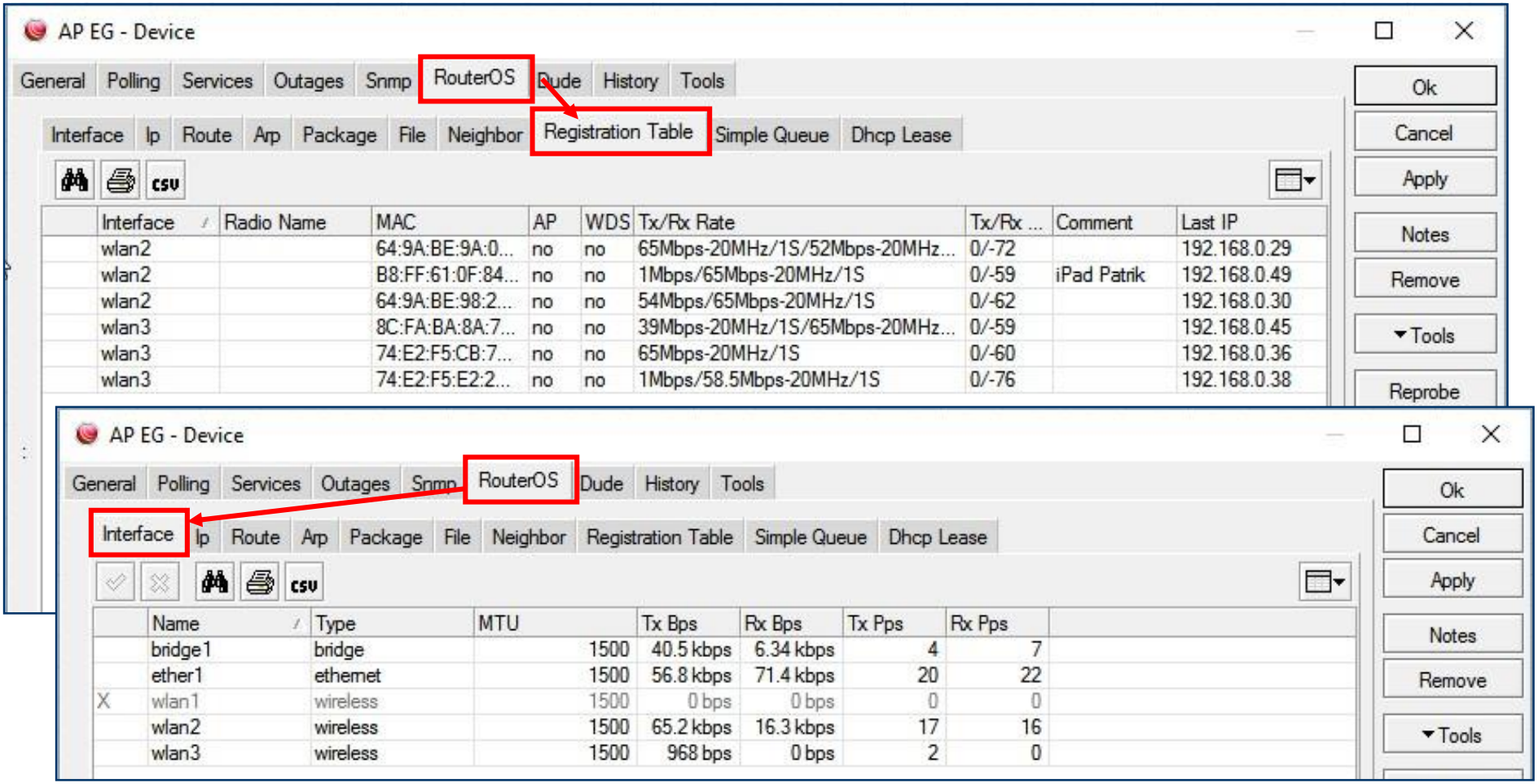
The Dude for RouterOS

Dedicated RouterOS features and extensions

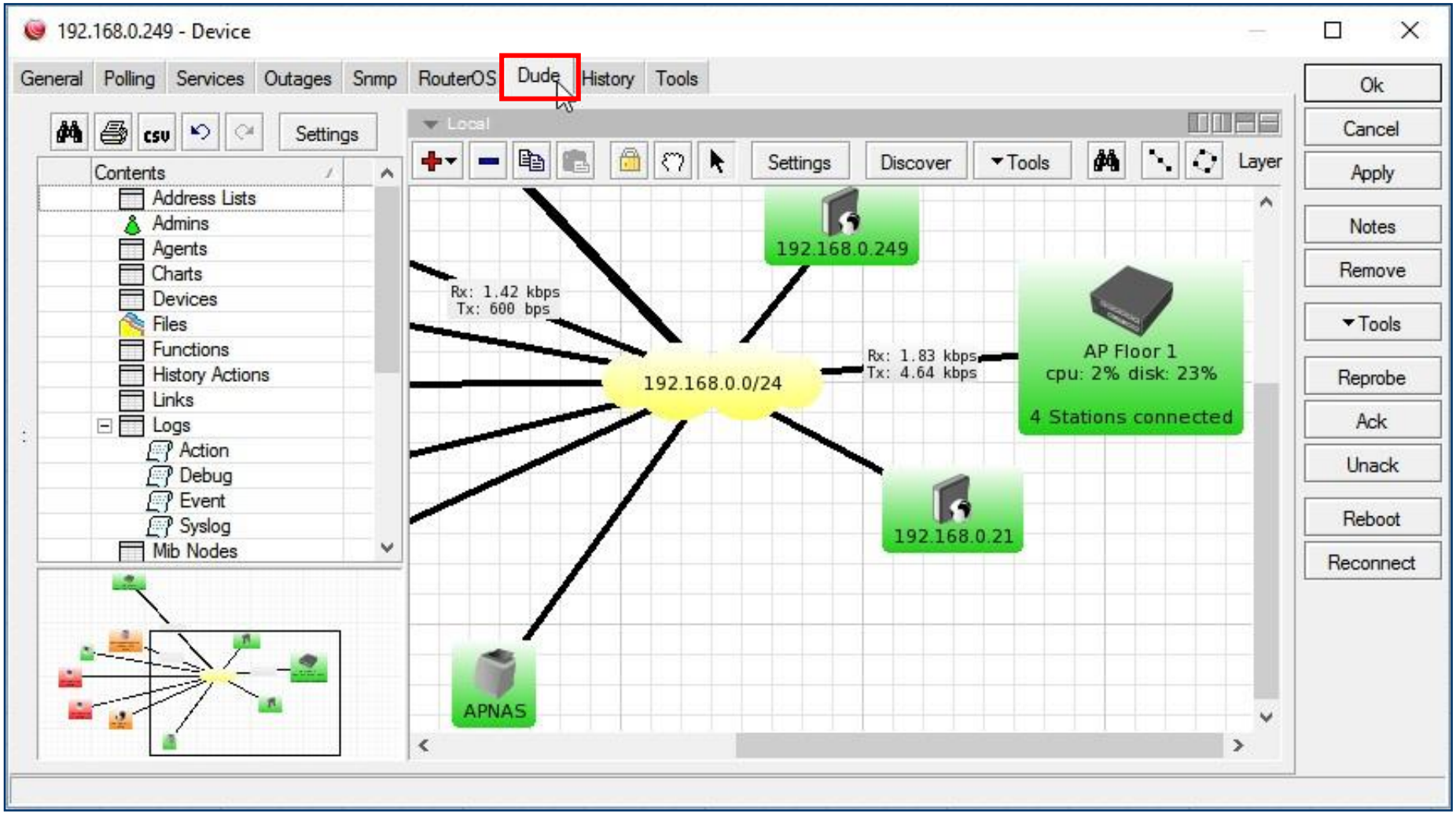
Enabling Extra Features



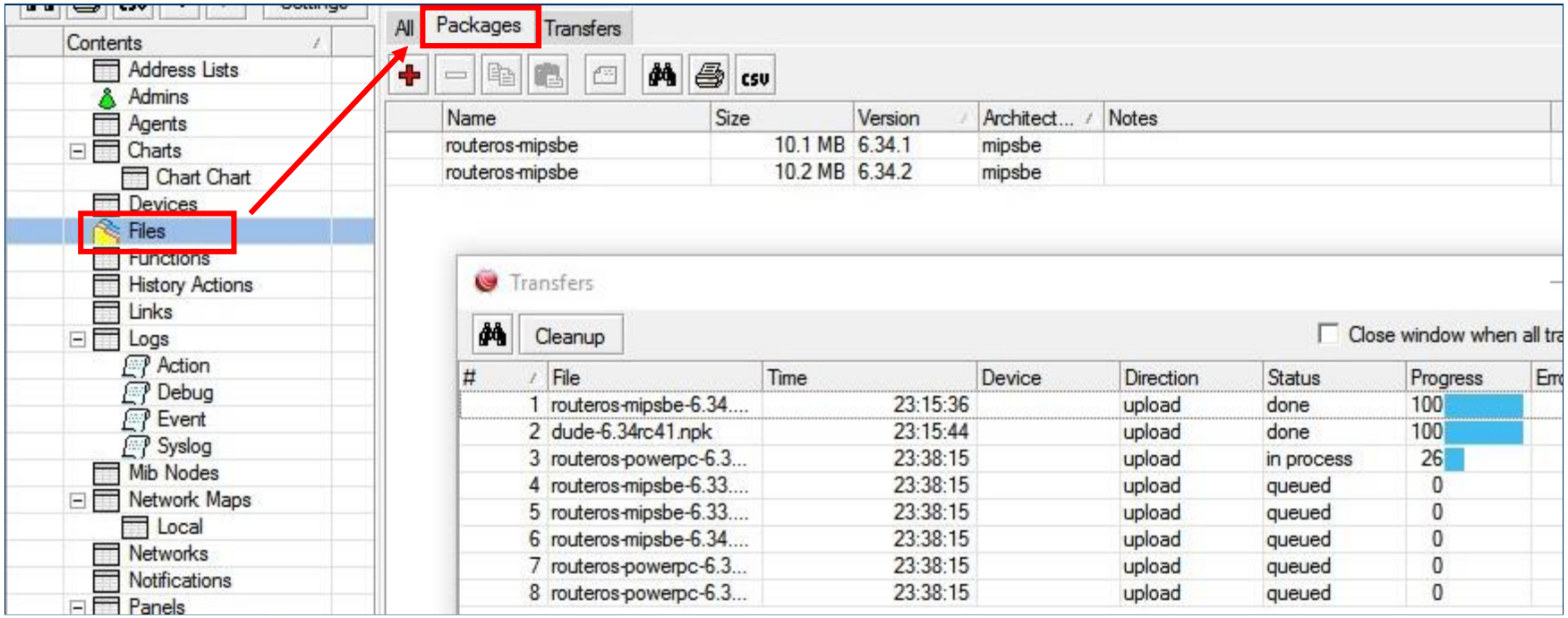
RouterOS Tab



Dude Tab

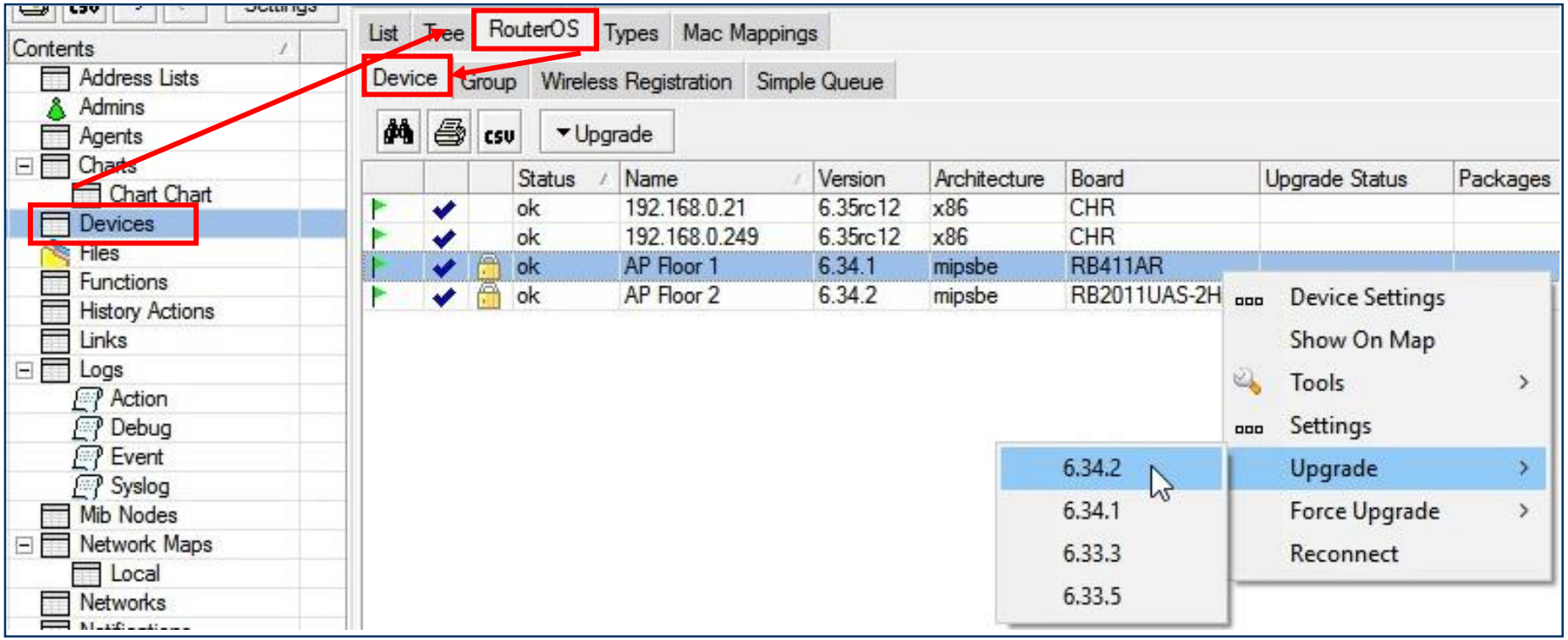

192.168.0.249 - Device
General
Polling
Services
Outages
Snmp
RouterOS
Dude
History
Tools
Ok
Cancel
Apply
Notes
Remove
Tools
Reprobe
Ack
Unack
Reboot
Reconnect
Settings
Contents
Address Lists
Admins
Agents
Charts
Devices
Files
Functions
History Actions
Links
Logs
Action
Debug
Event
Syslog
Mib Nodes
Local
Settings
Discover
Tools
Layer
192.168.0.249
Rx: 1.42 kbps
Tx: 600 bps
192.168.0.0/24
Rx: 1.83 kbps
Tx: 4.64 kbps
AP Floor 1
cpu: 2% disk: 23%
4 Stations connected
192.168.0.21
APNAS

Files/Package Window



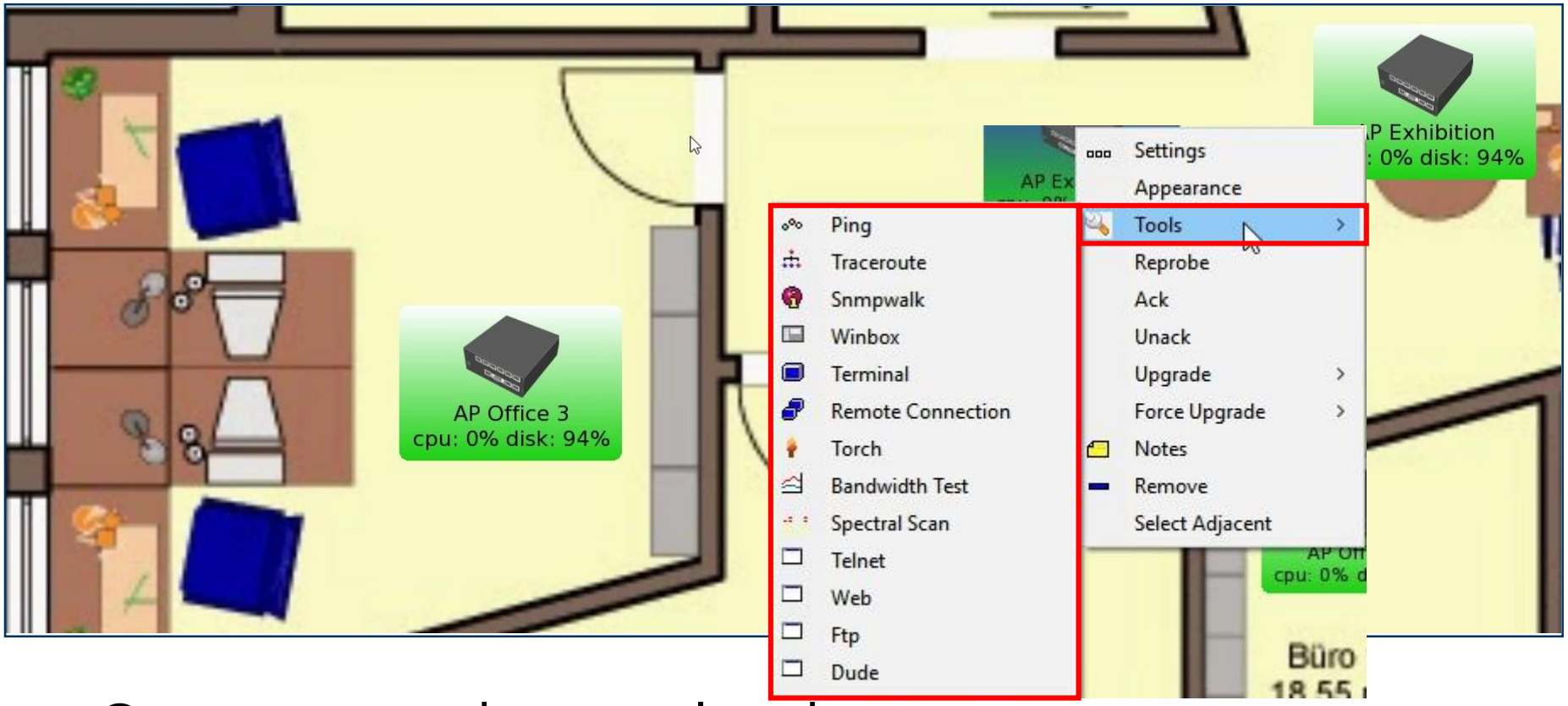
- Drag & Drop Firmware to “Packages” tab
- Available for upgrading RouterOS devices

Devices/RouterOS Window



- See only RouterOS devices and details
- Run RouterOS updates directly

RouterOS Tools

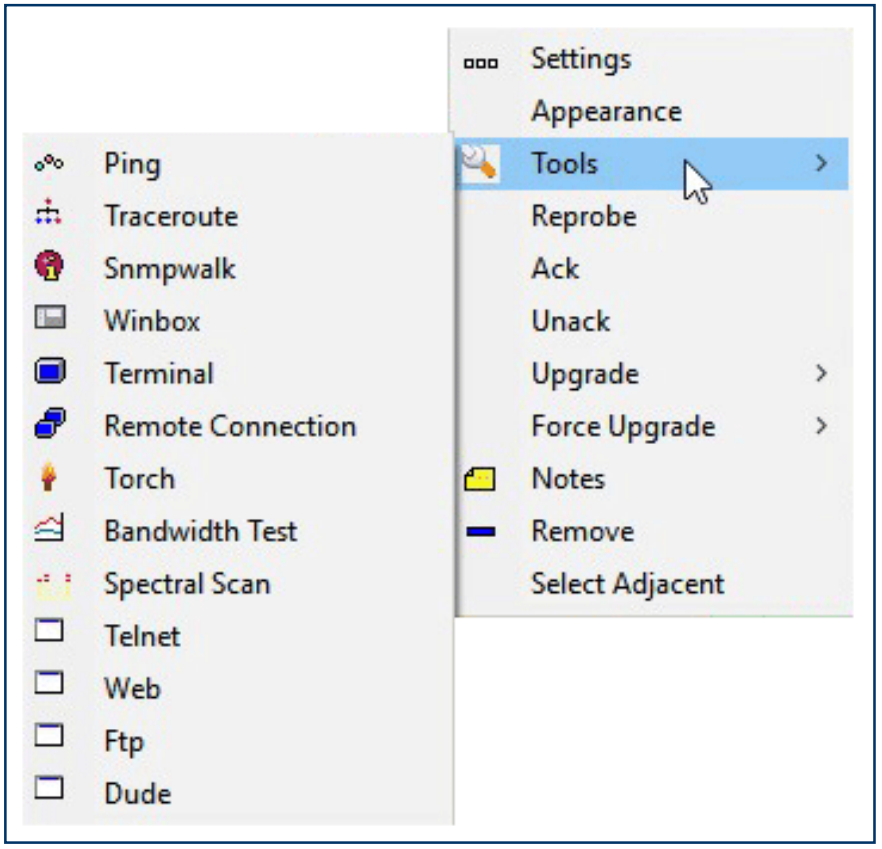


- Context menu shows tools sub menu
- General and RouterOS specific tools

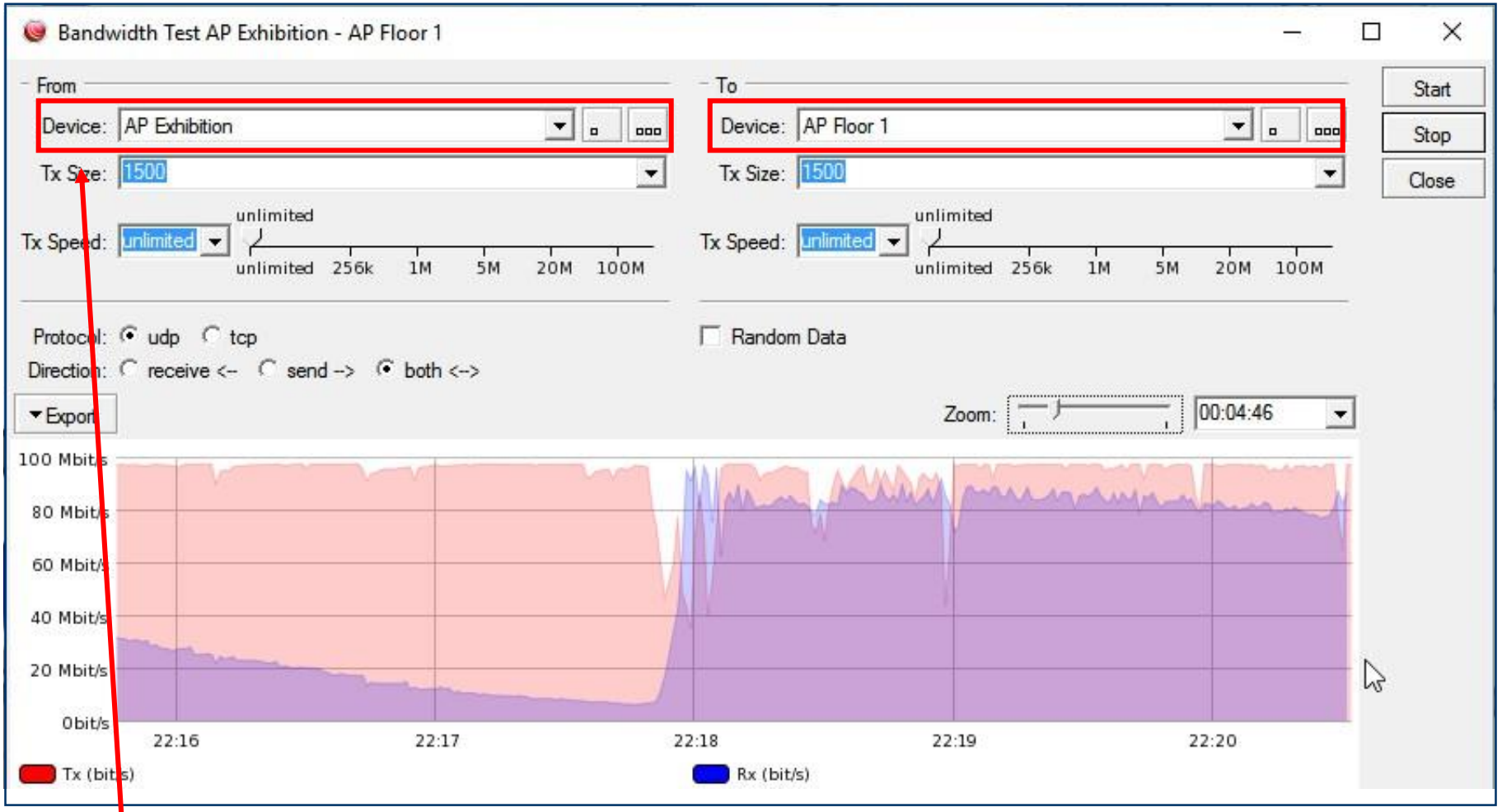
RouterOS Tools (to a Device)

- Winbox
- Terminal
- Remote Connection (MAC)
- Dude

- More Tools “from” a Device
- More powerful than in Winbox



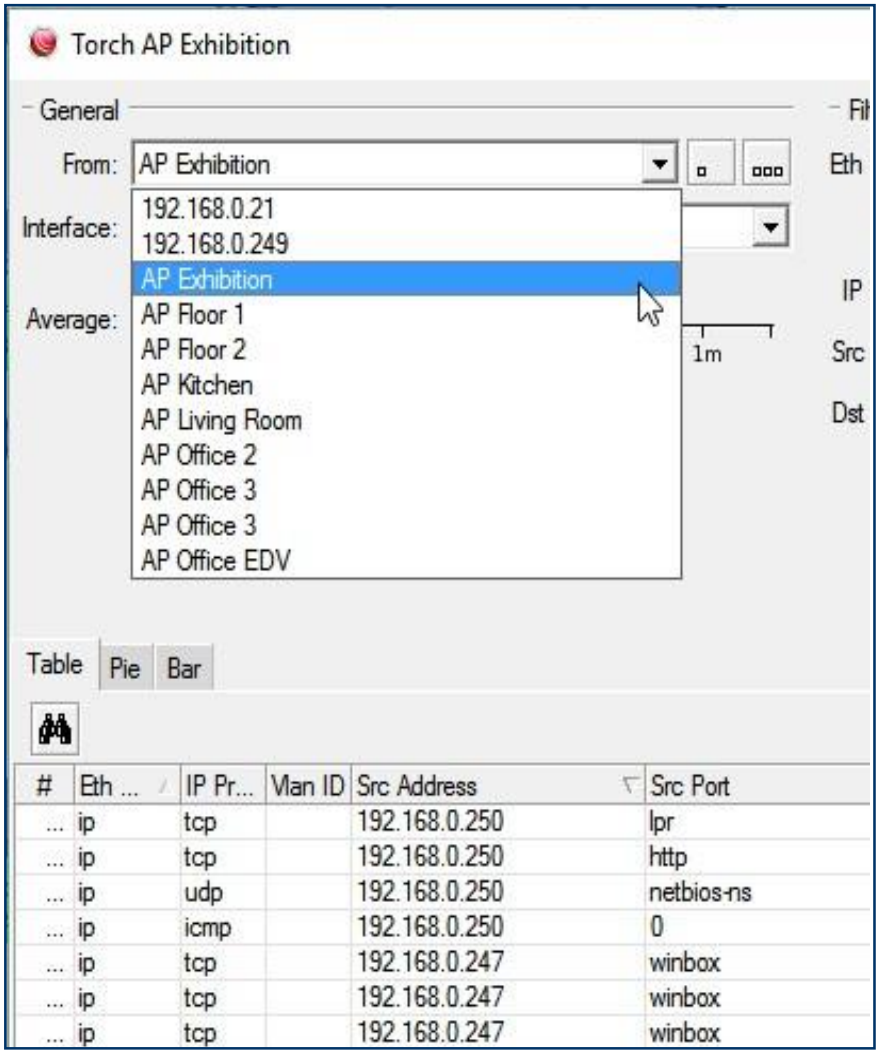
Bandwidth Test



- Device selection
- No credentials

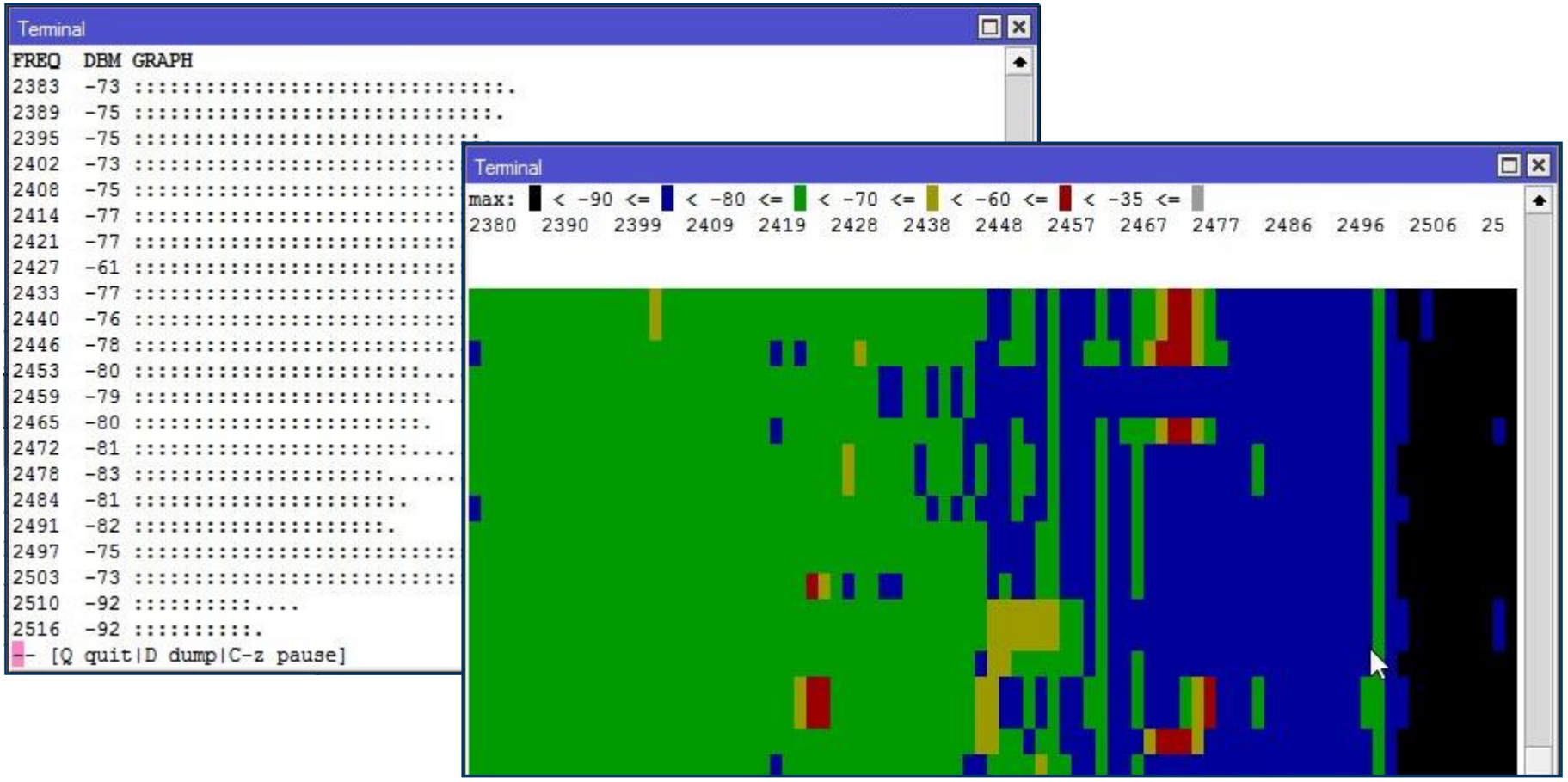
Torch

- Select any device
- See network from different views
- Additional charts



Torch Charts

Spectral Scan (Winbox)

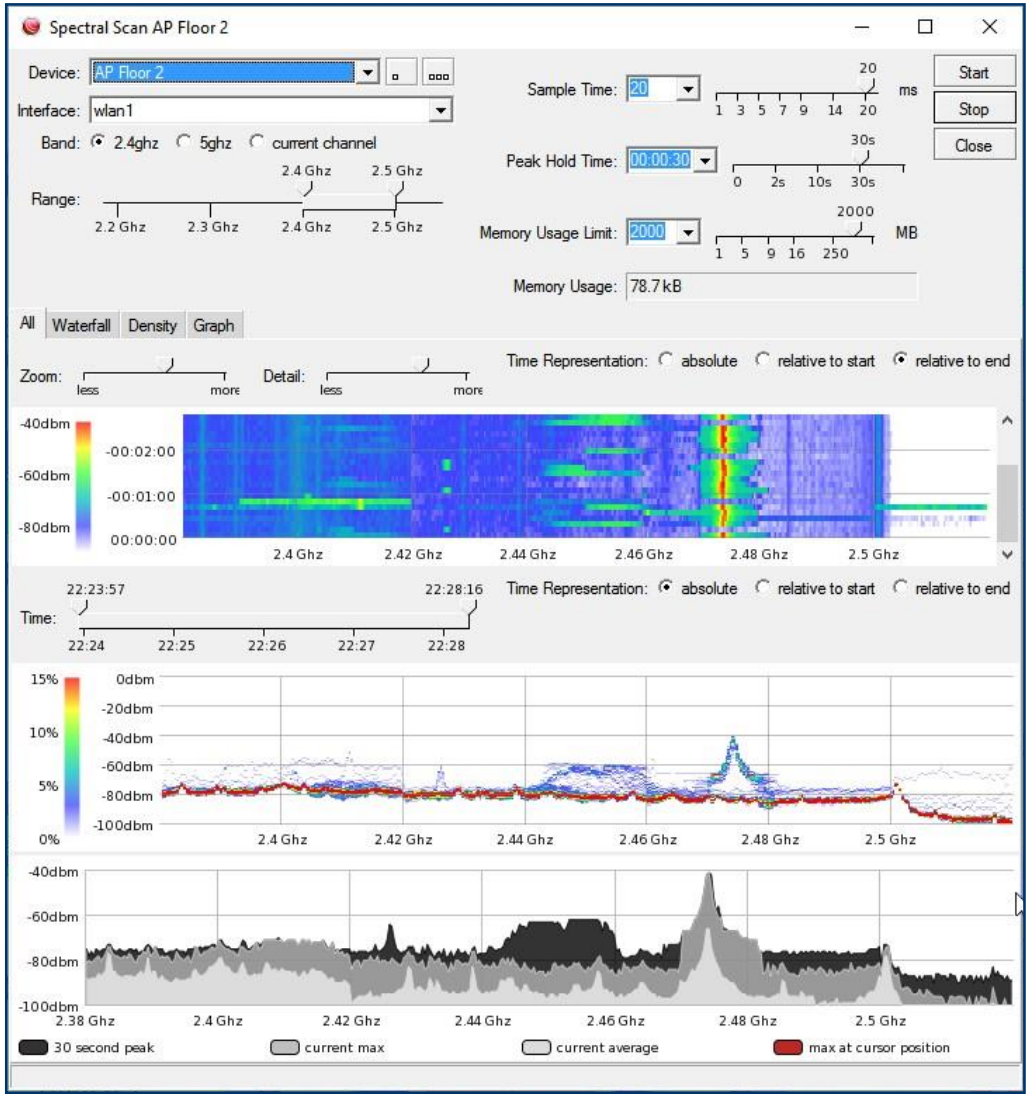


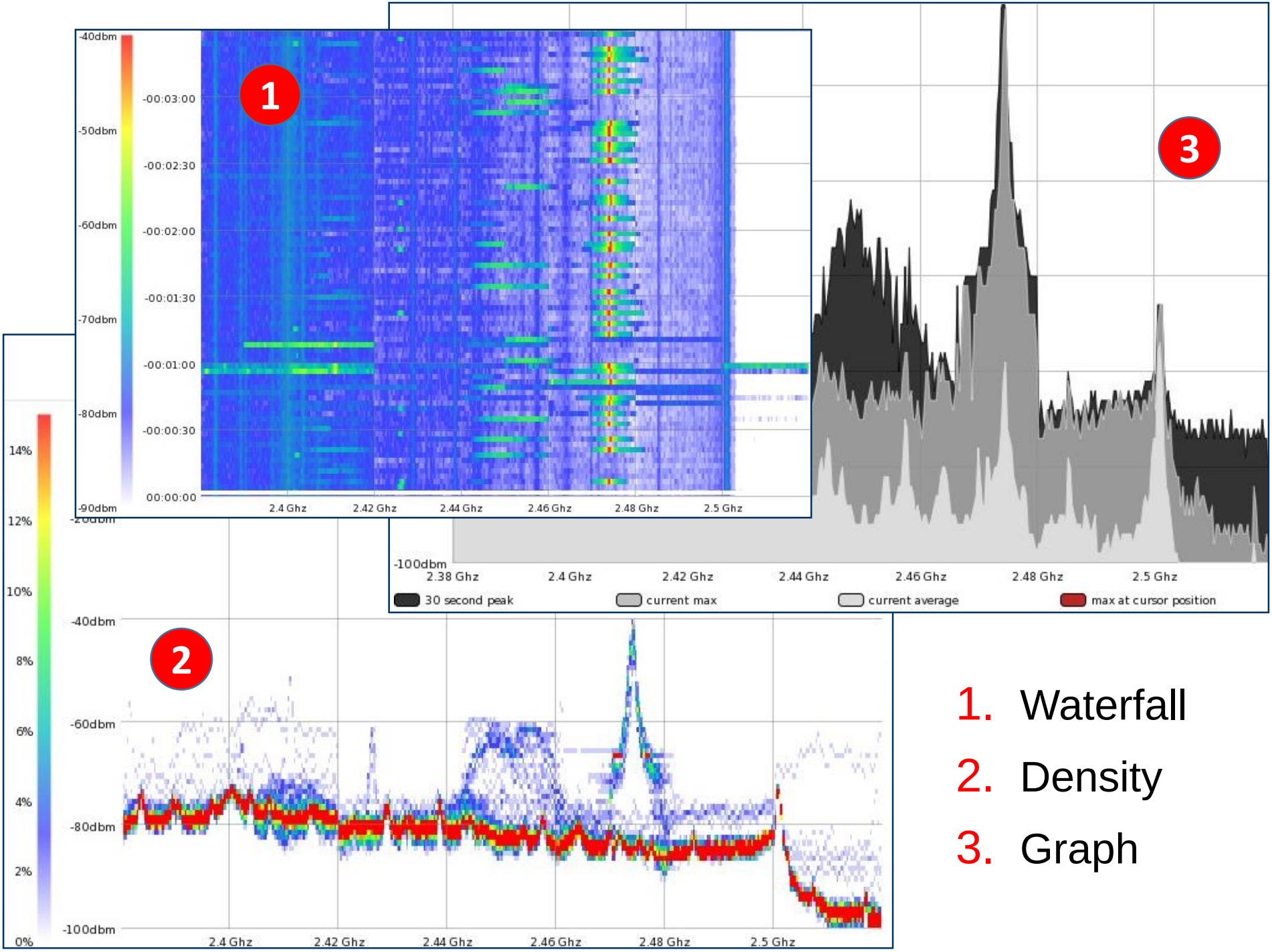
- /interface wireless spectral-scan number=0
- /interface wireless spectral-history value=max

Spectral Scan (Dude)

- From any device
- Good representation
- Simultaneous scans

- Spectral view for network with multiple sensors





1. Waterfall
2. Density
3. Graph

Labels

- Great graphical maps
- Devices & links carry information
- Dynamic labels
- RouterOS specific

Device Labels

No SNMP

No RouterOS Function

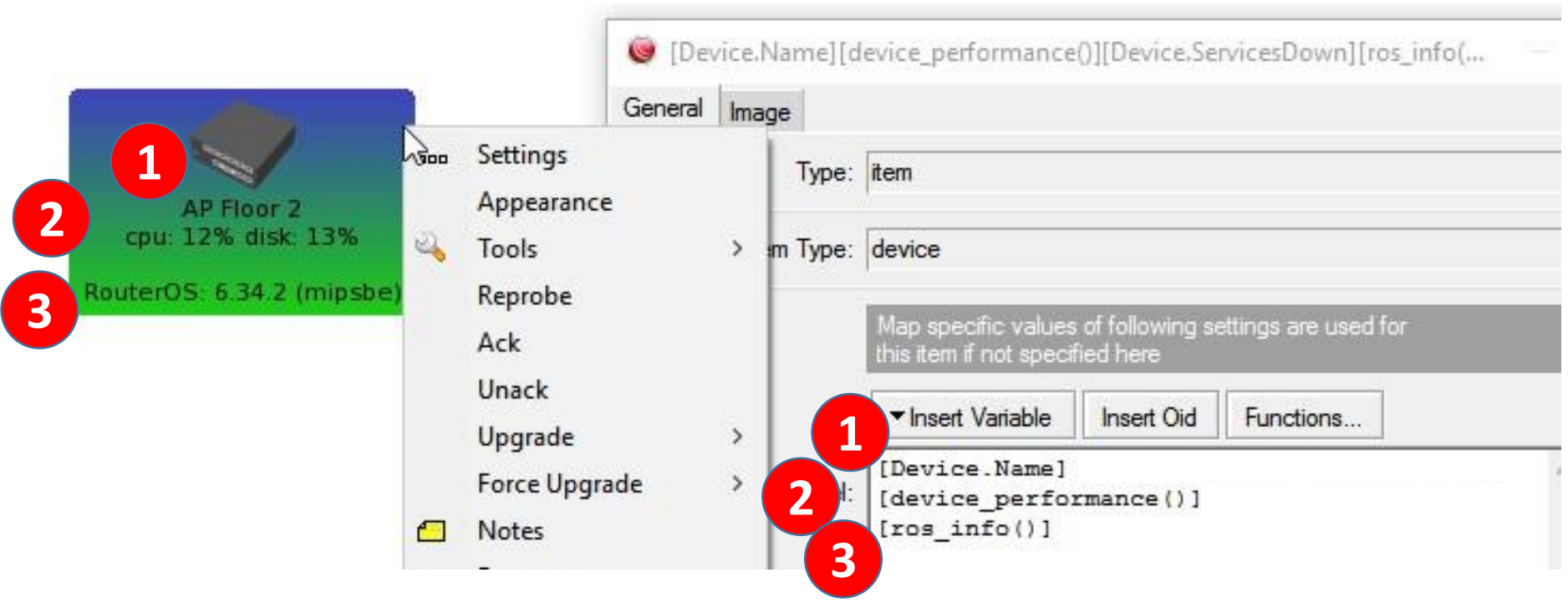
SNMP on

No RouterOS Function

SNMP on

RouterOS Function

Device Labels

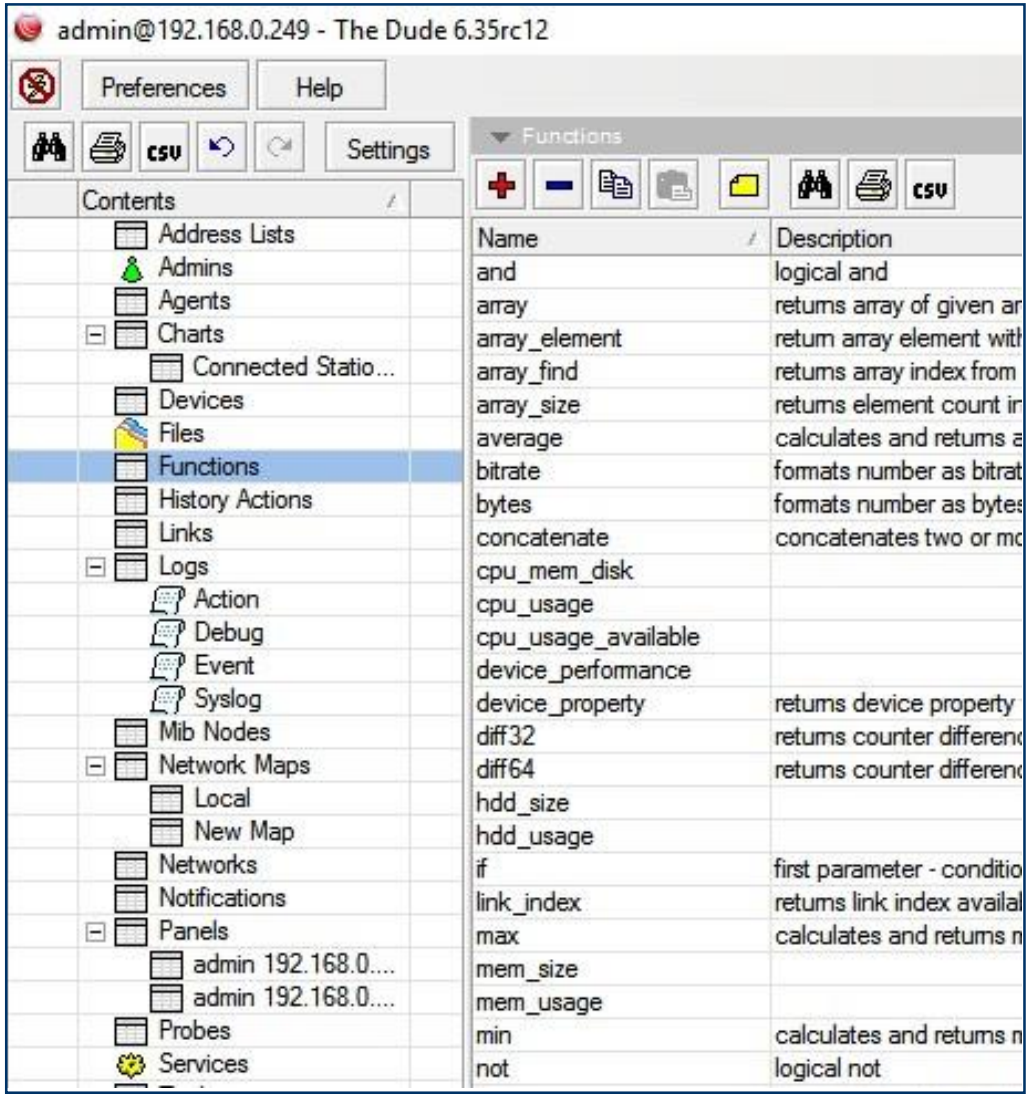


1. Variable
2. Function using SNMP
3. Function using RouterOS

Custom RouterOS Functions

- Custom functions combining existing functions

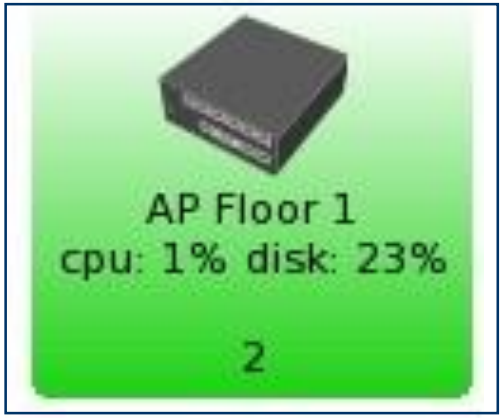
- ros_command()
- Calling script / running CLI commands
- Returning output
- Almost anything possible



Number of WIFI Connections

- Label:

[ros_command("/interface wireless registration-table print count-only")]



[concatenate(round(ros_command(“ /interface wireless registration-table print count-only")), " stations connected")]

Use Functions inside Label

- Function easier to reuse in labels
- Two functions, 1 x Integer & 1 x String

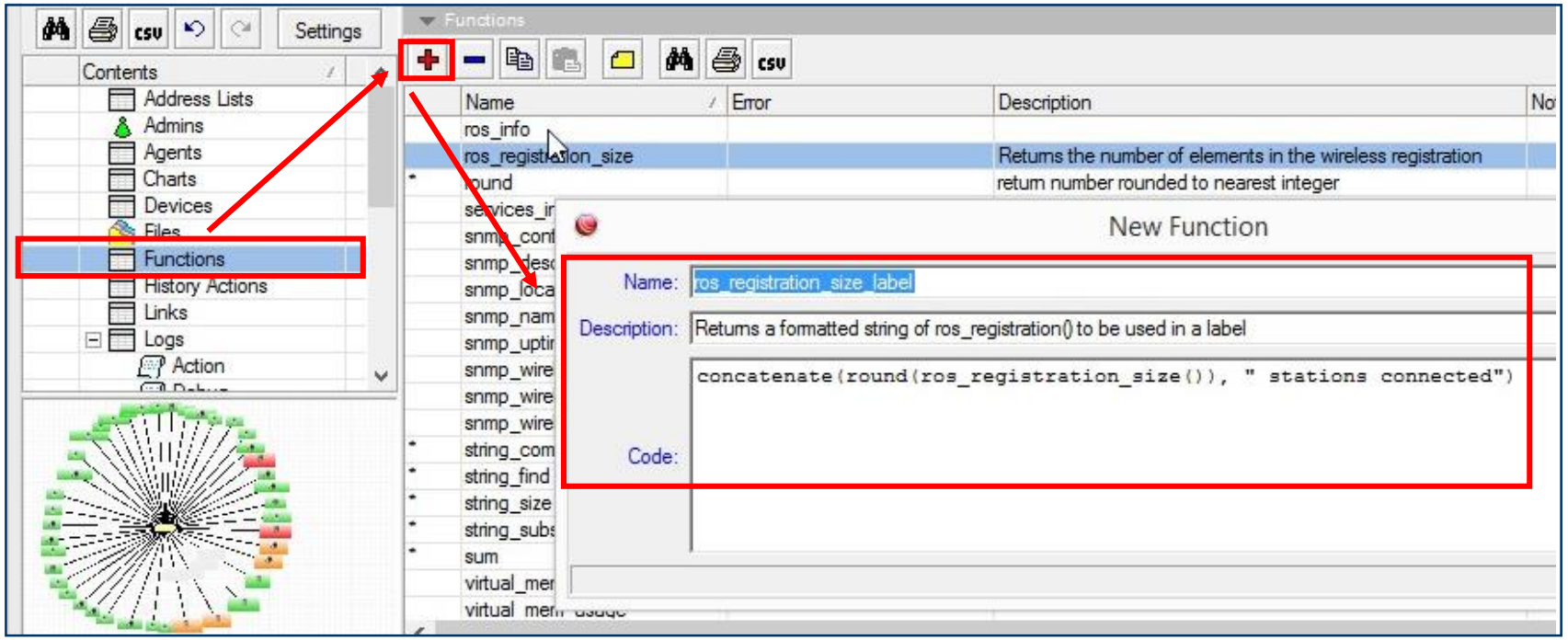
- ros_registration_size()

  ros_command("/interface wireless registration-table print count-only")

- ros_registration_size_label()

  concatenate(round(ros_registration_size()), " stations connected")

Creating the new Functions



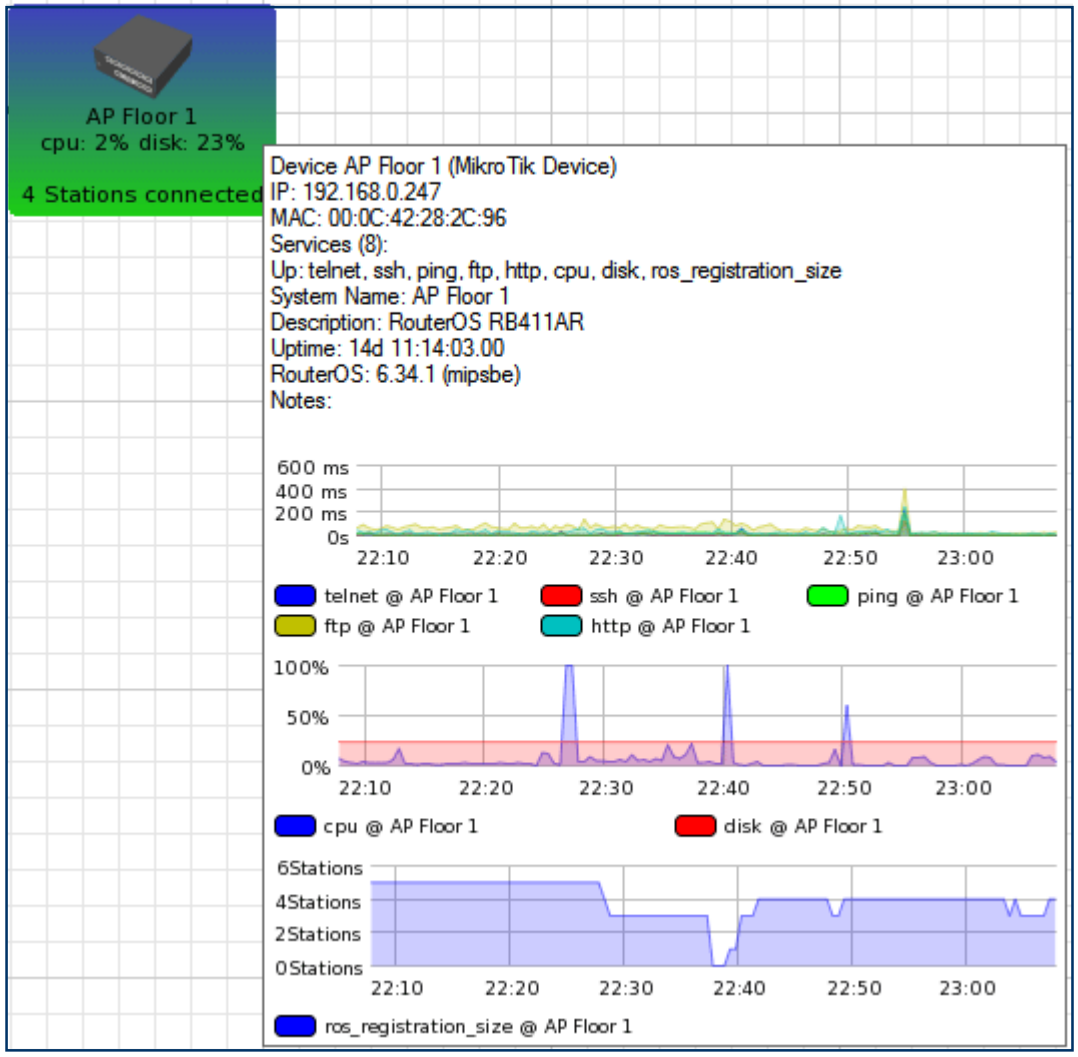
- Choose “+” in functions window
- Enter name, description and source code

Custom Statistics

Using Probes, Services and Charts

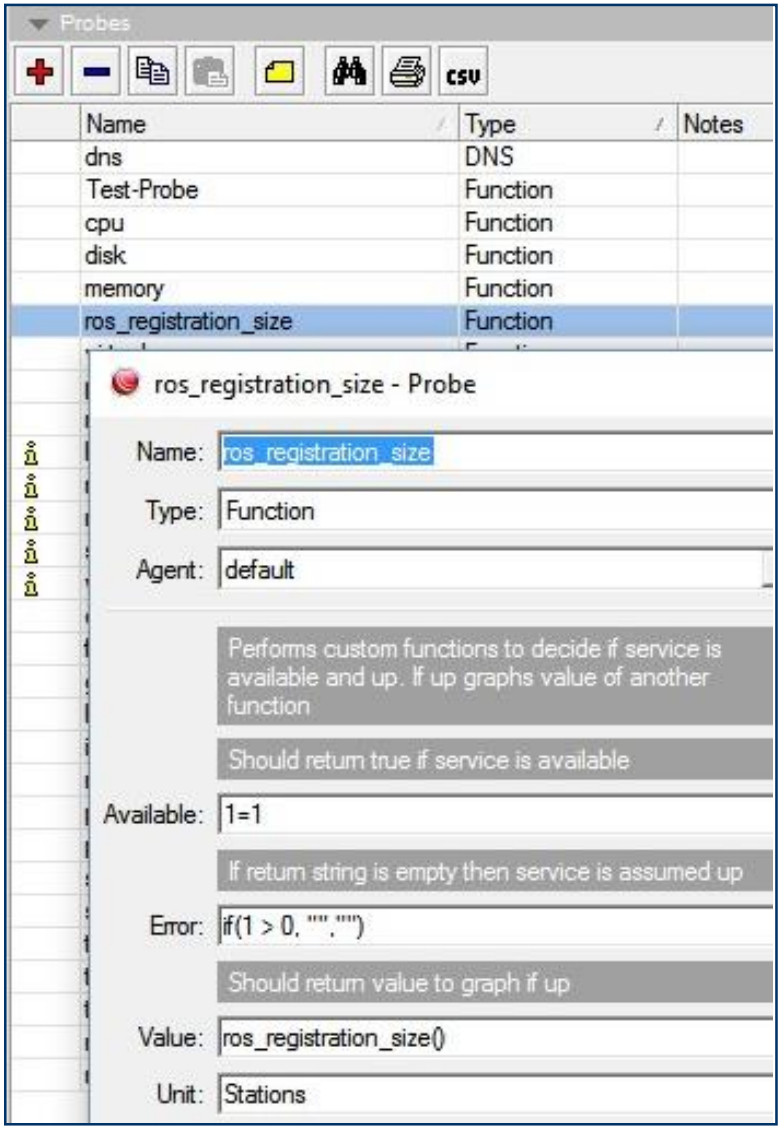
Statistics

- Information over time
- In context layer
- In history
- Necessary
  - Probe
  - Service



Creating the Probe

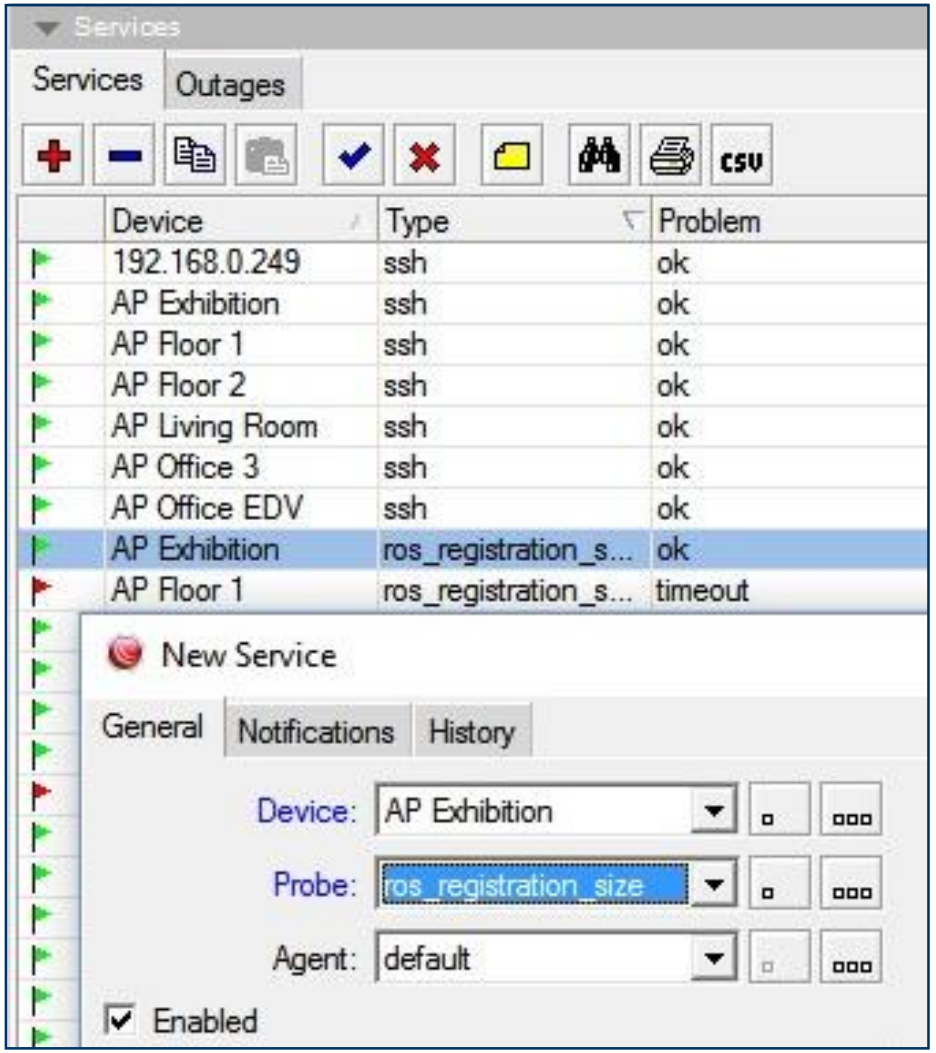
- Type: Function
- Available: 1 = 1
  - always available
- Error: if (1>0,””,””)
  - always up
- Value: ros_registration_size()
- Unit: Stations



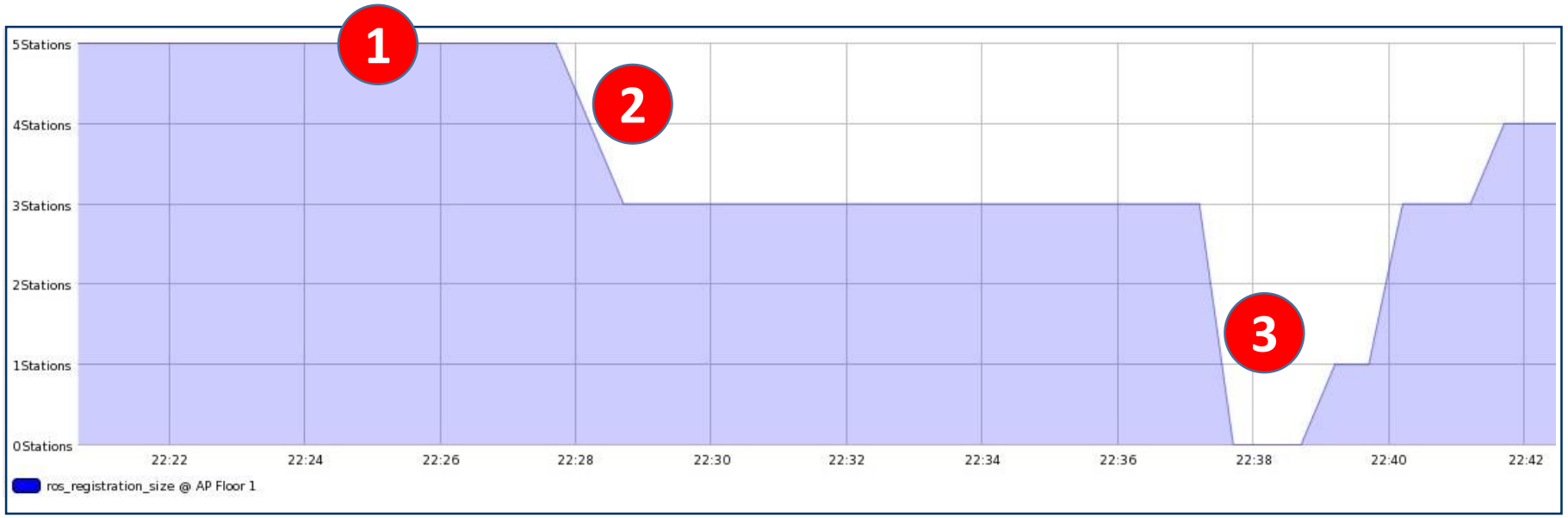
Creating the Service

- Service =

  Probe + Device



History

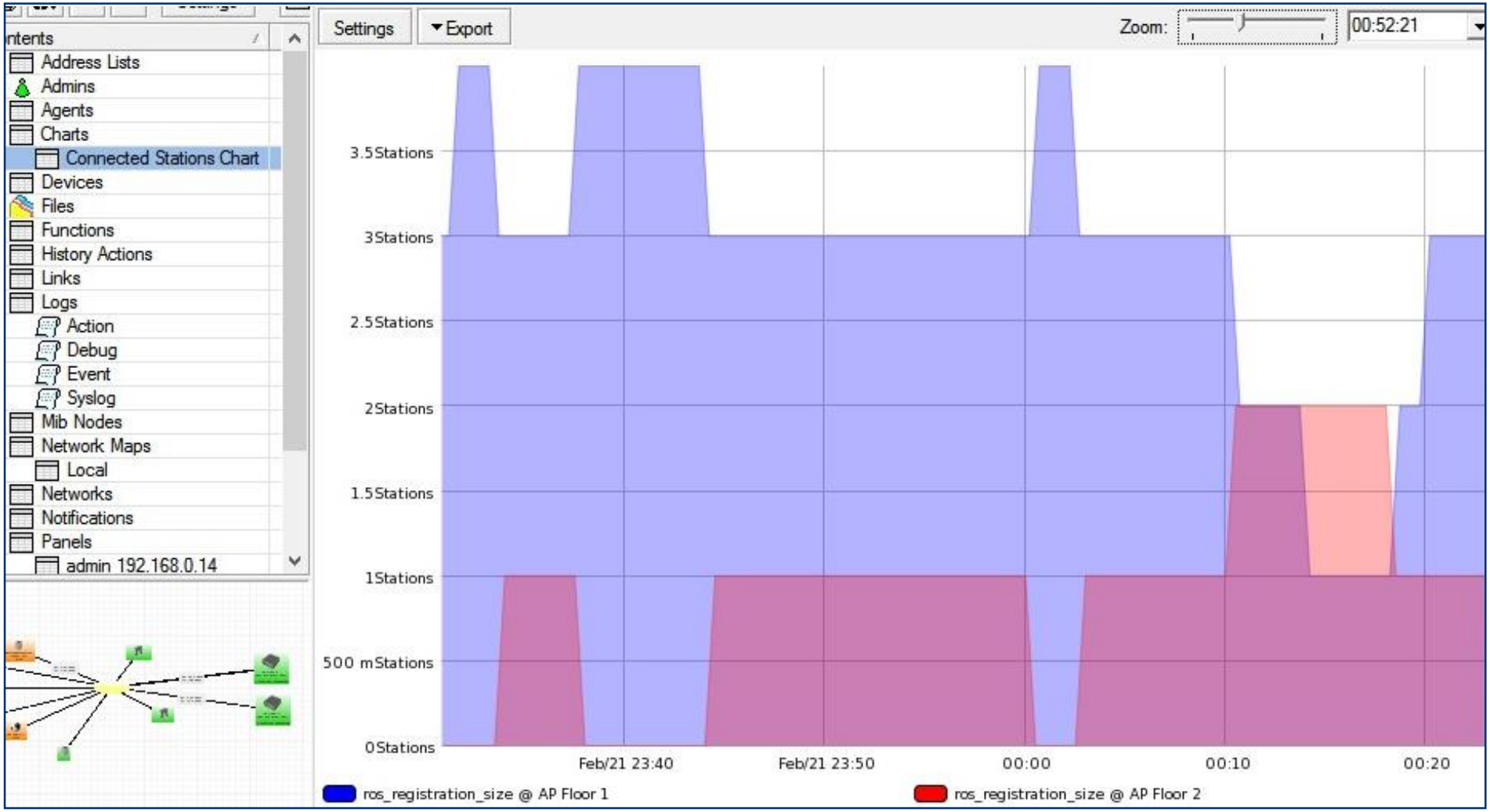


1. 5 stations connected
2. 4 stations connected
3. 0 stations connected

Context History

- Station flapping between „AP Floor 1„ and „AP Floor 2„

Charts for graphing multiple Services



- Station flapping between „AP Floor 1„ and „AP Floor 2„

THANK YOU

… and enjoy the Usermeeting

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