

RoMON

Router Management Overlay Network

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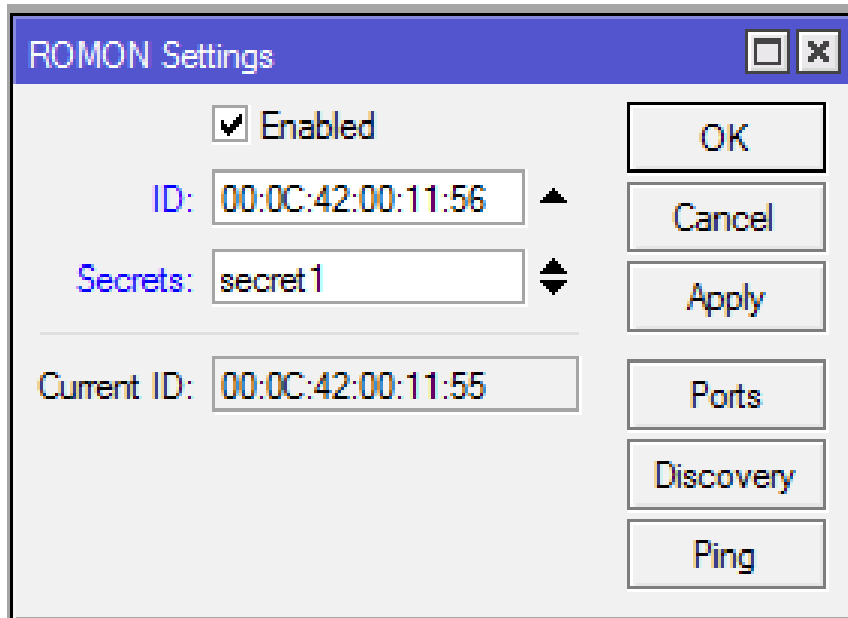
RoMON Features

- Secure Layer2 access to MikroTik devices via:
 - Physical connection
 - Through a Layer2 tunnel
- Discovery and Management of the Mikrotik devices via:
 - Ping
 - SSH
 - Winbox
- Discovery of RoMON devices over multiple hops
- Tunnel Winbox connection to a remote location for management of RoMON enabled devices at the remote location

RoMON connection

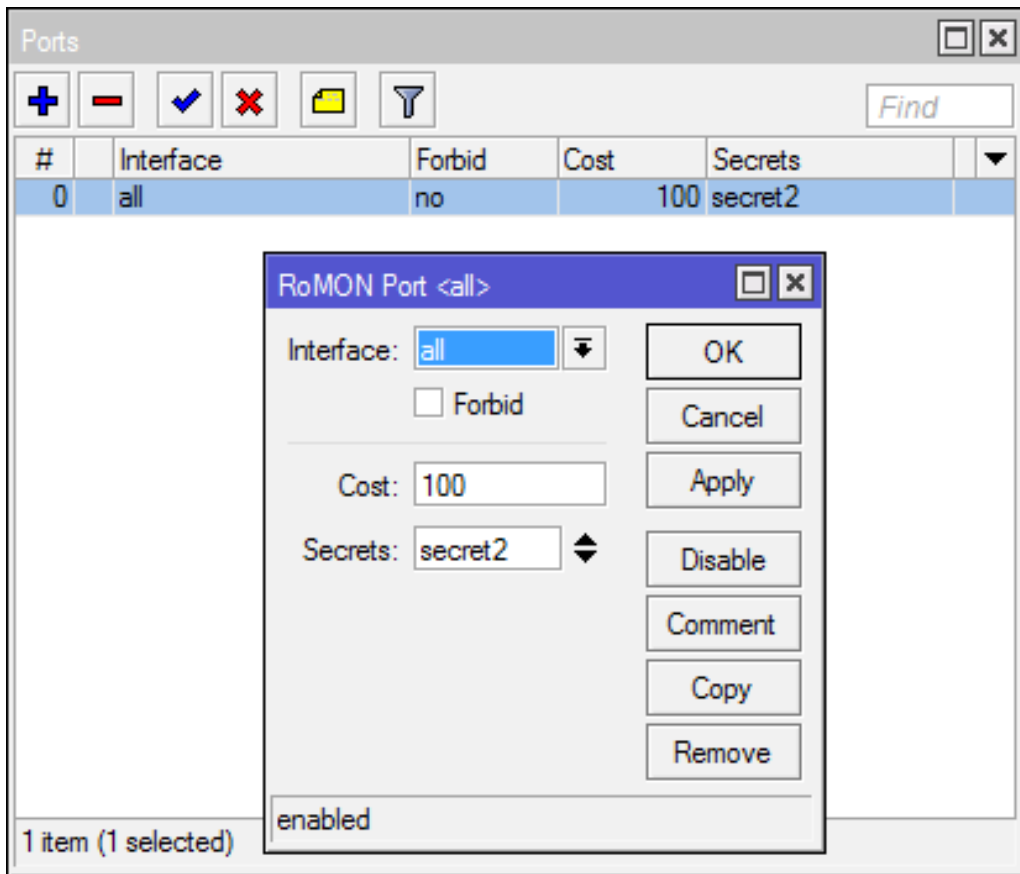
- RoMON enabled devices establishes a independent MAC layer peer discovery and data forwarding protocol
- RoMON network operates independent from L2 or L3 forwarding configuration
- Communication is based on the RoMON ID which is taken from the first MAC address of the board
- Supports only Wireless and Ethernet like interfaces
- MikroTik Proprietary protocol

RoMON configuration



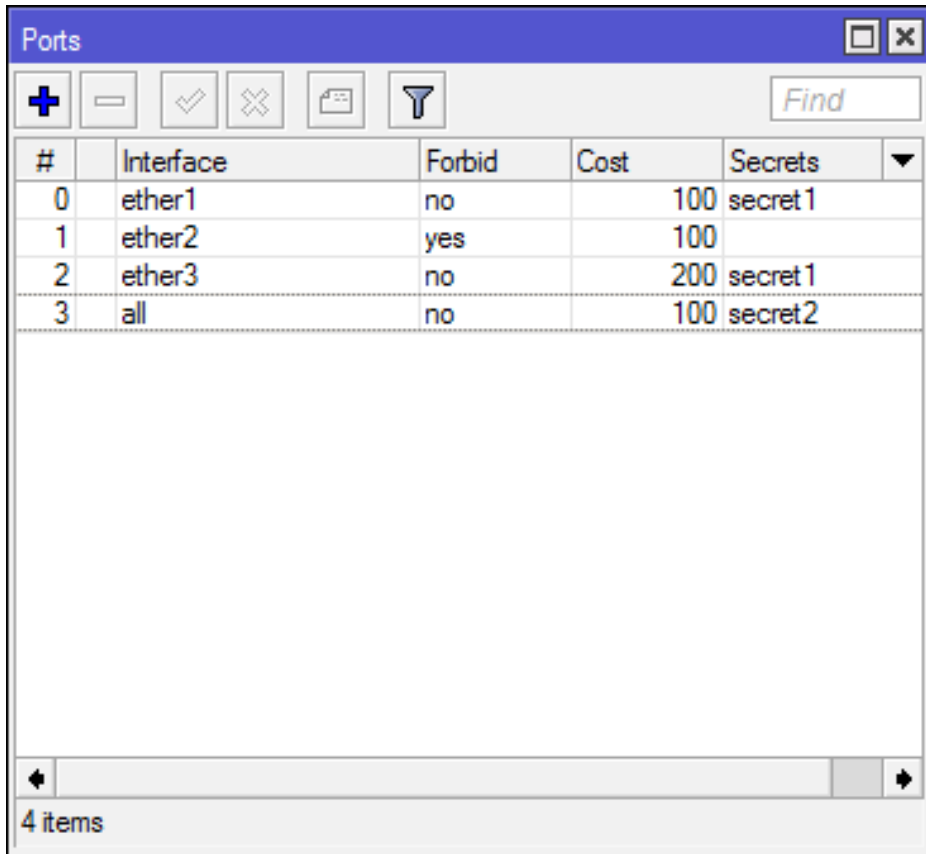
- RoMON device ID can be changed
- Secret – global passphrase for communication to other RoMON devices

RoMON Ports



- Interfaces on which RoMON can do communication
- Different Cost Interfaces
 - Same Cost used for TX/RX
- Override Secret for Interfaces

RoMON Ports



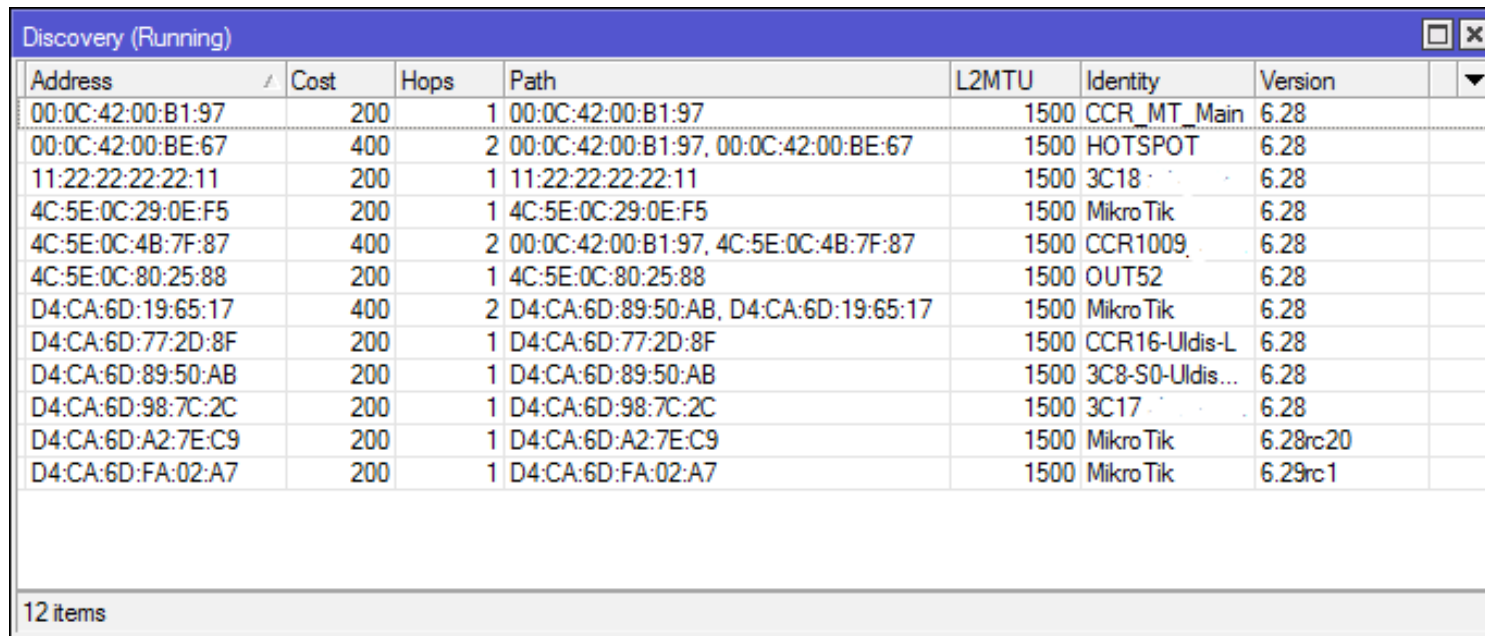
The screenshot shows a window titled "Ports" with a toolbar containing icons for adding, removing, checking, unchecking, printing, and filtering. A search box labeled "Find" is also present. Below the toolbar is a table with the following data:

| # | Interface | Forbid | Cost | Secrets |
|---|-----------|--------|------|---------|
| 0 | ether1 | no | 100 | secret1 |
| 1 | ether2 | yes | 100 | |
| 2 | ether3 | no | 200 | secret1 |
| 3 | all | no | 100 | secret2 |

At the bottom of the window, a scrollbar is visible, and the text "4 items" is displayed.

- Ports are ordered and processed like in Firewall from top to bottom

RoMON Discovery



| Address | Cost | Hops | Path | L2MTU | Identity | Version |
|-------------------|------|------|--------------------------------------|-------|-----------------|----------|
| 00:0C:42:00:B1:97 | 200 | 1 | 00:0C:42:00:B1:97 | 1500 | CCR_MT_Main | 6.28 |
| 00:0C:42:00:BE:67 | 400 | 2 | 00:0C:42:00:B1:97, 00:0C:42:00:BE:67 | 1500 | HOTSPOT | 6.28 |
| 11:22:22:22:22:11 | 200 | 1 | 11:22:22:22:22:11 | 1500 | 3C18 | 6.28 |
| 4C:5E:0C:29:0E:F5 | 200 | 1 | 4C:5E:0C:29:0E:F5 | 1500 | MikroTik | 6.28 |
| 4C:5E:0C:4B:7F:87 | 400 | 2 | 00:0C:42:00:B1:97, 4C:5E:0C:4B:7F:87 | 1500 | CCR1009 | 6.28 |
| 4C:5E:0C:80:25:88 | 200 | 1 | 4C:5E:0C:80:25:88 | 1500 | OUT52 | 6.28 |
| D4:CA:6D:19:65:17 | 400 | 2 | D4:CA:6D:89:50:AB, D4:CA:6D:19:65:17 | 1500 | MikroTik | 6.28 |
| D4:CA:6D:77:2D:8F | 200 | 1 | D4:CA:6D:77:2D:8F | 1500 | CCR16-Uldis-L | 6.28 |
| D4:CA:6D:89:50:AB | 200 | 1 | D4:CA:6D:89:50:AB | 1500 | 3C8-S0-Uldis... | 6.28 |
| D4:CA:6D:98:7C:2C | 200 | 1 | D4:CA:6D:98:7C:2C | 1500 | 3C17 | 6.28 |
| D4:CA:6D:A2:7E:C9 | 200 | 1 | D4:CA:6D:A2:7E:C9 | 1500 | MikroTik | 6.28rc20 |
| D4:CA:6D:FA:02:A7 | 200 | 1 | D4:CA:6D:FA:02:A7 | 1500 | MikroTik | 6.29rc1 |

12 items

- Discovery tool enables continuous RoMON peer discovery process
- Shows Cost, Hop count and Path to the neighbour RoMON ID

RoMON Ping

Discovery (Running)

| Address | Cost | Hops | Path | L2MTU | Identity | Version |
|-------------------|------|------|--------------------------------------|-------|-------------------|----------|
| 00:0C:42:00:B1:97 | 200 | 1 | 00:0C:42:00:B1:97 | 1500 | CCR_MT_Main | 6.28 |
| 00:0C:42:00:BE:67 | 400 | 2 | 00:0C:42:00:B1:97, 00:0C:42:00:BE:67 | 1500 | HOTSPOT | 6.28 |
| 11:22:22:22:22:11 | 200 | 1 | 11:22:22:22:22:11 | 1500 | 3C18-Krisjanis... | 6.28 |
| 4C:5E:0C:29:0E:F5 | 200 | 1 | 4C:5E:0C:29:0E:F5 | 1500 | Mikro Tik | 6.28 |
| 4C:5E:0C:4B:7F:87 | 400 | 2 | 00:0C:42:00:B1:97, 4C:5E:0C:4B:7F:87 | 1500 | CCR1009_Se... | 6.28 |
| 4C:5E:0C:80:25:88 | | | | | UT52 | 6.28 |
| D4:CA:6D:19:65:17 | | | | | Mikro Tik | 6.28 |
| D4:CA:6D:89:50:AB | | | | | C8-S0-Uldis... | 6.28 |
| D4:CA:6D:98:7C:2C | | | | | C17-Kristaps... | 6.28 |
| D4:CA:6D:A2:7E:C9 | | | | | Mikro Tik | 6.28rc20 |
| D4:CA:6D:FA:02:A7 | | | | | Mikro Tik | 6.29rc1 |

11 items (1 selected)

RoMON Ping

ID:

Packet Size:

Interval:

Count:

Start

Stop

Close

New Window

| Seq # | Host | Reply Size | Status |
|-------|-------------------|------------|--------|
| 0 | 4C:5E:0C:4B:7F:87 | 32 | |
| 1 | 4C:5E:0C:4B:7F:87 | 32 | |
| 2 | 4C:5E:0C:4B:7F:87 | 32 | |
| 3 | 4C:5E:0C:4B:7F:87 | 32 | |
| 4 | 4C:5E:0C:4B:7F:87 | 32 | |
| 5 | 4C:5E:0C:4B:7F:87 | 32 | |
| 6 | 4C:5E:0C:4B:7F:87 | 32 | |
| 7 | 4C:5E:0C:4B:7F:87 | 32 | |
| 8 | 4C:5E:0C:4B:7F:87 | 32 | |

9 items 0% packet loss Min: 0 ms Avg: 0 ms Max: 1 ms

RoMON SSH

The screenshot displays the Mikrotik RouterOS interface. At the top, a 'Discovery (Running)' window shows a table of discovered devices. Below it, a 'Terminal' window shows the router's boot sequence and help text.

| Address | Cost | Hops | Path | L2MTU | Identity | Version |
|-------------------|------|------|--------------------------------------|-------|-------------------|---------|
| 00:0C:42:00:B1:97 | 200 | 1 | 00:0C:42:00:B1:97 | 1500 | CCR_MT_Main | 6.28 |
| 00:0C:42:00:BE:67 | 400 | 2 | 00:0C:42:00:B1:97, 00:0C:42:00:BE:67 | 1500 | HOTSPOT | 6.28 |
| 11:22:22:22:22:11 | 200 | 1 | 11:22:22:22:22:11 | 1500 | 3C18-Krisjanis... | 6.28 |
| 4C:5E:0C:29:0E:F5 | 200 | 1 | 4C:5E:0C:29:0E:F5 | 1500 | MikroTik | 6.28 |
| 4C:5E:0C:4B:7F:87 | 400 | 2 | 00:0C:42:00:B1:97, 4C:5E:0C:4B:7F:87 | 1500 | CCR1009_Se... | 6.28 |
| 4C:5E:0C:80:25:88 | 200 | 1 | 4C:5E:0C:80:25:88 | 1500 | OUT52 | 6.28 |
| D4:CA:6D:19:65:17 | 400 | 2 | D4:CA:6D:89:50:AB, D4:CA:6D:19:65:17 | 1500 | MikroTik | 6.28 |

```
MikroTik RouterOS 6.28 (c) 1999-2015      http://www.mikrotik.com/

[?]          Gives the list of available commands
command [?]  Gives help on the command and list of arguments

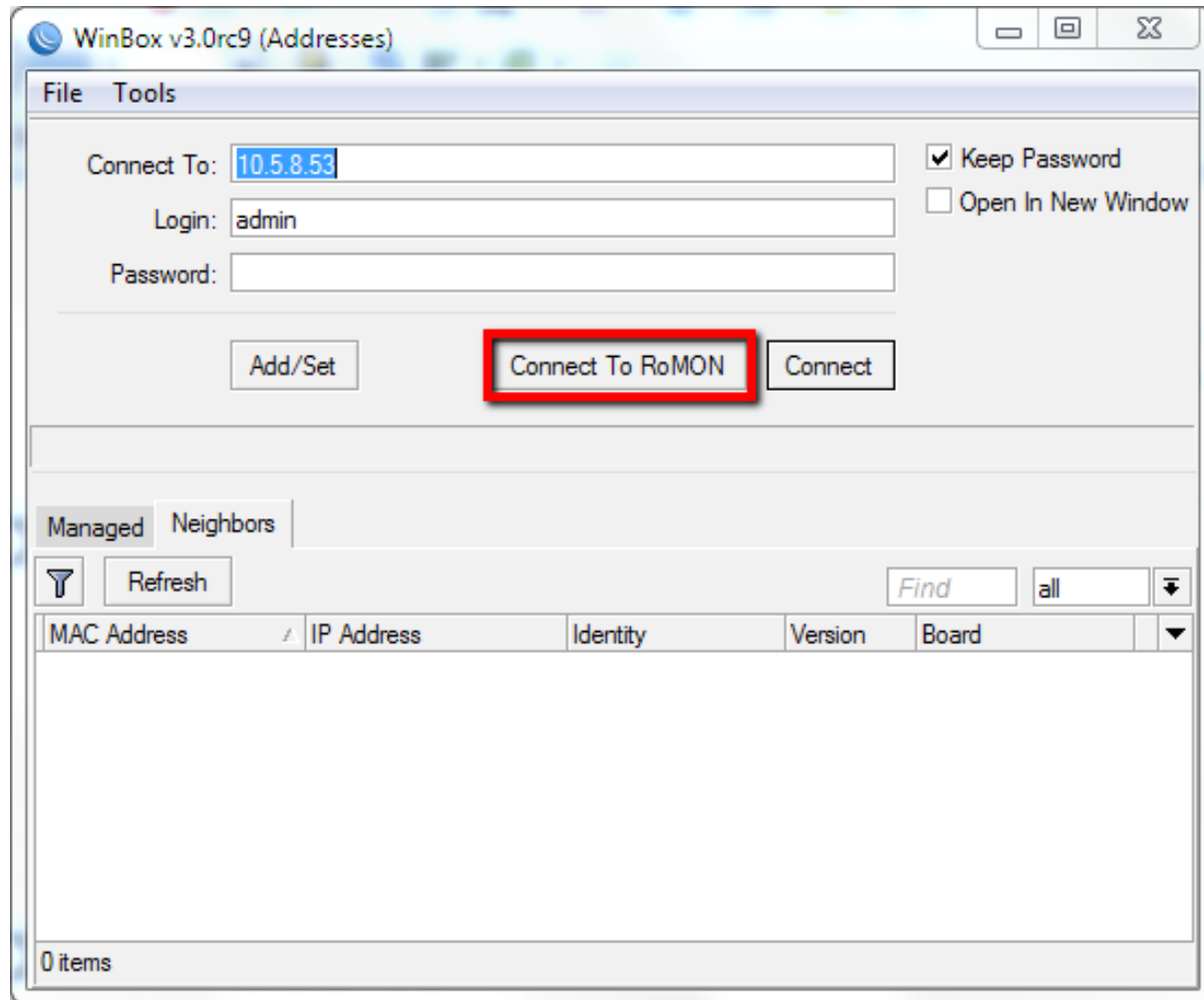
[Tab]       Completes the command/word. If the input is ambiguous,
            a second [Tab] gives possible options

/           Move up to base level
..         Move up one level
/command    Use command at the base level

[admin@RB53] > romon ssh 4C:5E:0C:80:25:88
```

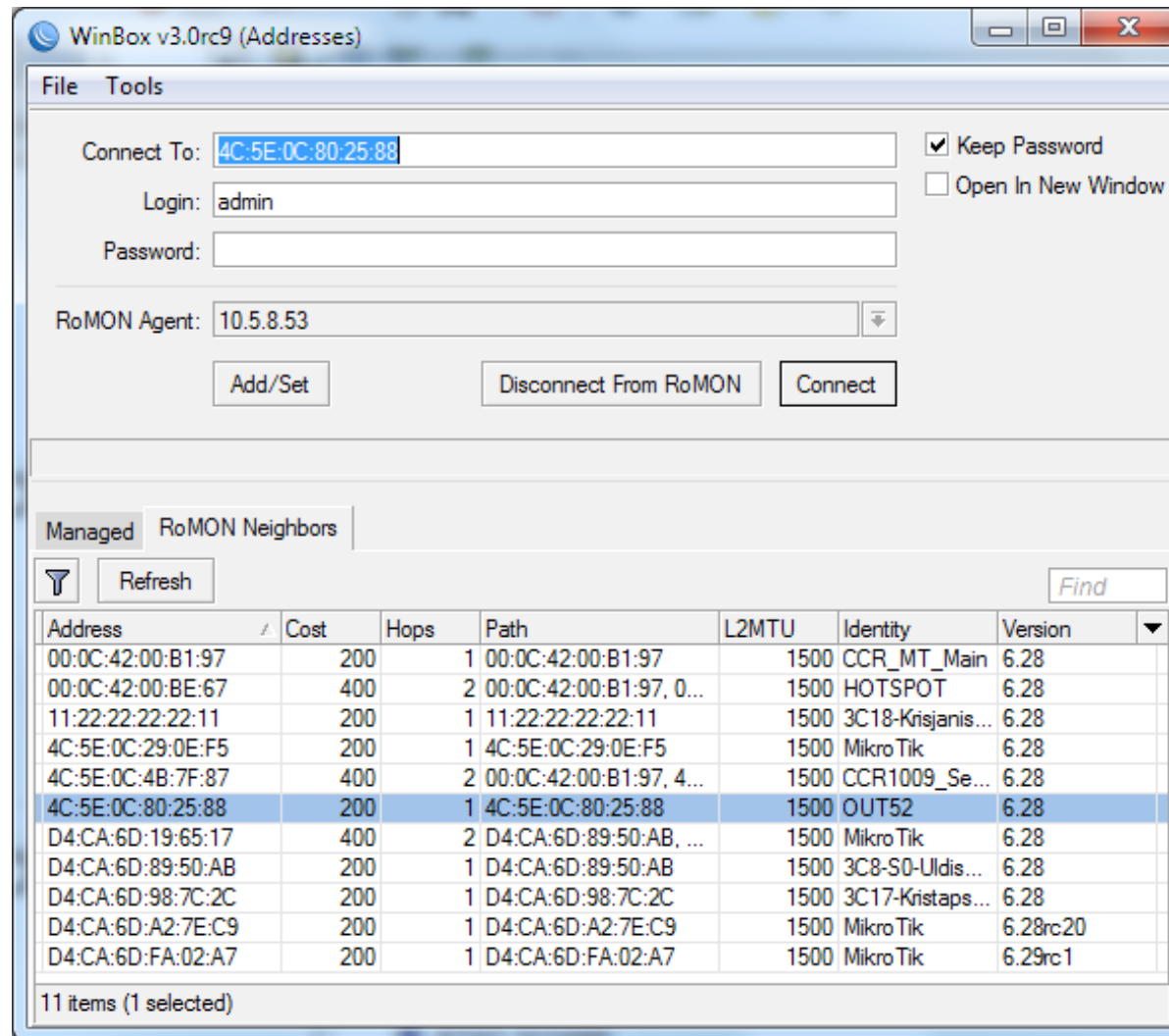
- SSH access to RoMON enabled routers

RoMON using Winbox



- Connect to RoMON enabled router using v3.x Winbox with IP or MAC address

RoMON using Winbox

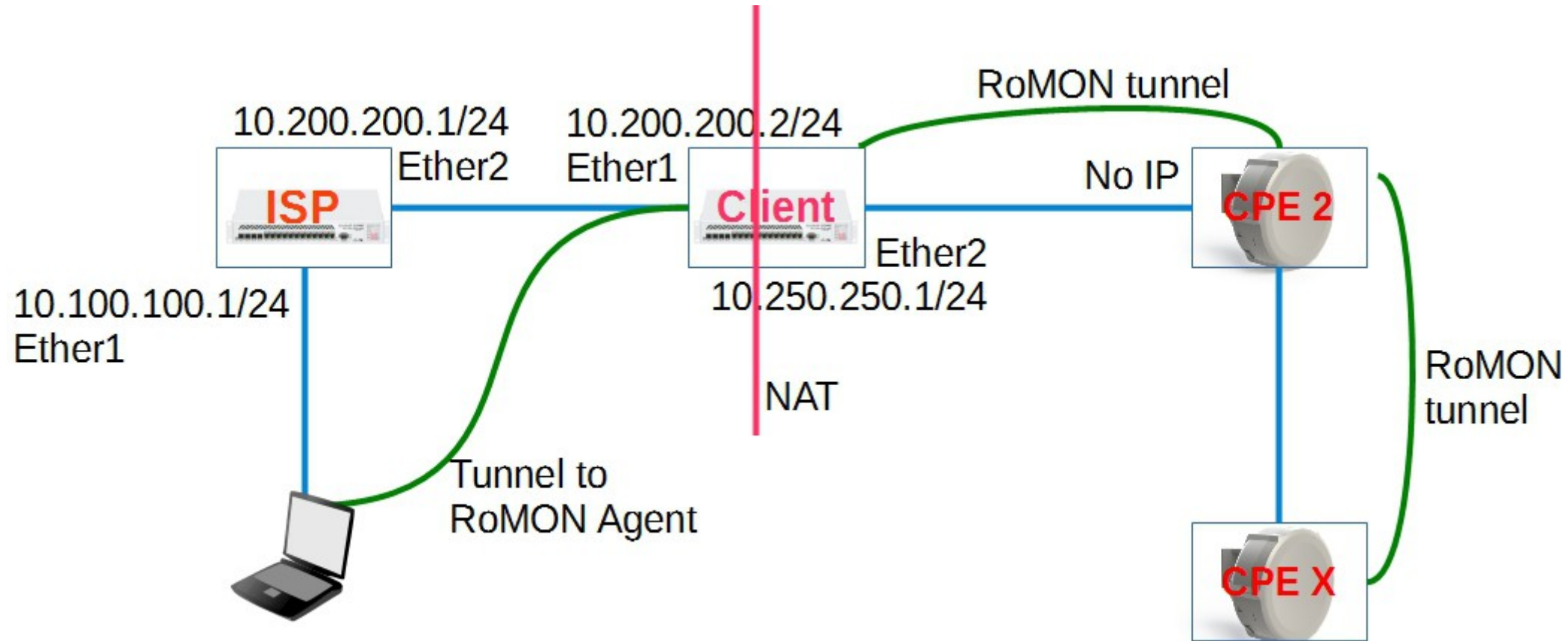


- Select the routers RoMON ID to connect to

RoMON Winbox Features

- Using a RoMON enabled network device connection it is possible to connect to any RoMON enabled device which is reachable from the host device
- Provides easy Winbox management withing remote networks like it would be a local network
- Drag-and-drop supported to upload files to the remote RoMON device

RoMON Setup



Questions?