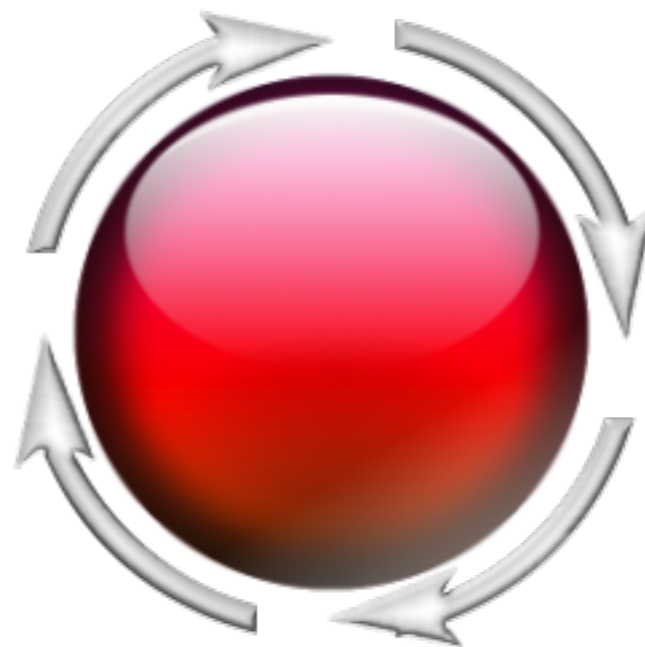


Dude is not dead!

Why is „Dude“ our choice of monitoring?!



David Nölte – MUM UK 2018 - Copyright MiSaxNet

THE WALKING DEAD

„The reports of my death have been greatly exaggerated“

- MikroTik RouterOS Changelog 6.34



Who am I?

- Founder and CTO of MiSaxNet
- Working in IT since 2001
- MikroTik enthusiast
- MikroTik Trainer (TR0523)
- Lived and worked in Ireland, USA and Berlin

What we do?

- Local WISP
- Wireless solutions
- Licensed / unlicensed backhauls
- Hotspot solutions
- VDSL / fiber / coaxial solutions

Objective

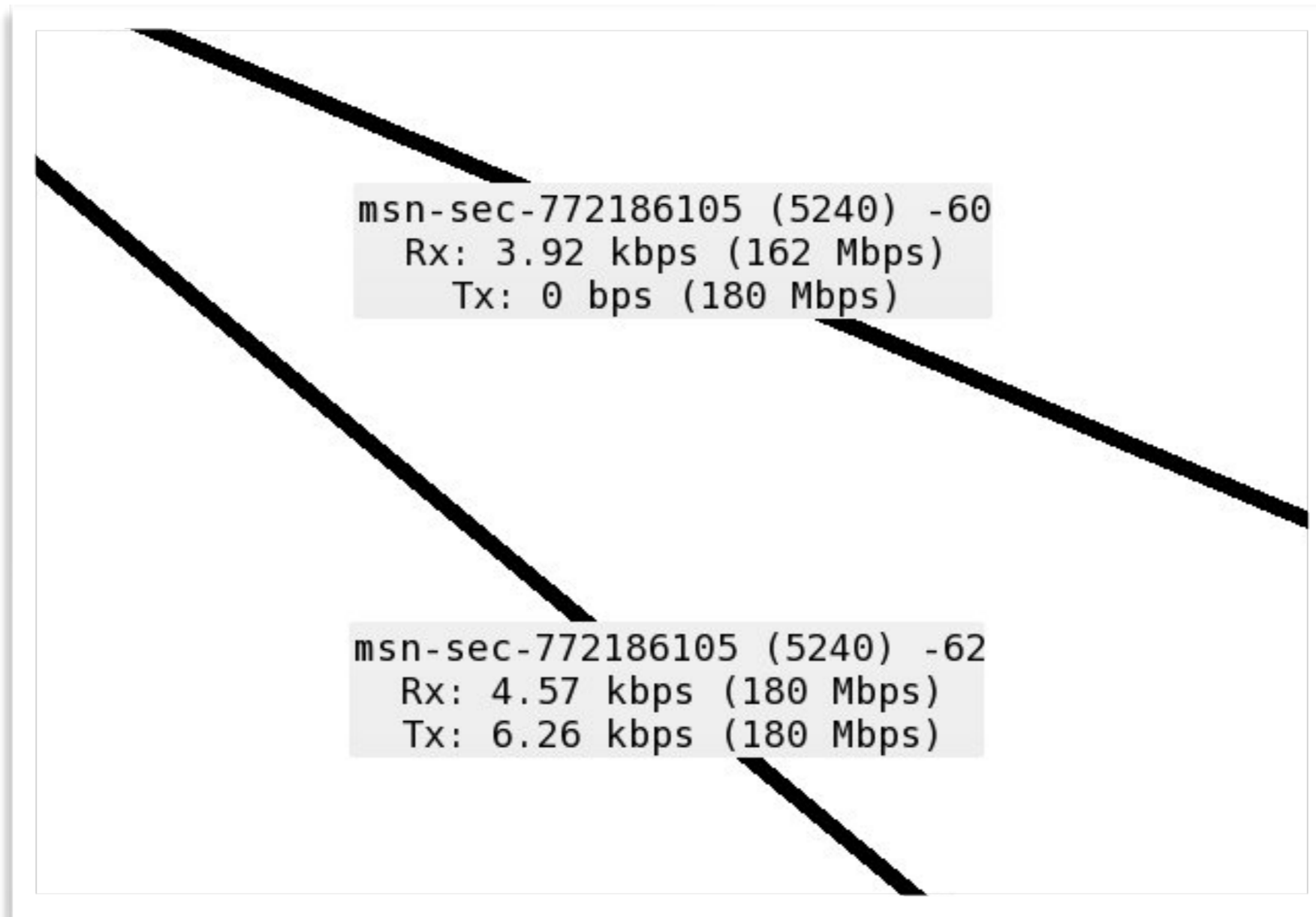
- No installation instructions
- No history talk
- No bulls**t about bugs
- Why we chose Dude
- How to extend usage for non-MikroTik equipment
- Slack integration
- Custom functions

Why we chose Dude

- Fast installation
- Easy configuration (no config files like in nagios)
- Includes graphing (like in Cacti)
- Includes notification/alerts
- Central package management
- Custom functions and probes
- Nice visualization and maps
- Totally free!

Why we chose Dude

- Simple wireless link overview
 - SNMP must be enabled on device and configured in dude for the device



Why we chose Dude

- Central package management
 - Multiple versions can be managed
 - Packages need to be uploaded to Dude

▼ Devices

List Tree RouterOS Types Mac Mappings

Device Group Wireless Registration Simple Queue

CSU ▼ Upgrade

			Name ▲	Status ▲	Version	Architecture
▶	✓	🔒	msn-atr01-ro01	ok	6.42.3 (s...	arm
▶	✓	🔒	msn-borg-ant02	ok	6.42.3 (s...	mipsbe
▶	✓	🔒	msn-borg-ro01	ok	6.42.3 (s...	mipsbe
▶	✓	🔒	msn-cust-automa...	ok	6.42.1 (s...	mipsbe
▶	✓	🔒	msn-cus		6.42.2 (s...	mipsbe
▶	✓	🔒	msn-cus		6.42.7 (s...	arm
▶	✓	🔒	msn-cus		6.42.7 (s...	mipsbe
▶	✓	🔒	msn-cus		6.42.7 (s...	mipsbe
▶	✓	🔒	msn-cus		6.42.3 (s...	mipsbe
▶	✓	🔒	msn-cus		6.43.2 (s...	mipsbe
▶	✓	🔒	msn-cus		6.42.3 (s...	mipsbe
▶	✓	🔒	msn-cus		6.42.3 (s...	mipsbe

- ⊞ Device Settings
- Show On Map
- 🔧 Tools ▶
- ⊞ Settings
- Upgrade ▶ 6.42.3
- Force Upgrade ▶
- Reconnect



Why we chose Dude

- Central overview for wireless registrations

▼ Devices

List Tree RouterOS Types Mac Mappings

Device Group Wireless Registration Simple Queue

  CSU

Device ▲	Radio Na...	MAC	AP	WDS	Tx/Rx Rate	Tx/Rx Sig...	Last IP
msn-borg...	CC2DE0...	CC:2D:E0:...	no	no	360Mbps-...	-44/-46	10.255.128.123
msn-cust...	64D154...	64:D1:54:...	yes	no	180Mbps-...	-55/-60	10.0.0.42
msn-cust...	CC2DE0...	CC:2D:E0:...	no	no	180Mbps-...	-62/-57	10.0.12.164
msn-cust...	CC2DE0...	CC:2D:E0:...	no	no	180Mbps-...	-61/-58	10.0.12.163
msn-cust...	64D154...	64:D1:54:...	yes	no	24Mbps/...	-81	10.0.0.42
msn-cust...	64D154...	64:D1:54:...	yes	no	180Mbps-...	-57/-62	10.0.0.42
msn-cust...	6C3B6B...	Routerboa...	yes	no	180Mbps-...	-50/-51	10.0.0.42
msn-cust...	6C3B6B...	Routerboa...	yes	no	180Mbps-...	-50/-51	10.0.0.42
msn-cust...	6C3B6B...	Routerboa...	yes	no	162Mbps-...	-34/-51	10.0.0.42
msn-cust...	64D154...	64:D1:54:...	yes	no	180Mbps-...	-51/-46	10.0.0.42
msn-cust...	64D154...	64:D1:54:...	yes	no	180Mbps-...	-56/-61	10.0.0.42
msn-cust...	64D154...	64:D1:54:...	yes	no	180Mbps-...	-58/-61	10.0.0.42
msn-cust...	64D154...	64:D1:54:...	yes	no	180Mbps-...	-47/-52	10.0.0.42
msn-cust...	6C3B6B...	Routerboa...	yes	no	15Mbps-4...	-50/-51	10.0.0.42
msn-cust...	64D154...	64:D1:54:...	yes	no	162Mbps-...	-52/-51	10.0.0.42
msn-cust...	64D154...	64:D1:54:...	yes	no	180Mbps-...	-51/-49	10.0.0.42

Why we chose Dude

- Overview all queues in whole network
- Sort by limits, rates or bytes used

▼ Devices										
List Tree RouterOS Types Mac Mappings										
Device Group Wireless Registration Simple Queue										
	De... ▼	Name	Rx Limit Max ▼	Tx Limit Max	Rx Bytes	Tx Bytes	Rx Packets	Tx Packets	Rx Avg. Rate	Tx Avg. Rate
	msn-...	queu...	210 Mbps	210 Mbps	15.1 GB	12.7 GB	112168478	93334727	3.04 kbps	4.3 kbps
D	msn-...	<ppp...	50 Mbps	50 Mbps	251.5 GB	319.7 GB	535603254	595849737	346 kbps	65.1 kbps
	msn-...	borg...	30 Mbps	10 Mbps	380.0 GB	51.3 GB	444457111	366123038	22.1 kbps	24 kbps
D	msn-...	<ppp...	16 Mbps	16 Mbps	10.7 GB	40.1 GB	28103256	37626508	376 bps	864 bps
D	msn-...	<ppp...	16 Mbps	16 Mbps	69.0 MB	209.1 MB	362503	364290	3.35 kbps	1.5 kbps
D	msn-...	<ppp...	16 Mbps	16 Mbps	82.4 MB	58.8 MB	291688	225316	1.19 kbps	1.74 kbps
D	msn-...	<ppp...	16 Mbps	16 Mbps	1516.7 kB	1734.2 kB	8398	8672	2.83 kbps	2.75 kbps
	msn-...	queu...	16 Mbps	16 Mbps	267.8 GB	37.5 GB	395451773	226581297	2.42 kbps	2.83 kbps
D	msn-...	<ppp...	10 Mbps	25 Mbps	19.1 GB	231.9 GB	86625585	196043101	392 bps	96 bps
D	msn-...	<ppp...	10 Mbps	50 Mbps	28.5 MB	39.0 MB	117197	113141	752 bps	1.08 kbps
D	msn-...	<ppp...	10 Mbps	50 Mbps	349.6 MB	10.2 GB	4140628	8593044	224 bps	160 bps
D	msn-...	<ppp...	7 Mbps	38 Mbps	167.6 MB	4081.1 MB	1818453	3576295	224 bps	168 bps
D	msn-...	<ppp...	6 Mbps	30 Mbps	64.9 MB	324.3 MB	487325	542363	2.1 kbps	1.34 kbps
D	msn-l...	<ppp...	5 Mbps	25 Mbps	125.7 MB	4356.3 MB	1866899	3315816		
D	msn-l...	<ppp...	5 Mbps	25 Mbps	2768.5 kB	3264.0 kB	7441	7881		120 bps
D	msn-...	<ppp...	5 Mbps	25 Mbps	37.4 GB	6.5 GB	15171350	18201644	1.47 Mbps	27.9 kbps
D	msn-...	<ppp...	5 Mbps	25 Mbps	66.0 MB	2709.3 MB	774912	2148922	208 bps	264 bps
D	msn-...	<ppp...	5 Mbps	25 Mbps	6.1 GB	8.8 GB	11942857	13968089	441 kbps	49.2 kbps

Slack integration

- What is Slack?
 - Team collaboration
 - Used for internal support communications
 - Monitoring notifications
 - Can create reminders and threads from messages

Slack integration

Create Slack outbound hook

Slack integration

The screenshot shows the Slack app directory search interface. At the top left, the heading 'Apps durchsuchen' is displayed. To its right is a button labeled 'App-Verzeichnis anzeigen'. Below the heading is a search input field containing the text 'hook'. Underneath the search bar, the results are categorized into two sections: 'In deinem Workspace' and 'Aus dem App-Verzeichnis'. The 'In deinem Workspace' section lists the 'MiSaxNet-Dude' app, which is a 'Monitoring Hook', with an 'Ansicht' button next to it. The 'Aus dem App-Verzeichnis' section lists the 'Ausgehende Webhooks' app, with the description 'Get data out of Slack in real-time.' and an 'Installieren' button next to it.

Slack integration

Aussagekräftiges Label

Nutze dieses Label, um zusätzlichen Kontext in deiner Liste der Integrationen hinzuzufügen (optional).

Monitoring Hook

Name anpassen

Wähle den Benutzernamen aus, mit dem die Integration Nachrichten posten wird.

MiSaxNet-Dude

Slack integration

Integrationseinstellungen

In Channel posten

Nachrichten, die an den eingehenden Webhook gesendet werden, werden hier gepostet.

#monitoring

oder [erstelle einen neuen Channel](#)

Webhook-URL

Sende deine JSON-Payloads an diese URL.

[Anleitung für die Einrichtung anzeigen](#)

<https://hooks.slack.com/services/yourapikey/hastobe/inheretowork>

[URL kopieren](#) • [Erneut generieren](#)

Slack integration

Create new notification

Slack integration

The screenshot shows a 'Notifications' window with a table of notification types. The 'Slack Notifications' entry is selected. Below the table is a configuration window for 'Slack Notifications - Notification'.

Name	Type	Notes
beep	beep	
Email Notification...	email	
Slack Notifications	execute on server	
flash	flash	
log to events	log	
log to syslog	log	
popup	popup	

Slack Notifications - Notification

General | Schedule | Advanced

Name: Slack Notifications

Enabled

Type: execute on server

▼ Insert Variable

```
/tool fetch mode=https  
url="https://hooks.slack.com/services/yourapikey/hastobe/inheretowork"  
http-method=post http-data="payload={\"text\": \"Service [Probe.Name] on  
[Device.Name] is now [Service.Status] ([Service.ProblemDescription])\"}"
```

Buttons: Ok, Cancel, Apply, Notes, Copy, Remove, Test

Slack integration

```
/tool fetch mode=https url=„https://hooks.slack.com/services/  
yourapikey/hastobe/inheretowork" http-method=post http-  
data="payload={\"text\": \"Service [Probe.Name] on [Device.Name]  
is now [Service.Status] ([Service.ProblemDescription])\"}"
```

Slack integration

Use new notification

Slack integration

General Polling Outages Appearance Background

Enabled

Probe Interval: default 2s 5s 10s 15s 30s 1m 2m 5m

Probe Timeout: default 2s 5s 10s 15s 30s 1m 2m 5m

Probe Down Count: default 1 2 3 4 5 6 7 8 9

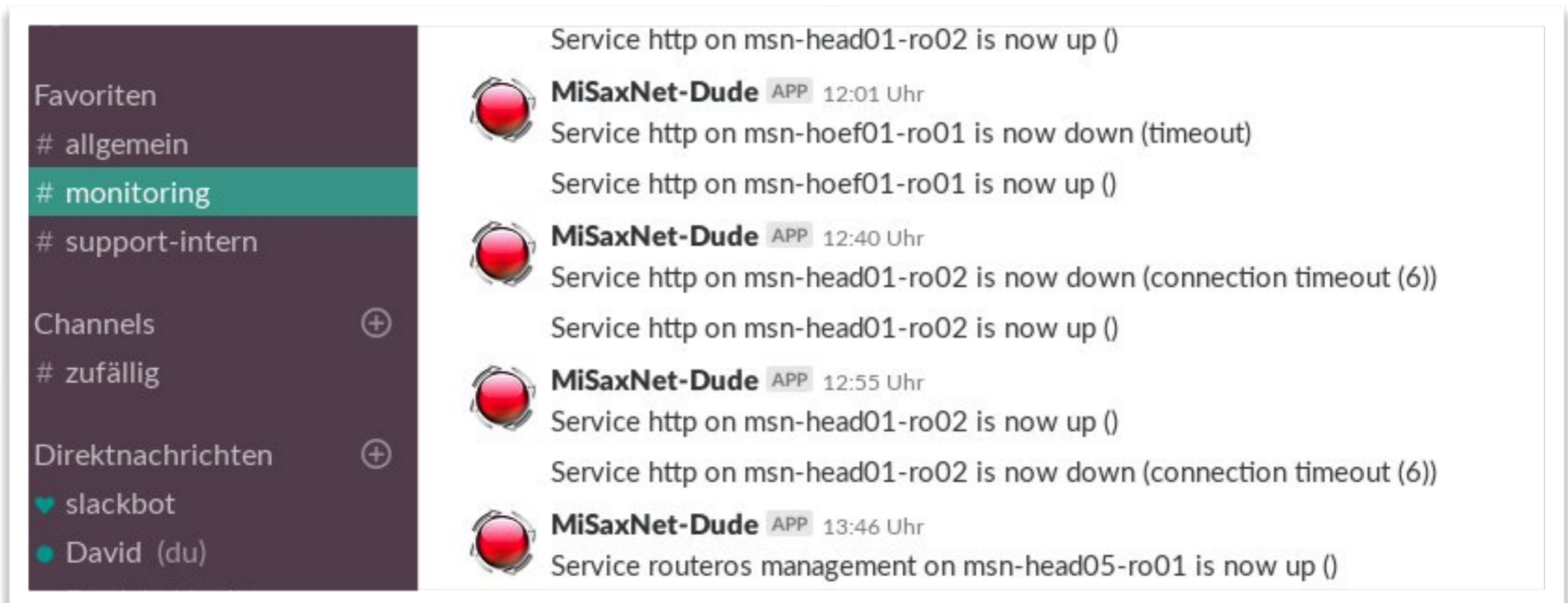
Use Notifications

	Name	
<input checked="" type="checkbox"/>	Email Notification Support	
<input checked="" type="checkbox"/>	Slack Notifications	
	beep	

Slack integration

Example notifications

Slack integration



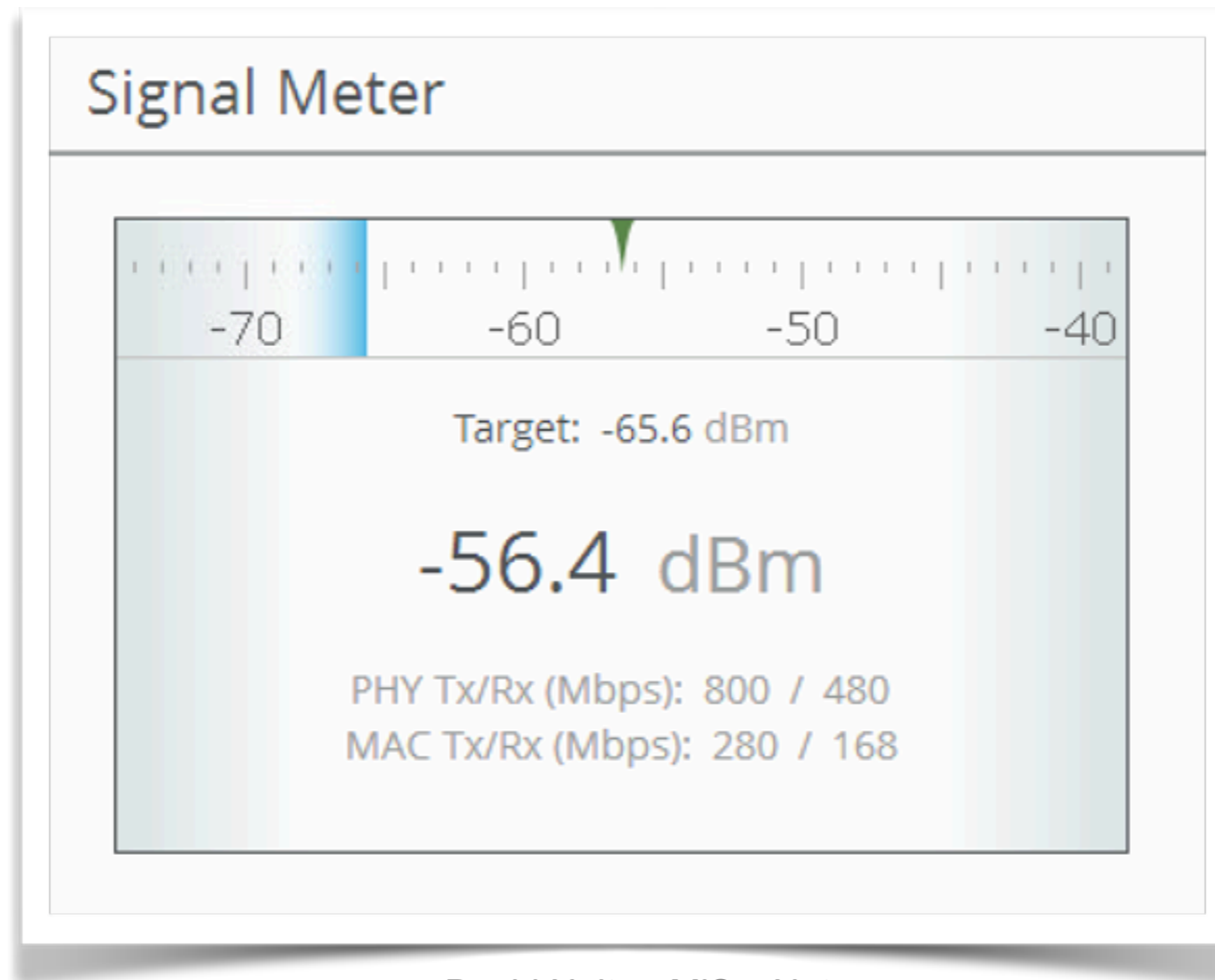
Custom functions

- Customize link appearance
- Query for custom information
- Pull data from non-MikroTik equipment

Custom functions

Query Mimosa B5/B5C PHY/MAC rates

Custom functions



Custom functions

Query PHY RX rate

Custom functions

mimosa_mac_rx_rate		mimosa MAC RX Rate
mimosa_mac_tx_rate		mimosa MAC TX Rate
mimosa_phy_rx_rate		mimosa physical RX Rate
mimosa_phy_tx_rate		mimosa physical TX Rate
min		calculates and returns minimum value of given

mimosa_phy_rx_rate - Function

Name:

Description:

Code:

```
oid("1.3.6.1.4.1.43356.2.1.2.6.2.1.5.1") +
oid("1.3.6.1.4.1.43356.2.1.2.6.2.1.5.2") +
oid("1.3.6.1.4.1.43356.2.1.2.6.2.1.5.3") +
oid("1.3.6.1.4.1.43356.2.1.2.6.2.1.5.4")
```

Custom functions

Calculate MAC RX Rate

Custom functions

mimosa_mac_rx_rate	mimosa MAC RX Rate
mimosa_mac_tx_rate	mimosa MAC TX Rate
mimosa_phy_rx_rate	mimosa physical RX Rate
mimosa_phy_tx_rate	mimosa physical TX Rate
min	calculates and returns minimum value of given array

mimosa_mac_rx_rate - Function

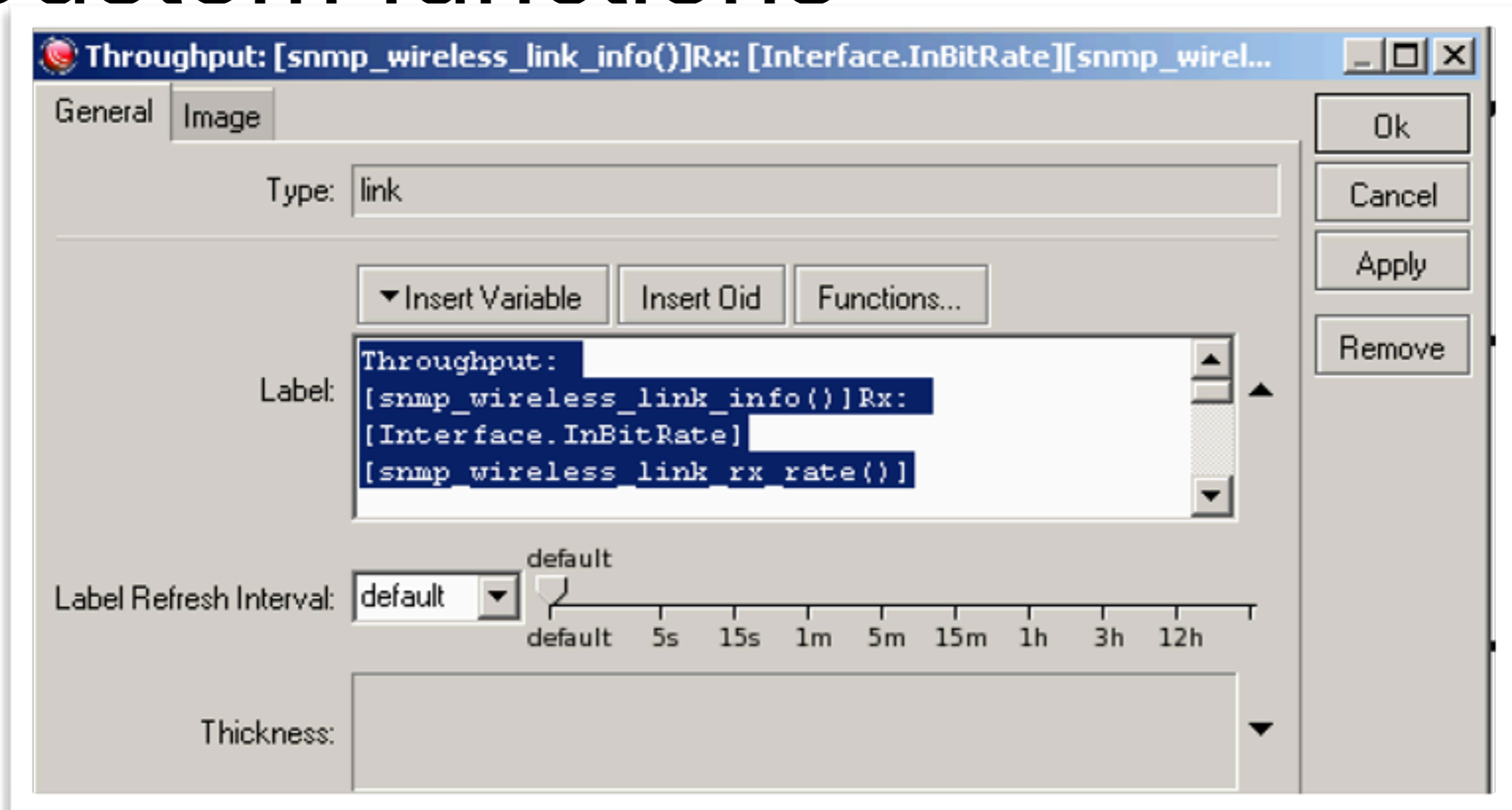
Name:

Description:

Code:

```
mimosa_phy_rx_rate() * 0.5 * 0.7
```

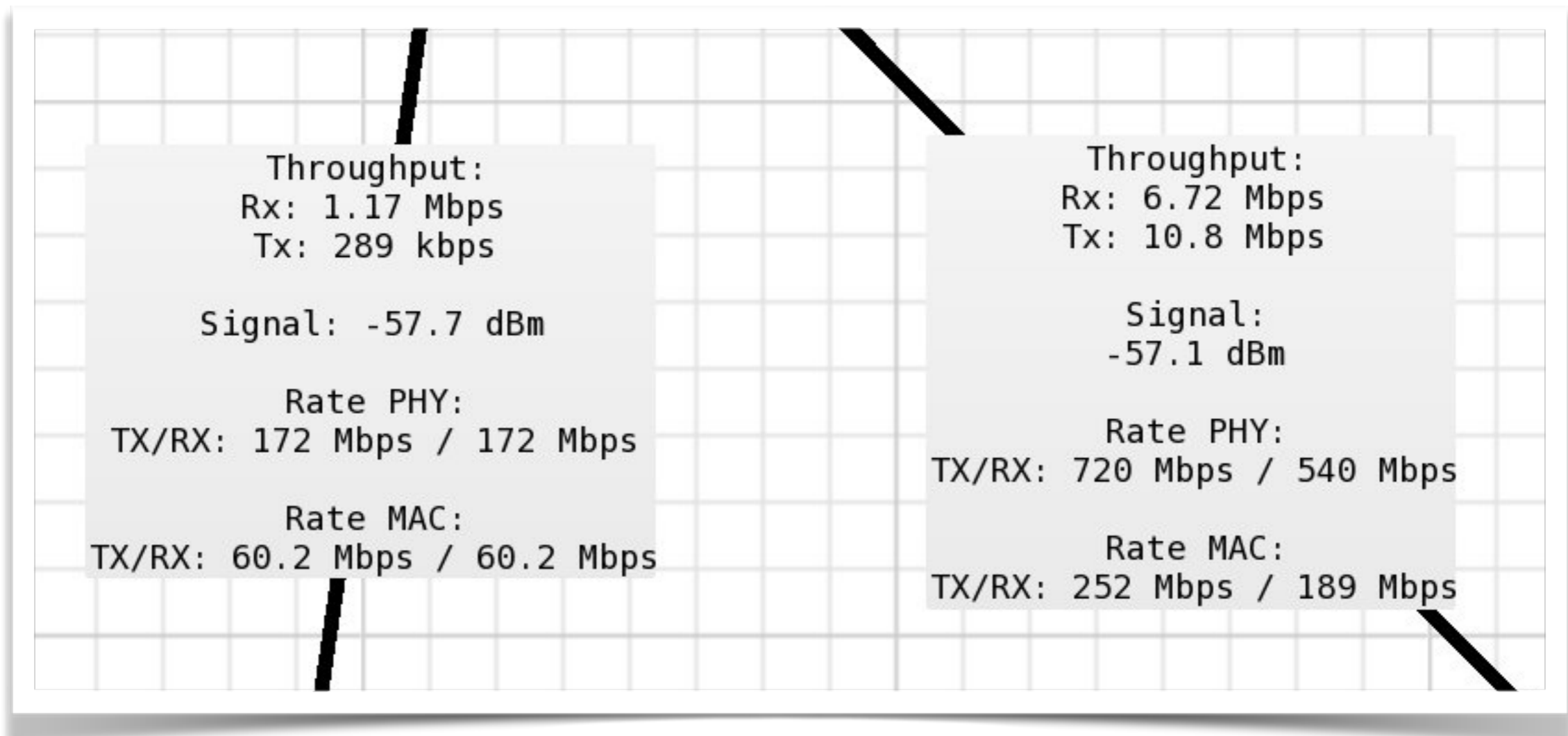
Custom functions



Custom functions

```
Throughput: [snmp_wireless_link_info() ]  
Rx: [Interface.InBitRate][snmp_wireless_link_rx_rate() ]  
Tx: [Interface.OutBitRate][snmp_wireless_link_tx_rate() ]  
  
Signal: [oid("1.3.6.1.4.1.43356.2.1.2.6.6.0")/10 ]  
  
Rate PHY:  
TX/RX: [mimosa_phy_tx_rate() ] Mbps / [mimosa_phy_rx_rate() ] Mbps  
  
Rate MAC:  
TX/RX: [mimosa_mac_tx_rate() ] Mbps / [mimosa_mac_rx_rate() ] Mbps
```

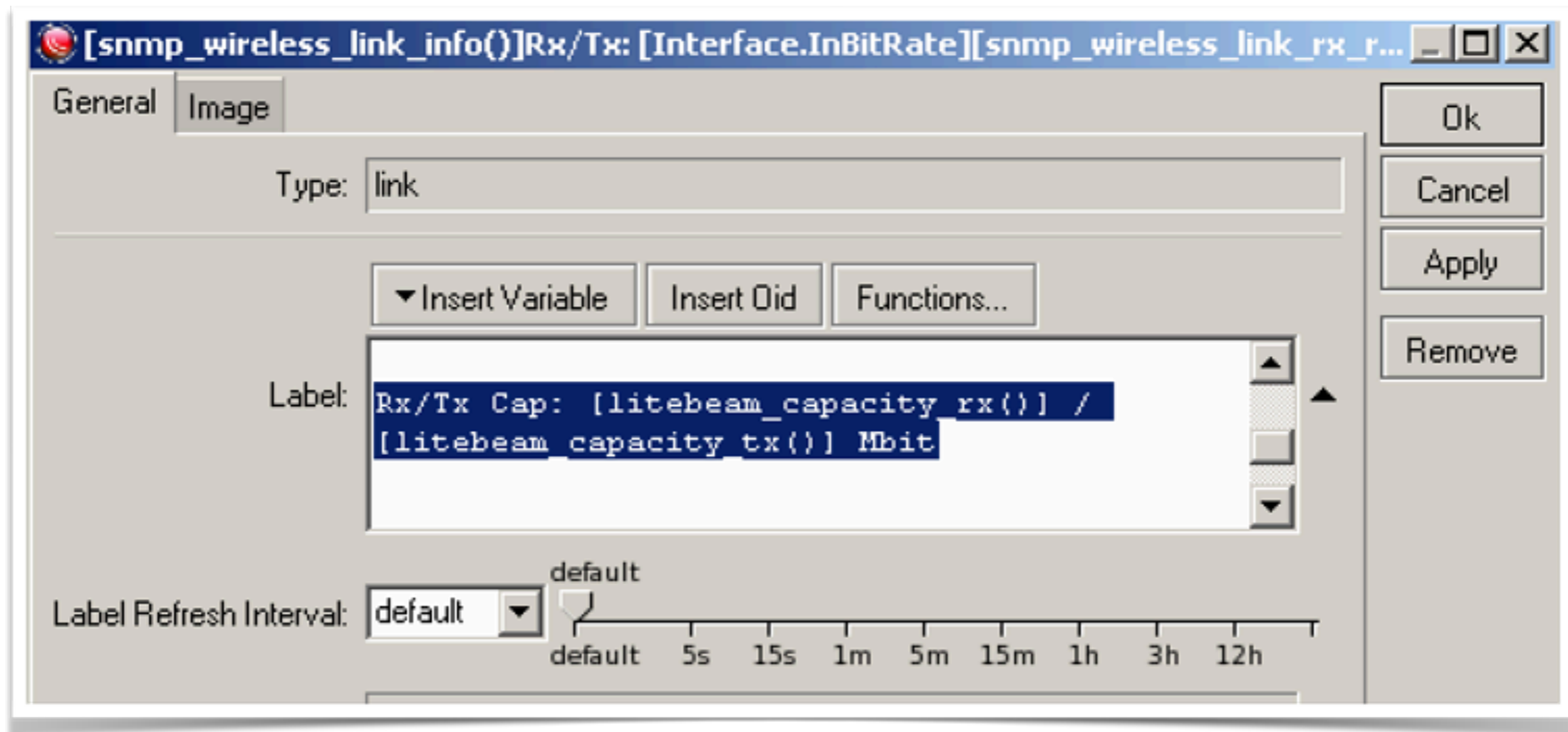
Custom functions



Custom functions

- Lets try with Litebeam
- want to know the available throughput

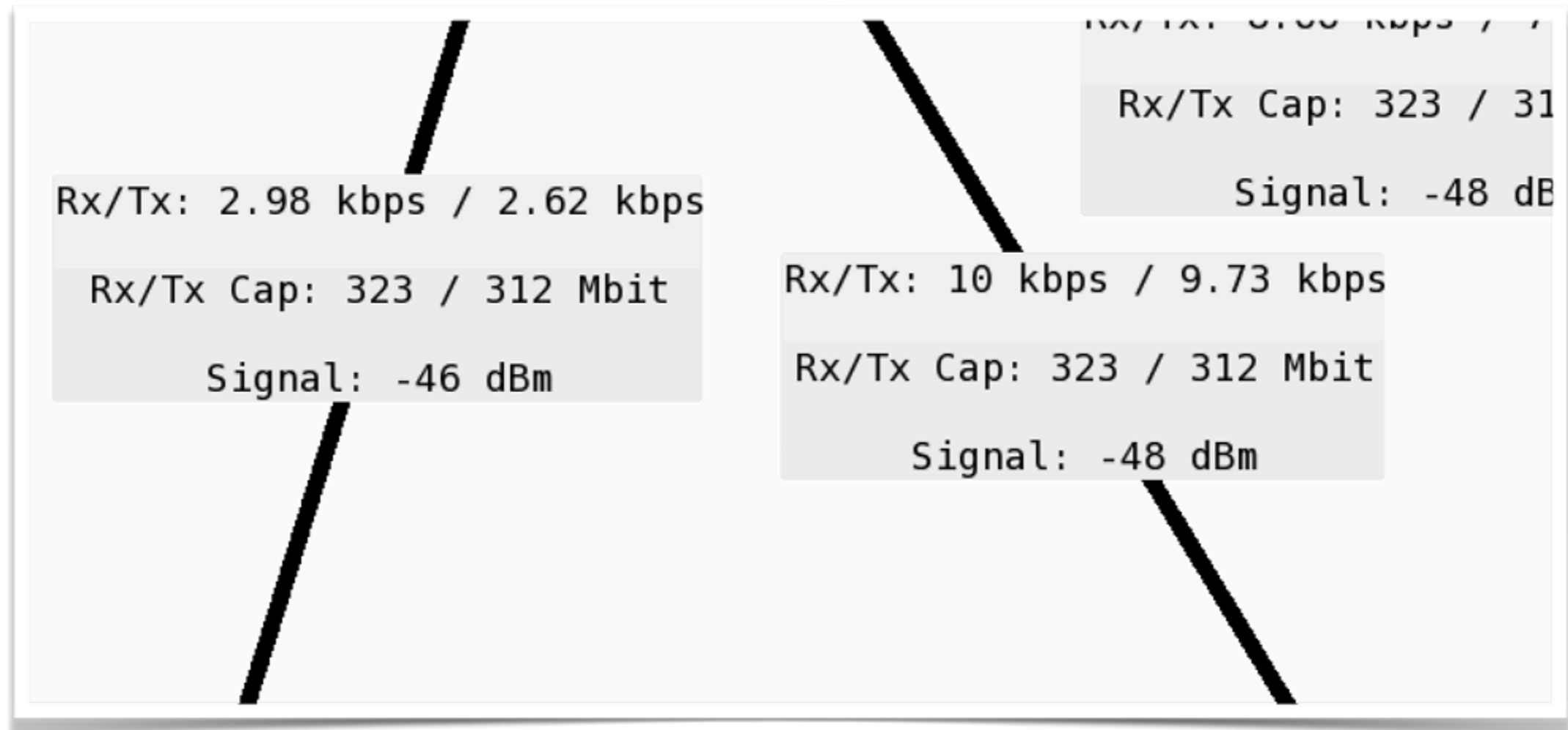
Custom functions



Custom functions

litebeam_capacity_rx - Function	
Name:	litebeam_capacity_rx
Description:	
Code:	<pre>round(oid("1.3.6.1.4.1.41112.1.4.7.1.18.1.128.42.168.164.172.0") / 1024)</pre>

Custom functions



Custom functions

- How about the wAP 60G or Wireless Wire Dish?
- MCS and signal level?

Custom functions

Rx: 218 kbps
Tx: 70.9 kbps
MCS: 8
Signal: 70

[snmp_wireless_link_info()]Rx: [Interface.InBitRate][snmp_wireless_link_rx_...

General Image

Type: link

▼ Insert Variable Insert Oid Functions...

Label: krotik.mikrotikExperimentalModule.mtXRouter0s.mtxrWireless.mtxrW160GTable.mtxrW160GEntry.mtxrW160GSignal.1

Label Refresh Interval: default default 5s 15s 1m 5m 15m 1h 3h 12h

Thickness:

Color:

Ok
Cancel
Apply
Remove

Custom functions

```
Rx: [Interface.InBitRate][snmp_wireless_link_rx_rate() ]  
Tx: [Interface.OutBitRate][snmp_wireless_link_tx_rate() ]
```

MCS:

```
[oid("iso.org.dod.internet.private.enterprises.mikrotik.mikrotik  
ExperimentalModule.mtXRouterOs.mtxrWireless.mtxrWl60GTable.mtxrW  
l60GEntry.mtxrWl60GMcs.1" ) ]
```

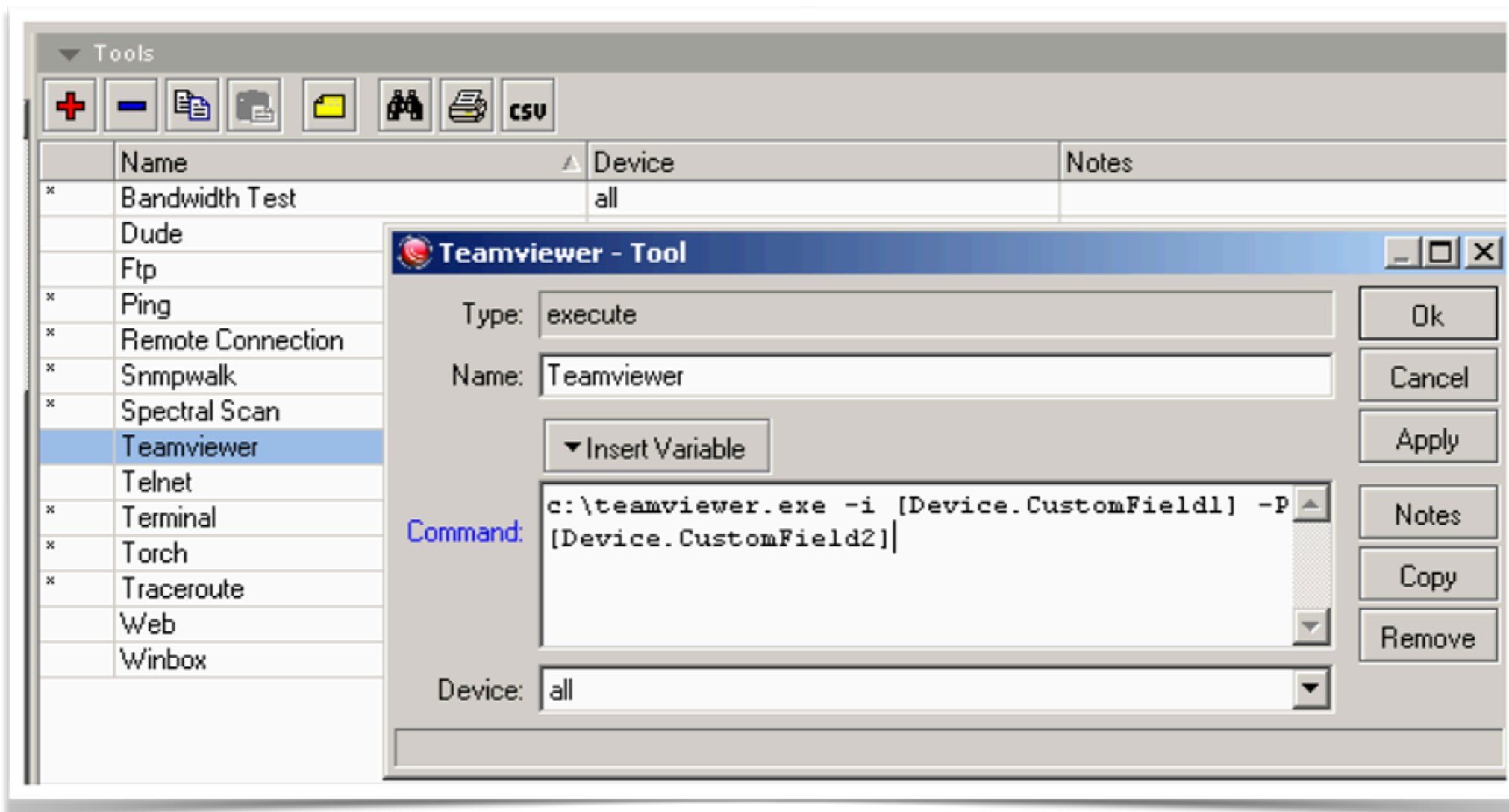
Signal:

```
[oid("iso.org.dod.internet.private.enterprises.mikrotik.mikrotik  
ExperimentalModule.mtXRouterOs.mtxrWireless.mtxrWl60GTable.mtxrW  
l60GEntry.mtxrWl60GSignal.1" ) ]
```

Custom tools

- Managing PC clients?
- On click - TeamViewer - access

Custom tools

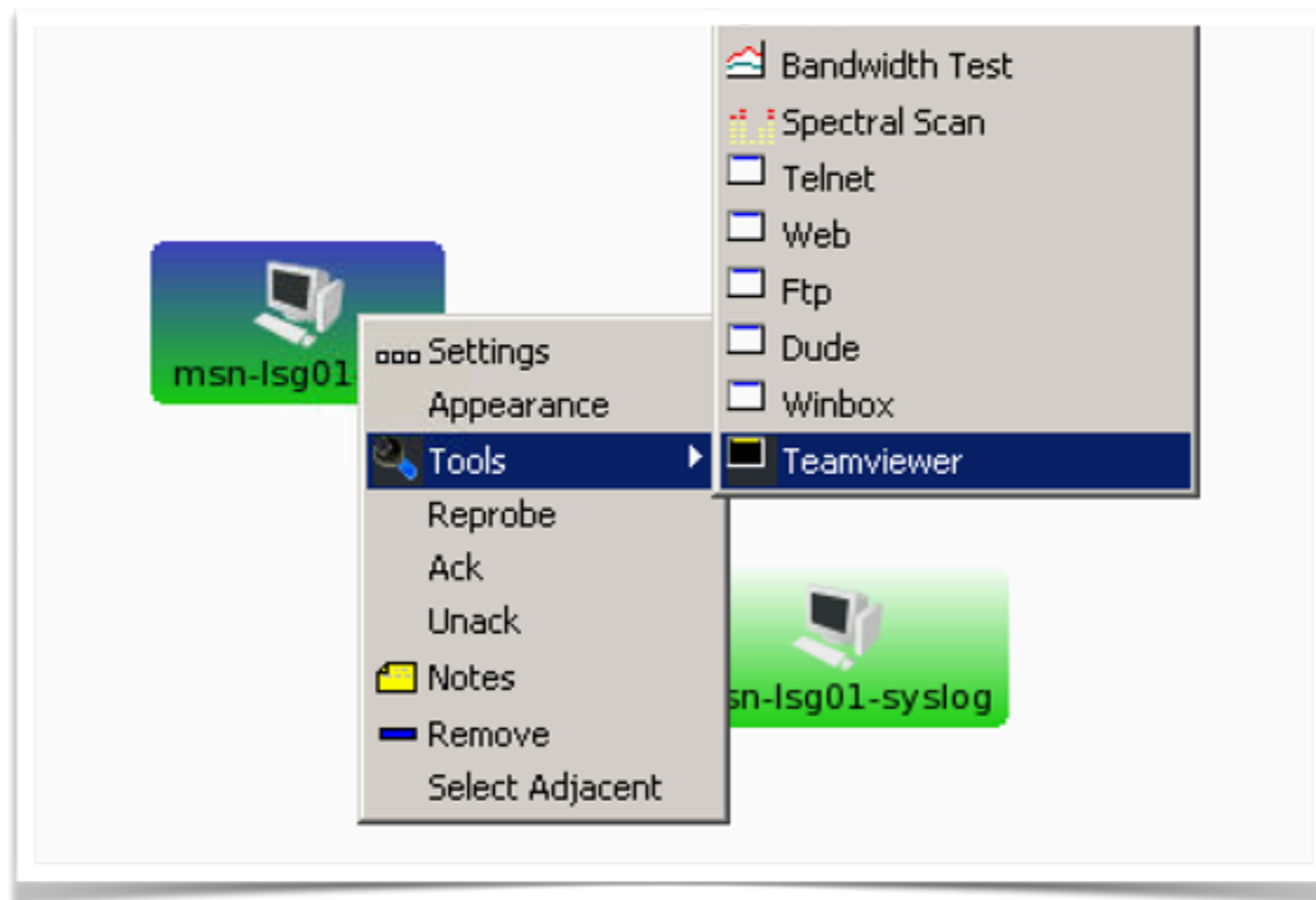


Custom tools

The screenshot shows the configuration page for a device named 'msn-lsg01-nvr'. The 'General' tab is selected, and the following fields are visible:

- Name: msn-lsg01-nvr
- Addresses: 10.0.0.50
- DNS Names: (empty)
- DNS Lookup: none address to name name to address
- DNS Lookup Interval: 60 min
- MAC Addresses: D2:FE:0C:4A:0F:42
- MAC Lookup: none ip to mac mac to ip
- Type: Some Device
- Parents: (empty)
- Custom Field 1: 12345678
- Custom Field 2: ymTEAMViewerPassword
- Custom Field 3: (empty)
- Agent: defa
- Snmp Profile: defa
- User Name: adm
- Password: xxxxxx
- Secure Mode
- Router OS
- Dude Server
- Services: (empty)
- Status: up
- RouterOS Status: (empty)

Custom tools



Contact

- WWW: www.misaxnet.de
- Twitter: [@misaxnet](https://twitter.com/misaxnet)
- Facebook: www.facebook.com/misaxnet
- E-mail: info@misaxnet.de

Thanks to

- My wife and kids
- Bootcamp trainers!
- „Two Beers“ and „Scooter Sven“
- MikroTik

Questions?