



Organization: Micronet
Prezentator: Davit Sikharulidze
Job: CEO In Micronet

Using MikroTik from 2008
Organization was founded in February of 2008

Our Main Inventory



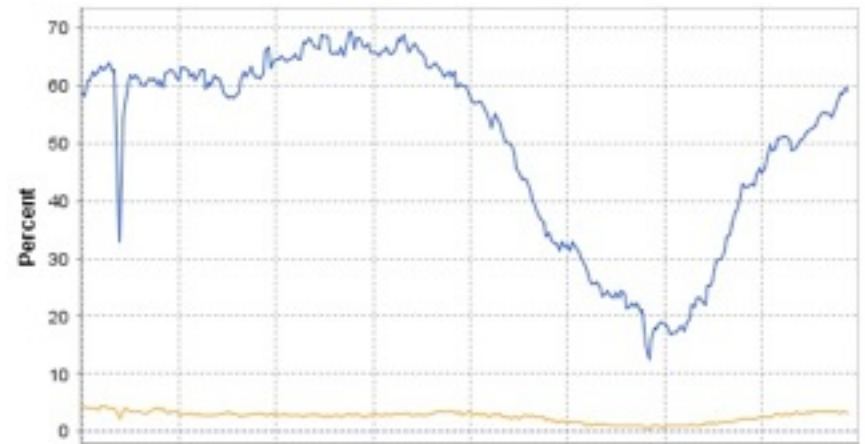
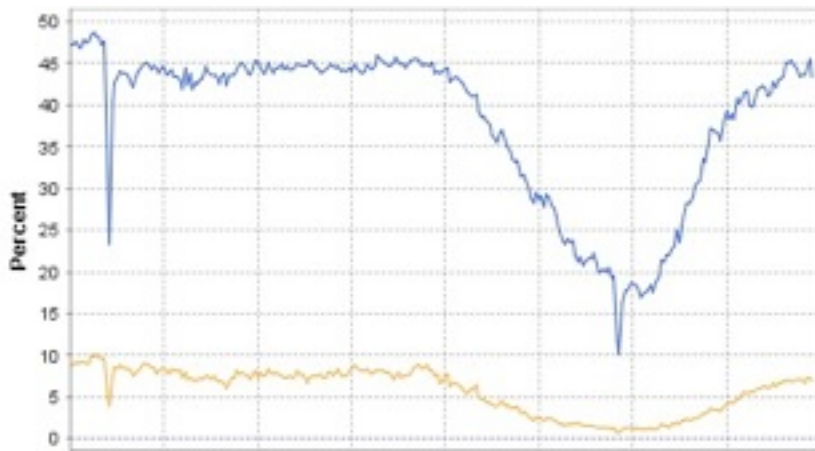
Switch 24 ports with 1 gbps speed each
5 pcs of Supermicro Server with Hardware Configuration
2 X Quadcore Processors
8 GB RAM
500 GB HDD
2 X Nics 1 gbps each

Running Services On Server

Server 1

1. Tunnel Server (All connections from different places are coming here)
2. Client Server

Tunnel and Client Server CPU Load with traffic 300 mbps



Server 2

1. Linux (Cent OS) For billing.
2. Elastix
3. Dude

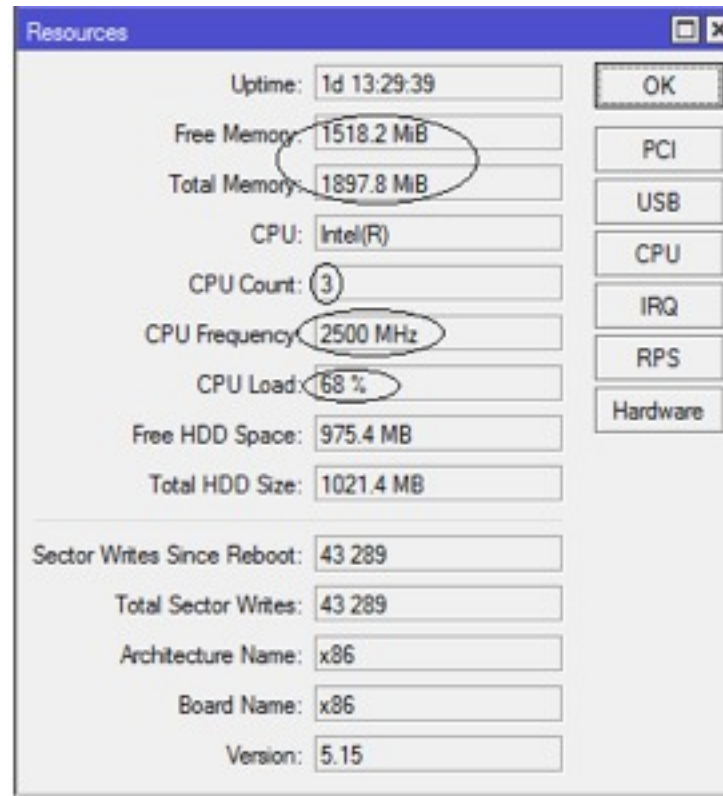
Server 3

1. BGP Server
2. Management Server

BGP

Border Gateway Protocol

Our Usage On BGP Server



Resources for BGP Server

BGP Load Balancing

Route Filter <37.75.132.0/22>

Matchers | BGP | Actions | BGP Actions

Set BGP Weight:

Set BGP Local Pref.:

Set BGP Prepend: 3

Set BGP Prepend Path:

Set BGP MED:

Set BGP Communities

Append BGP Communities

37.75.128.0/21

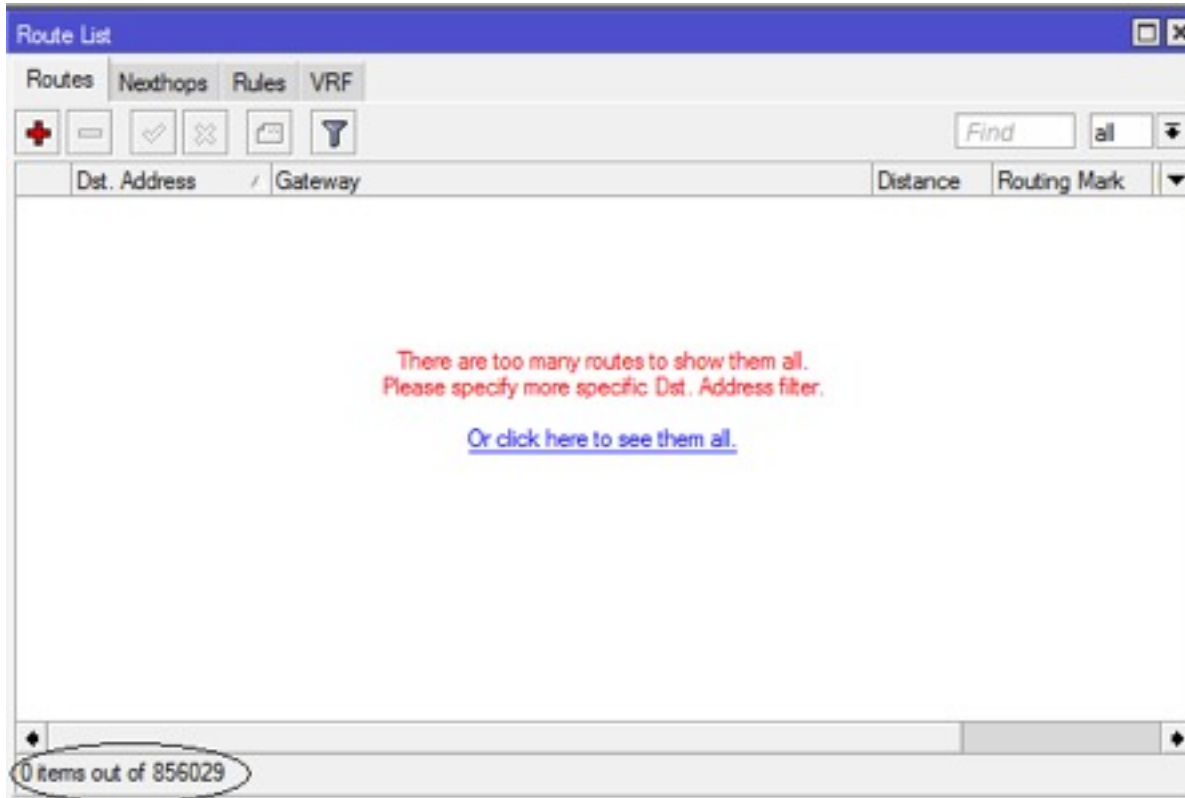
37.75.128.0/22

37.75.132.0/22 prepend 3

OK
Cancel
Apply
Enable
Comment
Copy
Remove

Action	
discard	
accept	
accept	
discard	
accept	
accept	
accept	
accept	
discard	
accept	
accept	
accept	
accept	
discard	
discard	
discard	

Our Usage On BGP Server



We have 856023 Records

Interface List

Interface Ethernet EoIP Tunnel IP Tunnel GRE Tunnel VLAN VRRP Bonding LTE

Find

Name	Type	MTU	L2 MTU	Tx	Rx	Tx Pac...	Rx Pac...	Tx [▼]
[REDACTED]	Ethernet	1500		800.1 kbps	102.7 Mb...	1 589	9 156	
[REDACTED]	Ethernet	1500		16.1 Mbps	49.4 Mbps	11 947	6 162	
[REDACTED]	Ethernet	1500		1229.8 k...	41.4 Mbps	423	5 794	
[REDACTED]	Ethernet	1500		168.6 Mb...	15.2 Mbps	18 527	12 776	
[REDACTED]	Ethernet	1500		23.0 Mbps	3.5 Mbps	2 575	1 699	

5 items out of 9

About 300 mbps Traffic

Queue List

Simple Queues Interface Queues Queue Tree Queue Types

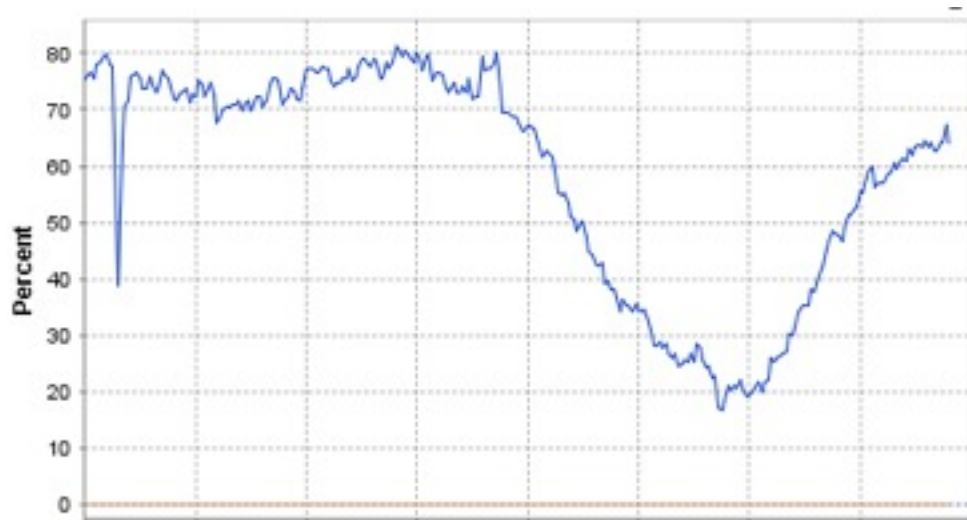
Reset Counters Reset All Counters Find

Name	Parent	Limit At (b...	Max Limit ...	Avg. R...	Queued Bytes	Bytes	Packets	▼
Accord	global-out	(		44.9 kb...	0 B	21.2 GiB	21 101 ...	
Download	global-out	(	40M	53M	50.1 M...	467 B	545.4 ...	536 90...
Download...	global-out	|	55M	57M	38.8 M...	8.5 KB	383.4 ...	415 80...
ORG	global-out	(		1144 bps	0 B	14.9 GiB	12 363 ...	

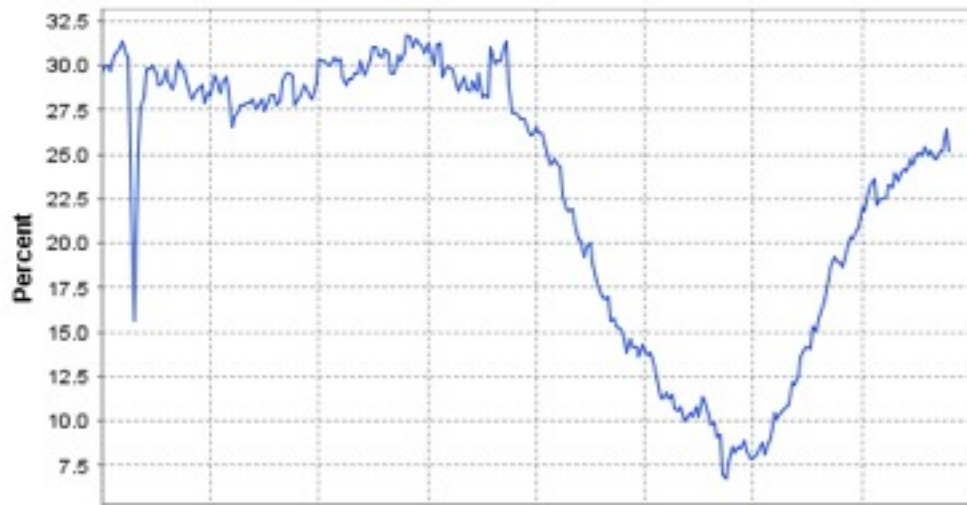
4 items 9.0 KB queued 11 packets queued

Queues for Global Limiting

CPU Load Of Virtual Machine Running BGP Server



CPU Load Of Server Running Virtual Machines



Price Compare

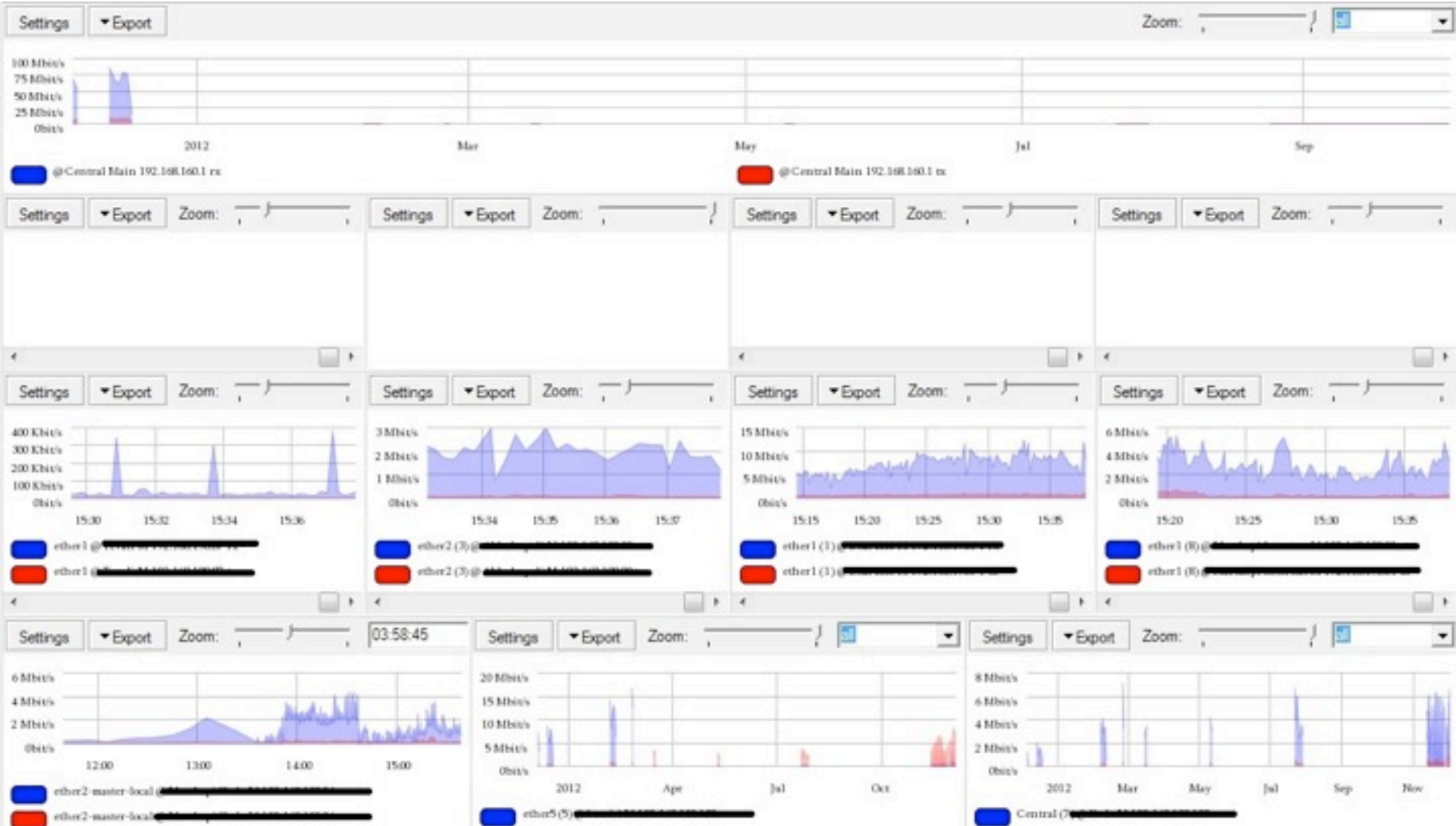
Our Option Cost is about 6000\$

The same solution with CISCO or with other brand with the same throughput

The price will be Minimum 15
000\$
+ System Servers

Dude

Charts for some of our device



Panels For Monitoring Network

The image displays three panels from a network monitoring application, likely Mikrotik WinBox. The top row contains three event log windows, and the bottom row contains a network map and another event log window.

Panel 1 (Left): Shows a list of events with columns for Time, Address, and Event. The events include service status changes for http, ssh, and ping on various hosts like koda_H4, koda_H10, kumisi_S2, koda_S1, and Batumi_H1/H2.

Time	Address	Event
Nov/28...	10.4.80.15	Service http on koda_H4 - 10.4.80.15 is
Nov/28...	10.4.80.16	Service ssh on Koda_H10 10.4.80.16 is
Nov/28...	192.168.198.131	Service ssh on Kumisi_S2 192.168.198.
Nov/28...	192.168.198.181	Service ssh on koda S1 192.168.198.1
Nov/28...	192.168.198.135	Service http on Kumisi > koda 192.168.
Nov/28...	192.168.198.135	Service ssh on Kumisi > koda 192.168.1
Nov/28...	10.6.80.5	Service ping on 10.6.80.5 is now up (ok
Nov/28...	10.6.80.5	Service ping on 10.6.80.5 is now down
Nov/28...	10.6.80.2	Service http on Batumi_H1 - 10.6.80.2 is
Nov/28...	10.6.80.3	Service http on Batumi_H2 - 10.6.80.3 is
Nov/28...	10.6.80.2	Service ping on Batumi_H1 - 10.6.80.2 is
Nov/28...	10.6.80.3	Service ping on Batumi_H2 - 10.6.80.3 is
Nov/28...	10.6.80.2	Service ssh on Batumi_H1 - 10.6.80.2 is
Nov/28...	10.6.80.2	Service ping on Batumi_H1 - 10.6.80.2 is
Nov/28...	10.6.80.3	Service ping on Batumi_H2 - 10.6.80.3 is
Nov/28...	10.6.80.2	Service http on Batumi_H1 - 10.6.80.2 is
Nov/28...	10.6.80.2	Service ssh on Batumi_H1 - 10.6.80.2 is
Nov/28...	10.6.80.3	Service http on Batumi_H2 - 10.6.80.3 is
Nov/28...	192.168.199.11	Service http on 192.168.199.11 is now

Panel 2 (Middle): Shows a list of events with columns for Time and Event. The events include SMTP mail sending, SSL connections, cron jobs, and http requests.

Time	Event
15:39:23	<22>sSMTP[25988]: Sent mail for root@radius.micronet.ge (221 2.0.0 closin
15:39:21	<22>sSMTP[25988]: SSL connection using RC4-SHA
15:39:20	<22>sSMTP[25988]: Creating SSL connection to host
15:39:20	<78>cron[25986]: (root) CMD (/usr/bin/php /var/www/html/micronet/sms_
15:38:23	<22>sSMTP[25982]: Sent mail for root@radius.micronet.ge (221 2.0.0 closin
15:38:20	<22>sSMTP[25982]: Creating SSL connection to host
15:38:20	<22>sSMTP[25982]: SSL connection using RC4-SHA
15:38:20	<78>cron[25980]: (root) CMD (/usr/bin/php /var/www/html/micronet/sms_
15:38:19	<182>logger: 92.241.79.134 -- [03/Dec/2012:15:45:00 +0400] "GET /micrc
15:38:19	<182>logger: 92.241.79.134 -- [03/Dec/2012:15:45:00 +0400] "GET /micrc
15:38:08	<182>logger: 109.234.117.82 -- [03/Dec/2012:15:44:48 +0400] "GET /mic
15:38:07	<182>logger: 109.234.117.82 -- [03/Dec/2012:15:44:48 +0400] "POST /mi
15:37:23	<22>sSMTP[25971]: Sent mail for root@radius.micronet.ge (221 2.0.0 closin
15:37:20	<22>sSMTP[25971]: Creating SSL connection to host
15:37:20	<22>sSMTP[25971]: SSL connection using RC4-SHA
15:37:19	<78>cron[25969]: (root) CMD (/usr/bin/php /var/www/html/micronet/sms_
15:37:00	<182>logger: 213.131.41.178 -- [03/Dec/2012:15:43:41 +0400] "GET /mic
15:37:00	<182>logger: 213.131.41.178 -- [03/Dec/2012:15:43:41 +0400] "GET /mic
15:36:52	<182>logger: 109.234.117.82 -- [03/Dec/2012:15:43:32 +0400] "GET /mic

Panel 3 (Right): Shows a list of events with columns for Time and Event. The events include cron jobs, postfix smtp operations, and squid indexing.

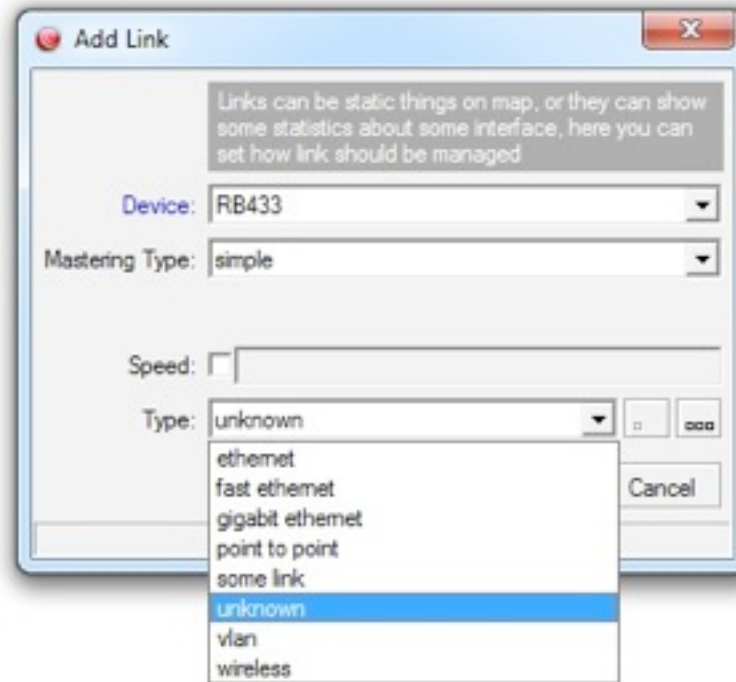
Time	Event
15:38:58	<78>cron[1448]: (asterisk) CMD (/var
15:35:59	<78>cron[1437]: (root) CMD (/usr/bin
15:31:37	<22>postfix/smtp[1403]: 070CE3435D
15:30:59	<78>cron[1405]: (root) CMD (/usr/bin
15:30:41	<22>postfix/qmgr[3121]: 070CE3435D
15:25:59	<78>cron[1394]: (root) CMD (/usr/bin
15:25:29	<21>squatter[1392]: done indexing ma
15:25:29	<21>squatter[1392]: indexing mailboxe
15:25:29	<23>master[1392]: about to exec /usr/
15:25:29	<23>master[2999]: process 1392 exte
15:20:58	<78>cron[1384]: (root) CMD (/usr/bin
15:15:58	<78>cron[1375]: (root) CMD (/usr/bin
15:14:58	<22>postfix/smtp[1361]: B64C434394!
15:14:58	<22>postfix/smtp[1362]: AEF534394!
15:14:02	<22>postfix/qmgr[3121]: AEF534394
15:14:02	<22>postfix/qmgr[3121]: B64C434394
15:10:59	<78>cron[1344]: (root) CMD (/usr/bin
15:10:29	<21>ctl_cyrusdb[1342]: checkpointing
15:10:29	<21>ctl_cyrusdb[1342]: done checkpc

Panel 4 (Bottom Left): A network map showing a complex network topology with various nodes and connections. The nodes are represented by small icons, and the connections are lines between them.

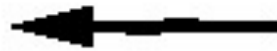
Panel 5 (Bottom Right): Shows a list of events with columns for Time, Address, and Event. The events include cron jobs.

Time	Address	Event
15:22:13	93.18...	<78>cron[25019]: (root) CMD (run-parts /etc/cron hourly)
14:22:13	93.18...	<78>cron[24911]: (root) CMD (run-parts /etc/cron hourly)
13:22:13	93.18...	<78>cron[24804]: (root) CMD (run-parts /etc/cron hourly)
12:22:14	93.18...	<78>cron[24697]: (root) CMD (run-parts /etc/cron hourly)
11:22:14	93.18...	<78>cron[24590]: (root) CMD (run-parts /etc/cron hourly)
10:22:13	93.18...	<78>cron[24483]: (root) CMD (run-parts /etc/cron hourly)
09:22:14	93.18...	<78>cron[24376]: (root) CMD (run-parts /etc/cron hourly)
08:22:14	93.18...	<78>cron[24269]: (root) CMD (run-parts /etc/cron hourly)
07:22:14	93.18...	<78>cron[24162]: (root) CMD (run-parts /etc/cron hourly)
06:22:14	93.18...	<78>cron[24055]: (root) CMD (run-parts /etc/cron hourly)

Link functionality



Dependencies



-  Add Device
-  Add Dependency

Any actions on network

Jul/26 15:21:18	Link changed
Jul/26 15:21:18	Link added
Jul/26 15:21:22	Link added
Jul/26 15:21:22	Link changed
Jul/26 15:21:26	Link added
Jul/26 15:21:26	Link changed
Jul/26 15:21:31	Link added
Jul/26 15:21:32	Link changed
Jul/27 18:05:38	Device Foti - 192.168.201.2 changed
Jul/27 18:18:41	Device 10.7.80.2 added
Jul/27 18:23:53	Device 10.7.80.2 changed
Jul/27 18:37:11	Device Foti_H1 - 10.7.80.2 changed
Jul/27 18:37:18	Device Foti_H1 - 10.7.80.2 changed
Jul/27 18:37:23	Device Foti_H1 - 10.7.80.2 changed
Jul/27 18:37:45	Device 10.6.80.3 changed
Jul/27 18:38:56	Device 10.6.80.1 changed
Jul/27 18:39:08	Device 10.6.80.2 changed
Jul/27 18:39:11	Device 10.6.80.2 changed
Jul/27 18:39:28	Device Batumi_H1 - 10.6.80.2 changed
Jul/27 18:39:40	Device Batumi_H2 - 10.6.80.3 changed
Jul/30 11:18:57	Admin gkhecuriani removed
Jul/31 12:51:38	Link added
Jul/31 12:51:38	Link changed
Jul/31 12:51:43	Link added
Jul/31 12:51:43	Link changed
Jul/31 12:51:47	Link added
Jul/31 12:51:48	Link changed
Jul/31 12:51:51	Link added
Jul/31 12:51:52	Link changed
Jul/31 13:01:57	Device 192.168.198.144 added
Jul/31 13:02:32	Device 192.168.198.106 added
Jul/31 13:02:39	Device 192.168.198.106 removed
Jul/31 13:04:36	Device 192.168.198.106 added
Aug/03 11:45:06	Device Raxi_M - 192.168.202.27 changed
Aug/03 11:45:13	Device Raxi_M - 192.168.202.27 changed
Aug/03 11:45:26	Link added
Aug/03 11:45:26	Link changed
Aug/03 11:45:55	Device Raxi_M - 192.168.202.27 changed
Aug/03 13:05:36	Device 192.168.202.32 added
Aug/03 13:13:26	Device 10.6.80.2 added

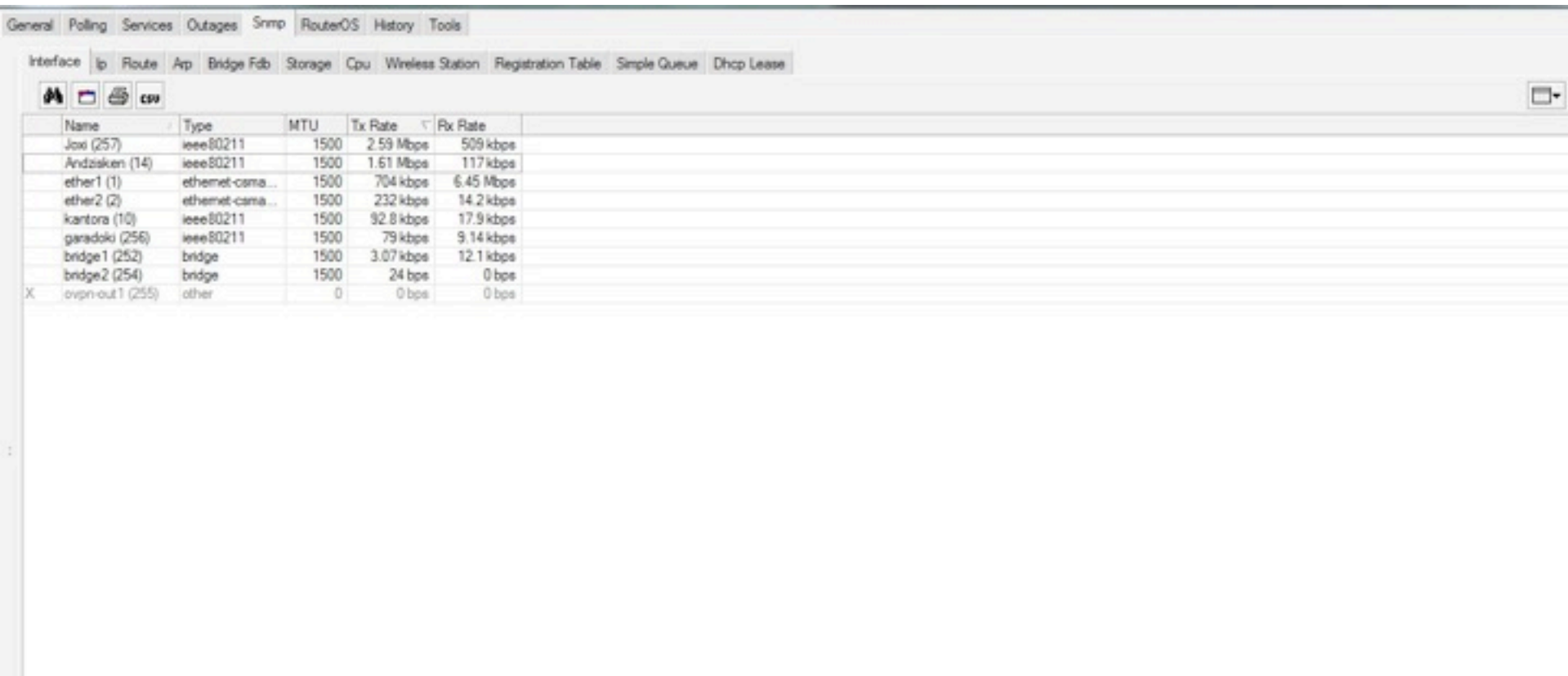
SNMP and DUDE

Interface Ip Route Ap Bridge Fdb Storage Cpu Wireless Station Registration Table Simple Queue Dhcp Lease

Interface: all

MAC	Interface	Sign...
UbiquitiNe-B0-F4-04	Joxi (257)	-81
UbiquitiNe-E4-B1-A1	Andziskan (14)	-79
00-27-22-38-95-BF	Joxi (257)	-78
UbiquitiNe-E4-B1-B0	Andziskan (14)	-77
UbiquitiNe-E4-B2-8C	Joxi (257)	-77
UbiquitiNe-5C-C0-63	Andziskan (14)	-76
UbiquitiNe-5C-30-66	Joxi (257)	-76
UbiquitiNe-E4-B2-8A	Joxi (257)	-75
UbiquitiNe-E4-AF-FE	Andziskan (14)	-74
UbiquitiNe-E4-B2-78	Joxi (257)	-72
UbiquitiNe-F2-FB-19	Joxi (257)	-71
UbiquitiNe-5C-31-38	Joxi (257)	-71
UbiquitiNe-5C-37-28	Joxi (257)	-71
UbiquitiNe-E4-B0-C3	Joxi (257)	-70
UbiquitiNe-E4-B2-8D	garadoki (256)	-70
UbiquitiNe-B0-F6-B5	Andziskan (14)	-69
UbiquitiNe-F2-FB-CD	Andziskan (14)	-69
UbiquitiNe-5C-31-37	Joxi (257)	-68
UbiquitiNe-F2-FC-40	Joxi (257)	-67
UbiquitiNe-E4-B2-7A	kantora (10)	-65
UbiquitiNe-B0-F3-C0	Joxi (257)	-62
UbiquitiNe-E4-B2-D4	Andziskan (14)	-62
UbiquitiNe-5C-30-90	Joxi (257)	-62
UbiquitiNe-E4-B2-CC	Joxi (257)	-61
UbiquitiNe-5C-D2-BF	Joxi (257)	-61
UbiquitiNe-5C-30-D9	Joxi (257)	-60
UbiquitiNe-B0-F0-6F	garadoki (256)	-59
UbiquitiNe-E4-AF-EB	Joxi (257)	-59
UbiquitiNe-E4-B2-D1	Andziskan (14)	-58
UbiquitiNe-5C-C0-4C	Joxi (257)	-58

Interface view, using dude with snmp



The screenshot shows a network management interface with a top navigation bar containing tabs for General, Polling, Services, Outages, Snmp, RouterOS, History, and Tools. Below this is a sub-navigation bar for the 'Interface' section, with tabs for ip, Route, Ap, Bridge Fdb, Storage, Cpu, Wireless Station, Registration Table, Simple Queue, and Dhcp Lease. A 'CPU' button is also visible. The main content area displays a table of interface statistics.

Name	Type	MTU	Tx Rate	Rx Rate
Jox (257)	ieee80211	1500	2.59 Mbps	509 kbps
Andziken (14)	ieee80211	1500	1.61 Mbps	117 kbps
ether1 (1)	ethernet-csma...	1500	704 kbps	6.45 Mbps
ether2 (2)	ethernet-csma...	1500	232 kbps	14.2 kbps
kantora (10)	ieee80211	1500	92.8 kbps	17.9 kbps
paradoki (256)	ieee80211	1500	79 kbps	9.14 kbps
bridge1 (252)	bridge	1500	3.07 kbps	12.1 kbps
bridge2 (254)	bridge	1500	24 bps	0 bps
X ovpn-out1 (255)	other	0	0 bps	0 bps

Questions?