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The Simple Network Management Protocol (SNMP) is a protocol for monitoring of network-attached devices for any conditions that warrant administrative attention.

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Wireless Rate Via SNMP

Here is the Broadcom forum thread that gives some additional information regarding [SNMP Traffic Graphs](#).

This particular setup is for creating new SNMP values that monitor the Rate setting of the wireless and the RSSI values of specific clients/WDS. I borrowed some of this code and modified it to work with v23. Someone said this came from the Sveasoft forums. **Assumes use of DD-WRT v23.**

Tools: [Getif](#) (SNMP MIB browser)

- 1) Turn on SNMP in DD-WRT (Administration->Services)
- 2) Turn on JFFS and clean it (Administration->Management)
- 3) Log in via SSH and create the following scripts:

/jffs/snmpd/wlrate:

```
#!/bin/sh
/usr/sbin/wl rate | /usr/bin/cut -b 9-10
```

/jffs/snmpd/wlrssi:

```
#!/bin/sh
/usr/sbin/wl rssi <mac_address_of_client_or_wds> | /usr/bin/cut -b 10-11
```

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You can repeat wlrssi1 multiple times for each client or WDS you want to monitor. Just increment the number.

Make the scripts executable:

```
chmod a+rx /jffs/snmpd/wl*
```

Next, type the following into the command-line:

```
nvramp set snmpd_conf="syslocation <your_location>
syscontact <your_email>
sysname <your_system_name>
rocommunity <your_password>
rwcommunity <your_other_password>
exec Rate /jffs/snmpd/wlrate
exec RSSI-CLIENT1 /jffs/snmpd/wlrssi1
"
nvramp commit
reboot
```

Again, repeat the "RSSI-CLIENT1" line if you have more than 1 client to monitor (incrementing the number, of course).

Test the settings with Getif. You will need to look for .1.3.6.1.4.1.2021.8.1 in the "MBrowser" screen.

Steps:

In "Parameters", type in the IP of the router and the read and write community passwords. Press "Start" and you should see the bottom status say something like "Sysinfo variables OK". Next, go to the "MBrowser" tab and put ".1.3.6.1.4.1.2021.8.1" in the second entry box (it probably says ".1"). Press "Start" and you should see a list of values pop into the lower output screen. You will see your configuration variables, then a list of numbers in the values side. The first 3 numbers will be "0", then your values will show up. First is your "Rate", then each of your RSSI values that you entered above.

Known OID's via SNMP

This should get important available OIDS for SNMP request against DD-WRT V23 SP1

text format]	MEANING	RANGE of VALUES	C
	router description	string	"I #2
	uptime (in hundredths of a second)	timeticks	"C

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	location entry of this node	string	"S
1.0	System Uptime	string	"2 se
2.0	System Date	hex string	"C 0x 0x
3.0	System Initial Load Device	integer	"1
4.0	System Initial Load Parameters	string	"r ro no 11
3.1.5.101	total available memory	kByte/sec	"1
3.1.6.101	used memory	kByte/sec	"1
2.1.1.*	SWRunIndex process ID	pid	"5
2.1.2.* <i>in 1.3.6.1.2.1.25.4.2.1.1.*</i>	SWRunName process name	string	"s
2.1.3.* <i>in 1.3.6.1.2.1.25.4.2.1.1.*</i>	CPU utilization of process	% usage	"C
2.1.4.* <i>in 1.3.6.1.2.1.25.4.2.1.1.*</i>	SWRunPath processes as listed by unix <i>ps</i> command	string	"/
2.1.5.* <i>in 1.3.6.1.2.1.25.4.2.1.1.*</i>	SWRunParameters configuration of running processes	string	"- /v
2.1.6.* <i>in 1.3.6.1.2.1.25.4.2.1.1.*</i>	SWRunType	integer	"4
2.1.7.* <i>in 1.3.6.1.2.1.25.4.2.1.1.*</i>	SWRunStatus 1 == running, 2 == runnable	integer	"1
1.1.1.* <i>in 1.3.6.1.2.1.25.4.2.1.1.*</i>	SWRunPerfCPU RSS entry in the unix <i>top</i> command's results	integer	"1
1.1.2.* <i>in 1.3.6.1.2.1.25.4.2.1.1.*</i>	SWRunPerfMem	integer	"7
.10.1.3.1 <i>inet.private.enterprises.2021.10.1.3.1</i>	CPU-load-1 (1-min average)	fixed-point number [0.00 .. 1.00]	"C
.10.1.3.2 <i>inet.private.enterprises.2021.10.1.3.2</i>	CPU-load-5 (5-min average)	fixed-point number [0.00 .. 1.00]	"C

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<p>10.1.3.3 <i>internet.private.enterprises.2021.10.1.3.3</i></p>	<p>CPU-load-15 (15-min average)</p>	<p>fixed-point number [0.00 .. 1.00]</p>	<p>"0"</p>
<p>10.1.5.1 <i>internet.private.enterprises.2021.10.1.5.1</i></p>	<p>CPU-load-1 (1-min average)</p>	<p>integer [0...100]</p>	<p>"8"</p>
<p>10.1.5.2 <i>internet.private.enterprises.2021.10.1.5.2</i></p>	<p>CPU-load-5 (5-min average)</p>	<p>integer [0...100]</p>	<p>"4"</p>
<p>10.1.5.3 <i>internet.private.enterprises.2021.10.1.5.3</i></p>	<p>CPU-load-15 (15-min average)</p>	<p>integer [0...100]</p>	<p>"2"</p>
<p></p>	<p>number of network interfaces <i>iso.org.dod.internet.mgmt.mib-2.interfaces.ifNumber.0</i></p>	<p>integer</p>	<p>"1"</p>
<p>2.* <i>internet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifDescr.*</i></p>	<p>names of all network interfaces</p>	<p>string (replace the .* with a number from 1 to max interfaces)</p>	<p>"e"</p>
<p>4.* <i>internet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifMtu</i></p>	<p>size of the largest datagram which can be sent/received on the interface</p>	<p>octets (replace the .* with specific interface from 1 to max interfaces)</p>	<p>"1"</p>
<p>5.* <i>internet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifSpeed.*</i></p>	<p>interface's current bandwidth</p>	<p>bits per second (replace the .* with specific interface from 1 to max interfaces)</p>	<p>"1"</p>
<p>6.* <i>internet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifPhysAddress.*</i></p>	<p>interface's physical MAC address</p>	<p>octet-string (replace the .* with specific interface from 1 to max interfaces)</p>	<p>"0"</p>
<p></p>	<p></p>	<p></p>	<p>"3"</p>

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.10.* <i>inet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifInOctets.*</i>	total number of octets received on the interface, including framing characters.	integer (replace the .* with specific interface from 1 to max interfaces)	
.16.* <i>inet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifOutOctets.*</i>	total number of octets transmitted out of the interface, including framing characters.	integer (replace the .* with specific interface from 1 to max interfaces)	"3
.20.* <i>inet.mgmt.mib-2.interfaces.ifTable.ifEntry.ifOutErrors.*</i>	number of outbound packets that could not be transmitted because of errors	integer (replace the .* with specific interface from 1 to max interfaces)	"9
<i>inet.mgmt.mib-2.tcp.tcpPassiveOpens.0</i>	number of passive TCP connections	integer	"2
.100.4.0	current system date & time (set in the firmware)	time string	"V 20

Additional OIDs were added in version v23 SP3 and v24

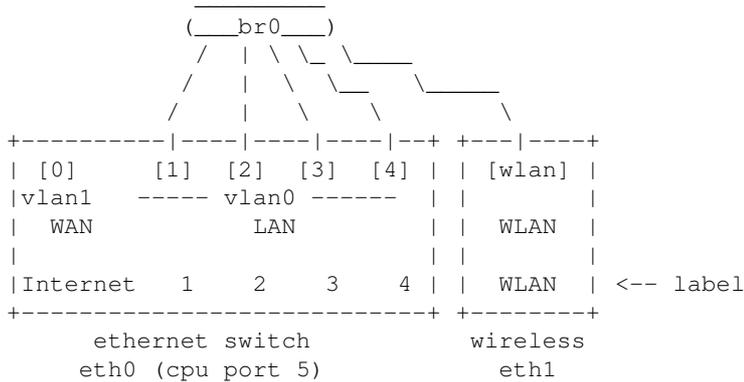
OID [dotted & text format]	MEANING	RANGE of VALUES	CONTENT (example)
1.3.6.1.4.1.2021.255.3.54.1.3.32.1.1.1	index of wireless client (if there are many clients each will have index 1-x)	integer	1
1.3.6.1.4.1.2021.255.3.54.1.3.32.1.4.1	Associated MAC	text	00:ff:as:dd:44:55
1.3.6.1.4.1.2021.255.3.54.1.3.32.1.26.1	SNR of this wireless client	integer	30

Many of these were obtained using the unix command snmpwalk, utilized: *snmpwalk -v 1 -c public 192.168.1.1*

Bandwidth Monitoring via SNMP

You can also use SNMP for bandwidth monitoring by using programs like [Cacti](#), [MRTG](#) or PRTG Traffic Graphers.

The router's SNMP traffic layout:



Remote Collection of SNMP data via WAN PORT

from DICONS on the forum go to the administration/diagnostics tab, paste in this command and do a "save firewall", then reboot

```
/usr/sbin/iptables -I INPUT 1 -p udp --dport 161 -j logaccept
```

it would sure be nice to have this automatically be applied if SNMP was on and remote admin was enabled, but I suppose it's easy enough to do thru the command....

- For enhanced security use the following command:

```
/usr/sbin/iptables -I INPUT 1 -p udp --dport 161 -s 1.2.3.4 -j logaccept
```

- Make sure to replace 1.2.3.4 with the IP address of the device that will be performing the SNMP request TO your router across the Internet. This only allows the IP address specified using the -s command to access the SNMP protocol on your router.

=DSL-Modem details by SNMP on WAN-Port=* [German manual for WRT54G v2.2 and Speedstream 5100 DSL-Modem](#)

This describes how to get SNMP Informations from a modem device. see a list of device at the bottom.

Modifying firewall script

Firewall script: Administration\Diagnostics

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```
# add an IP address to WAN-port
# doing a NAT-connection from LAN to VLAN1 (WAN-Port)
# set an ARP entry to connect the Modem by IP (works for me with 10.0.0.1 only)

ip addr add 10.0.0.2/24 dev vlan1 brd +
iptables -I POSTROUTING -t nat -o vlan1 -d 10.0.0.0/30 -j MASQUERADE
arp -s 10.0.0.1 <MAC:address:of:DSL:modem>
```

Now you're able to connect to a Web-Interface of Speedstream modems: (Ping is not working immediately, but an hour it works. ...don't know why!? ..maybe firewall or ARP latency.)

```
http://10.0.0.1/
User: admin
Pass: password
```

Getting SNMP informations of Modem from Client in LAN

```
#Get all OID of Modem
snmpwalk -c public -v 1 <IP-Adress Modem>
snmpwalk -c public -v 1 -Ofn 10.0.0.1
```

Interesting SNMP values

```
#Manufacturer Data, Uptime, etc.
.1.3.6.1.2.1.1.1.0 = STRING: Efficient Networks 5100-Series (E140)
.1.3.6.1.2.1.1.3.0 = Timeticks: (11915509) 1 day, 9:05:55.09
.1.3.6.1.2.1.1.4.0 = STRING: support@efficient.com
.1.3.6.1.2.1.1.5.0 = STRING: 004-E140-B0A/003-1082-001/Build 52-6

#Interface Name
.1.3.6.1.2.1.2.2.1.2.1 = STRING: loopback (pseudo ethernet)
.1.3.6.1.2.1.2.2.1.2.2 = STRING: ti
.1.3.6.1.2.1.2.2.1.2.3 = STRING: ATM
.1.3.6.1.2.1.2.2.1.2.4 = STRING: Bridge

#Interface Speed
.1.3.6.1.2.1.2.2.1.5.1 = Gauge32: 10000000
.1.3.6.1.2.1.2.2.1.5.2 = Gauge32: 0
.1.3.6.1.2.1.2.2.1.5.3 = Gauge32: 6656000
.1.3.6.1.2.1.2.2.1.5.4 = Gauge32: 10000000

#DSL Modem Sync. Speed, Downstream/Upstream
.1.3.6.1.2.1.10.94.1.1.4.1.3.2 = Gauge32: 6656000
.1.3.6.1.2.1.10.94.1.1.5.1.3.2 = Gauge32: 640000
```

Modem Devices:

```
Speedstream 5100/5200 (series)
Teledat 300 LAN (a bit tricky to find out the MAC address)
```

See also

- [Multi Router Traffic Grapher](#)
- [Using Munin for monitoring DD-Wrt devices](#)

External Links

- [odmon.com - Cacti online](#)
- [Cacti](#)
- [Paessler PRTG](#)
- [Paessler IPCheck](#)