

How to find out all programs bandwidth use with (nethogs) top like utility on Linux

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Just run across across a super nice top like, program for system administrators, its called nethogs and is definitely entering my "l337" admin outfit next to tools like **iftop**, **nettop**, **ettercap**, **darkstat** **htop**, **iotop** etc.

nethogs is ultra easy to use, to get immediately in console statistics about running processes UPLOAD and DOWNLOAD bandwidth consumption just run it:

linux:~# nethogs

NetHogs version 0.6.2pre2						
PID	USER	PROGRAM	DEV	SENT	RECEIVED	
28408	nobody	nginx: worker process	eth0	334019.000	64586.000	B
28409	nobody	nginx: worker process	eth0	271093.000	40214.000	B
28411	nobody	nginx: worker process	eth0	181999.000	26111.000	B
0	root	unknown TCP		156408.000	23293.000	B
28414	nobody	nginx: worker process	eth0	110677.000	8889.000	B
0	root	..169:22-83.170.82.76:19465		14386.000	8826.000	B
28413	nobody	nginx: worker process	eth0	137528.000	4660.000	B
0	root	..169:22-83.170.82.76:19478		3622.000	4220.000	B
0	root	..9:22-83.170.113.141:54771		4262.000	3180.000	B
0	root	..169:22-83.170.82.76:19475		4820.000	2772.000	B
28412	nobody	nginx: worker process	eth0	10847.000	2540.000	B
25874	hipo	sshd: hipo@pts/0	eth0	36046.000	2358.000	B
0	root	..169:80-213.233.93.62:7920		31262.000	1268.000	B
0	root	..169:80-213.233.93.62:4874		19420.000	1033.000	B
0	root	..169:22-83.170.82.76:19477		132.000	426.000	B
0	root	..169:80-188.25.31.196:1187		54.000	60.000	B
0	root	..169:80-188.25.31.196:1195		54.000	60.000	B
0	root	..169:80-188.25.31.196:1188		54.000	60.000	B
0	root	..169:80-188.25.31.196:1194		54.000	60.000	B
0	root	..169:80-79.2.138.95:49530		54.000	60.000	B
0	root	..9:80-164.132.141.66:64468		0.000	60.000	B
0	root	..69:80-123.24.21.210:50171		0.000	60.000	B
0	root	..69:80-123.24.21.210:50184		0.000	60.000	B
0	root	..69:80-178.210.224.74:2937		1433.000	0.000	B
0	root	..69:80-93.103.71.161:43577		54.000	0.000	B
TOTAL				1318278.000	194856.000	B

Nethogs running on Debian GNU/Linux serving static web content with Nginx

If you need to check what program is using what amount of network bandwidth, you will definitely love this tool. Having information of bandwidth consumption is also viewable partially with iftop, however

iftop is unable to track the bandwidth consumption to each process using the network thus it seems **nethogs** is unique at what it does.

Nethogs supports IPv4 and IPv6 as well as supports network traffic over ppp. The tool is available via package repositories for Debian GNU/Lenny 5 and Debian Squeeze 6.

To install **Nethogs** on CentOS and Fedora distributions, you will have to install it from source. On CentOS 5.7, latest nethogs which as of time of writing this article is 0.8.0 compiles and installs fine with **make && make install** commands.

In the manner of thoughts of network bandwidth monitoring, another very handy tool to add extra understanding on what kind of traffic is crossing over a Linux server is **jnettop**

jnettop shows which hosts/ports is taking up the most network traffic.

It is available for install via apt in Debian 5/6).

Here is a screenshot on *jnettop* in action:

```
run 0:00:09 device eth0      pkt[filter]: none
[filter]: on [bytes=bytes/s [local aggr: none [remote aggr: none
[quit [help [sorting [packets [.] pause [0]-[9] switch device
```

LOCAL <-> REMOTE						TXBPS	RXBPS	TOTALBPS
(IP)	PORT	PROTO	(IP)	PORT		TX	RX	TOTAL
soccerfame <-> 86-124-237-134.rdsnet.ro						15.2K/s	798b/s	15.9K/s
83.170.82.76	80	TCP	86.124.237.134	51398		45.5K	2.34K	47.8K
GET /predict/2011-10-01/?RSP=SimpleSOAP/?RSP=SimpleSOAP/?RSP=SimpleSOAP/?RSP=SimpleSOAP								
soccerfame <-> 86-124-237-134.rdsnet.ro						15.1K/s	738b/s	15.8K/s
83.170.82.76	80	TCP	86.124.237.134	51399		45.4K	2.16K	47.5K
GET /predict/2011-10-01/?RSP=SimpleSOAP/?RSP=SimpleSOAP/?RSP=SimpleSOAP/?RSP=SimpleSOAP								
soccerfame <-> dynamic-adsl-94-39-25-93.clienti.tiscali.it						10.6K/s	797b/s	11.4K/s
83.170.82.76	80	TCP	94.39.25.93	52243		21.2K	1.56K	22.7K
GET /matches_date_results								
soccerfame <-> nginx						4.06K/s	6.94K/s	11.0K/s
83.170.82.76	48257	TCP	83.170.104.169	22		16.3K	27.8K	44.0K
soccerfame <-> crawl-66-249-71-194.googlebot.com						10.2K/s	578b/s	10.7K/s
83.170.82.76	80	TCP	66.249.71.194	56672		20.5K	1.58K	22.1K
GET /team/guaratingueta/fixtures								
soccerfame <-> crawl-66-249-71-36.googlebot.com						9.6K/s	787b/s	10.4K/s
83.170.82.76	80	TCP	66.249.71.36	49600		19.2K	1.54K	20.8K
GET /match/127723/leganes/real-betis								
soccerfame <-> 86-124-237-134.rdsnet.ro						1.25K/s	8.20K/s	9.44K/s
83.170.82.76	80	TCP	86.124.237.134	51397		3.74K	24.6K	28.3K
POST /prognosa/100								
soccerfame <-> 77.28.128.205						7.03K/s	733b/s	7.74K/s
83.170.82.76	80	TCP	77.28.128.205	2886		35.1K	3.58K	38.7K
GET /								
soccerfame <-> 93-136-97-82.adsl.net.t-com.hr						6.37K/s	1.12K/s	7.49K/s
83.170.82.76	80	TCP	93.136.97.82	62615		12.7K	2.30K	15.0K
GET /quiz_answer								
soccerfame <-> crawl-66-249-71-182.googlebot.com						6.67K/s	529b/s	7.18K/s
83.170.82.76	80	TCP	66.249.71.182	64656		20.0K	1.55K	21.5K
GET /match/138402/peterborough/queens-park-rangers								
soccerfame <-> crawl-66-249-71-168.googlebot.com						6.55K/s	529b/s	7.06K/s
83.170.82.76	80	TCP	66.249.71.168	34820		19.6K	1.55K	21.2K
GET /match/137498/sporting-rio-ave-fc-vila-de-conde								
TOTAL						245K/s	56.2K/s	301K/s
						1.38M	328K	1.70M

To install *jnettop* on latest **Fedoras / CentOS / Slackware Linux** it has to be download and compiled from source via [jnettop's official wiki page](#)

I've tested *jnettop* install from source on **CentOS release 5.7** and it seems to compile just fine using the usual compile commands:

```
[root@prizebg jnettop-0.13.0]# ./configure
```

```
...
```

```
[root@prizebg jnettop-0.13.0]# make
```

```
...
```

```
[root@prizebg jnettop-0.13.0]# make install
```

If you need to have an idea on the **network traffic passing by your Linux server distinguished by tcp/udp/icmp** network protocols and services like ssh / ftp / apache, then you will definitely want to take a look at **nettop** (if of course not familiar with it yet).

Nettop is not provided as a deb package in Debian and Ubuntu, where it is included as rpm for CentOS and presumably Fedora?

Here is a screenshot on *nettop* network utility in action:

The screenshot shows the nettop utility running on a terminal. The top bar displays the date and time: 'Fri Sep 30 19:31:41 2011' and a timer '0:00:12'. The main table shows network statistics with columns: %pkts, total, %size, total, sz/pkt, and bit/s. The data is as follows:

%pkts	total	%size	total	sz/pkt	bit/s
100.00%	858.0	100.00%	634.3k	756	29.2k
100.00%	858.0	100.00%	634.3k	756	29.2k
95.68%	821.0	94.46%	599.1k	747	7.5k
91.02%	781.0	92.89%	589.2k	772	2.7k
2.79%	24.0	1.22%	7.8k	332	3.9k
1.28%	11.0	0.28%	1.8k	167	912.0
0.58%	5.0	0.04%	316.0	63	0.0
3.03%	26.0	5.37%	34.1k	1342	21.0k
1.28%	11.0	0.16%	1.1k	98	752.0
1.04%	9.0	0.12%	812.0	90	752.0
0.23%	2.0	0.04%	272.0	136	0.0

To the right of the table, a tree view shows the breakdown of traffic by protocol and service:

- total
 - ipv4
 - tcp
 - http
 - ssh
 - 14338
 - 14347
 - icmp
 - udp
 - hsrp
 - domain

FreeBSD users should be happy to find out that **jnettop** and **nettop** are part of the ports tree and the two can be installed straight, however *nethogs would not work on FreeBSD*, I searched for a utility capable of what **Nethogs** can, but couldn't find such.

It seems the only way on FreeBSD to track bandwidth back and from originating process is using a combination of **iftop** and **sockstat** utilities. Probably there are other tools which people use to track network traffic to the processes running on a hos and do general network monitoringt, if anyone knows some good tools, please share with me.