



20 Linux System Monitoring Tools Every SysAdmin Should Know

by V I V E K J U N I E 2 8 6 20009 M E N T S

Need to monitor Linux server performance? Try these built-in command and a few add-on tools. Most Linux distributions are equipped with tons of monitoring. These tools provide metrics which can be used to get information about system activities. You can use these tools to find the possible causes of a performance problem. The commands discussed below are some of the most basic commands when it comes to system analysis and debugging server issues such as:



1. Finding out bottlenecks.
2. Disk (storage) bottlenecks.
3. CPU and memory bottlenecks.
4. Network bottlenecks.

#1: top - Process Activity Command

The top program provides a dynamic real-time view of a running system i.e. actual process activity. By default, it displays the most CPU-intensive tasks running on the server and updates the list every five seconds.

```
top - 04:14:53 up 1 day, 20:07, 5 users, load average: 0.53, 0.69, 0.55
tasks: 187 total, 2 running, 184 sleeping, 8 stopped, 1 zombie
psu(s): 4.6kns, 0.5kay, 0.0knt, 94.0kld, 0.1kwe, 0.0knt, 0.0knt, 0.0knt
Mem: 8299944k total, 8820784k used, 279160k free, 232329k buffers
Swap: 1951808k total, 2976k used, 1948912k free, 6454702k cached

  PID USER      PR  NI  VIRT  RES  SHR S %CPU  %MEM    TIME+ COMMAND
 8552 viwek    20   0 240m 73m 25m S   10   0.9 6:21.26 firefox-bin
4575 viwek    20   0 227m 12m 18m S    5   1.5 80:26.28 deluge
28831 viwek    20   0 768m 472m 34m S    3   5.8 43:02.18 firefox-bin
4873 root      20   0 388m 45m 17m S    2   1.2 18:44.31 xorg
7268 viwek    20   0 31412 5240 3820 S    1   0.1 10:26.03 pulseaudio
12582 root     15  -5    0    0  0 S    1   0.0 10:54.52 mtn_wg
32484 viwek    20   0 84512 36m 11m S    0   0.3 0:07.67 gnome-terminal
  1 root      20   0 1900 804 652 S    0   0.0 0:01.69 lsat
  2 root     15  -5    0    0  0 S    0   0.0 0:00.00 kthreadd
  3 root     15  -5    0    0  0 S    0   0.0 0:00.02 kswapd0
  4 root     15  -5    0    0  0 S    0   0.0 0:27.71 ksoftirqd/0
  5 root     15  -5    0    0  0 S    0   0.0 0:00.00 watchdog/0
  6 root     15  -5    0    0  0 S    0   0.0 0:00.01 migration/1
  7 root     15  -5    0    0  0 S    0   0.0 0:00.30 ksoftirqd/1
  8 root     15  -5    0    0  0 S    0   0.0 0:00.00 watchdog/1
  9 root     15  -5    0    0  0 S    0   0.0 0:00.02 migration/2
 10 root     15  -5    0    0  0 S    0   0.0 0:05.59 ksoftirqd/2
 11 root     15  -5    0    0  0 S    0   0.0 0:00.00 watchdog/2
 12 root     15  -5    0    0  0 S    0   0.0 0:00.03 migration/3
 13 root     15  -5    0    0  0 S    0   0.0 0:05.03 ksoftirqd/3
 14 root     15  -5    0    0  0 S    0   0.0 0:00.00 watchdog/3
 15 root     15  -5    0    0  0 S    0   0.0 0:00.27 events/0
 16 root     15  -5    0    0  0 S    0   0.0 0:00.52 events/1
 17 root     15  -5    0    0  0 S    0   0.0 0:00.44 events/2
 18 root     15  -5    0    0  0 S    0   0.0 0:00.58 events/3
 19 root     15  -5    0    0  0 S    0   0.0 0:00.01 khelper
 61 root     15  -5    0    0  0 S    0   0.0 0:00.00 kintegrityd/0
 62 root     15  -5    0    0  0 S    0   0.0 0:00.00 kintegrityd/1
 63 root     15  -5    0    0  0 S    0   0.0 0:00.00 kintegrityd/2
 64 root     15  -5    0    0  0 S    0   0.0 0:00.00 kintegrityd/3
 66 root     15  -5    0    0  0 S    0   0.0 0:00.05 kblockd/0
 67 root     15  -5    0    0  0 S    0   0.0 0:00.16 kblockd/1
 68 root     15  -5    0    0  0 S    0   0.0 0:00.23 kblockd/2
 69 root     15  -5    0    0  0 S    0   0.0 0:00.11 kblockd/3
 71 root     15  -5    0    0  0 S    0   0.0 0:00.00 kacpid
 72 root     15  -5    0    0  0 S    0   0.0 0:00.00 kacpid_notify
153 root     15  -5    0    0  0 S    0   0.0 0:00.00 cgroup
157 root     15  -5    0    0  0 S    0   0.0 0:00.01 kswapd0
211 root     15  -5    0    0  0 S    0   0.0 0:02.25 kswapd0
```

Fig.01: Linux top command

Commonly Used Hot Keys

The top command provides several useful hot keys:

Hot Key	Usage
---------	-------

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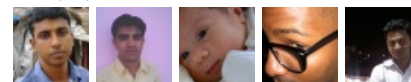


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- t Displays summary information off and on.
- m Displays memory information off and on.
- A Sorts the display by top consumers of various system resources. Useful for quick identification of performance-hungry tasks on a system.
- f Enters an interactive configuration screen for top. Helpful for setting up top for a specific task.
- o Enables you to interactively select the ordering within top.
- r Issues renice command.
- k Issues kill command.
- z Turn on or off color/mono

=> **Related:** [How do I Find Out Linux CPU Utilization?](#)

#2: vmstat - System Activity, Hardware and System Information

The command vmstat reports information about processes, memory, paging, block IO, traps, and cpu activity.

```
# vmstat 3
```

Sample Outputs:

```
procs -----memory----- --swap-- ----io---- --system-- -----cpu-----
 r b swpd free buff cache si so bi bo in cs us sy id wa st
0 0 0 2540988 522188 5130400 0 0 2 32 4 2 4 1 96 0 0
1 0 0 2540988 522188 5130400 0 0 0 720 1199 665 1 0 99 0 0
0 0 0 2540956 522188 5130400 0 0 0 0 1151 1569 4 1 95 0 0
0 0 0 2540956 522188 5130500 0 0 0 6 1117 439 1 0 99 0 0
0 0 0 2540940 522188 5130512 0 0 0 536 1189 932 1 0 98 0 0
0 0 0 2538444 522188 5130588 0 0 0 0 1187 1417 4 1 96 0 0
0 0 0 2490060 522188 5130640 0 0 0 18 1253 1123 5 1 94 0 0
```

Display Memory Utilization Slabinfo

```
# vmstat -m
```

Get Information About Active / Inactive Memory Pages

```
# vmstat -a
```

=> **Related:** [How do I find out Linux Resource utilization to detect system bottlenecks?](#)

#3: w - Find Out Who Is Logged on And What They Are Doing

w command displays information about the users currently on the machine, and their processes.

```
# w username
# w vivek
```

Sample Outputs:

```
17:58:47 up 5 days, 20:28, 2 users, load average: 0.36, 0.26, 0.24
USER  TTY  FROM      LOGIN@  IDLE   JCPU   PCPU WHAT
root  pts/0  10.1.3.145  14:55   5.00s  0.04s  0.02s vim /etc/resolv.conf
root  pts/1  10.1.3.145  17:43   0.00s  0.03s  0.00s w
```

#4: uptime - Tell How Long The System Has Been Running

R e l a t e d P o s

[Essential tools for monitoring and administrating MySQL Server](#)
[How To Track Changes in Your Linux Filesystem](#)
[Download of the day: AutoScan Network Monitoring – Management Tool](#)

The uptime command can be used to see how long the server has been running. The current time, how long the system has been running, how many users are currently logged on, and the system load averages for the past 1, 5, and 15 minutes.

```
# uptime
```

Output:

```
18:02:41 up 41 days, 23:42, 1 user, load average: 0.00, 0.00, 0.00
```

1 can be considered as optimal load value. The load can change from system to system. For a single CPU system 1 - 3 and SMP systems 6-10 load value might be acceptable.

#5: ps - Displays The Processes

ps command will report a snapshot of the current processes. To select all processes use the -A or -e option:

```
# ps -A
```

Sample Outputs:

```
PID TTY      TIME CMD
 1 ?        00:00:02 init
 2 ?        00:00:02 migration/0
 3 ?        00:00:01 ksoftirqd/0
 4 ?        00:00:00 watchdog/0
 5 ?        00:00:00 migration/1
 6 ?        00:00:15 ksoftirqd/1
....
.....
4881 ?      00:53:28 java
4885 tty1    00:00:00 mingetty
4886 tty2    00:00:00 mingetty
4887 tty3    00:00:00 mingetty
4888 tty4    00:00:00 mingetty
4891 tty5    00:00:00 mingetty
4892 tty6    00:00:00 mingetty
4893 ttyS1   00:00:00 agetty
12853 ?      00:00:00 cifsoplockd
12854 ?      00:00:00 cifsnotifyd
14231 ?      00:10:34 lighttpd
14232 ?      00:00:00 php-cgi
54981 pts/0   00:00:00 vim
55465 ?      00:00:00 php-cgi
55546 ?      00:00:00 bind9-snmp-stat
55704 pts/1    00:00:00 ps
```

ps is just like top but provides more information.

Show Long Format Output

```
# ps -Al
```

To turn on extra full mode (it will show command line arguments passed to process):

```
# ps -AlF
```

To See Threads (LWP and NLWP)

```
# ps -AlFH
```

To See Threads After Processes

```
# ps -Alm
```

Print All Process On The Server

```
# ps ax  
# ps axu
```

Print A Process Tree

```
# ps -ejH  
# ps axjf  
# pstree
```

Print Security Information

```
# ps -eo euser,ruser,suser,fuser,f,comm,label  
# ps axZ  
# ps -eM
```

See Every Process Running As User Vivek

```
# ps -U vivek -u vivek u
```

Set Output In a User-Defined Format

```
# ps -eo pid,tid,class,rtprio,ni,pri,psr,pcpu,stat,wchan:14,comm  
# ps axo stat,euid,ruid,tty,tpgid,sess,pgrp,ppid,pid,pcpu,comm  
# ps -eopid,tt,user,fname,tmout,f,wchan
```

Display Only The Process IDs of Lighttpd

```
# ps -C lighttpd -o pid=
```

OR

```
# pgrep lighttpd
```

OR

```
# pgrep -u vivek php-cgi
```

Display The Name of PID 55977

```
# ps -p 55977 -o comm=
```

Find Out The Top 10 Memory Consuming Process

```
# ps -auxf | sort -nr -k 4 | head -10
```

Find Out top 10 CPU Consuming Process

```
# ps -auxf | sort -nr -k 3 | head -10
```

#6: free - Memory Usage

The command free displays the total amount of free and used physical and swap memory in the system, as well as the buffers used by the kernel.

```
# free
```

Sample Output:

```
      total    used    free   shared  buffers   cached
Mem:   12302896  9739664  2563232      0    523124   5154740
-/+ buffers/cache:  4061800  8241096
Swap:   1052248      0    1052248
```

=> **Related:** :

1. [Linux Find Out Virtual Memory PAGESIZE](#)
2. [Linux Limit CPU Usage Per Process](#)
3. [How much RAM does my Ubuntu / Fedora Linux desktop PC have?](#)

#7: iostat - Average CPU Load, Disk Activity

The command iostat report Central Processing Unit (CPU) statistics and input/output statistics for devices, partitions and network filesystems (NFS).

```
# iostat
```

Sample Outputs:

```
Linux 2.6.18-128.1.14.el5 (www03.nixcraft.in) 06/26/2009

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.50    0.09   0.51   0.03   0.00   95.86

Device:            tps    Blk_read/s    Blk_wrtn/s    Blk_read    Blk_wrtn
sda                 22.04         31.88         512.03    16193351    260102868
sda1                 0.00          0.00          0.00         2166         180
sda2                 22.04         31.87         512.03    16189010    260102688
sda3                 0.00          0.00          0.00         1615          0
```

=> **Related:** : [Linux Track NFS Directory / Disk I/O Stats](#)

#8: sar - Collect and Report System Activity

The sar command is used to collect, report, and save system activity information. To see network counter, enter:

```
# sar -n DEV | more
```

To display the network counters from the 24th:

```
# sar -n DEV -f /var/log/sa/sa24 | more
```

You can also display real time usage using sar:

```
# sar 4 5
```

Sample Outputs:

```
Linux 2.6.18-128.1.14.el5 (www03.nixcraft.in) 06/26/2009

06:45:12 PM   CPU   %user   %nice   %system   %iowait   %steal   %idle
06:45:16 PM   all    2.00    0.00    0.22    0.00    0.00   97.78
```

06:45:20 PM	all	2.07	0.00	0.38	0.03	0.00	97.52
06:45:24 PM	all	0.94	0.00	0.28	0.00	0.00	98.78
06:45:28 PM	all	1.56	0.00	0.22	0.00	0.00	98.22
06:45:32 PM	all	3.53	0.00	0.25	0.03	0.00	96.19
Average:	all	2.02	0.00	0.27	0.01	0.00	97.70

=> **Related:** : [How to collect Linux system utilization data into a file](#)

#9: mpstat - Multiprocessor Usage

The mpstat command displays activities for each available processor, processor 0 being the first one. mpstat -P ALL to display average CPU utilization per processor:

```
# mpstat -P ALL
```

Sample Output:

```
Linux 2.6.18-128.1.14.el5 (www03.nixcraft.in) 06/26/2009

06:48:11 PM CPU %user %nice %sys %iowait %irq %soft %steal %idle intr/s
06:48:11 PM all 3.50 0.09 0.34 0.03 0.01 0.17 0.00 95.86 1218.04
06:48:11 PM 0 3.44 0.08 0.31 0.02 0.00 0.12 0.00 96.04 1000.31
06:48:11 PM 1 3.10 0.08 0.32 0.09 0.02 0.11 0.00 96.28 34.93
06:48:11 PM 2 4.16 0.11 0.36 0.02 0.00 0.11 0.00 95.25 0.00
06:48:11 PM 3 3.77 0.11 0.38 0.03 0.01 0.24 0.00 95.46 44.80
06:48:11 PM 4 2.96 0.07 0.29 0.04 0.02 0.10 0.00 96.52 25.91
06:48:11 PM 5 3.26 0.08 0.28 0.03 0.01 0.10 0.00 96.23 14.98
06:48:11 PM 6 4.00 0.10 0.34 0.01 0.00 0.13 0.00 95.42 3.75
06:48:11 PM 7 3.30 0.11 0.39 0.03 0.01 0.46 0.00 95.69 76.89
```

=> **Related:** : [Linux display each multiple SMP CPU processors utilization individually.](#)

#10: pmap - Process Memory Usage

The command pmap report memory map of a process. Use this command to find out causes of memory bottlenecks.

```
# pmap -d PID
```

To display process memory information for pid # 47394, enter:

```
# pmap -d 47394
```

Sample Outputs:

```
47394: /usr/bin/php-cgi
Address      Kbytes Mode Offset      Device Mapping
000000000400000 2584 r-x-- 0000000000000000 008:00002 php-cgi
0000000000886000 140 rw--- 0000000000286000 008:00002 php-cgi
00000000008a9000 52 rw--- 00000000008a9000 000:00000 [ anon ]
0000000000aa8000 76 rw--- 00000000002a8000 008:00002 php-cgi
0000000000f678000 1980 rw--- 0000000000f678000 000:00000 [ anon ]
000000314a600000 112 r-x-- 0000000000000000 008:00002 ld-2.5.so
000000314a81b000 4 r---- 000000000001b000 008:00002 ld-2.5.so
000000314a81c000 4 rw--- 000000000001c000 008:00002 ld-2.5.so
000000314aa00000 1328 r-x-- 0000000000000000 008:00002 libc-2.5.so
000000314ab4c000 2048 ----- 000000000014c000 008:00002 libc-2.5.so
.....
.....
..
00002af8d48fd000 4 rw--- 0000000000006000 008:00002 xsl.so
00002af8d490c000 40 r-x-- 0000000000000000 008:00002 libnss_files-2.5.so
00002af8d4916000 2044 ----- 000000000000a000 008:00002 libnss_files-2.5.so
00002af8d4b15000 4 r---- 0000000000009000 008:00002 libnss_files-2.5.so
00002af8d4b16000 4 rw--- 000000000000a000 008:00002 libnss_files-2.5.so
00002af8d4b17000 768000 rw-s- 0000000000000000 000:00009 zero (deleted)
```

```
00007ffc95fe000 84 rw--- 00007fffffea000 000:00000 [ stack ]
ffffffff6000000 8192 ----- 0000000000000000 000:00000 [ anon ]
mapped: 933712K writeable/private: 4304K shared: 768000K
```

The last line is very important:

- **mapped: 933712K** total amount of memory mapped to files
- **writeable/private: 4304K** the amount of private address space
- **shared: 768000K** the amount of address space this process is sharing with others

=> **Related:** : [Linux find the memory used by a program / process using pmap command](#)

#11 and #12: netstat and ss - Network Statistics

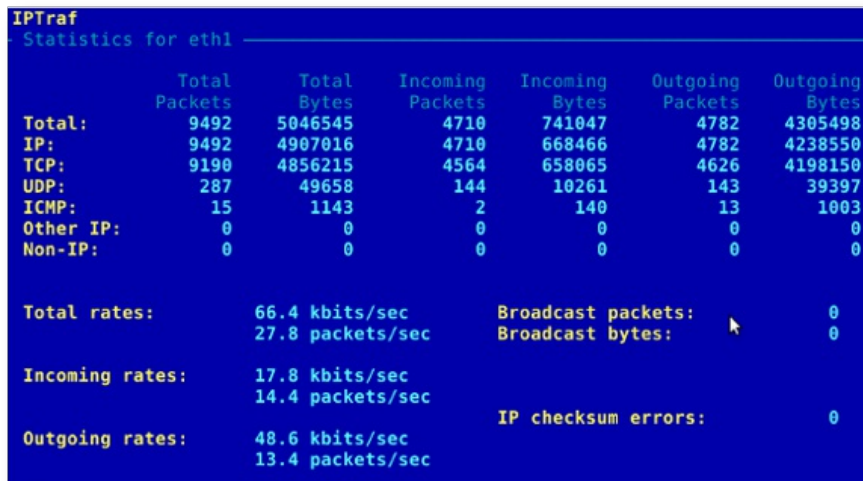
The command netstat displays network connections, routing tables, interface statistics, masquerade connections, and multicast memberships. ss command is used to dump socket statistics. It allows showing information similar to netstat. See the following resources about ss and netstat commands:

- [ss: Display Linux TCP / UDP Network and Socket Information](#)
- [Get Detailed Information About Particular IP address Connections Using netstat Command](#)

#13: iptraf - Real-time Network Statistics

The iptraf command is interactive colorful IP LAN monitor. It is an ncurses-based IP LAN monitor that generates various network statistics including TCP info, UDP counts, ICMP and OSPF information, Ethernet load info, node stats, IP checksum errors, and others. It can provide the following info in easy to read format:

- Network traffic statistics by TCP connection
- IP traffic statistics by network interface
- Network traffic statistics by protocol
- Network traffic statistics by TCP/UDP port and by packet size
- Network traffic statistics by Layer2 address



	Total Packets	Total Bytes	Incoming Packets	Incoming Bytes	Outgoing Packets	Outgoing Bytes
Total:	9492	5046545	4710	741047	4782	4305498
IP:	9492	4907016	4710	668466	4782	4238550
TCP:	9190	4856215	4564	658065	4626	4198150
UDP:	287	49658	144	10261	143	39397
ICMP:	15	1143	2	140	13	1003
Other IP:	0	0	0	0	0	0
Non-IP:	0	0	0	0	0	0

Total rates:	66.4 kbits/sec	Broadcast packets:	0
	27.8 packets/sec	Broadcast bytes:	0
Incoming rates:	17.8 kbits/sec		
	14.4 packets/sec		
Outgoing rates:	48.6 kbits/sec	IP checksum errors:	0
	13.4 packets/sec		

Fig.02: General interface statistics: IP traffic statistics by network interface

#	Time	Source	Destination	Port	Size	Win	Seq	Flags	Interface
43	2.22.232.20:45359				52		6573	--A-	eth1
174	86.48.99:22				1580		189	--A-	eth1
49	82.58.84:8088				976		177	-PA-	eth1
174	86.48.99:80				587		31	-PA-	eth1
192	88.150.213:1600				52		45535	--A-	eth1
125	126.168.152:84				52		89	CLOSED	eth1
157	127.124.15:62804				52		45535	--A-	eth1
174	86.48.99:80				52		40	CLOSED	eth1
74	86.48.99:80				40		642	DONE	eth1
41	219.289.101:1834				494		17520	-PA-	eth1
75	126.168.152:80				52		40	CLOSED	eth1
109	88.150.213:1606				52		45535	--A-	eth1
72	223.24.80:57889				684		16056	-PA-	eth1
174	86.48.99:80				1620		20	--A-	eth1
213	47.69.180:5884				46		435	--A-	eth1
75	126.168.153:80				40		40	CLOSED	eth1
74	86.47.178:6977				52		272	CLOSED	eth1
74	86.48.99:80				52		37	CLOSED	eth1
76	79.231.30:39089				0		0	----	eth1
74	86.48.99:80				52		41	--A-	eth1
17	43.26.16:65182				52		45535	--A-	eth1
174	86.48.99:80				655		27	-PA-	eth1
258	238.186.182:4584				46		45535	-PA-	eth1
74	86.48.99:80				0		0	----	eth1
24	122.36.154:64223				46		4380	--A-	eth1
74	86.48.99:80				40		39	CLOSED	eth1
74	86.48.99:80				52		31	--A-	eth1
48	177.234.106:48483				0		0	----	eth1
59	92.58.84:26915				586		110	-PA-	eth1
174	86.48.99:80				1682		31	--A-	eth1
17	43.26.16:65186				499		45535	-PA-	eth1

Fig.03 Network traffic statistics by TCPconnection

#14: tcpdump - Detailed Network Traffic Analysis

The tcpdump is simple command that dump traffic on a network. However, you need good understanding of TCP/IP protocol to utilize this tool. For.e.g to display traffic info about DNS, enter:

```
# tcpdump -i eth1 'udp port 53'
```

To display all IPv4 HTTP packets to and from port 80, i.e. print only packets that contain data, not, for example, SYN and FIN packets and ACK-only packets, enter:

```
# tcpdump 'tcp port 80 and (((ip[2:2] - ((ip[0]&0xf)<2)) - ((tcp[12]&0xf0)>2)) != 0)'
```

To display all FTP session to 202.54.1.5, enter:

```
# tcpdump -i eth1 'dst 202.54.1.5 and (port 21 or 20)'
```

To display all HTTP session to 192.168.1.5:

```
# tcpdump -ni eth0 'dst 192.168.1.5 and tcp and port http'
```

Use [wireshark to view detailed](#) information about files, enter:

```
# tcpdump -n -i eth1 -s 0 -w output.txt src or dst port 80
```

#15: strace - System Calls

Trace system calls and signals. This is useful for debugging webserver and other server problems. See how to use to [trace the process and](#) see What it is doing.

#16: /Proc file system - Various Kernel Statistics

/proc file system provides detailed information about various hardware devices and other Linux kernel information. See [Linux kernel /proc](#) documentations for further details. Common /proc examples:

```
# cat /proc/cpuinfo
# cat /proc/meminfo
# cat /proc/zoneinfo
# cat /proc/mounts
```


17#: Nagios - Server And Network Monitoring

[Nagios](#) is a popular open source computer system and network monitoring application software. You can easily monitor all your hosts, network equipment and services. It can send alert when things go wrong and again when they get better. [FAN is](#) "Fully Automated Nagios". FAN goals are to provide a Nagios installation including most tools provided by the Nagios Community. FAN provides a CDRom image in the standard ISO format, making it easy to easily install a Nagios server. Added to this, a wide bunch of tools are including to the distribution, in order to improve the user experience around Nagios.

18#: Cacti - Web-based Monitoring Tool

Cacti is a complete network graphing solution designed to harness the power of RRDTool's data storage and graphing functionality. Cacti provides a fast poller, advanced graph templating, multiple data acquisition methods, and user management features out of the box. All of this is wrapped in an intuitive, easy to use interface that makes sense for LAN-sized installations up to complex networks with hundreds of devices. It can provide data about network, CPU, memory, logged in users, Apache, DNS servers and much more. See [how to install and configure Cacti network graphing](#) tool under CentOS / RHEL.

#19: KDE System Guard - Real-time Systems Reporting and Graphing

KSysguard is a network enabled task and system monitor application for KDE desktop. This tool can be run over ssh session. It provides lots of features such as a client/server architecture that enables monitoring of local and remote hosts. The graphical front end uses so-called sensors to retrieve the information it displays. A sensor can return simple values or more complex information like tables. For each type of information, one or more displays are provided. Displays are organized in worksheets that can be saved and loaded independently from each other. So, KSysguard is not only a simple task manager but also a very powerful tool to control large server farms.

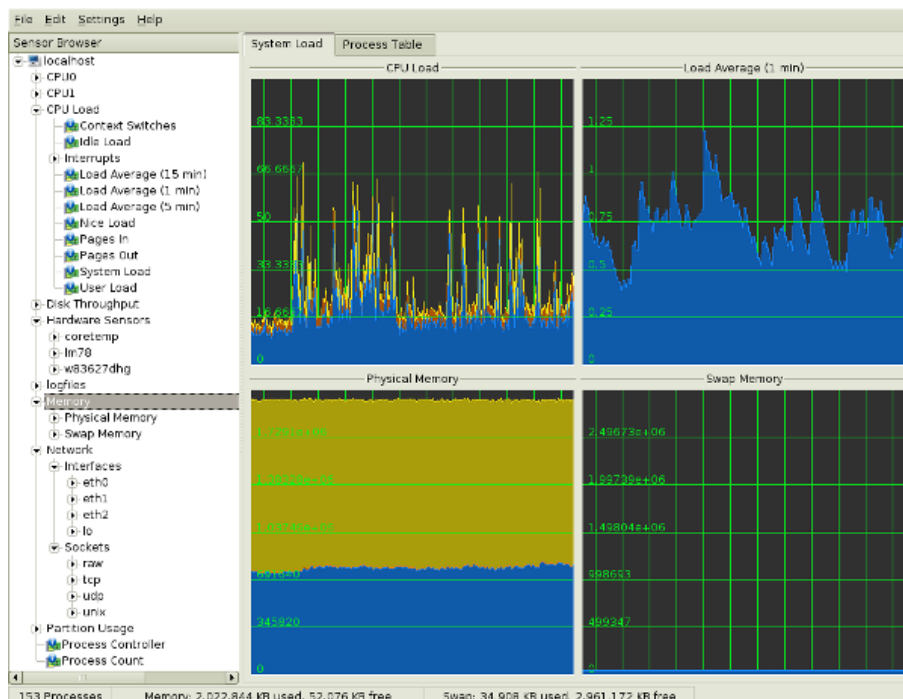


Fig.05 KDE System Guard {Image credit: Wikipedia}

See [the KSysguard handbook](#) for detailed usage.

#20: Gnome System Monitor - Real-time Systems Reporting and Graphing

The System Monitor application enables you to display basic system information and monitor

system processes, usage of system resources, and file systems. You can also use System Monitor to modify the behavior of your system. Although not as powerful as the KDE System Guard, it provides the basic information which may be useful for new users:

- Displays various basic information about the computer's hardware and software.
- Linux Kernel version
- GNOME version
- Hardware
- Installed memory
- Processors and speeds
- System Status
- Currently available disk space
- Processes
- Memory and swap space
- Network usage
- File Systems
- Lists all mounted filesystems along with basic information about each.

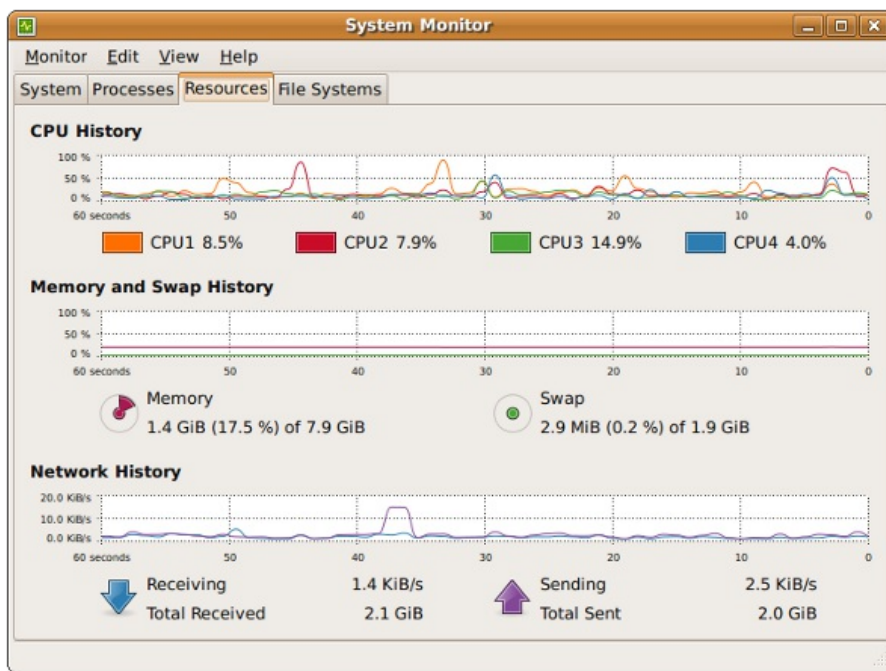


Fig.06 The Gnome System Monitor application

Bonus: Additional Tools

A few more tools:

- [nmap](#) - scan your server for open ports.
- [lsof](#) - list open files, network connections and much more.
- [ntop](#) web based tool - ntop is the best tool to see network usage in a way similar to what top command does for processes i.e. it is network traffic monitoring software. You can see network status, protocol wise distribution of traffic for UDP, TCP, DNS, HTTP and other protocols.
- [Conky](#) - Another good monitoring tool for the X Window System. It is highly configurable and is able to monitor many system variables including the status of the CPU, memory, swap space, disk storage, temperatures, processes, network interfaces, battery power, system messages, e-mail inboxes etc.
- [GKrellM](#) - It can be used to monitor the status of CPUs, main memory, hard disks, network interfaces, local and remote mailboxes, and many other things.
- [vnstat](#) - vnStat is a console-based network traffic monitor. It keeps a log of hourly, daily and monthly network traffic for the selected interface(s).
- [htop](#) - htop is an enhanced version of top, the interactive process viewer, which can display the list of processes in a tree form.
- [mtr](#) - mtr combines the functionality of the traceroute and ping programs in a single network

diagnostic tool.

Did I miss something? Please add your favorite system monitoring tool in the comments.

Featured Articles:

- [20 Linux System Monitoring Tools Every SysAdmin Should Know](#)
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- [Top 5 Linux Video Editor Software](#)

{ 186 comments... read them below or [add one](#) }

VonSkippy June 27, 2009

1

Pretty much common knowledge (or should be) but handy to have listed all in one place.

R E F

robb June 27, 2009

2

yeap most of them are must-have tools.
good job of collecting them in a post.

R E F

Chris June 27, 2009

3

Nice list. For systems with just a few nodes I recommend [Munin](#). It's easy to install and configure. My favorite tool for monitoring a linux cluster is [Ganglia](#).

P.S. I think you should change this "#2: vmstat – Network traffic statistics by TCP connection ..."

R E F

ftaurino June 27, 2009

4

another useful tool is [dstat](#), which combines vmstat, iostat, ifstat, netstat information and more. but this is a very useful list with some interesting examples!

R E F

James June 27, 2009

5

pocess or process. haha, i love typos

R E F

Artur June 27, 2009

6

What about Munin ? Lots easier and lighter than Cacti.

R E F

nig belamp December 7, 2010

7

How can you even compare munin to cacti...stfu your a tool.

R E F

Raj June 27, 2009

8

Nice list, worth bookmarking!

R E F

rkarim June 27, 2009

9

I have a step-by-step nagios implementation howto, some one may try that. please visit

<http://www.linux-bd.com/>

and I always thanks vivek, to run such a nice site <http://www.cyberciti.biz/>

R E F

kaosmonk June 27, 2009

10

Once again, great article!!

R E F

Amr El-Sharnoby June 27, 2009

11

I can see that the best tool to monitor processes , CPU, memeory and disk bottleneck at once is atop ...

But the tool itself can cause a lot of trouble in heavily loaded servers and it enables process accounting and has a service running all the time ...

To use it efficiently on RHEL , CentOS;

- 1- install rpmforge repo
- 2- # yum install atop
- 3- # killall atop
- 4- # chkconfig atop off
- 5- # rm -rf /tmp/atop.d/ /var/log/atop/
- 6- then don't directly run "atop" command , but instead run it as follows;
ATOPACCT=" atop

This tool has saved me hundreds of hours really! and helped me to diagnose bottlenecks and solve them that couldn't otherwise be easily detected and would need many different tools

R E F

Vivek Gite June 27, 2009

12

@Chris / James

Thanks for the heads-up!

R E F L Y

Solaris June 27, 2009

13

Great post, also great reference.

R E F**quba** June 27, 2009

14

Hi,

We have just added your latest post “20 Linux System Monitoring Tools

Every SysAdmin Should Know” to our [Directory of Technology](#) . You

can check the inclusion of the post [here](#) . We are delighted

to invite you to submit all your future posts to the [directory](#) and get a huge base of

visitors to your website.

Warm Regards

Techtrove.info Team

<http://www.techtrove.info>

R E F**Cristiano** June 27, 2009

15

You probably wanna add IFTOP tool, its really simple and light, very useful when u need to have a last moment remote access to a server to see hows the trafic going.

R E F**Peko** June 27, 2009

16

Yeah, well why a so good admin (I dig(g) your site) won't you use spelling checkers?
Typo #2 Web-based __Monitoring__ Tool

R E F**paul tergeist** June 27, 2009

17

maybe it's a typo too, but the title should be :

“.. Tools Every SysAdmin MUST Know”

and still, this is advanced user knowledge, at most. I would not trust a sysadmin that knows so few. And..

R E F**harrywwc** June 27, 2009

18

Hi guys,

good list – and some great submitted pointers to other useful tools.

to those carp-ing on about typo's – give us all a break. you've never made a typo? ever?

Idea: How 'bout those who have never *ever* made an error in typing text be the first one(s) to give people grief about making a typo?

I _used_ to be a real PITA about this; then I grew up.

The purpose of this blog, and other forms of communication, is to *communicate* concepts and ideas. *If* you have received those clearly – in spite of the typos – then the purpose has been fulfilled.

/me gets down off his soapbox

.h

R E F

Pádraig Brady June 27, 2009

19

A script I use often to show the real memory usage of programs on linux, is [ps_mem.py](#)

I also summarised a few linux monitoring tools [here](#)

I'd also mention the [powertop](#) utility

R E F

Saad June 27, 2009

20

This blog is more impressive and more useful than ever. I need more help regarding proper installation document on “php-networkweathermap” on Cacti as plugins

R E F

Jack June 28, 2009

21

No love for whowatch ? Real time info on who's logged in, how their connected (SSH, TTY, etc) and what process they have running.

<http://www.pttk.ae.krakow.pl/~mike/#whowatch>

R E F

Ponzu June 28, 2009

22

vi — tool used to examine and modify almost any configuration file.

R E F

Eric schulman June 28, 2009

23

dtrace is a notable mention for the picky hackers that wish to know more about the behavior of the operating system and it's programs internals.

R E F

Ashok kumar June 28, 2009

24

hi gud information , keep it up

ash

R E F

Enzo June 28, 2009

25

You missed: iftop & nethogs

Adrian Fita June 28, 2009

26

Excellent list. Like Amr El-Sharnoby above, I also find **atop** indispensable and think it **must** be installed on every system.

In addition I would like to add **iotop** to monitor disk usage per process and **jnettop** to very easily monitor bandwidth allocation between connections on a Linux system.

Knightsream June 28, 2009

27

Well, the one i use right now is Pandora FMS 3.0 and its making my work easy.

praveen k June 28, 2009

28

I would like to add
whoami ,who am i, finger, pinky , id commands

create own website June 28, 2009

29

i always love linux, great article

Mathieu Desnoyers June 28, 2009

30

One tool which seems to be missing from this list is LTTng. It is a system-wide tracing tool which helps understanding complex performance problems in multithreaded, multiprocess applications involving many userspace-kernel interactions.

The project is available at <http://www.lttng.org>. Recent SuSE distributions, WindRiver, Monta Vista and STLlinux offer the tracer as distribution packages. The standard way to use it is to install a patched kernel though. It comes with a trace analyzer, LTTV, which provides nice view of the overall system behavior.

Mathieu

Andy Leo June 29, 2009

31

Very useful, well done. Thanks!

Aveek Sen June 29, 2009

32

Very informative.

The Hulk June 29, 2009

33

I love this website.

R E F

kburger June 29, 2009

34

If we're talking about a web server, apachetop is a nice tool to see Apache's activity.

R E F

Ram June 29, 2009

35

Dude you forgot the most important of ALL!

net-snmpd

With it you can collect vast amounts of information. Then with snmpwalk and scripts you can create your own web NMS to collect simple information like ping, disk space, services down.

R E F

Kartik Mistry June 29, 2009

36

`iotop` is nice one to be include in list. I used `vnstat` very much for keeping track of my download when I was on limited connection :)

R E F

Vivek Gite June 29, 2009

37

@Everyone

Thanks for sharing all your tools with us.

R E F L Y

feilong June 29, 2009

38

Very useful, thanks for sharing.

Take a look to a great tools called nmon. I use it on AIX IBM system but works now on all GNU/linux system now.

R E F

boz June 29, 2009

39

mtr

R E F

Scyldinga June 29, 2009

40

I'm with @paul tergeist, tools every linux user should know. The ps samples are nice, thanks.

No reference to configuration management tools ?

cfengine/puppet/chef?

Ken McDonell June 29, 2009

41

Nice summary article.

If your “system” is large and/or distributed, and the performance issues you’re tackling are complex, you may wish to explore Performance Co-Pilot (PCP). It unifies all of the performance data from the tools you’ve mentioned (and more), can be extended to include new applications and service layers, works across the network and for clusters and provides both real-time and retrospective analysis.

See <http://www.oss.sgi.com/projects/pcp>

PCP is included in the Debian-based and SUSE distributions and is likely to appear in the RH distributions in the future.

As a bonus, PCP also works for monitoring non-Linux platforms (Windows and some of the Unix derivatives).

Lance June 30, 2009

42

I love your collection.

I use about 25% of those regularly, and another 25% semi-regularly. I'll have to add another 25% of those to my list of regulars.

Thanks for compiling this list.

bogo June 30, 2009

43

Very nice collection of linux applications. I work with linux but I can't say that i know them all.

MEHTA GHANSHYAM June 30, 2009

44

REALLY ITS VERY GOOD N USEFULL FOR ALL ADMIN.
THANKS ONCE AGAIN

fasil June 30, 2009

45

Good post...already bookmarked... cheers

Aleksey Tsalolikhin June 30, 2009

46

I'll just mention “ngrep” – network grep.

Great list, thanks!!

Aleksey

Abdul Kayyum July 1, 2009

47

Thanks for sharing this information..

Aurelio July 1, 2009

48

feilong, I agree. I use nmon on my linux boxes from years. It's worth a look.

komradebob July 1, 2009

49

Great article, many great suggestions.

Was surprised not to see these among the suggestions:

bmon – graphs/tracks network activity/bandwidth real time.

etherape – great visual indicator of what traffic is going where on the network

wireshark – tcpdump on steroids.

multitail – tail multiple files in a single terminal window

swatch – track your log files and fire off alerts

pradeep July 2, 2009

50

how the hell i missed this site this many days... :P thank god i found it... :) i love it...

Jay July 4, 2009

51

O personally much prefer htop to top. Displays everything very nicely.

phpsysinfo is another nice light web-based monitoring tool. Very easy to setup and use.

Manuel Fraga July 5, 2009

52

Osmius: The Open Source Monitoring Tool is C++ and Java. Monitor “everything” connected to a network with incredible performance. Create and integrate Business Services, SLAs and ITIL processes such as availability management and capacity planning.

aR July 6, 2009

53

thanks for sharing all the helpful tools.

Shailesh Mishra July 7, 2009

54

Nice compilation. As usual, always very useful.

It would be nice if some of you knowledgeable guys can shed some light on java heap monitoring thing, thread lock detection and analysis, heap analysis etc.

R E F

Bjarne Rasmussen July 7, 2009 55

nmon is a nice tool... try google for it, it rocks

R E F

Balaji July 12, 2009 56

Very much Useful Information's,
trafmon is one more useful tool

R E F

Stefan July 15, 2009 57

And for those which like lightweight and concise graphical metering:
xosview +disk -ints -bat

R E F

Raja July 19, 2009 58

Awesome. Especially love the ps tips. Very interesting

R E F

Rajat July 24, 2009 59

Thanks very good info!!!

R E F

nima0102 July 27, 2009 60

It's really nice :)

R E F

David Thomas August 12, 2009 61

Excellent list!

R E F

Vinidog August 29, 2009 62

Nice... very nice guy!!!! ;-)

R E F

Bob Marcan September 4, 2009 63

From the guy who wrote the collect utility for Tru64:

Name : collect! Relocations: (not relocatable)

Version : 3.3.5 Vendor: Fedora Project
Release : 1.fc10 Build Date: Fri Aug 21 13:22:42 2009
Install Date: Tue Sep 1 18:10:34 2009 Build Host: x86-5.fedora.phx.redhat.com
Group : Applications/System Source RPM: collectl-3.3.5-1.fc10.src.rpm
Size : 1138212 License: GPLv2+ or Artistic
Signature : DSA/SHA1, Mon Aug 31 14:42:40 2009, Key ID bf226fcc4ebfc273
Packager : Fedora Project
URL : <http://collectl.sourceforge.net>
Summary : A utility to collect various linux performance data
Description :
A utility to collect linux performance data

Best regards, Bob

R E F

Tman September 5, 2009 64

For professional network monitoring use Zenoss:
Zenoss Core (open source): <http://www.zenoss.com/product/network-monitoring>

R E F

Somnath Pal September 14, 2009 65

Hi,

Thanks for the nice collection with useful samples. Consider adding tools to monitor SAN storage, multipath etc. also.

Best Regards,
Somnath

R E F

Eddy September 17, 2009 66

I did not see ifconfig or iwconfig on the list

R E F

Kestev September 17, 2009 67

openNMS

R E F

Sergiy September 25, 2009 68

Thanks for the article. I am not admin myself, but tools are very useful for me too.

Thanks for the comments also :)

R E F

Mark Seger September 28, 2009 69

When I wrote collectl my goal was to replace as many utilities as possible for several reasons including:

- not all write to log files
- different output formats make correlation VERY difficult

- sar is close but still too many things it doesn't collect
- I wanted option to generate data that can be easily plotted or loaded into spreadsheet
- I wanted sub-second monitoring
- I want an API and I want to be able to send data over sockets to other tools
- and a whole lot more

I think I succeeded on many fronts, in particular not having to worry if the right data is being collected. Just install rpm and type "/etc/init.d/collectl start" and you're collecting everything such as slabs and processes every 60 seconds and everything else every 10 seconds AND using <0.1% of the CPU to do so. I personally believe if you're collecting performance counters at a minute or coarser you're not really seeing what your system is doing.

As for the API, I worked with some folks at PNNL to monitor their 2300 node cluster, pass the data to ganglia and from there they pass it to their own real-time plotting tool that can display counters for the entire cluster in 3D. They also collectl counters from individual CPUs and pass that data to collectl as well.

I put together a very simple mapping of 'standard' utilities like sar to the equivalent collectl commands just to get a feel for how they compare. But also keep in mind there are a lot of things collectl does for which there is no equivalent system command, such as Infiniband or Lustre monitoring. How about buddyinfo? And more...

<http://collectl.sourceforge.net/Matrix.html>

-mark

R E F

PeteG September 29, 2009

70

Darn,
I've been using Linux since Windows 98 was the current MicroSnot FOPA.
I know all this stuff. I do not make typos.
Why do you post this stuff?
We all know it.
Sure we do!
But do we remember it? I just read through it and found stuff that I used long ago and it was like I just learned it. I found stuff I didn't know either.
Hummmm..... Imagine that!
Thanks, particularly for the PDF.
Saved me making one.
Hey, where's the HTML to PDF howto?

Thanks again.

R E F

Denilson October 26, 2009

71

Use:

```
free -m
```

To show memory usage in megabytes, which is much more useful.

R E F

AndrewW November 5, 2009

72

Is it possible to display hard drive temps from hddtemp in KSysGuard? They are available in Ksensors and GKrellM, without any configuration required. However I prefer the interface and

flexibility of KSysGuard. Is there a way of configuring it?

Andrew

R E F

Abhijit November 10, 2009

73

Zabbix open source monitoring tool

<http://www.zabbix.com>

R E F

Kevin November 15, 2009

74

Thanks, good work

R E F

Stefano November 22, 2009

75

Just thanks! :)

R E F

GBonev November 25, 2009

76

Good Job on assembling the list

If I may suggest trafshow as an alternative to iptraf when you need to see more detailed info on source/destination , proto and ports at once.

R E F

Gokul December 7, 2009

77

How to install the Kickstart method in linux

R E F

Bilal Ahmad December 8, 2009

78

Very nice collection.. Worth a bookmark...Bravo...

R E F

Jalal Hajigholamali December 9, 2009

79

Thanks a lot...

R E F

mancai December 11, 2009

80

nice sharing, this is what i want looking for few day ago... tq

R E F

aruinanjan December 14, 2009

81

This is a nice document for new user, thaks to owner of this document.

arun

R E F

myghty December 16, 2009

82

Great post!! Thanks.

R E F

Rakib Hasan December 16, 2009

83

Very helpful. Thanks a lot!

R E F

PRR December 22, 2009

84

After so many thanks. Add one more.....

thank you. It's very handy.

R E F

Yusuf December 25, 2009

85

Mark,

I am in technology myself and this tutorial page is very well organized
Thanks for taking the time to create this awesome page
great help for Linux new bees like myself.

R E F

Yusuf December 25, 2009

86

I meant to thank Vivek Gita
once again awesome job

R E F

Shrik December 31, 2009

87

Thank you very much VERY GOOD WEBSITE

R E F

sekar January 1, 2010

88

it is cool

R E F

Giriraaj January 5, 2010

89

Thanks for sharing most resourceful information.

R E F

Bhagyesh Dhamecha January 6, 2010

90

Dear all Members,

Thanks for sharing all your knowledge about Linux.. i really thankful for your share linux tips..!!

thanks and continue this jurny...as well

thank you..

R E F

Ganesan AS January 10, 2010

91

Good info. Thanks for sharing.
May GOD bless you to do more.

R E F

Mark Seger January 10, 2010

92

This is indeed an impressive collection of tools but I still have to ask if people are really happy with having to know so many names, so many switches and so many formats. If you run one command and see something weird doesn't it bother you if you have to run a different tool but the anomaly already passed and you can no longer see it with a different tool? For example if you see a drop in network performance and wonder if there was a memory or cpu problem, it's too late to go back and see what else was going on. I know it bothers me. Again, by running collectl I never have to worry about that because it collects everything (when run as a daemon) or you can just tell it to report lots of things when running interactively and by default is shows cpu, disk and network. If you want to add memory, you can always include it but you will need a wider screen to see the output.

As a curiosity for those who run sar – I never do – what do you use for a monitoring interval? The default is to take 10 minute samples which I find quite worthless – remember sar has been around forever dating back to when cpus were much slower and monitoring much more expensive. I'd recommend to run sar with a 10 second sampling level like collectl and you'll get far more out of it. The number of situations which this would be too much of a load on your system would be extremely rare. Anyone care to comment?

-mark

R E F

miles January 12, 2010

93

Amr El-Sharnoby:
atop is awesome, thanks for the tip.

R E F

Serg January 12, 2010

94

hi Mark

absolutely agreed with you mate! if you are the sysadmin something – you will do it for yourself and do it right!

These tools like ps,top and other is commonly used by users who administrated a non-productive or desktop systems or for some users who's temporary came to the system and who needed to get a little bit of information about the box – and its pretty good enough for

them.)

R E F

met00 January 12, 2010

95

If you are running a web server and you have multiple clients writing code, you will one day see CPU slow to a crawl. "Why?", you will ask. ps -ef and top will show that mysql is eating up resources...

HMM?

If only there was a tool which showed me what command was being issued against the database...

mytop

Once you find the select statement that has mysql running at 99% of the CPU, you can kill the query and then go chase down the client and kill them too (or in my case bill them at \$250/hr for fixing their code).

R E F

Mark Seger January 12, 2010

96

re mysql – it's not necessarily that straight forward. I was working with someone who had a system with mysql that was crawling. it was taking multiple seconds for vi to echo a single character! we ran collectl on it and could see low cpu, low network and low disk i/o. Lots of available memory, so what gives? A close look showed me that even those the I/O rates were low, the average request sizes were also real low – probably do so small db requests.

digging even deeper with collectl I saw the i/o request service times were multiple seconds! in other words when you requested an I/O operation not matter how fast the disk is, it took over 2 second to complete and that's why vi was so slow, it was trying to write to it's backing store.

bottom line – running a single tool and only looking at one thing does not tell the whole story. you need to see multiple things AND see them at the same time.

-mark

R E F

mtituh Alu January 19, 2010

97

I have a postfix mail server, recently through tcpdump I see alot of traffic to dc.mx.aol.com, fedExservices.com, wi.rr.com, mx1.dixie-net.com. I believe my mail server is spamming. How do I find out it is spamming? and how do I stop it. Please help.

R E F

Vivek Gite January 19, 2010

98

Only allow authenticated email users to send an email. There are other things too such as anti-spam, ssl keys, domain keys and much more.

R E P L Y

kirankumarl February 3, 2010

99

Dear sir pls send me some linux pdf file by wich i can learn how to install & maintanes

R E F

Visigoth February 21, 2010 100

I like the saidar tool, and iptstate. Check them out.

R E F

JK February 23, 2010 101

Hiii vivek,
Do you know any application to shut down a ubuntu 9.1 machine when one of its network interface is down..I need it for clustering..

R E F

AD February 25, 2010 102

Thank you very much,,,,....
This information is very useful for me to monitoring my server...

R E F

Tarek February 26, 2010 103

Actually where I work we have and isa server acting as a proxy/firewall, which prevent me from monitoring internet traffic consumption. so i installed debian as a network bridge between the isa server and the lan, and equipped it with various monitoring tools (bandwidthd, ntop, vnstat, iftop, iptraf, darkstat).

R E F

deepu March 2, 2010 104

it is a very good and resourceful infomation.

R E F

Solo March 7, 2010 105

OMG !

Amazing – Super – Ultra nice info . THX penguins !

R E F

vijay March 12, 2010 106

its so usefulllll thanks a lot

R E F

Venu Yadav March 23, 2010 107

Good information. Thanks

R E F

Thank you it is very helpful

R E F

Good knowledge base, great post

R E F

Very interesting read that really includes the tools that every admin should know about.

R E F

Hi

Its a great topic. Actually i am a Mysql DBA and i fond a lot of new things here.

So i can say it will help in future.

Thanks once again

R E F

Excellent one !!!

R E F

wow this is some great info,also the various inputs in comments. One i would like to add is

ulimit

User limits – limit the use of system-wide resources.

Syntax

ulimit [-acdfHlmnpsStuv] [limit]

Options

-S Change and report the soft limit associated with a resource.

-H Change and report the hard limit associated with a resource.

-a All current limits are reported.

-c The maximum size of core files created.

-d The maximum size of a process's data segment.

-f The maximum size of files created by the shell(default option)

-l The maximum size that may be locked into memory.

-m The maximum resident set size.

-n The maximum number of open file descriptors.

-p The pipe buffer size.

-s The maximum stack size.

-t The maximum amount of cpu time in seconds.

-u The maximum number of processes available to a single user.

-v The maximum amount of virtual memory available to the process.

ulimit provides control over the resources available to the shell and to processes started by it, on systems that allow such control.

R E F

Mustafa Ashraf Rahman April 20, 2010

114

hello Vivek Gite,
This is really a very good post and useful for all admin.
Thanks,
Ashraf

R E F

arief April 21, 2010

115

Great tips..
Thanks

R E F

Eduardo Cereto April 25, 2010

116

I think you missed my top 2 monitoring tools:

monit: <http://mmonit.com/monit/>
mrtg : <http://oss.oetiker.ch/mrtg/>

R E F

Lava Kafle April 29, 2010

117

Perfect examples : thanks

R E F

wolfc01 May 2, 2010

118

See also the "Linux Process Explorer" (in development) meant to be an equivalent the windows process explorer of Mark Russinovich.

See <http://sourceforge.net/projects/procexp>

R E F

ohwell May 2, 2010

119

if an "admin" doesnt know 90% of those tools, he isn't a real admin. you will find most of these tools explained in any basic linux howto...

R E F

Anonymous May 7, 2010

120

but how to kill process ID in my server..

R E F

FHJ May 11, 2010

121

I assume you can find the process ID – for example if your process is called foo.bar, you could do
ps -ef | grep foo.bar
this will give the PID (process ID) as well as other information.
Then do
kill -9 PID (where PID is the number your found in the above).

If you are working on a Mac you have to do 'sudo kill -9 PID' since the kill command is an "admin" action that it wants you to be sure about.

Or if you use top, and you can see the process you want to kill in your list, you can just type k and you will be prompted for the PID (the screen will freeze so it's easy to read). You type the number and "enter", will have to confirm (y), and the process is killed with -15. Which is less "severe" than a "kill -9" which really kills just about any process (without allowing it a graceful exit of any kind).

Use with care!

R E F

someone May 10, 2010

122

Gnome system monitor is a pretty useless utility if you ask me.
its neat to have it as an applet, but thats it.

R E F

kalyan de May 14, 2010

123

Thanks,

I think it will be very helpfull for me as i am practicng oracle in redhat linux4. Today i will try to check it. I want 1 more help. I am not clear about crontab. saupposed i want to start a crontab in my system with any script which i have kept in /home/oracle and want to execute in every 1 hour. Can u send me how i can do with details.

Thanks,

kalyan de.
Chennai, india
+91 9962300520

R E F

Samuel Egwoyi May 14, 2010

124

how can i practice Mysql using linux

R E F

Basil May 21, 2010

125

This article simply rocks

R E F

Fenster June 1, 2010

126

hey, thanks, just installed htop and iptraf, very nice tools!!

R E F

zim June 2, 2010

127

atop

man atop shows

“The program atop is an interactive monitor to view the load on a Linux system. It shows the occupation of the most critical hardware resources (from a performance point of view) on system level, i.e. cpu, memory, disk and network. It also shows which processes are responsible for the indicated load with respect to cpu- and memory load on process level; disk- and network load is only shown per process if a kernel patch has been installed.”

R E F

Amit June 2, 2010

128

Hello,

How to install a Suphp on cpanel.

R E F

Walker June 4, 2010

129

Thanks :)

THIS helped me a lot.

R E F

m6mb3rtx June 4, 2010

130

Great article, very usefull tools!

R E F

dudhead June 5, 2010

131

Great list! Missed df command in the list.

R E F

giftzy June 5, 2010

132

I become to love linux after 10 years of hp-ux

R E F

Rafael Quirino de Castro June 7, 2010

133

I'm looking for apache parameter on the web and found here.

So, my contribute is: try to use iftop, iptraf, ifstat, jnettop and ethstatus for network graphical and CLI monitoring.

Use tcpdump and ngrep for packet sniffing

HTB is very good for QoS in the network, especially if you need to reduce slower VPN network

georges

June 9, 2010

134

fuser command is missing from this list. it tells you which command is using a file at the moment. Since in Linux everything is a file, it is very useful to know!

Use it this way:

to know which process listens on tcp port 80:

fuser 80/tcp

to know which process uses the /dev/sdb1 filesystem:

fuser -vm /dev/sdb1

etc ...

Naga

June 13, 2010

135

Is there any good tools for analyzing Apache/Tomcat instances.

Jan 'luckyduck' Brinkmann

June 15, 2010

136

'ethtool' can also be very useful, depending on the situation:

- searching for network problems
- checking link status of ethernet connections
- and so on

Abdullah

June 16, 2010

137

nice list, at the end i think what you meant is "Bonus" and not "bounce"

"bounce" means "jump"

"bonus" means extra goodies :)

dust

June 23, 2010

138

What is in Linux that is equal to cfgadm in Solaris?

Jerome Christopher

July 6, 2010

139

Thanks for the excellent list of commands, links and info.

Jerome.

sriharikanth

July 12, 2010

140

Thanks, very useful information provided.

Jyoti July 13, 2010

141

very useful

R E F

t.k. July 16, 2010

142

Good compilation of commands. Thanks!

R E F

Thomas August 3, 2010

143

If you want graphy easily your performance data, try BrainyPDM: an another open source tool! <http://www.brainypdm.org>

R E F

Zanil Hyder August 4, 2010

144

Though i have come across most of these names, having them all in one list will prove to be a good resource. I am going to make a list from these and have it within my website which i use for reference.

Thanks for the examples.

R E F

brownman August 20, 2010

145

web-based gui : webmin wins them all

R E F

chandra August 28, 2010

146

Hi ite really very very nice which is helful to fresher.

Thanks a lot.....

Regards
Amuri Chandra

R E F

George August 30, 2010

147

Great resource...Really helpful for a novice as well for an expert...

R E F

SHREESAI LUG September 4, 2010

148

hiiiiiiiiii
we r SHREESAI LINUX USER GROUP FRM MUMBAI
THIS COMMANDS R REALLY NICE

THANKS

VIVEK SIR
PLZ REPLY US ON MAIL

R E F

Tunitorios September 12, 2010

149

Thanks for this great tips.

My question is how to show the username(s) wich are connected to the server and they are using ftp protocole ?

R E F

mark seger September 12, 2010

150

I don't believe that ftp usage by user is recorded anywhere, so you'd have to get inventive. The way I would do it is use collectl to show both processes sorted by I/O and ftp stats. Then is simply becomes a matter of see which processes are contributing to the I/O and who their owners are.

-mark

R E F

jan February 24, 2011

151

Usually ftp access are recorded in /var/log/messages file (at least pure-ftpd)

R E F

sriram September 12, 2010

152

Dumpcap is another command which is useful for capturing packets. Very useful tool

R E F

Riadh Rezig September 12, 2010

153

There is another tools "Incron" :

This program is an "inotify cron" system. It consists of a daemon and a table manipulator. You can use it a similar way as the regular cron. The difference is that the inotify cron handles filesystem events rather than time periods.

R E F

eaman September 14, 2010

154

discus is a nice / light tool to have an idea of file system usage.

R E F

Amzath September 14, 2010

155

Handy list.

Also, these might be handy as well...

lsdev – list of installed devices

lsmod – list of installed modules

ldd – to see dependencies of a executable file

watch – automated refresh of any code every specified seconds, etc

stat – details of any file

getconf – to get HP server details
runlevel – redhat run level

Search in web for more detailed info.

Good luck...

R E F

Rafiq September 20, 2010

156

Hi guys,
I m totally new to the linux & this web aswell.
Would some1 help me here regarding, mirrordir utility?
what would b the full syntax if i only want to copy/mirror changed/edited files from
source to destination. since last mirror.
And how to define specific time to run this command, i mean schedule.
Thanks in advance.

R E F

Jalal Hajigholamali September 20, 2010

157

Hi,

use "rsync" command..

R E F

leebert September 28, 2010

158

Don't forget systemtap (stap) which provides the equivalent of Solaris' invaluable "dtrace"
scripting utility. There's a "dtrace" for Linux project but I haven't been able to get it to compile
on my OpenSuSE 11.x.

On SuSE Linux is "getdelays" , enabled via the grub kernel command line "delayacct" switch
(starting with SuSE 10 Enterprise...). It'll reveal the amount of wait a given process spends
waiting for CPU, disk (I/O) or memory (swap), great for isolating lag in the system.

There are many many other monitoring tools (don't know if these were mentioned before)
atopsar (atop-related), the sysstat/sar-related sa* series (sadc, sadf, sa1), isag, saidar,
blktrace (blktrace-blkiomon / blktrace-blkparse), iotop, ftop, htop, nigel's monitor (nmon),
famd/fileschanged, acctail, sysctl, dstat, iftop, btrace, ftop, iostat, iptraf, jnettop, collectl,
nagios, the RRD-related tools, the sys-fs tools, big sister/brother ... you could fill a book with
them all.

R E F

Lonu Feruz September 29, 2010

159

please help where I can insert the command of route add of a node. whenever the server is
up i have to re do the command. I need to know where i can put this command permanently

R E F

nagaraju October 1, 2010

160

IT IS SUPERB LIST

R E F

MAHENDRASINGH October 2, 2010

161

thanx
your collection is fantastic.

now i want to know that, how linux works

R E F

Rino Rondan October 7, 2010

162

Thanx !!!

A really completed guide !

R E F

games October 8, 2010

163

thank you so much it's very usefull for me

R E F

sameer October 15, 2010

164

ThanX..!!

can u send basic linux commands with ex
Thanks again

R E F

Gunjan October 17, 2010

165

Nice post, its really useful and helping beginners to resolve server issue

R E F

Moe October 19, 2010

166

another good tool for monitoring traffic and network usage:
vnstat
this also makes statistics for bandwidth usage over time which can be display for daily,
weekly and monthly usage. very useful if you don't want to install a web-based tool for this.

R E F

vishal sapkal October 19, 2010

167

very nice
very importan tool of monetering
thanks for

R E F

david a. lawson October 22, 2010

168

this rocks. it could not have come at a better time as i am into my first networking course.
thanks so much... i found this through stumbleupon linux/unix

R E F

ram November 12, 2010 169

well,there are so good,i love them!

R E F

Raj Kapoor M November 30, 2010 170

Hi,
It's awesome.....thanks to builder.....
Thanks&Regards,
Raj Kapoor M

R E F

jalexandre December 2, 2010 171

Perl?!

R E F

jalexandre December 2, 2010 172

And a good Sysadmin always can count with you preferred script language.

I using perl for monitoring a lot of basic infra structure services, like DHCP, DNS, Ldap, and Zabbix for generate alarms and very nice graphs.

R E F

Sarath Babu M December 11, 2010 173

Hi,

One of My Professor is introduce about the Ubuntu This os is I like very much this flyover.
Before I am Using XP but now I download all app. and I all applications. i always love linux,
great article.

sarath

R E F

Laxman December 23, 2010 174

Very interesting I will try
I hope it'll help for me

R E F

sah December 23, 2010 175

thanks alot ... its a great help~!

R E F

KK December 25, 2010 176

Sumo is the best, the best that ever was and the best that ever will be.

Way to go Sumo

R E F

Deepak January 6, 2011

177

Thanks This is really helpful....

R E F

mark January 7, 2011

178

How would I get a list of slow running websites on my server via ssh?

R E F

nigratruo January 13, 2011

179

Great list, but why is TOP still used?

It is a highly limited utility. HTOP can do all top can, plus a ton of stuff more:

1. use colors for better readability. In the 21st century, all computers have a super hightech thing on their monitor called COLORS (sarcasm off)
2. allow process termination and sending of signals (even multi select several processes)
3. show cpu / ram usage with visual bars instead of numbers
4. show ALL processes: top cannot do that, it just shows what is on the screen. It is the main limiting factor that made me chuck it to the curb.
5. Use your cursor keys to explore what cannot be shown on the screen, for example full CLI parameters from commands.
6. Active development. There are new features. Top is dead and there does not seem to have been any active development for 10 years (and that is how the tool looks)

R E F

coldslushy February 7, 2011

180

Colors? Too resource intensive...

R E F

abdul hameed February 2, 2011

181

Dear All,

My Oracle Enterprise Linux getting very slow, when my local R12.1 start.

by using "top" command i found lot of Database users are running.
normally in other R12 instance only few Database users are available. can any one tell me what might be the problem,, is it OS level issue or my Application Issue.. where i have to start the tuning .

Kindly advice me.

Thanks in Advance,
Abdul Hameed

R E F

Vimal February 9, 2011

182

Shit, this looks great! Thanks very much.

R E F

Michael February 10, 2011

183

“My Oracle Enterprise Linux getting very slow, when my local RHEL start.”

Arghh! Linux is turning into Windows!

These are super machines, people! Remember when 4.2BSD came out, and people were saying “Unix is becoming VMS”? With 4.1 BSD, we had been flying on one MIPS machines (think of a one Mhz clock rate – three orders of magnitude slower than today’s machines, not Ghz... Mhz!). So much was added so quickly into 4.2 (kernels were no longer a few hundred kilobytes at most) that performance took a nose dive. But then 4.3 BSD fixed things for a while (with lots of optimizations such as unrolling the instructions in a bcopy loop till they just filled an instruction cache line). It didn’t hurt either that memory was getting cheaper, and we could afford to upgrade our 30 user timesharing systems from four Megabytes to eight Megabytes, or even more! It takes an awful amount of software bloat (and blind ignorance of the principles we all learned in our “combinatorial algorithms” classes) to be able to make machines that are over a thousand times faster than the Vaxen we cut our teeth on be “slow”.

Today’s Linux systems hardly feel much faster on multicore x86 machines than they did on personal MicroVaxes or the somewhat faster Motorola 68020 based workstations (except for compilations, which now really scream by – compiling a quarter meg kernel used to take hours, whereas now it feels like barely seconds pass when compiling kernels that, even compressed, are many times larger. But then, compiler writers for the most part (25 years ago, Green Hills employees seemed a glaring exception and I don’t know about Microsoft) have to prove they have learned good programming practices before their skills are considered acceptable). Other software, like the X server, still feels about the same as it did in the eighties, despite today’s machines being so much faster. And forget about Windows!

R E F

benjamin ngobi February 15, 2011

184

wow these are great tools one should know.thank you so much coz it just makes me better every day

R E F

Mousin February 16, 2011

185

Awesome Thanks a ton worth a bookmark..

R E F

krishna February 23, 2011

186

Friends I have typed the corrected question here below. Please let me know if you can help:

Part1 : Find out the system resources — CPU Usage, Memory Usage, & How many process are running currently in “exact numbers”?, what are the process?

Part2: Assume a process CACHE is running on the same system — How many files are opened by CACHE out of the total numbers found above?? what are the files used by CACHE? What’s the virtual memory used by the process. What is the current run level of the process.

Part3: How many users or terminals are accessing the process CACHE?

Part4: The script should run every 15secs with the time of execution & date of script and the output should be given to a file “richprocess” in the same order as that of the question.

Note: NO EXTERNAL TOOLS are allowed to be used with linux. Only shell script should be written for the same!

R E F

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