Linux distributions come with many standard performance and profiling tools already installed. Some of them may be familiar from other UNIX-like operating systems, while others were developed specifically for Linux.

Many of these tools gather their information from the **/proc** pseudo-filesystem. There are also graphical system monitors that, while hiding many of the details, are still extremely useful. We will consider available graphical interfaces after detailing the command line utilities.

Before considering the main utilities in some detail, we will give a brief summary. We will break them down by type, although some of the utilities have overlapping domains of coverage. We will also give the name of the package they belong to, which is not important and may vary among different Linux distributions and releases.

Process and Load Monitoring Utilities

Utility	Purpose	Package
top	Process activity, dynamically updated	**procps**
uptime	How long the system is running and the average load	**procps**
ps	Detailed information about processes	**procps**
pstree	A tree of processes and their connections	**psmisc** (or **pstree**)
mpstat	Multiple processor usage	**sysstat**
iostat	CPU utilization and I/O statistics	**sysstat**
sar	Display and collect information about system activity	**sysstat**
numastat	Information about NUMA (Non-Uniform Memory Architecture)	**numactl**
strace	Information about all system calls a process makes	**strace**

Memory Monitoring Utilities

Utility	Purpose	Package
free	Brief summary of memory usage	**procps**
vmstat	Detailed virtual memory statistics and block I/O, dynamically updated	**procps**
pmap	Process memory map	**procps**

I/O Monitoring Utilities

Utility	Purpose	Package
iostat	CPU utilization and I/O statistics	**sysstat**
iotop	I/O statistics including per process	**iotop**
sar	Display and collect information about system activity	**sysstat**
vmstat	Detailed virtual memory statistics and block I/O, dynamically updated	**procps**

Network Monitoring Utilities

Utility	Purpose	Package
netstat	Detailed networking statistics	**netstat**
iptraf	Gather information on network interfaces	**iptraf**
tcpdump	Detailed analysis of network packets and traffic	**tcpdump**
wireshark	Detailed network traffic analysis	**wireshark**