## ??

Sar - RedHat/CentOS ????????????

???

- ??? CentOS/RedHat 5+??????????
- ??????????????????????????????????

### ?????????????

- CPU / IO / System / Nice / Idle percentages
- Network Traffic / Network Errors
- Load Average and Run queue
- Interrupts
- Memory Free / Cached / Buffered / Swapped
- Device usage per Major/Minor number
- And many others

?????[How to use SAR to Monitor System Performance in Red Hat Enterprise Linux](#) (???????????????)

## Sar ????

- SAR writes to log files in /var/log/sa. This directory holds two types of files - sa\#\# files (binary) and sar\#\# files (text).
- The number at the end of the file corresponds to the day of the month that file was recording.
- For example, an sa03 file refers to the 03 day of the month.
- When the sysstat package is installed it places a file into /etc/cron.d/sysstat.
- This sets up two cron jobs.
    1. job to record statistics every 10 minutes.
    2. job to write the binary sa\#\# file to a text sar\#\# file once a day (typically right before midnight).
- Additionally, it places a configuration file in /etc/sysconfig/sysstat.
- ??????????????????????????? /etc/sysconfig/sysstat?
  Note that RHEL 4/5 sysstat does not support keeping more than 1 month of data; however, in RHEL6 if a HISTORY value greater than 28 is declared, SAR log files are automatically split up into separate directories.

Sar Cron Jobs?

/etc/cron.d/sysstat

```
# run system activity accounting tool every 10 minutes
*/10 * * * * root /usr/lib/sa/sa1 1 1
```

```
# generate a daily summary of process accounting at 23:53
```

53 23 * * * root /usr/lib/sa/sa2 -A

If it is desired for SAR to collect data more frequently, simply change "*/10" to a new interval.

For example, if to make SAR to track every 5 minutes, simply change to "*/5".

> NOTE: SAR does not add significant load to a server. It safely can be tuned down to 2 minute intervals without seeing a significant problem. SAR also does not grab individual block data.

## ??
RedHat 5/6/7

yum install sysstat

## ????
???? CPU ??

// ?????
sar -P ALL

// ?? CPU
sar -u

?????? 13 ??????

sar -n ALL -f /var/log/sa/sa13

???????? 7 ? ?? 10:00 - 14:00 ???????????????????

sar -r -s 10:00:00 -e 14:00:00 -f /var/log/sa/sa07 -o /tmp/mem.txt

## ????

CPU
sar -u 1
sar -u 1 10

Memory
sar -r 1
sar -r 1 10

Swap
sar -S 1
sar -S 1 10

I/O
sar -b 1
sar -b 1 10
sar -p -d 1
sar -p -d 1 10

**?????**
RedHat ??????????????

I/O ????: https://access.redhat.com/labs/rhiou/

??????? lsblk ??????????? lsblk.out????????????? sarXX ??????????????? I/O ??????

Memory ????: https://access.redhat.com/labs/rhma/

**????**

- Sar command usage with examples in Linux
- The Sysadmin's Toolbox: sar