

vmstat

Case #1: CPU & RAM ???

```
[root@deki ~]# vmstat 2
```

```
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    60 163016 252108 363996    0    0     4  172   23   16  2  3  94  0  0
 0 0    60 163016 252108 363996    0    0     0   60 1025  248  0  0 100  0  0
 0 0    60 163016 252108 364000    0    0     0    0 1073  416  3  4  94  0  0
 0 0    60 163016 252108 364000    0    0     0    0 1042  248  0  0 100  0  0
 0 0    60 163016 252108 364000    0    0     0   54 1030  249  0  0  99  0  0
 0 0    60 163016 252108 364000    0    0     0    0 1032  247  0  1 100  0  0
 0 0    60 163016 252108 364000    0    0     0    0 1035  228  0  0 100  0  0
 0 0    60 162892 252108 364000    0    0     0   12 1041  516 12 68  21  0  0
 0 0    60 162892 252108 364000    0    0     0    0 1020  240  0  0 100  0  0
 0 0    60 162892 252108 364000    0    0     0   42 1024  249  0  0 100  0  0
 0 0    60 162892 252108 364000    0    0     0    0 1035  248  0  0 100  0  0
 0 0    60 162892 252108 364000    0    0     0    2 1029  267  0  1  99  0  0
 0 0    60 163016 252108 364000    0    0     0    0 1018  219  0  0 100  0  0
 0 0    60 163016 252108 364000    0    0     0   12 1026  603  7  8  85  0  0
 1 0    60 163016 252108 364004    0    0     0    0 1044  270  0  0 100  0  0
 0 0    60 163016 252108 364004    0    0     0    0 1025  267  0  0 100  0  0
 7 0    60 162272 252108 364004    0    0     0   54 1026 1127  8 14  78  0  0
```

Case #2: CPU ???RAM ???

```
procs -----memory----- ---swap-- -----io----- --system-- -----cpu-----
 r b  swpd  free  buff  cache   si   so    bi   bo   in   cs  us  sy  id  wa  st
13 0    0 204372 46688 3261856    0    0     0 3146 2024 5151 18 82  0  0  0
15 0    0 204248 46708 3261900    0    0     4 3920 1919 5839 17 83  0  0  0
11 1    0 204248 46716 3261956    0    0     6 2940 1868 4863 19 81  0  0  0
16 1    0 209212 46736 3262004    0    0     4 5142 2194 5447 17 83  0  0  0
 8 0    0 210332 46776 3262248    0    0    122 3002 2267 5818 15 85  0  0  0
```


NOTE: r b swpd free buff cache si so bi bo

vmstat I/O r b

Tips:

- r -
- b - IO Swapping
- swpd - (KB)
- free - (KB)
- buff - (KB)
- cache - (KB)
- si - ? swap disk ??? RAM(KB)
- so - ? RAM ?? swap disk(KB)
- bi - ??? swap disk ???
- bo - ? RAM ?? swap disk ???

CPU:

- us - User ?? CPU %
- sy - System ?? CPU %
- id - Idle ?? CPU %
- wa - ?? I/O Waiting CPU %
- st - ??? CPU % (kernel 2.6.1 ???)

???

1. r 1 id ??? 40% CPU ???
2. free cache swap disk (so,bo)?
3. cache bi
4. ?? swapd 0?? si, so 0??
5. ?? bi, bo si, so 0?? IO
6. ?? bi, bo ? si, so swapping ???RAM ???
7. kswapd 32 ? pages pages_high(???)?
8. pdflush
9. bi ? bo ?? 0 I/O storage?HBA

Case #4:NetApp storage ?? IO bottleneck

???: AP ?? SQL ???

???:

- ?????? CPU?Memeory ????
- ?????????????????? AP ??????
- ?????????? nmon ????? IO??? Read ?????? 100%?? IOPS ?????????? (?? 100 KB)
- ? vmstat ?? bi ? bo??? IO ?????????????????????? ???10????????????????????? 100 - 200 ???????

Revision #3
Created 2022-02-10 02:28:37 CST by A-Lang (Admin)
Updated 2022-02-10 02:41:46 CST by A-Lang (Admin)