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FreeBSD: Benchmark The Disks Seek And Transfer Performance

Posted by Vivek Gite <vivek@nixcraft.com>

[1]

How do I perform a simple and rather naive benchmark of the disks seek and transfer performance under FreeBSD operating system? How do I perform a simple measurement of the I/O read command overhead for my RAID-1 array under FreeBSD operating systems?

You need to use the diskinfo command, which displays out information about a disk device, and optionally runs a naive performance test on the device. The -t option is used for a simple performance test.

Contents

Simple Measurement Of The I/O Read

The -c option triggers a simple measurement of the I/O read command overhead, enter:

```
# diskinfo -c /dev/aacd0
```

Sample Outputs:

```
/dev/aacd0
 512           # sectorsize
 299573968896 # mediasize in bytes (279G)
 585105408     # mediasize in sectors
 36421         # Cylinders according to firmware.
 255           # Heads according to firmware.
 63            # Sectors according to firmware.

I/O command overhead:
 time to read 10MB block      0.062739 sec =    0.003 msec/sector
 time to read 20480 sectors   1.169154 sec =    0.057 msec/sector
 calculated command overhead   =    0.054 msec/sector
```

Simple Benchmark Of The Disks

The -t option triggers a simple and rather naive benchmark of the disks seek and transfer performance, enter:

```
# diskinfo -t /dev/aacd0
```

Sample Outputs:

```
/dev/aacd0
 512           # sectorsize
 299573968896 # mediasize in bytes (279G)
 585105408     # mediasize in sectors
 36421         # Cylinders according to firmware.
 255           # Heads according to firmware.
 63            # Sectors according to firmware.

Seek times:
 Full stroke:   250 iter in   0.724105 sec =    2.896 msec
 Half stroke:   250 iter in   0.716784 sec =    2.867 msec
 Quarter stroke:   500 iter in   2.109663 sec =    4.219 msec
 Short forward:   400 iter in   1.621695 sec =    4.054 msec
```

```
 Short backward:   400 iter in   1.624951 sec =    4.062 msec
 Seq outer:  2048 iter in   0.119046 sec =    0.058 msec
 Seq inner:  2048 iter in   0.217687 sec =    0.106 msec
Transfer rates:
 outside:       102400 kbytes in   0.649656 sec =   157622 kbytes/sec
 middle:        102400 kbytes in   0.523038 sec =   195779 kbytes/sec
 inside:        102400 kbytes in   0.745649 sec =   137330 kbytes/sec
```

Other Software

Bonnie++ Performance Test of Filesystem I/O [5] : Bonnie tests the speed of file I/O using standard C library calls. It does reads and writes of blocks, testing for the limit of sustained data rate (usually limited by the drive or controller) and updates on a file (better simulating normal operating conditions and quite dependent on drive and OS optimisations).