zStorage for HPCs and other systems

Sometimes a local hard drive(s) is all you need. But often the right solution is something else. Look here for info. related to alternatives, some of which are successfully used in production and very cost-effective.

Performance speeds of Synology Box used on Matrix

From: Lulu Zhu

Sent: Friday, July 18, 2014 3:52 PM

To: Chemistry IT Admin

Subject: RE: NAS and local drive speed

This is right one. Sorry for the confusing.

Re-test head node to local 4T drive:

- write speed 165M/sec
- rewrite speed 82M/s
- read speed 251M/s

From: Lulu Zhu

Sent: Friday, July 18, 2014 1:18 PM

To: Chemistry IT Admin

Subject: RE: NAS and local drive speed

The previous results for NAS-iscsi setting. Here is the result **from compute nodes (or from head node) to NAS-nfs**:

- write speed 104 M/sec
- rewrite speed 51 M/sec
- read speed 107M/sec

I use this command to do the test:

bonnie++ -n 0 -u 0 -r `free -m | grep 'Mem:' | awk '{print $2}'` -s $(echo "scale=0;`free -m | grep 'Mem:' | awk '{print $2}'`*2" | bc -l) -f -b -d /users

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From: Lulu Zhu

Sent: Thursday, July 17, 2014 2:01 PM

To: Chemistry IT Admin

Subject: RE: NAS and local drive speed

Here are the test results from computer nodes writing/reading to NAS or drive on headnode:

Size of file for I/O test is 126GB

NAS result:

- write speed 96.17M/sec
- rewrite speed 27.44M/s
- read speed 76.52M/s

4TB drive result:

- write speed 46.22M/sec
- rewrite speed 31.9M/s
- read speed 104M/s

From: Lulu Zhu

Sent: Wednesday, July 09, 2014 2:56 PM

To: Chemistry IT Admin

Subject: RE: NAS and local drive speed

Local SSD drive result:

- write speed 253M/sec
- rewrite speed 129M/s
- read speed 394M/s

From: Lulu Zhu

Sent: Wednesday, July 09, 2014 12:44 PM

To: Chemistry IT Admin

Subject: NAS and local drive speed

Size of file for I/O test is 63GB

NAS result:

- write speed 108M/sec
- rewrite speed 54.7M/s
- read speed 156M/s

local drive result:

- write speed 168M/sec
- rewrite speed 100M/s
- read speed 258M/s

Compare the write speed between Synology Box and local drive on 755

Numbers from Lulu Zhu, published Wednesday, May 14, 2014 11:12 AM

The speed of writing one 1GB file to Synology Box:
1073741824 bytes (1.1 GB) copied, 6.19986 s, 173 MB/s

The speed of writing one 1GB file to local drive:
1073741824 bytes (1.1 GB) copied, 7.70751 s, 139 MB/s (local)

The speed of writing two 1GB files to Synology Box:
1073741824 bytes (1.1 GB) copied, 16.7387 s, 64.1 MB/s (two files)

The speed of writing two 1GB files to local drive:
1073741824 bytes (1.1 GB) copied, 18.3784 s, 58.4 MB/s (two files)

The speed of reading one 1GB file from local drive:
1073741824 bytes (1.1 GB) copied, 0.273401 s, 3.9 GB/s