



WellOff

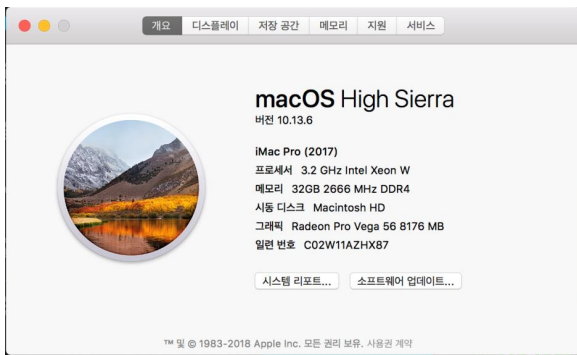
*Wellware*

*Performance*

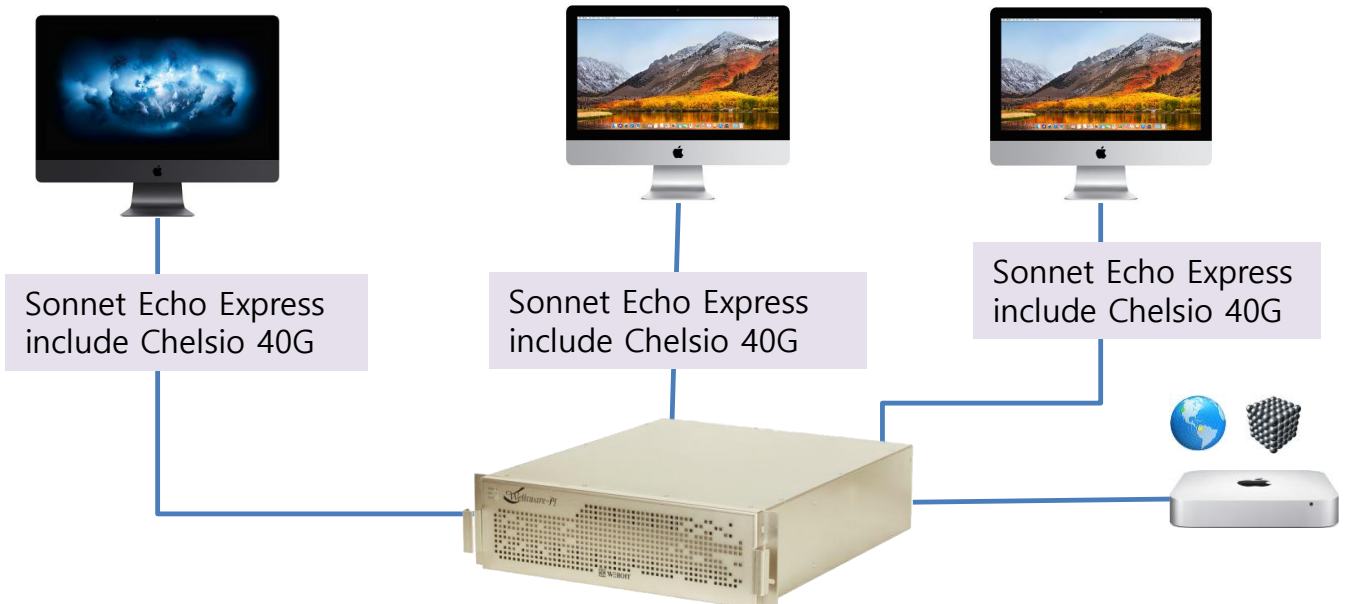
# Wellware Xsan 40G Performance

## 1. Mac Clients

1 iMacPro & 2 iMac



## 2. Xsan5 Environment



Meta : 2 SATA drives RAID 1

Data : 14 SATA drives RAID 5 + 14 SATA drives RAID 5

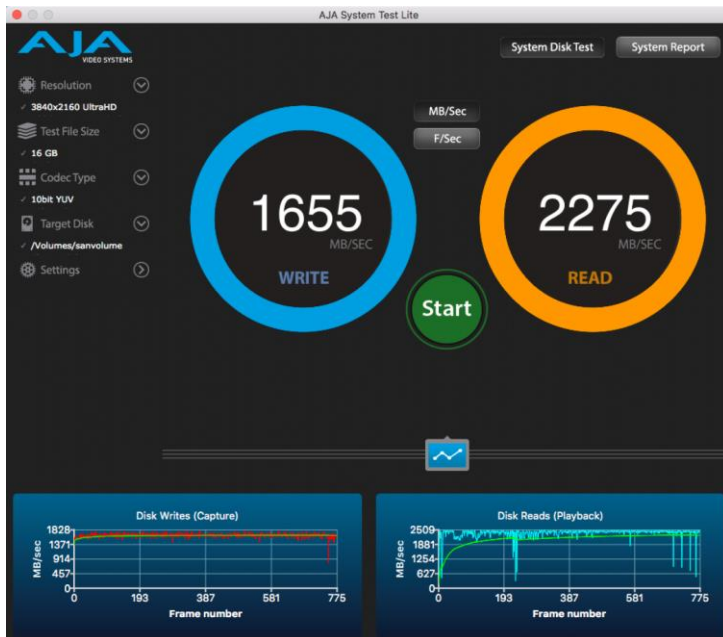
Xsan server & clients interface : iSCSI 40G

Client iSCSI Initiator : globalsan

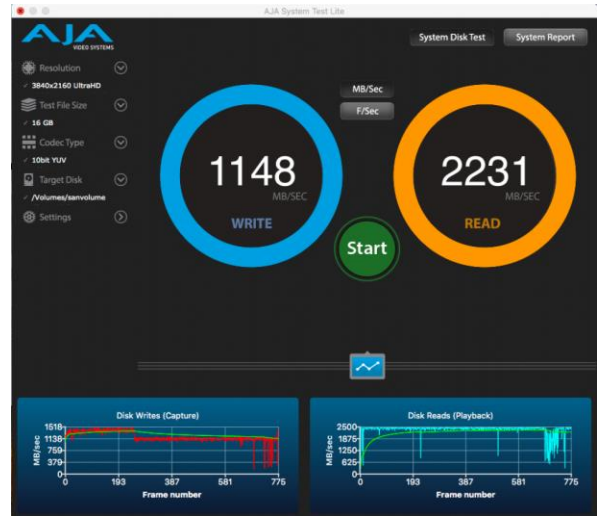
### 3. iMacPro only performance



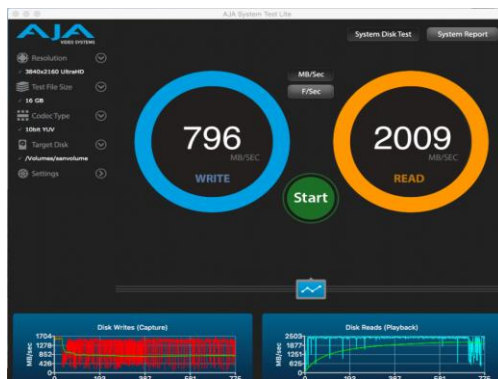
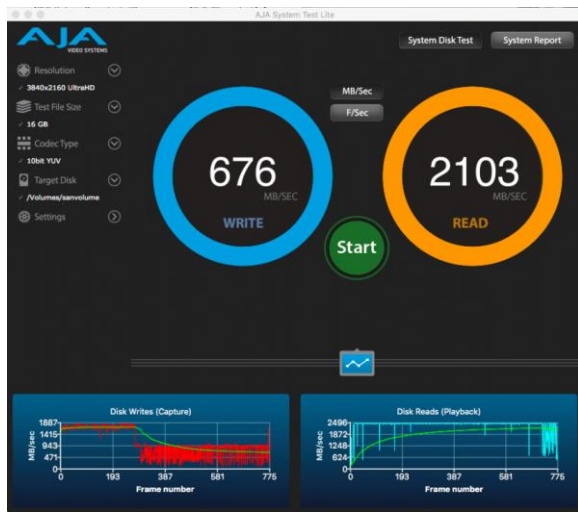
### 4. iMac only performance



## 5. iMacPro & iMac[2 Clients] simultaneous performance



## 6. iMacPro & 2 iMac[3clients] simultaneous performance



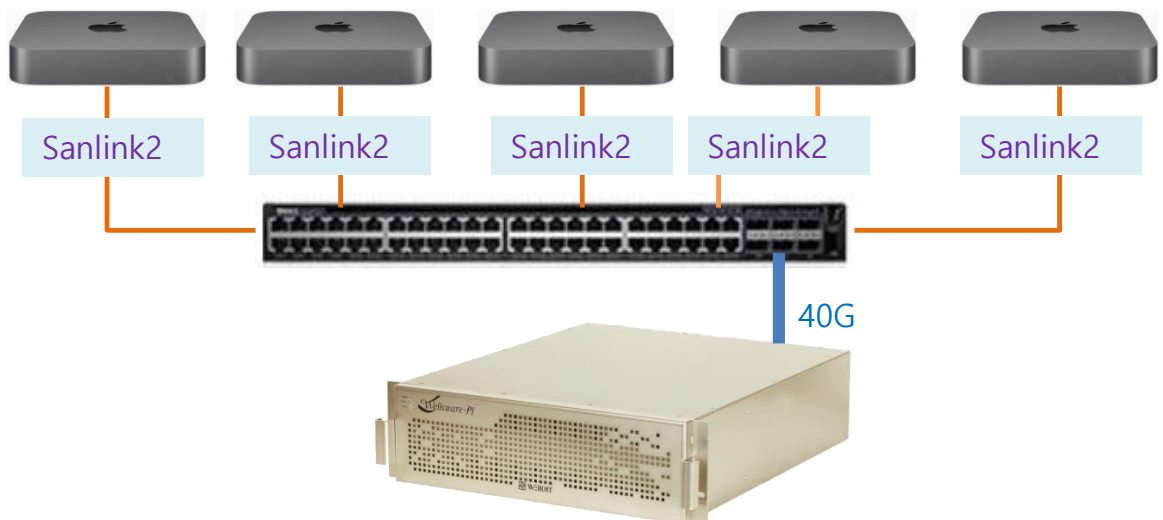
# Wellware SMB 10G Performance

## 1. Mac Machines

5 Macmini : clients



## 2. SMB Environment(Sanlink2 10G Adapter)

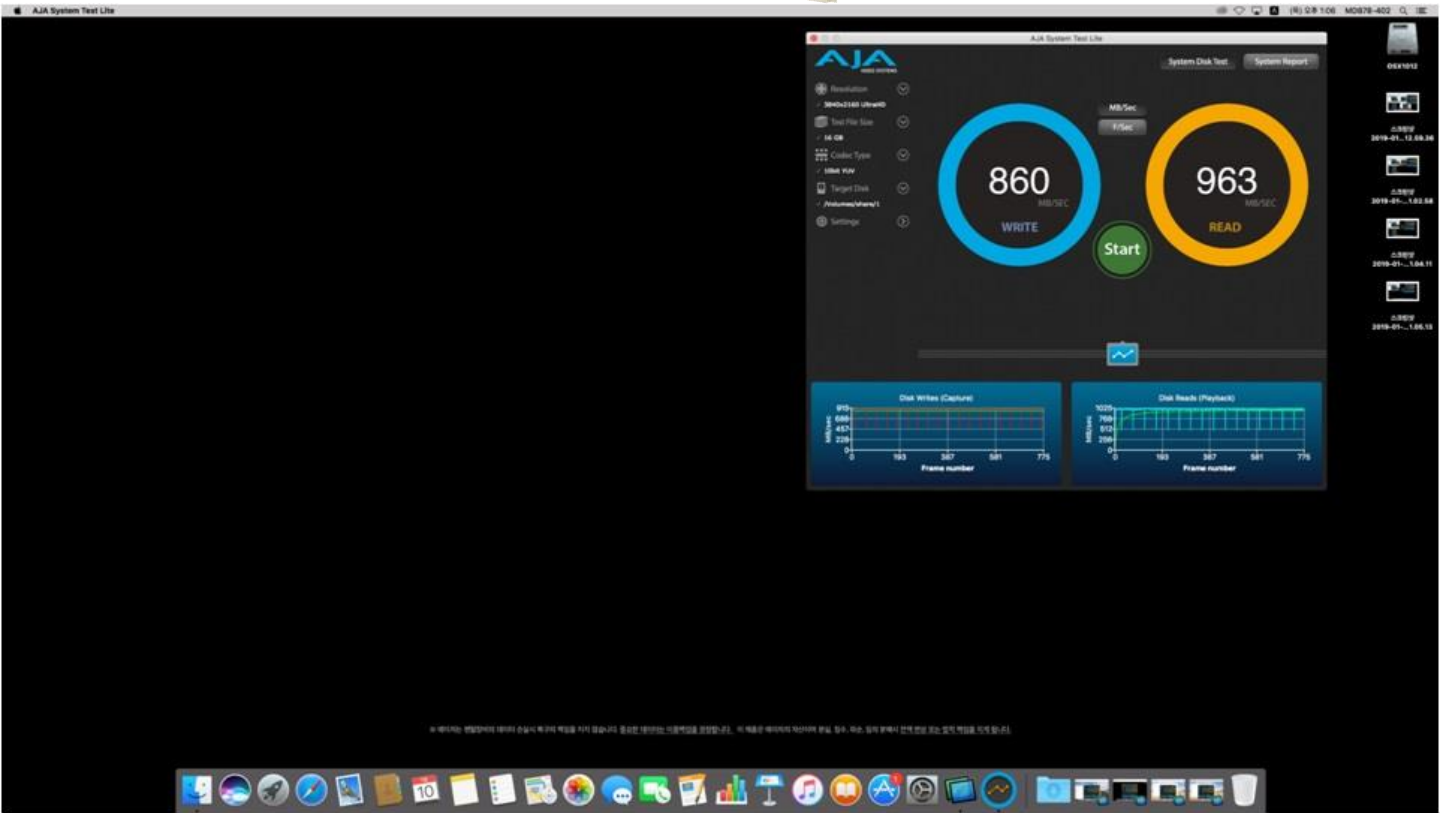


SMB NAS Connection

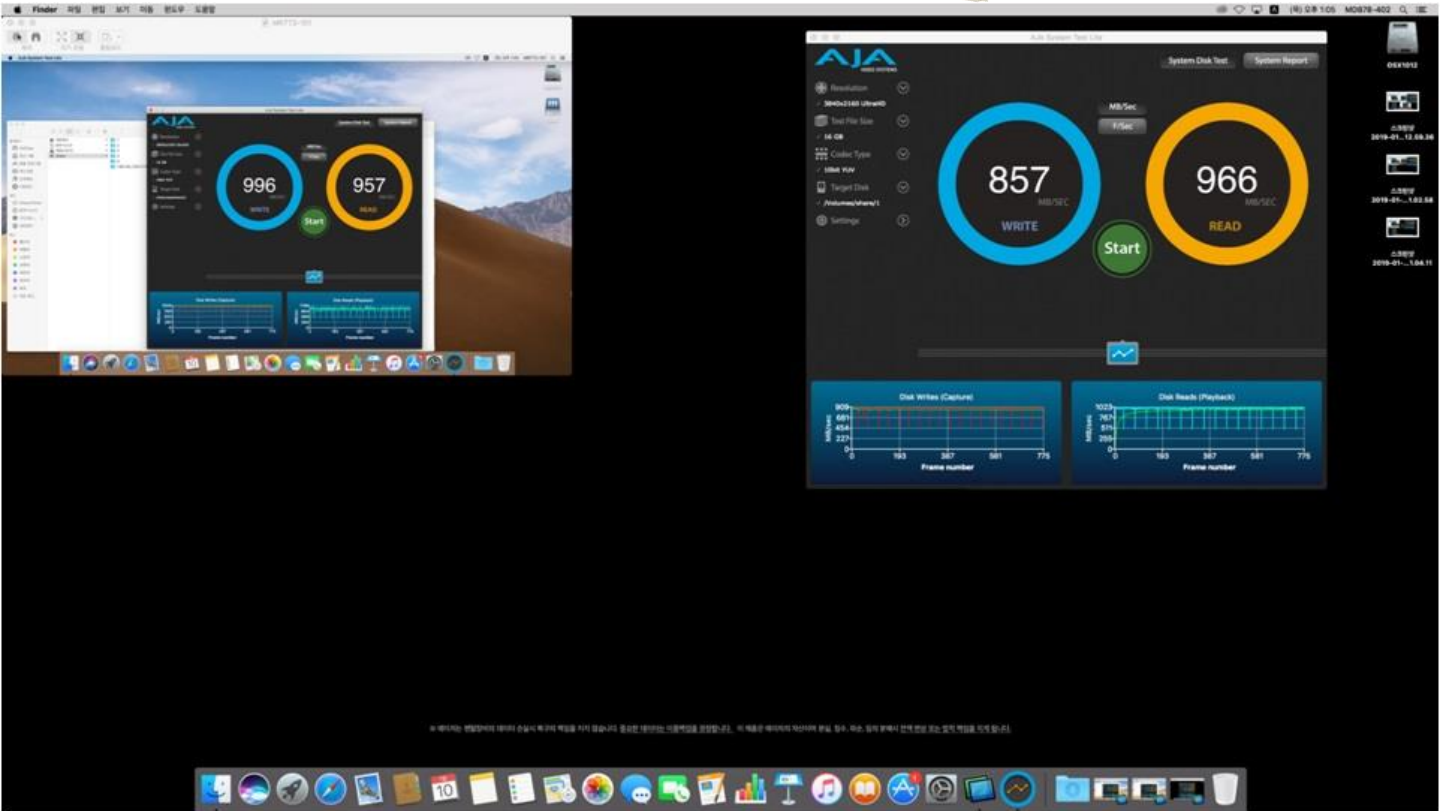
Thunderbolt to 10G adapter : Sanlink2

Switch : Dell EMC 40G 6ports to 10G 48ports

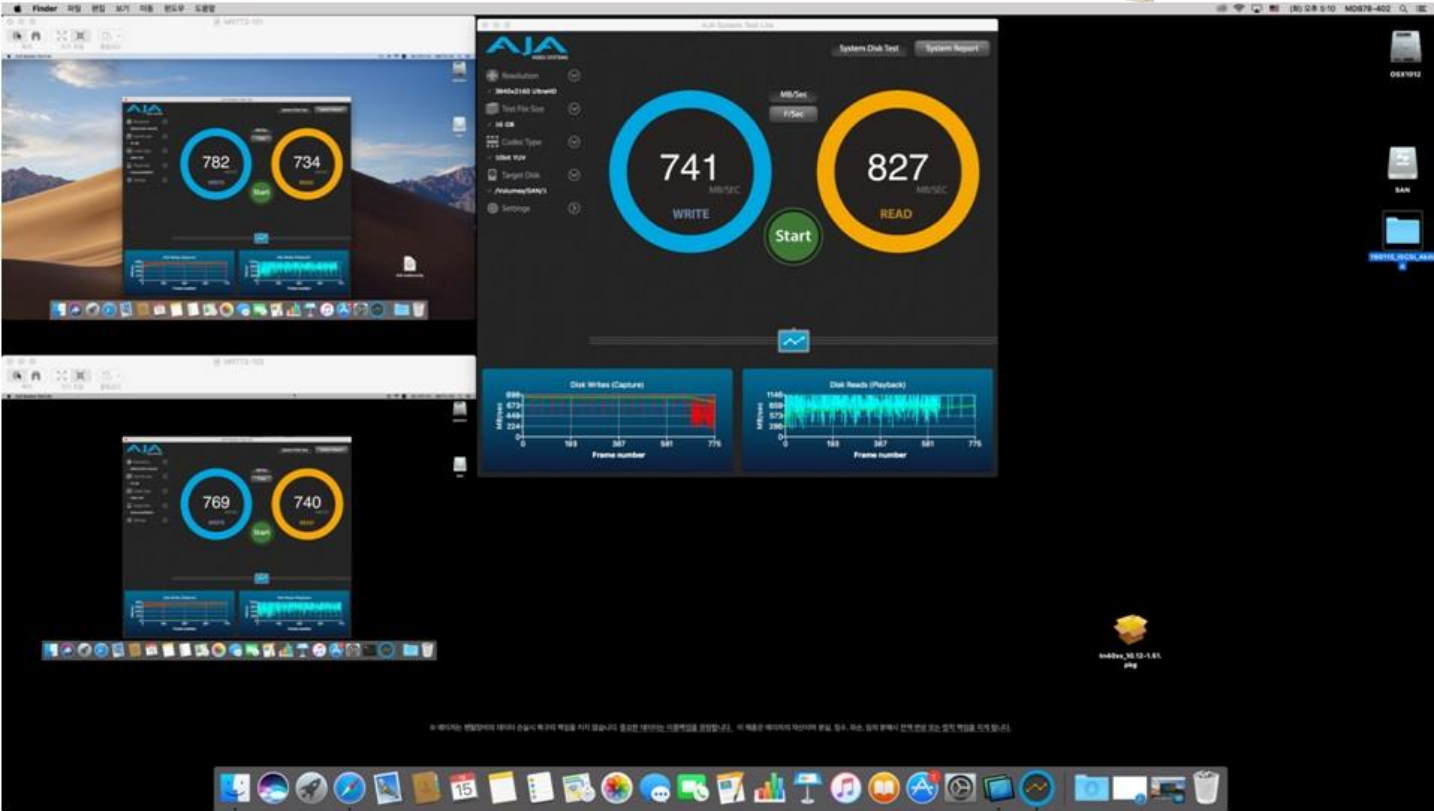
### 3. 1user performance



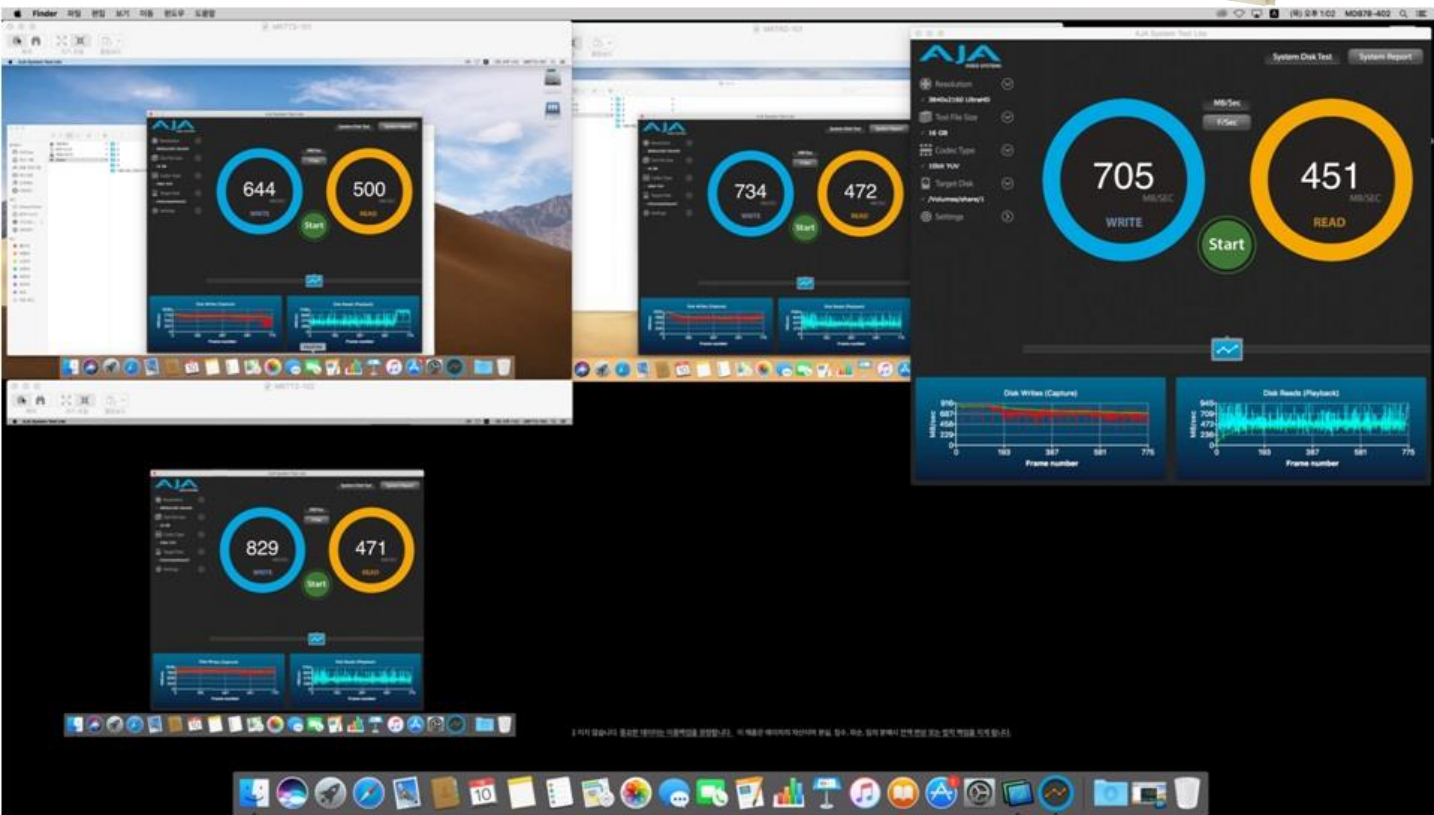
### 4. 2user performance



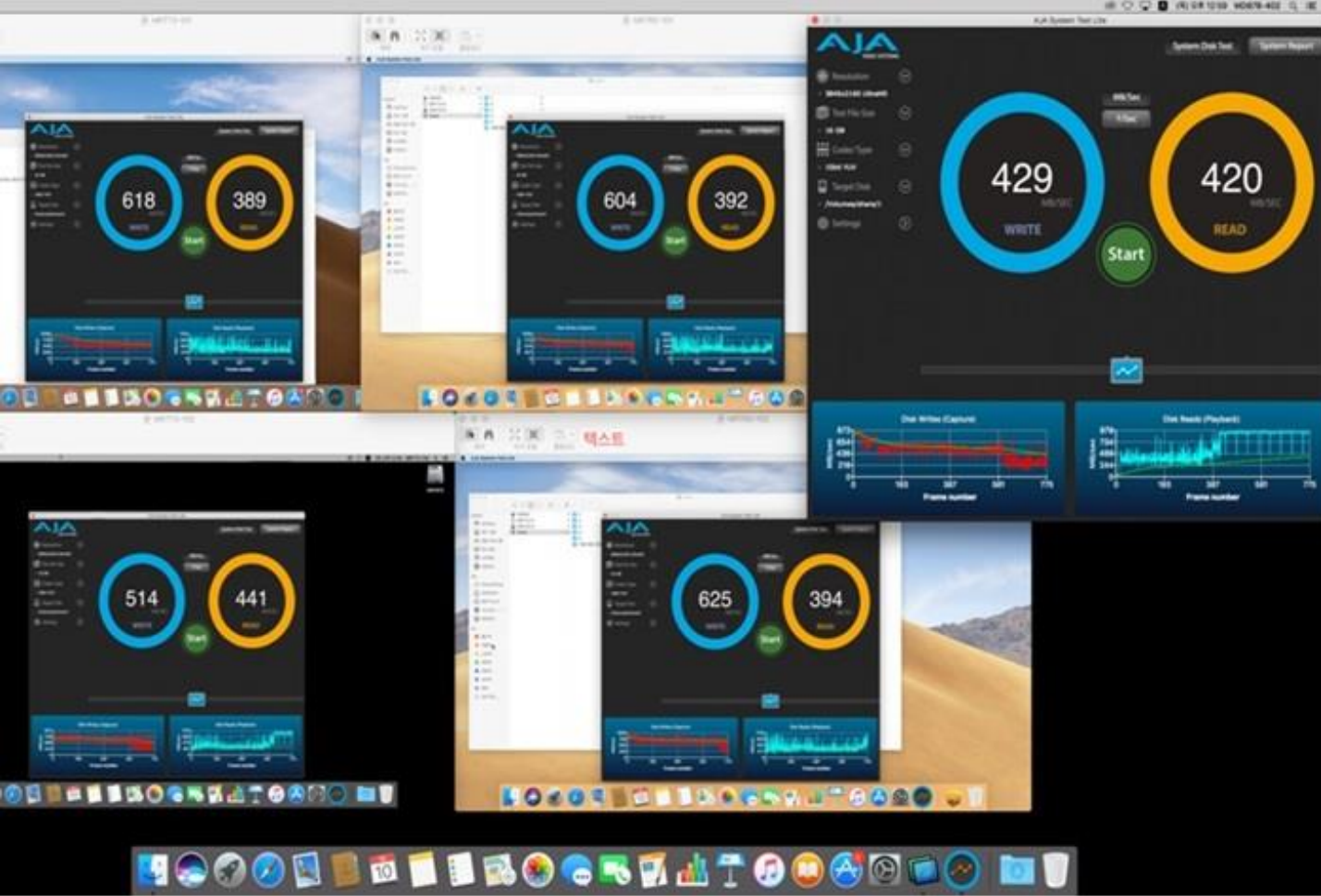
## 5. 3user performance



## 6. 4user performance



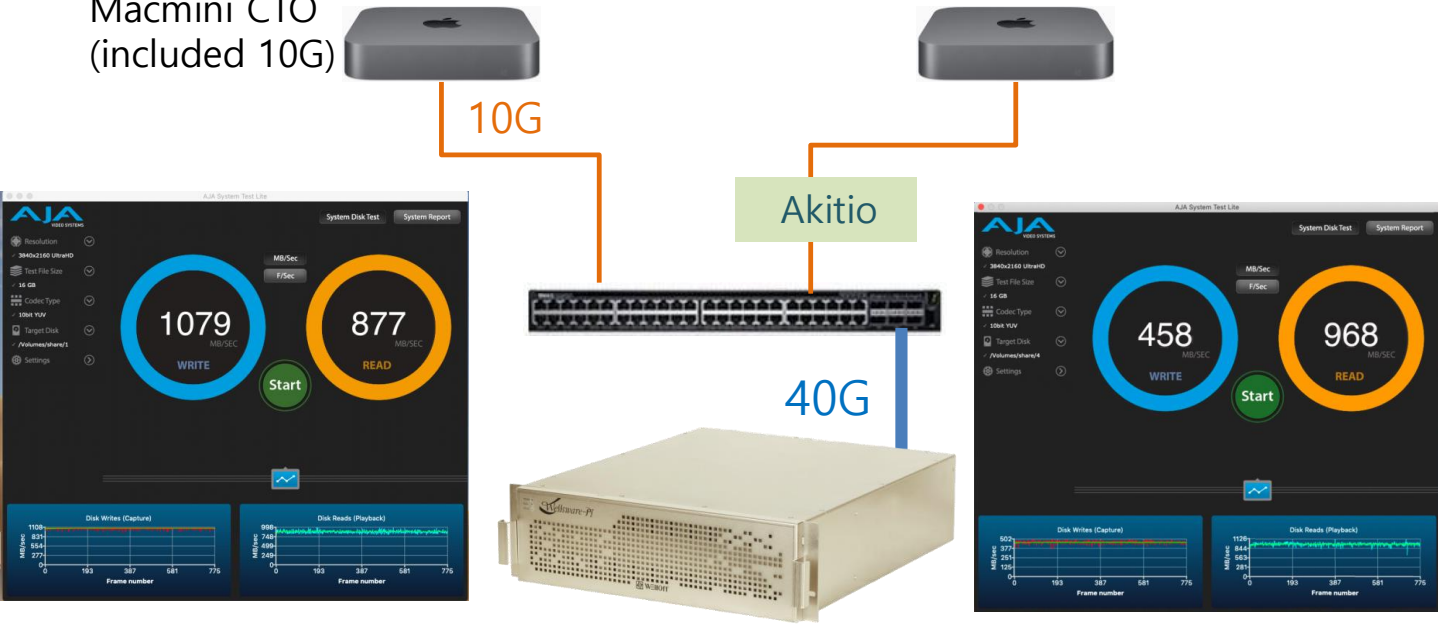
# 7. 5user performance





## 8. SMB Environment(Different 10G Adapter)

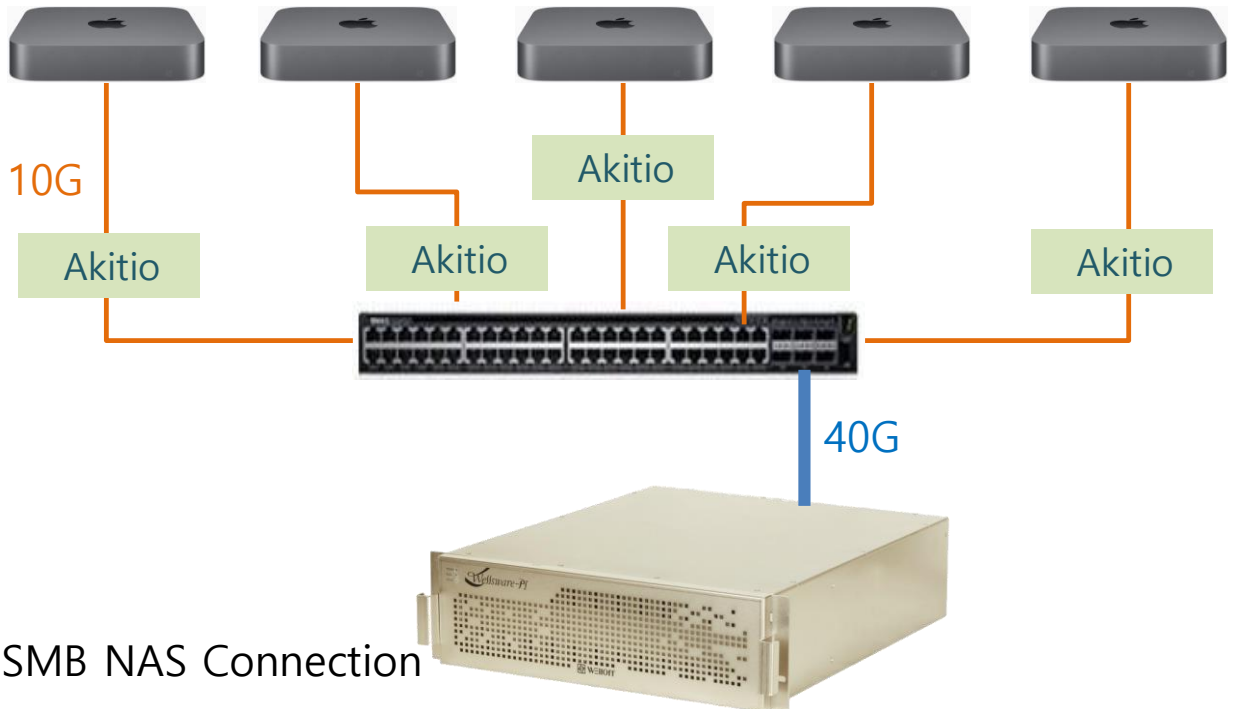
Macmini CTO  
(included 10G)



SMB NAS Connection

Switch : Dell EMC 40G 6ports to 10G 48ports

## 9. SMB Environment(Akitio 10G Adapter)



SMB NAS Connection

Thunderbolt to 10G adapter : Akitio

Switch : Dell EMC 40G 6ports to 10G 48ports

# 10. 2user performance



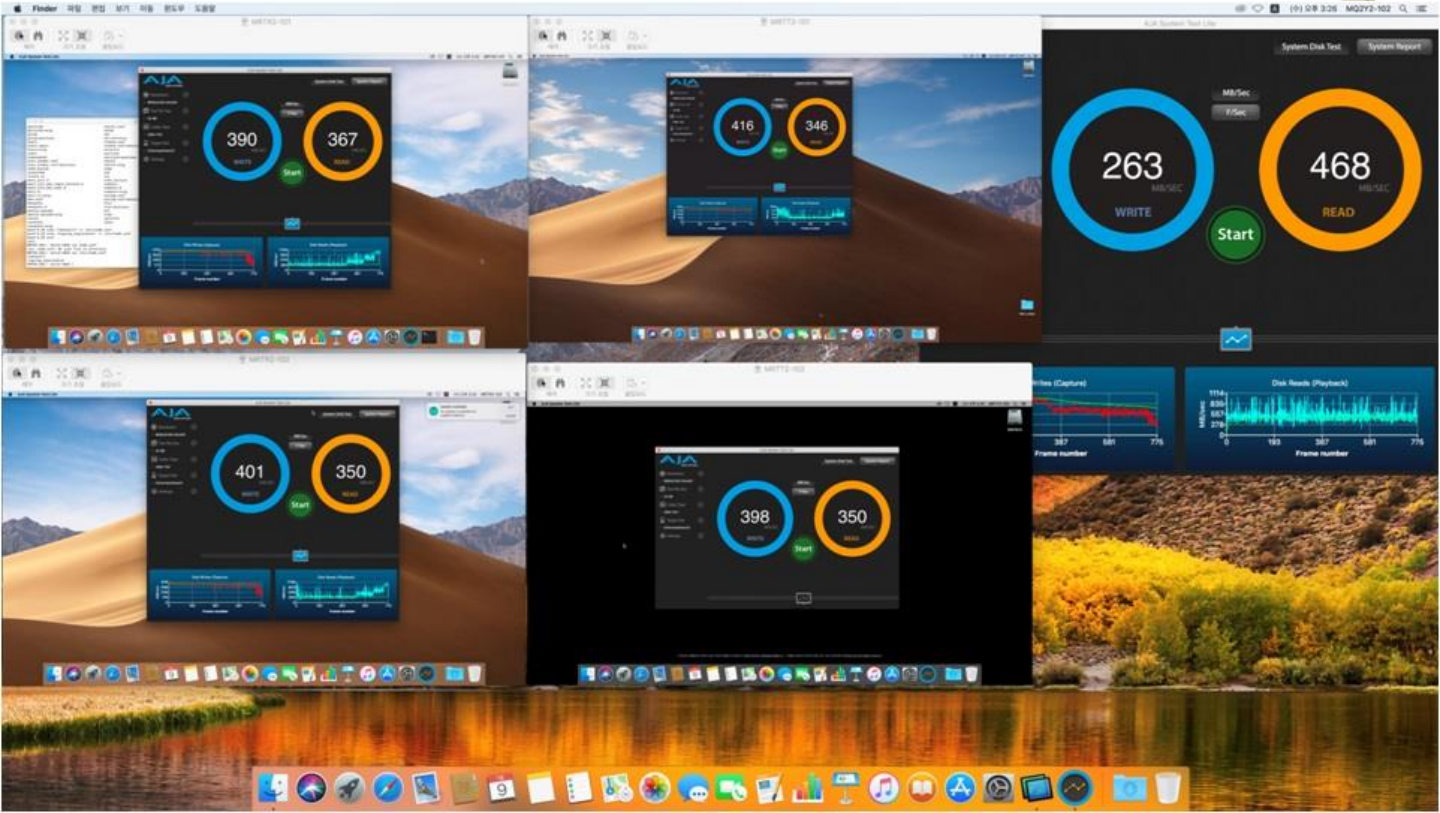
# 11. 3user performance



## 12. 4user performance



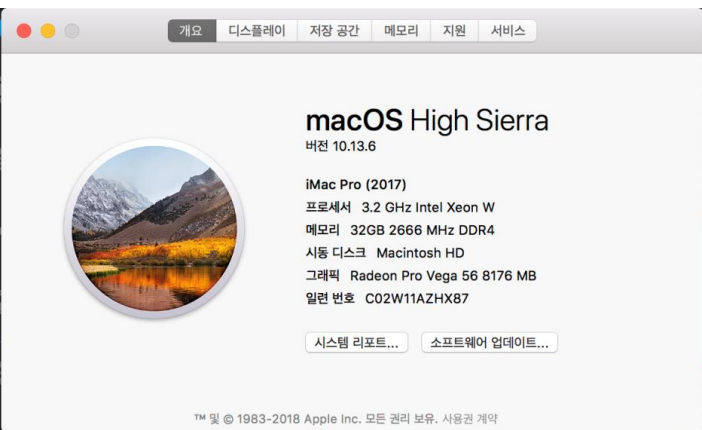
## 13. 5user performance



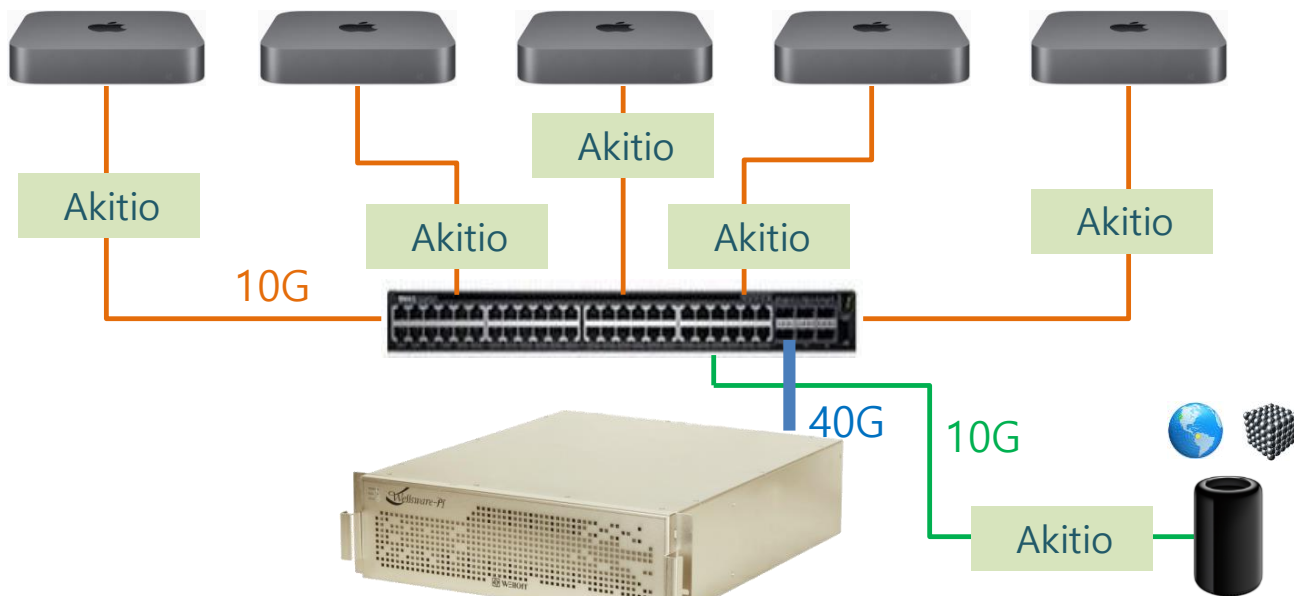
# Wellware Xsan 10G Performance

## 1. Mac Machines

1 Mac Pro : Xsan server & 4 Macmini : clients



## 2. SAN Xsan5 Environment



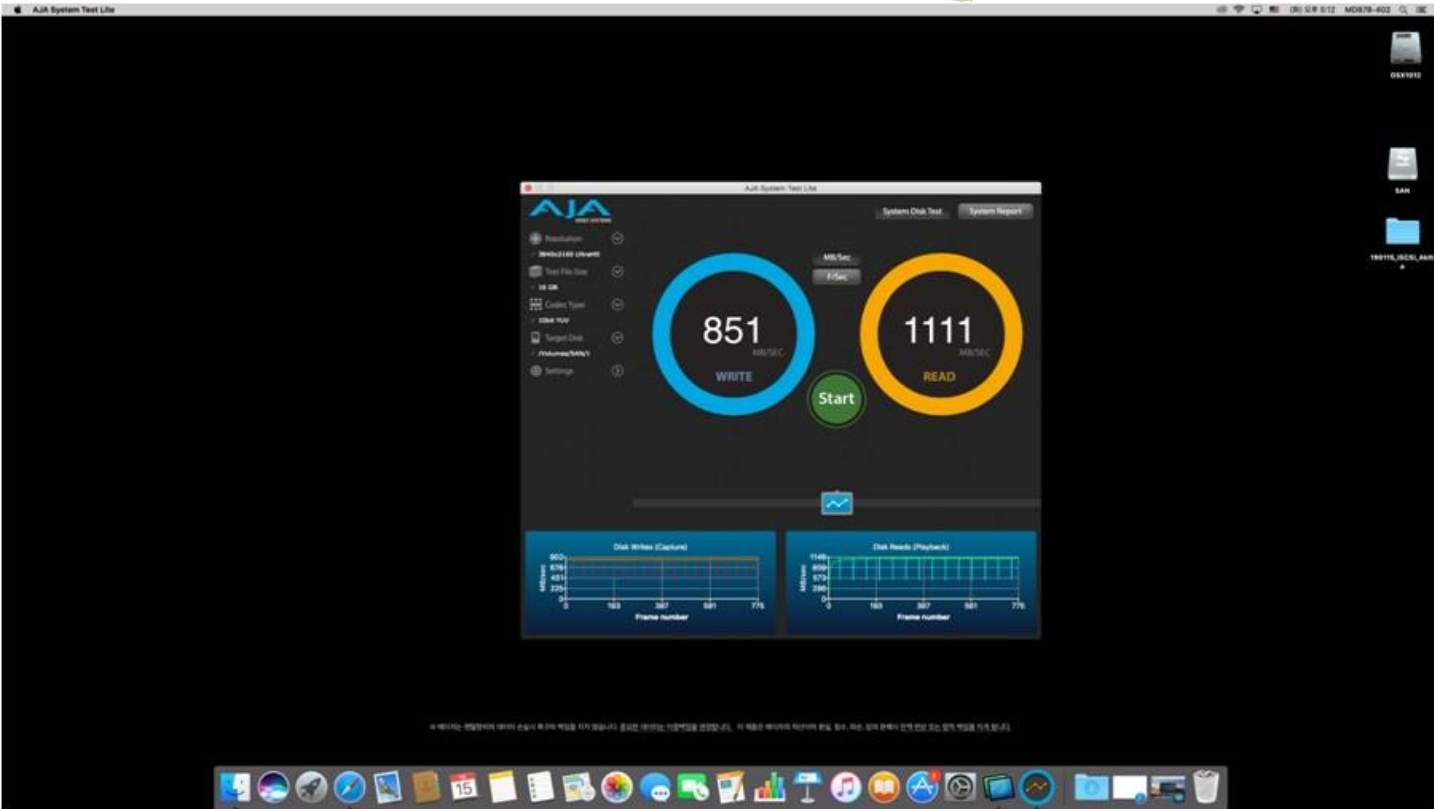
Meta and Data Volumes : 2 volumes of 32 SATA drives RAID 5

Xsan server&clients interface : iSCSI

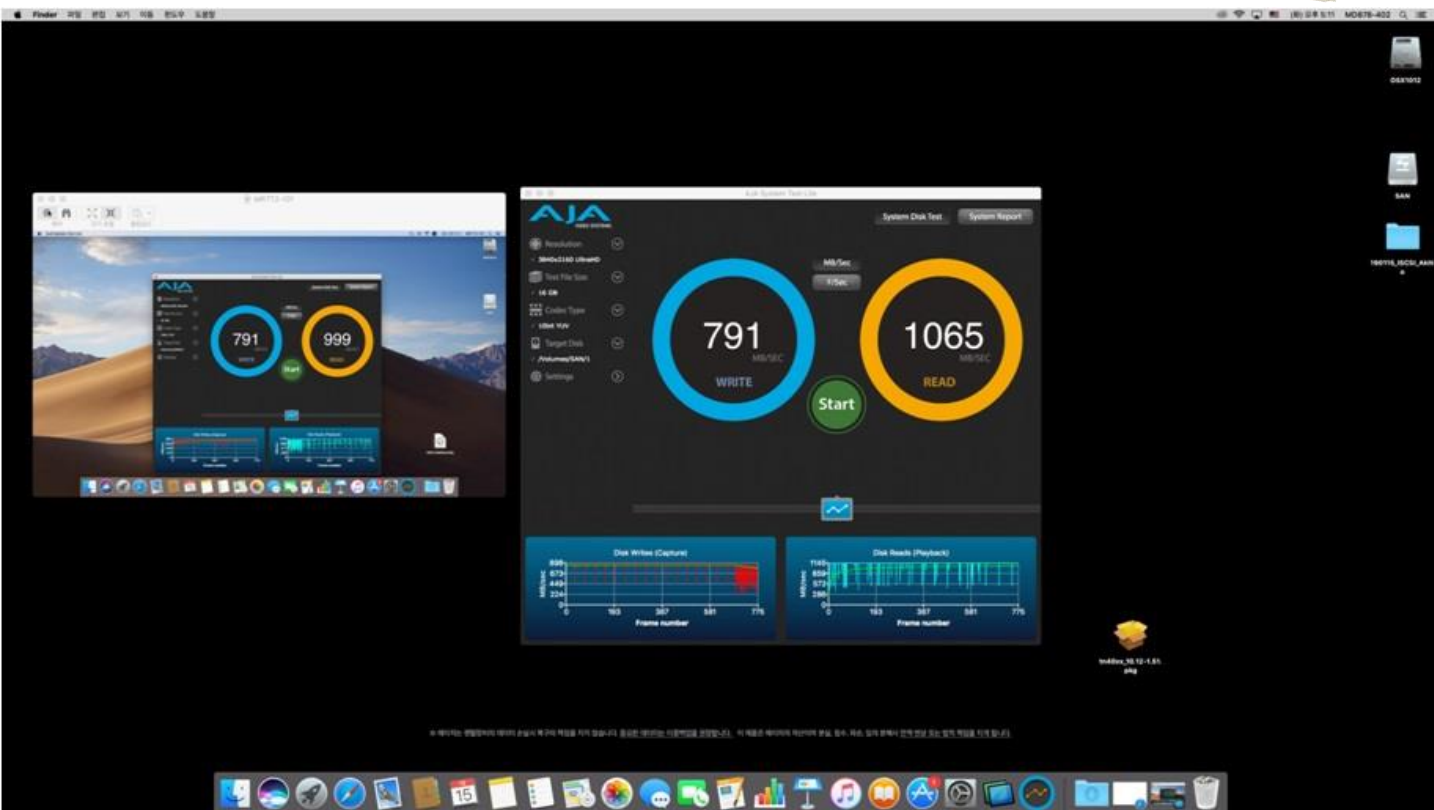
Thunderbolt to 10G adapter : Akitio

Switch : Dell EMC 40G 6ports to 10G 48ports

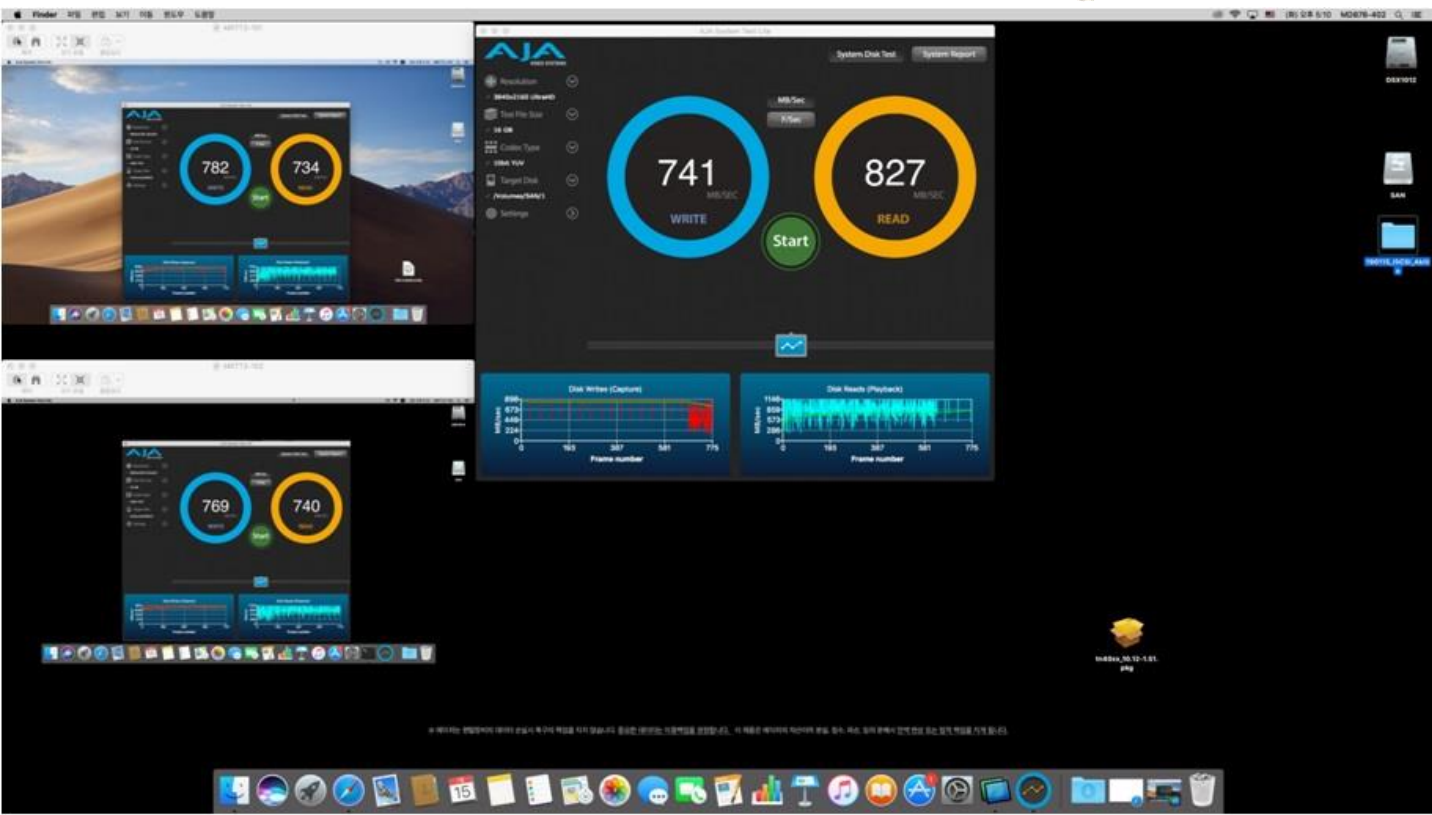
### 3. MacPro 1user performance



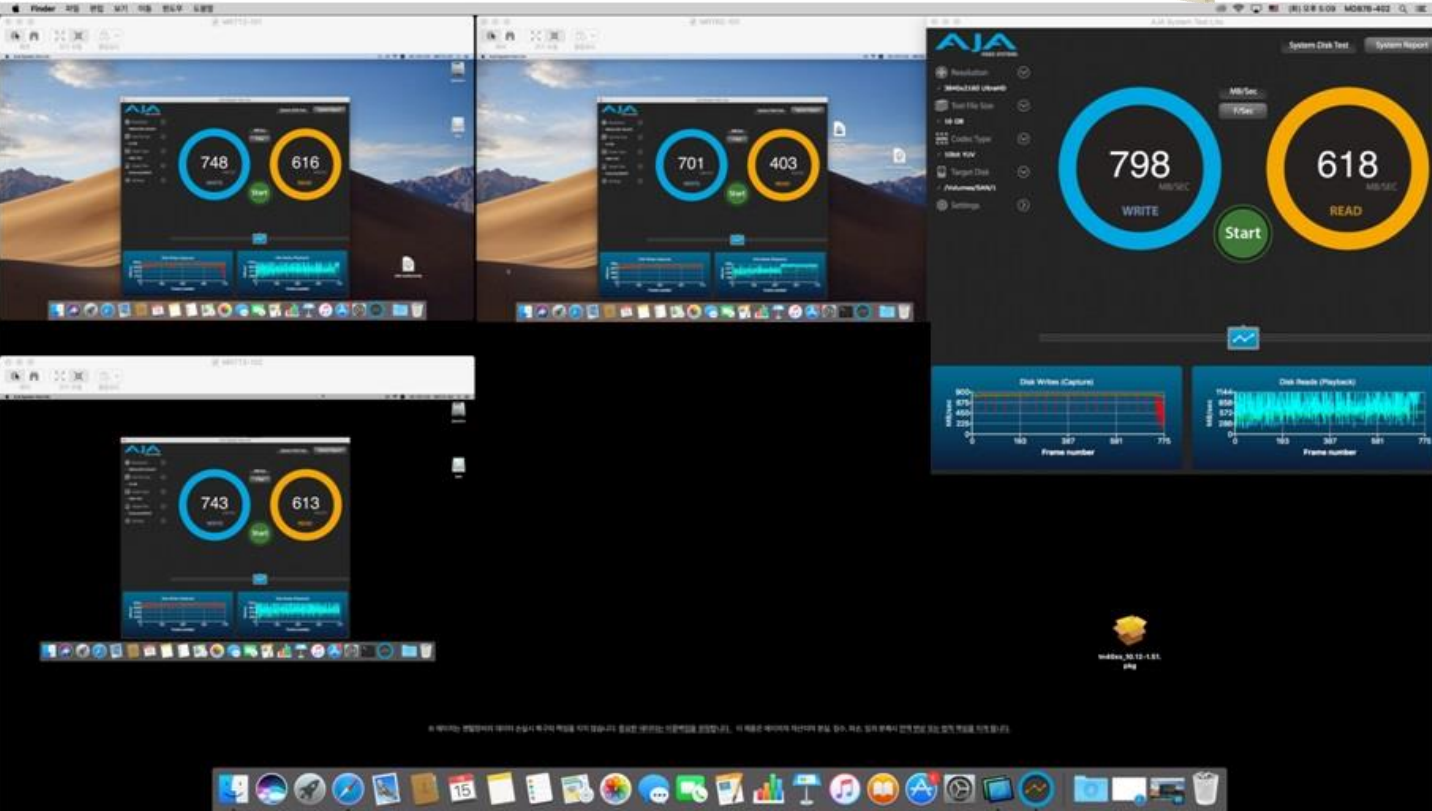
### 4. MacPro & Macmini 2user performance



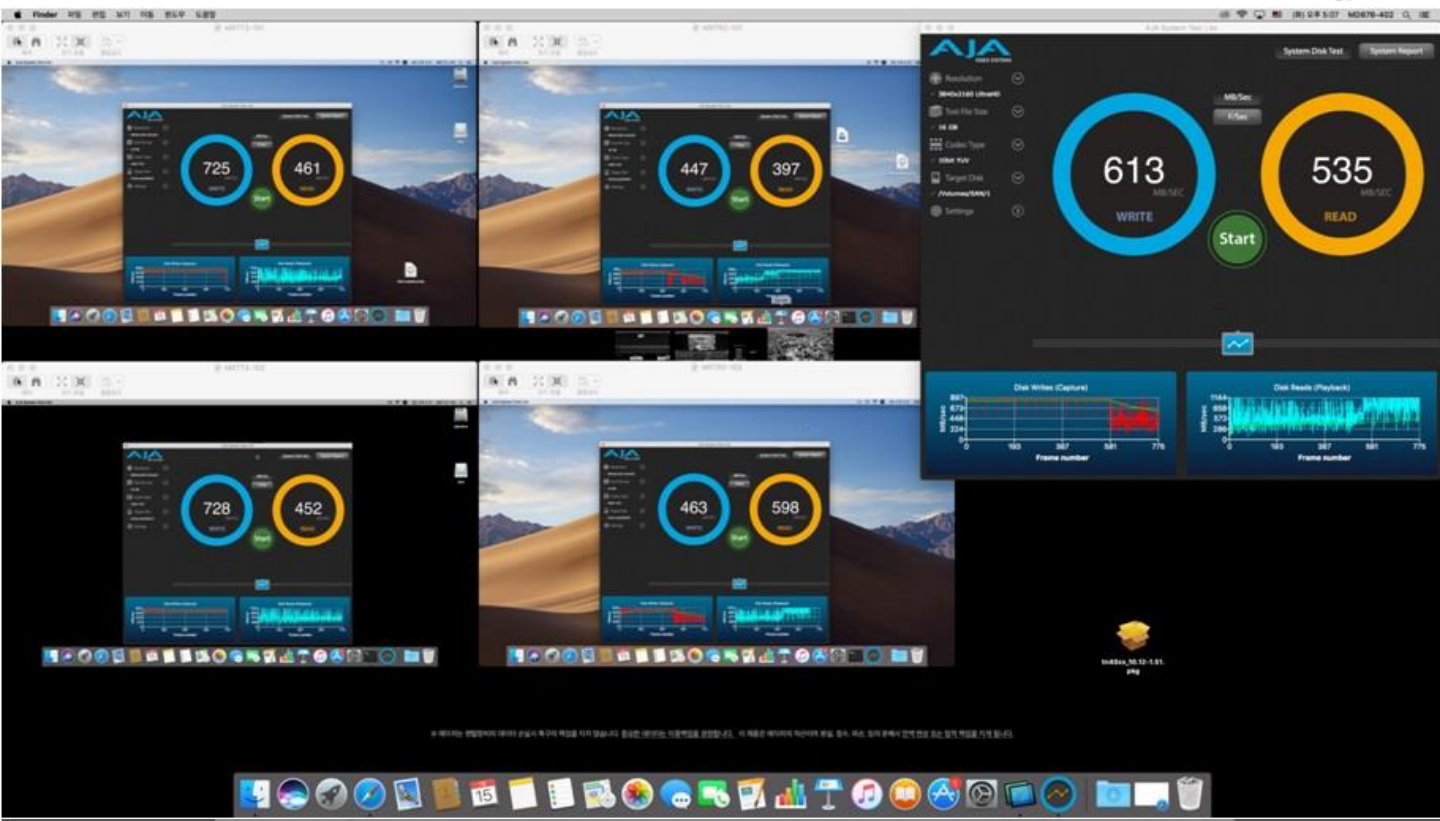
## 5. 3user performance



## 6. 4user performance

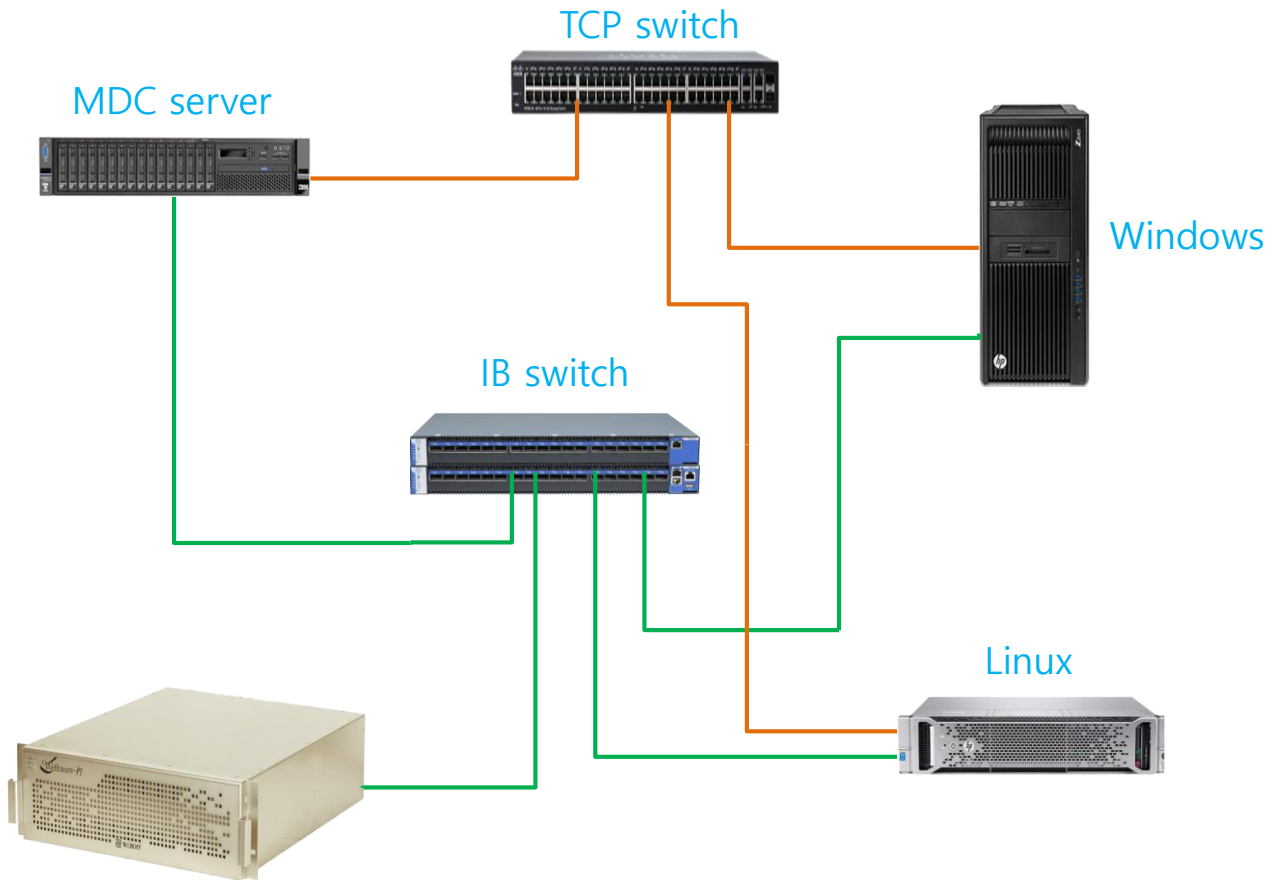


# 7. 5user performance



# Wellware BWFS 40G Performance

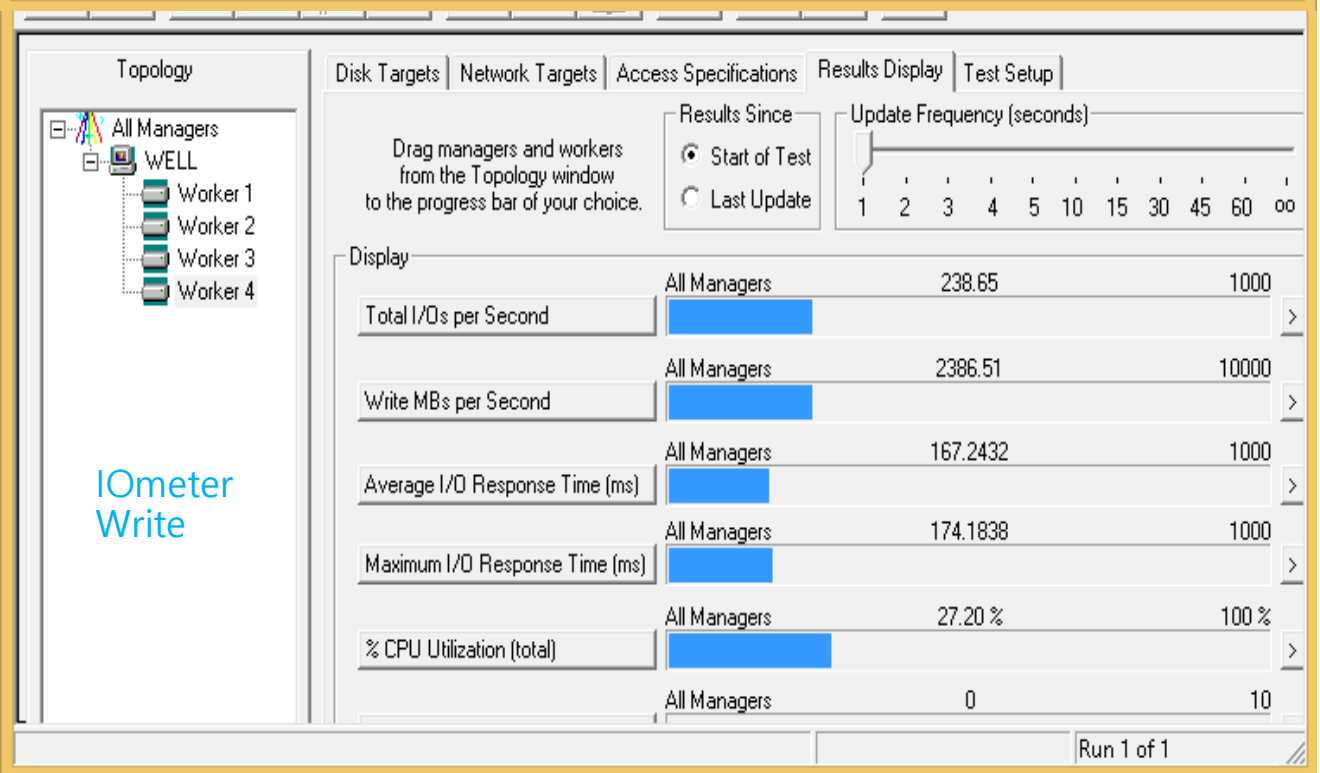
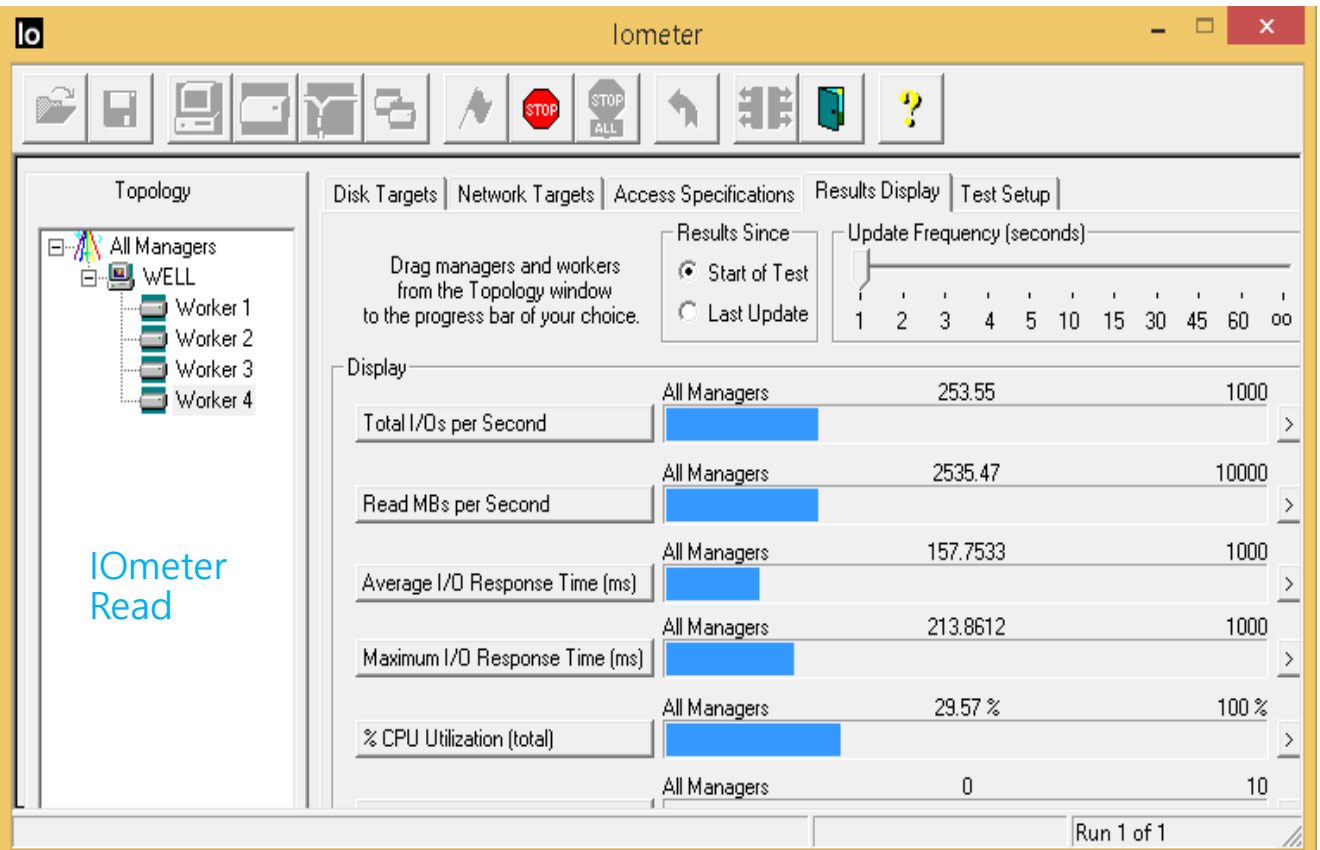
## 1. SAN BWFS Environment



- 1 Windows 10 client : MS iSCSI initiator
- 1 Linux client : iscsi-initiator-utils



## 2. Windows only test result



### 3. Linux only test result



```
[root@localhost well]#
[root@localhost well]#
[root@localhost well]# fio ./well101.fio
storage_test: (g=0): rw-read, bs=128K-128K/128K-128K/128K-128K, io
engine-libaio, iodepth=32
...
fio-2.1.7
Starting 4 processes
Jobs: 4 (f=4): [RRRR] [2.9% done] [4136MB/OKB/OKB /s] [33.9K/0/0 i
Jobs: 4 (f=4): [RRRR] [3.9% done] [4046MB/OKB/OKB /s] [32.4K/0/0 i
Jobs: 4 (f=4): [RRRR] [4.9% done] [4054MB/OKB/OKB /s] [32.5K/0/0 i
Jobs: 4 (f=4): [RRRR] [5.9% done] [4117MB/OKB/OKB /s] [32.1K/0/0 i
Jobs: 4 (f=4): [RRRR] [7.8% done] [4145MB/OKB/OKB /s] [33.2K/0/0 i

%, >=64=0.0%
  submit   : 0=0.0%, 4=100.0%, 8=0.0%, 16=0.0%, 32=0.0%, 64=0.
0%, >=64=0.0%
  complete : 0=0.0%, 4=100.0%, 8=0.0%, 16=0.0%, 32=0.1%, 64=0.
0%, >=64=0.0%
  issued   : total=r=3276213/w=0/d=0, short=r=0/w=0/d=0
  latency  : target=0, window=0, percentile=100.00%, depth=32

Run status group 0 (all jobs):
  READ: io=409527MB, aggrb=4014.9MB/s, minb=4014.9MB/s, maxb=4014
.9MB/s, mint=102004msec, maxt=102004msec
[root@localhost well]#
```

fio Read

### 3. Linux only test result



```
[root@localhost well]# vi well01.fio
[root@localhost well]# fio ./well01.fio
storage_test: (g=0): rw=write, bs=128K-128K/128K-128K/128K-128K, ioengine=li
baio, iodepth=32
...
fio-2.1.7
Starting 4 processes
Jobs: 4 (f=4): [WWW] [2.9% done] [0KB/4336MB/0KB /s] [0/34.7K/0 iops] [eta
Jobs: 4 (f=4): [WWW] [3.9% done] [0KB/4457MB/0KB /s] [0/35.7K/0 iops] [eta
Jobs: 4 (f=4): [WWW] [4.9% done] [0KB/3977MB/0KB /s] [0/31.9K/0 iops] [eta
Jobs: 4 (f=4): [WWW] [5.9% done] [0KB/3696MB/0KB /s] [0/29.6K/0 iops] [eta
Jobs: 4 (f=4): [WWW] [7.8% done] [0KB/3667MB/0KB /s] [0/29.4K/0 iops] [eta
Jobs: 4 (f=4): [WWW] [8.7% done] [0KB/3710MB/0KB /s] [0/29.7K/0 iops] [eta

0%
submit    : 0=0.0%, 4=100.0%, 8=0.0%, 16=0.0%, 32=0.0%, 64=0.0%, >=64=0
.0%
complete  : 0=0.0%, 4=100.0%, 8=0.0%, 16=0.0%, 32=0.1%, 64=0.0%, >=64=0
.0%
issued   : total=r=0/w=3011533/d=0, short=r=0/w=0/d=0
latency   : target=0, window=0, percentile=100.00%, depth=32

Run status group 0 (all jobs):
WRITE: io=376442MB, aggrb=3690.6MB/s, minb=3690.6MB/s, maxb=3690.6MB/s, mi
nt=102003msec, maxt=102003msec
[root@localhost well]#
```

Auto Mount	Enabled
Advanced	

root : FSClient

fio Write

# 4. Windows & Linux simultaneous read test result



The screenshot shows the Iometer application window with the following data:

Metric	Value	Target
Total I/Os per Second	172.42	1000
Read MBs per Second	1724.17	10000
Average I/O Response Time (ms)	232.0339	1000
Maximum I/O Response Time (ms)	641.8073	1000
% CPU Utilization (total)	25.09 %	100 %
	0	10

```
submit : 0=0.0%, 4=100.0%, 8=0.0%, 16=0.0%, 32=0.0%, 64=0.0%, >=64=0.0%
complete : 0=0.0%, 4=100.0%, 8=0.0%, 16=0.0%, 32=0.1%, 64=0.0%, >=64=0.0%
issued : total=r=1899569/w=0/d=0, short=r=0/w=0/d=0
latency : target=0, window=0, percentile=100.00%, depth=32

Run status group 0 (all jobs):
  READ: io=237446MB, aggrb=2327.3MB/s, minb=2327.3MB/s, maxb=2327.3MB/s, mint=102028msec, maxt=102028msec
[root@localhost well]#
```

# Wellware 100G Performance

## 1. Environment



RAID 5 SATA3 48 drives

## 2. Test result

```
Settings Jul 19 1:51 PM EN
wellware@Wellware:/home/wellware/Downloads
File Edit View Search Terminal Help
[root@Wellware Downloads]# fio --name=performance3 --directory=/home/wellware/is
csi --rw=read --bs=1024k --numjobs=1 --iodepth=64 --runtime=3600 --size=16777216k
--time_based --loops=1 --ioengine=libaio --direct=1 --fsync_on_close=1 --randrepea
t=1 --norandommap=0 --eta-newline=5s --output=iolog.out --bandwidth-log --exitall
Jobs: 1 (f=1): [R(1)][0.2%][r=7771MiB/s][r=7771 IOPS][eta 59m:54s]
Jobs: 1 (f=1): [R(1)][0.3%][r=7646MiB/s][r=7646 IOPS][eta 59m:49s]
Jobs: 1 (f=1): [R(1)][0.5%][r=7073MiB/s][r=7072 IOPS][eta 59m:44s]
Jobs: 1 (f=1): [R(1)][0.6%][r=7809MiB/s][r=7809 IOPS][eta 59m:38s]
Jobs: 1 (f=1): [R(1)][0.7%][r=7722MiB/s][r=7722 IOPS][eta 59m:34s]
Jobs: 1 (f=1): [R(1)][0.9%][r=7494MiB/s][r=7493 IOPS][eta 59m:29s]
Jobs: 1 (f=1): [R(1)][1.0%][r=7456MiB/s][r=7455 IOPS][eta 59m:24s]
Jobs: 1 (f=1): [R(1)][1.2%][r=7503MiB/s][r=7503 IOPS][eta 59m:18s]
Jobs: 1 (f=1): [R(1)][1.3%][r=7263MiB/s][r=7262 IOPS][eta 59m:14s]
Jobs: 1 (f=1): [R(1)][1.4%][r=7081MiB/s][r=7080 IOPS][eta 59m:09s]
Jobs: 1 (f=1): [R(1)][1.6%][r=7561MiB/s][r=7561 IOPS][eta 59m:04s]
```

performance1: (g=0): rw=read, bs=(R) 1024KiB-1024KiB, (W) 1024KiB-1024KiB, (T) 1024KiB-1024KiB, ioengine=libaio, iodepth=64

fio-3.19

Starting 1 process

performance1: (groupid=0, jobs=1): err= 0: pid=52143: Tue Jul 19 12:14:23 2022

read: IOPS=7570, BW=7570MiB/s (7938MB/s)(25.0TiB/3600006msec)

Run status group 0 (all jobs):

READ: bw=7570MiB/s (7938MB/s), 7570MiB/s-7570MiB/s (7938MB/s), io=25.0TiB (28.6TB), run=3600006-3600006msec

Disk stats (read/write):

sdb: ios=163503999/0, merge=3326/0, ticks=908210324/0, in\_queue=908210324, util=100.00%

*Wellware*



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