

SR6600-5S-WBS1 Test Report

Date:2006/07/24 V1.0

A. Environmental Configuration

1.The test is that inserting various interface into platform as MSI with 5 pcs of SATA II hard drives to connect them with this subsystem to test their performance at the same time.

2.There are two subjects as platform's configuration and SR6600 Subsystem's configuration which be shown info in the table.

Subject PC	
OS	Windows XP Professional version 2002 SP2
CPU	Intel Celeron(R) CPU 2.80GHz
RAM	512*2 MB DDR2 533
Main Board	MSI 945PL Neo(MS-7236)
Hardware Device	Seagate 40GB (ST340014A)
0Subject RAID	
Firmware Version	V1.41 2006-7-5
BOOT ROM Version	V1.41 2006-5-24
Hardware Device	WDC WD800JD-00LSA0*5

B.Performance Testing Results

1.The Iometer software is admitted by storage producers for testing transferring speed.

It can get some values of performance that using Raid subsystem with 5 pcs of SATA II Hard Drives to run transferring test under different raid mode and operation system for Raid subsystem through Iometer software.

2.Kindly using this transferring speed operation mode as Read/Write(100%)+Sequential(100%) which will get better performance than other operation mode, and it is usually the Random mode apply to database access as not specific data transferring for user of transferring data , the Sequential mode apply to video / graph as specific and mass data transferring for user of transferring data.

3. Because the setting's environments are not top level.

If you want to get the high values and to enhance the whole performance, please kindly change Hardware devices as high level of CPU and high rotational speed of the same brand name of Hard drives.

4. We make the test report which can get a complete comparison and provide some referable information, and make sure SR6600 is admitted by storage product for high performance device.

Single to mainboard

LEVEL: Single Device			
Test Program : IOMeter 2004.7.30			
Host Interface		SATA II *1	
Volume Capacity		80.0 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	98.91	68.86
	Total MBs Per Second	24.68	34.42
Read(100%)+ Sequential(100%)	Total I/Os Per Second	233.76	117.74
	Total MBs Per Second	58.45	58.84
Write(100%)+ Random(100%)	Total I/Os Per Second	144.00	69.30
	Total MBs Per Second	36.00	36.65
Write(100%)+ Sequential(100%)	Total I/Os Per Second	235.22	117.23
	Total MBs Per Second	58.88	58.62

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 0			
Test Program : IOMeter 2004.7.30			
Host Interface		SATA II *1	
Volume Capacity		400.0 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	88.5	59.0
	Total MBs Per Second	22.1	29.5
Read(100%)+ Sequential(100%)	Total I/Os Per Second	332.6	166.7
	Total MBs Per Second	83.2	83.4
Write(100%)+ Random(100%)	Total I/Os Per Second	216.3	116.5
	Total MBs Per Second	54.5	58.2
Write(100%)+ Sequential(100%)	Total I/Os Per Second	251.4	126.4
	Total MBs Per Second	62.2	63.3

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 0			
Test Program : IOMeter 2004.7.30			
Host Interface		1394b *1	
Volume Capacity		400.0 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	112.5	79.2
	Total MBs Per Second	28.2	39.6
Read(100%)+ Sequential(100%)	Total I/Os Per Second	279.9	148.0
	Total MBs Per Second	69.9	74.0
Write(100%)+ Random(100%)	Total I/Os Per Second	133.4	69.1
	Total MBs Per Second	33.4	34.5
Write(100%)+ Sequential(100%)	Total I/Os Per Second	137.2	70.1
	Total MBs Per Second	34.3	35.1

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 0			
Test Program : IOMeter 2004.7.30			
Host Interface		USB 2.0 *1	
Volume Capacity		400 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	52.2	38.2
	Total MBs Per Second	13.4	19.7
Read(100%)+ Sequential(100%)	Total I/Os Per Second	122.2	61.6
	Total MBs Per Second	30.3	30.4
Write(100%)+ Random(100%)	Total I/Os Per Second	100.8	50.9
	Total MBs Per Second	25.2	25.4
Write(100%)+ Sequential(100%)	Total I/Os Per Second	101.8	51.3
	Total MBs Per Second	25.4	25.6

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 0+1			
Test Program : IOMeter 2004.7.30			
Host Interface		SATA II *1	
Volume Capacity		200.0 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	57.7	37.8
	Total MBs Per Second	14.5	18.9
Read(100%)+ Sequential(100%)	Total I/Os Per Second	326.1	166.0
	Total MBs Per Second	81.6	83.1
Write(100%)+ Random(100%)	Total I/Os Per Second	167.4	96.6
	Total MBs Per Second	41.8	48.4
Write(100%)+ Sequential(100%)	Total I/Os Per Second	248.7	125.4
	Total MBs Per Second	62.1	62.7

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 0+1			
Test Program : IOMeter 2004.7.30			
Host Interface		1394b *1	
Volume Capacity		200.0 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	90.4	63.9
	Total MBs Per Second	22.6	31.7
Read(100%)+ Sequential(100%)	Total I/Os Per Second	279.7	137.7
	Total MBs Per Second	69.7	67.1
Write(100%)+ Random(100%)	Total I/Os Per Second	122.4	67.2
	Total MBs Per Second	30.8	33.4
Write(100%)+ Sequential(100%)	Total I/Os Per Second	136.7	69.9
	Total MBs Per Second	34.1	34.9

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 0+1			
Test Program : IOMeter 2004.7.30			
Host Interface		USB 2.0 *1	
Volume Capacity		200 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	37.2	26.9
	Total MBs Per Second	9.3	13.4
Read(100%)+ Sequential(100%)	Total I/Os Per Second	122.4	61.7
	Total MBs Per Second	30.6	30.8
Write(100%)+ Random(100%)	Total I/Os Per Second	100.1	50.5
	Total MBs Per Second	25.0	25.2
Write(100%)+ Sequential(100%)	Total I/Os Per Second	102.2	51.6
	Total MBs Per Second	25.5	25.8

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 3			
Test Program : IOMeter 2004.7.30			
Host Interface		SATA II *1	
Volume Capacity		320.0 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	61.1	50.9
	Total MBs Per Second	16.5	25.4
Read(100%)+ Sequential(100%)	Total I/Os Per Second	332.5	166.6
	Total MBs Per Second	83.1	83.4
Write(100%)+ Random(100%)	Total I/Os Per Second	89.7	65.9
	Total MBs Per Second	22.3	32.9
Write(100%)+ Sequential(100%)	Total I/Os Per Second	221.0	110.9
	Total MBs Per Second	55.2	55.5

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 3			
Test Program : IOMeter 2004.7.30			
Host Interface		1394b *1	
Volume Capacity		320.0 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	88.6	67.4
	Total MBs Per Second	22.1	33.4
Read(100%)+ Sequential(100%)	Total I/Os Per Second	280.7	129.8
	Total MBs Per Second	70.3	65.1
Write(100%)+ Random(100%)	Total I/Os Per Second	76.1	54.1
	Total MBs Per Second	19.0	27.1
Write(100%)+ Sequential(100%)	Total I/Os Per Second	134.4	68.6
	Total MBs Per Second	33.6	34.3

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 3			
Test Program : IOMeter 2004.7.30			
Host Interface		USB 2.0 *1	
Volume Capacity		200 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	48.6	33.1
	Total MBs Per Second	12.1	17.1
Read(100%)+ Sequential(100%)	Total I/Os Per Second	122.7	61.7
	Total MBs Per Second	30.6	30.8
Write(100%)+ Random(100%)	Total I/Os Per Second	70.5	44.5
	Total MBs Per Second	17.6	22.2
Write(100%)+ Sequential(100%)	Total I/Os Per Second	98.6	49.7
	Total MBs Per Second	24.6	24.8

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 5			
Test Program : IOMeter 2004.7.30			
Host Interface		SATA II *1	
Volume Capacity		320.0 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	49.3	34.3
	Total MBs Per Second	12.2	17.3
Read(100%)+ Sequential(100%)	Total I/Os Per Second	324.6	164.9
	Total MBs Per Second	81.2	82.3
Write(100%)+ Random(100%)	Total I/Os Per Second	105.5	72.3
	Total MBs Per Second	26.2	36.2
Write(100%)+ Sequential(100%)	Total I/Os Per Second	222.1	110.7
	Total MBs Per Second	55.3	55.3

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 5			
Test Program : IOMeter 2004.7.30			
Host Interface		1394b *1	
Volume Capacity		320.0 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	85.8	63.2
	Total MBs Per Second	21.4	31.6
Read(100%)+ Sequential(100%)	Total I/Os Per Second	277.7	128.9
	Total MBs Per Second	69.5	64.4
Write(100%)+ Random(100%)	Total I/Os Per Second	96.7	56.3
	Total MBs Per Second	24.2	28.5
Write(100%)+ Sequential(100%)	Total I/Os Per Second	134.7	68.8
	Total MBs Per Second	33.6	34.4

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 5			
Test Program : IOMeter 2004.7.30			
Host Interface		USB 2.0 *1	
Volume Capacity		320.0 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	35.5	27.7
	Total MBs Per Second	8.8	13.8
Read(100%)+ Sequential(100%)	Total I/Os Per Second	122.6	61.9
	Total MBs Per Second	30.6	30.9
Write(100%)+ Random(100%)	Total I/Os Per Second	81.7	45.4
	Total MBs Per Second	20.2	22.5
Write(100%)+ Sequential(100%)	Total I/Os Per Second	98.4	49.5
	Total MBs Per Second	24.6	24.7

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 6			
Test Program : IOMeter 2004.7.30			
Host Interface		SATA II *1	
Volume Capacity		240.0 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	59.4	35.3
	Total MBs Per Second	14.8	17.6
Read(100%)+ Sequential(100%)	Total I/Os Per Second	306.4	157.4
	Total MBs Per Second	76.6	78.8
Write(100%)+ Random(100%)	Total I/Os Per Second	100.9	67.6
	Total MBs Per Second	25.2	33.6
Write(100%)+ Sequential(100%)	Total I/Os Per Second	209.9	105.3
	Total MBs Per Second	52.8	52.6

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 6			
Test Program : IOMeter 2004.7.30			
Host Interface		1394b *1	
Volume Capacity		240.0 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	110.6	77.4
	Total MBs Per Second	27.7	38.4
Read(100%)+ Sequential(100%)	Total I/Os Per Second	270.3	120.8
	Total MBs Per Second	67.6	61.2
Write(100%)+ Random(100%)	Total I/Os Per Second	88.5	52.2
	Total MBs Per Second	22.1	26.1
Write(100%)+ Sequential(100%)	Total I/Os Per Second	131.8	67.7
	Total MBs Per Second	32.9	33.8

■ 5 pcs of Hard Drives on SR6600: One PC Worker

LEVEL: RAID 6			
Test Program : IOMeter 2004.7.30			
Host Interface		USB 2.0 *1	
Volume Capacity		200 GB *1	
Transfer Request Size		256 K	512K
Read(100%)+ Random(100%)	Total I/Os Per Second	69.1	43.1
	Total MBs Per Second	17.3	21.5
Read(100%)+ Sequential(100%)	Total I/Os Per Second	121.7	61.4
	Total MBs Per Second	30.5	30.6
Write(100%)+ Random(100%)	Total I/Os Per Second	78.5	42.5
	Total MBs Per Second	19.3	21.2
Write(100%)+ Sequential(100%)	Total I/Os Per Second	96.1	48.4
	Total MBs Per Second	24.0	24.2

C. Device Inside Temperature Test (Full installation condition)

Room temperature(F)	25.8C
Start 1 minutes inside operating temperature(F)	26.1C
Pass 1 hour inside operating temperature(F)	45.4.C
Pass 1 hour inside disks surface temperature(F)	51.8C.

D.Operation System Compatibility Test

1.Format :We assign this RAID disk to use various formats to do partition as NTFS, FAT and EXT to verify this function for SR6600 under Windows XP that will get test results be shown in this table.

2.File copy:

- The test item that verify the function of transferring data as copy total capacities of 10GB/s data from source platform to SR6600 subsystem including a compressing files or a uncompressing file. and deletes these files in the target device.

3.OS Compatibilities:

- Try to use SR6600 subsystem to set up it and test it's compatibility under Operation system as Windows XP and to transfer data into the Physical device (logical disk) between above operation system and SR6600 subsystem.
- Refer physical devices, interface and confirm the above devices will be already and work fine from device manager of Windows XP.

4. Hareware Storage device Compatibility

We provide this SR6600 subsystem with various hard Drives to test their compatibilities. (The compatible test results of hard Drives are listed in the test report.)

5. Peripheral interface Device Compatibility:

We inserted interface card into the previous mentioning platform to connect them with this SR6600 subsystem to test their compatibilities. (The compatible test results of interface card are listed in the test report.)

6. Mother board Compatibility:

We used various mother boards to connect with this SR6600 subsystem to test their compatibilities. (The compatible test results of mother board are listed in the test report.)

Test Type	
Platform:PC	
1.Format	
NTFS	pass
FAT 32	pass
EXT 2/3	pass
2.File copy(20GB)	
pass	
OS Compatibility	
Windows XP Professional version SP2	pass
Mac OS X 10.4.6	pass
Hardware Storage Device Compatibility	
1.Seagate 80Gbytes [ST380811AS]	Pass
2.Seagate 160Gbytes [ST3160812AS]	Pass
3.Seagate 200Gbytes [ST320082AS]	Pass
4.Seagate 250Gbytes [ST3250824AS]	Pass
5.Seagate 500Gbytes [ST3500641AS]	Pass
6.Seagate 750Gbytes [ST3750640AS]	Pass
7.Hitachi 400Gbytes [HDS724040KLSA80]	Pass
8.Hitachi 500Gbytes [HDS725050KLA360]	Pass
9.Maxtor 80Gbytes [6Y080M04269AB]	Pass
10.Maxtor 500Gbytes [6H500F008A70A]	Pass
11.WD 80Gbytes [WD800DJ-00LSA0]	Pass
12.WD 500Gbytes [WD5000KS-00MNB0]	Pass
Peripheral Storage Device Compatibility	
Texas Instruments OHCI Compliant IEEE1394 Host Controller	pass
Sonnet Tempo X SATA card for Mac	pass
SC-SATA II PCI-E Silicon Image Sil3132 Chip/ PCI Express BUS/ 3.0 Gb/s	pass
SC-SATA II PCI-X Silicon Image Sil3124 chip/ PCI X BUS/64 bit/133 MHz for Windows	pass
Silicom Image Sil 3512 SATA 2 PORT card for Windows	pass
Mother board Compatibility	
1. GAK8NE	pass
2. P4C800 Deluxe	pass

3. MSI 945PL Neo(MS-7236)

pass

Project Manager:

Engineer: