



**SPC BENCHMARK 1™  
EXECUTIVE SUMMARY**

**HUAWEI SYMANTEC TECHNOLOGIES CO., LTD.  
HUAWEI SYMANTEC OCEANSPACE S2600**

**SPC-1 V1.12**

**Submitted for Review: March 18, 2010  
Submission Identifier: A00090**

## **EXECUTIVE SUMMARY**

### **Test Sponsor and Contact Information**

<b>Test Sponsor and Contact Information</b>	
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### **Revision Information and Key Dates**

<b>Revision Information and Key Dates</b>	
<b>SPC-1 Specification revision number</b>	V1.12
<b>SPC-1 Workload Generator revision number</b>	V2.1.0
<b>Date Results were first used publicly</b>	March 18, 2010
<b>Date the FDR was submitted to the SPC</b>	March 18, 2010
<b>Date the priced storage configuration is available for shipment to customers</b>	currently available
<b>Date the TSC completed audit certification</b>	March 17, 2010

### **Tested Storage Product (TSP) Description**

Huawei Symantec Oceanspace S2600 (*hereinafter referred to as the S2600*) series storage products are the third-generation products for small and medium-sized enterprises. Owing to evolutionary architectural design, the S2600 features easy management and energy-saving, and provides economical storage solutions and perfect data protection.

### Summary of Results

SPC-1 Results	
Tested Storage Product (TSP) Name: Huawei Symantec Oceanspace S2600	
Metric	Reported Result
SPC-1 IOPS™	16,995.54
SPC-1 Price-Performance	CNY 18.25/SPC-1 IOPS™
Total ASU Capacity	2,920.000 GB
Data Protection Level	Protected ( <i>Mirroring</i> )
Total TSP Price (including three-year maintenance)	CNY 310,220

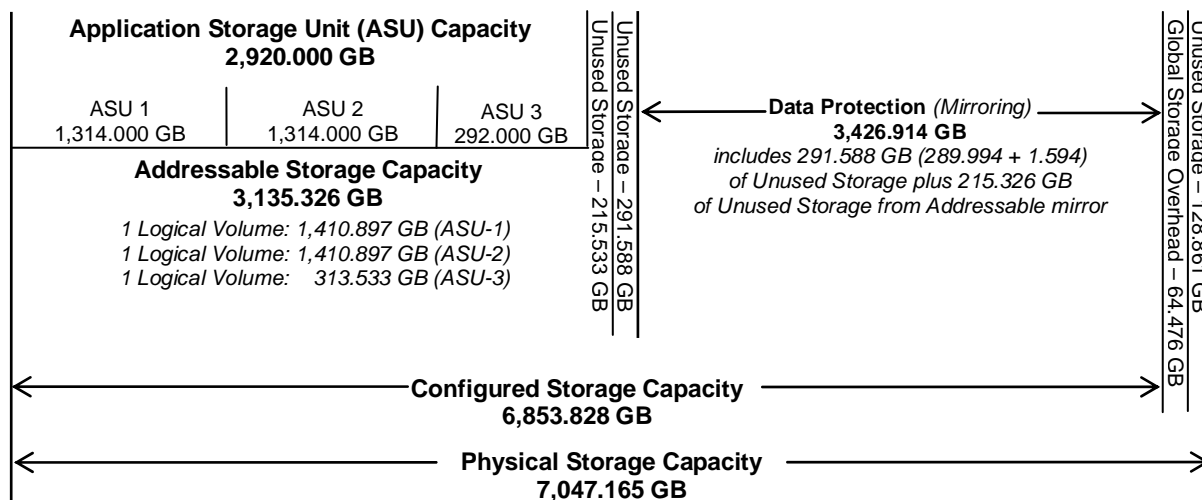
**SPC-1 IOPS™** represents the maximum I/O Request Throughput at the 100% load point.

**Total ASU (Application Storage Unit) Capacity** represents the total storage capacity read and written in the course of executing the SPC-1 benchmark.

**A Data Protection Level of Protected** using *Mirroring* configures two or more identical copies of user data.

### Storage Capacities and Relationships

The following diagram and table document the various storage capacities, used in this benchmark, and their relationships, as well as the storage utilization values required to be reported.



SPC-1 Storage Capacity Utilization	
Application Utilization	41.44%
Protected Application Utilization	82.87%
Unused Storage Ratio	16.21%

**Application Utilization:** Total ASU Capacity (GB) divided by Physical Storage Capacity (GB)

**Protected Application Utilization:** (Total ASU Capacity (GB) plus total Data Protection Capacity (GB) minus unused Data Protection Capacity (GB) divided by Physical Storage Capacity (GB)

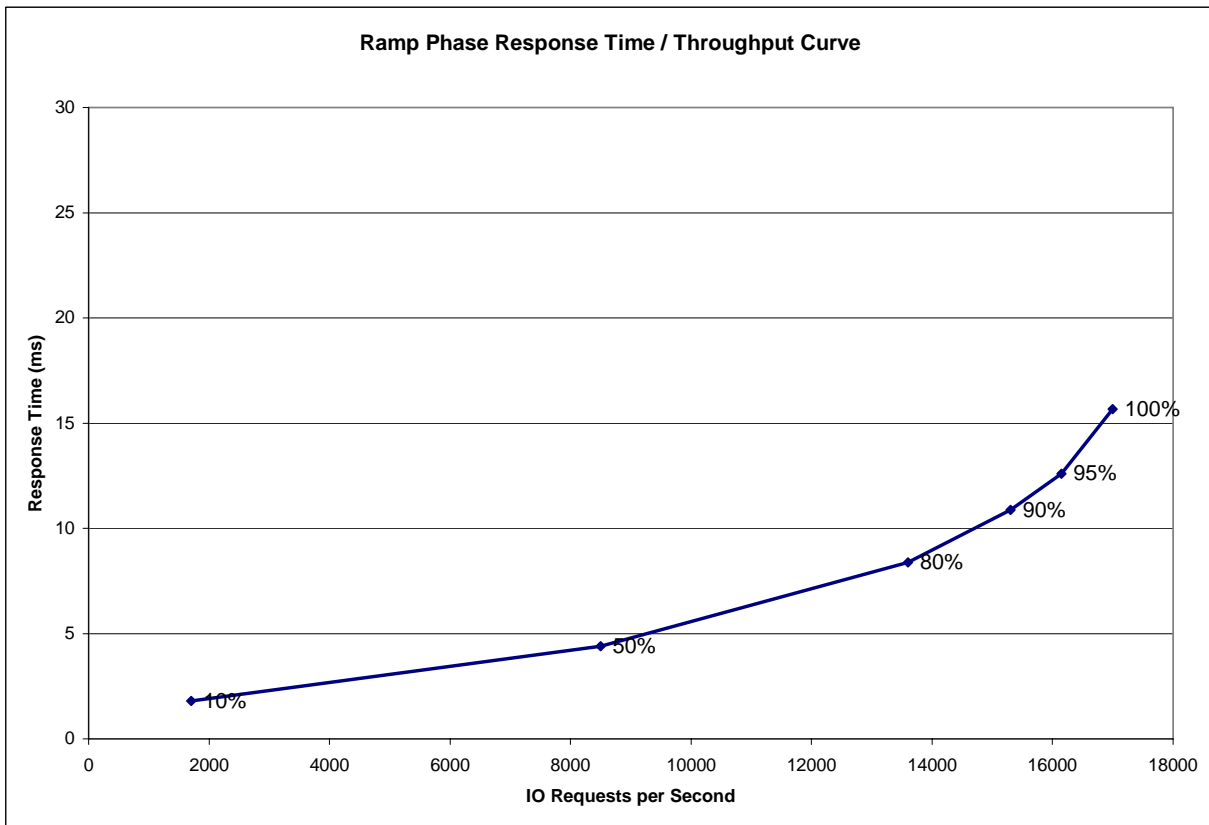
**Unused Storage Ratio:** Total Unused Capacity (GB) divided by Physical Storage Capacity (GB) and may not exceed 45%.

Detailed information for the various storage capacities and utilizations is available on pages 20-21 in the Full Disclosure Report.

### Response Time - Throughput Curve

The Response Time-Throughput Curve illustrates the Average Response Time (milliseconds) and I/O Request Throughput at 100%, 95%, 90%, 80%, 50%, and 10% of the workload level used to generate the SPC-1 IOPS™ metric.

The Average Response Time measured at the any of the above load points cannot exceed 30 milliseconds or the benchmark measurement is invalid.



### Response Time - Throughput Data

	10% Load	50% Load	80% Load	90% Load	95% Load	100% Load
<b>I/O Request Throughput</b>	1,703.44	8,498.69	13,599.56	15,300.22	16,147.30	16,995.54
<b>Average Response Time (ms):</b>						
All ASUs	1.81	4.39	8.39	10.88	12.59	15.66
ASU-1	2.36	5.56	9.89	12.08	13.57	16.09
ASU-2	1.74	4.31	9.18	11.78	13.44	16.25
ASU-3	0.66	1.95	4.85	7.95	10.13	14.50
Reads	3.62	8.24	14.05	15.78	16.85	18.18
Writes	0.63	1.88	4.71	7.70	9.82	14.02

## Priced Storage Configuration Pricing

Product Name	Quantity	Unit list Price in CNY	Total list Price in CNY	Discount	Unit price after discount in CNY	Total price after discount in CNY
Oceanspace S2600 Base Unit * Active-Active controllers ** 8 GB of memory, 4 GB per controller ** 2 - Quad 4 Gbps FC host port modules, 1 module per controller ** 8 - 4 Gbps SFPs	1	343,800.00	343,800.00	80.00%	68,760.00	68,760.00
D120s Expansion Unit * 2 - 1-Meter Mini SAS Cable	3	121,800.00	365,400.00	80.00%	24,360.00	73,080.00
146 GB, 15K RPM SAS Disk	48	15,000.00	720,000.00	80.00%	3,000.00	144,000.00
Dual-port Qlogic QLE2462 Fiber Channel HBA	2	11,060.00	22,120.00	0.00%	11,060.00	22,120.00
5-Meter Fiber Optic Cable	4	90.00	360.00	0.00%	90.00	360.00
Maintenance/Support: 3 years, 24*7, with 4-hour acknowledgement and 4-hour onsite response	1	1,900.00	1,900.00	0.00%	1,900.00	1,900.00
Total			1,453,580.00			310,220.00

## Differences between the Tested Storage Configuration (TSC) and Priced Storage Configuration

There were no differences between the TSC and Priced Storage Configuration.

### Priced Storage Configuration Diagram

**SC1/SC2:**  
**Huawei Symantec**  
**Oceanspace S2600**  
*Active-Active controllers*  
*8 GB memory, 4 GB per controller*  
*2 - Quad 4Gbps FC host port modules*  
*8 - 4 Gbps SFPs*

2 - dual-port Qlogic QLE2462 FC HBAs



3 - D120s Expansion Units

48 - 146.8 GB 15K RPM disk drives  
 12 - disk drives in the controller unit  
 12 - disk drives in each D120s

### Priced Storage Configuration Components

<b>Priced Storage Configuration:</b>
2 – dual-port Qlogic 2462 FC HBAs
<b>Huawei Symantec Oceanspace S2600</b> <b>Active-Active controllers with:</b> 8 GB cache total, 4 GB per controller 2 – Quad 4 Gbps FC port host modules ( <i>1 per controller</i> ) 8 – 4 Gbps Fibre Channel host ports ( <i>4 per controller</i> ) 2 – 4*3 Gbps Mini SAS expander ports ( <i>1 per controller</i> ) 8 – 4 Gbps SFPs
3 – D120s Expansion Units
48 – 146.8 GB 15K RPM SAS disk drives