



SPC BENCHMARK 1™

EXECUTIVE SUMMARY

HUAWEI TECHNOLOGIES CO., LTD HUAWEI OCEANSTOR™ 18500 V3

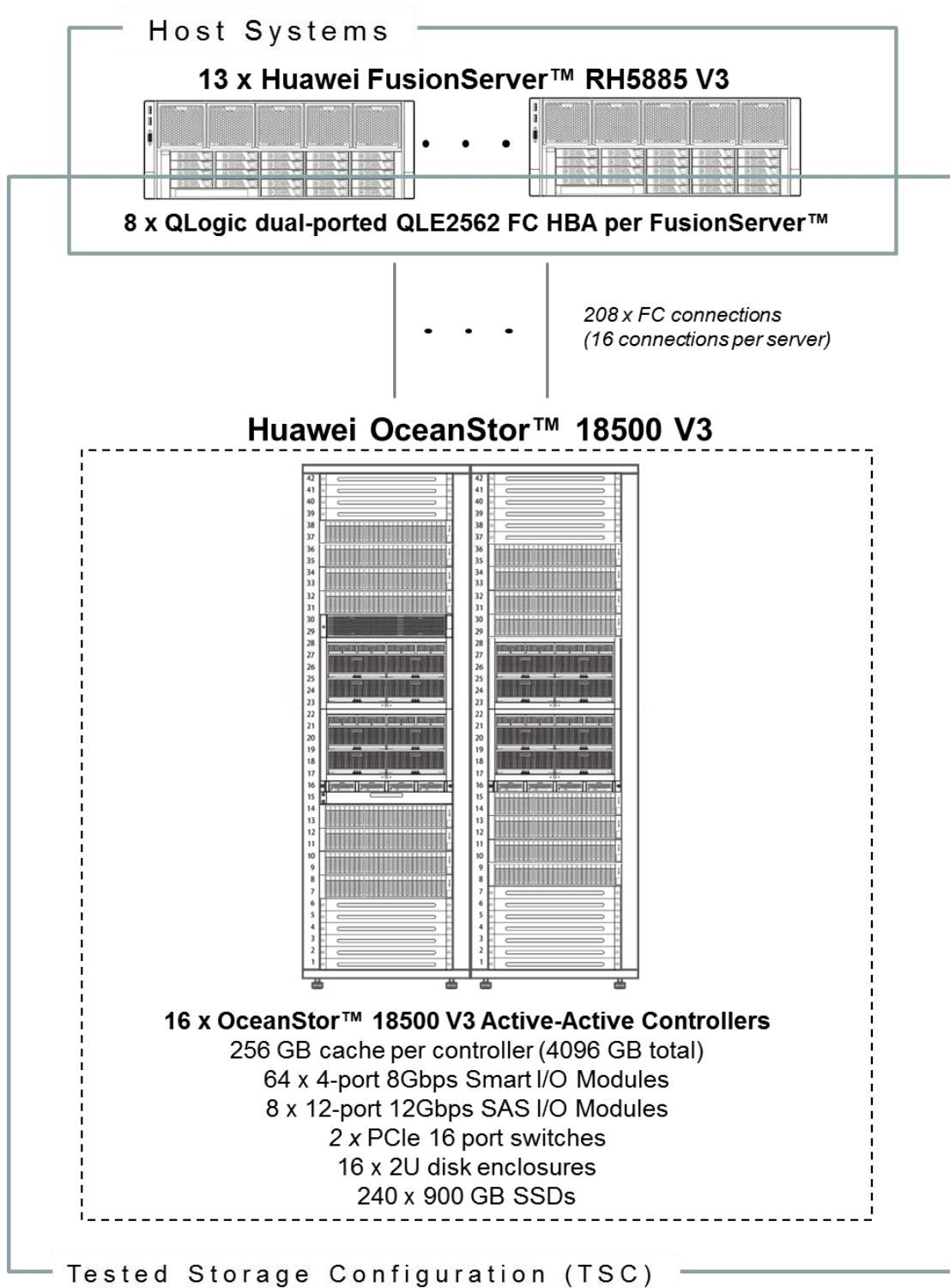
SPC-1 IOPS™	2,340,241
SPC-1 Price-Performance™	\$549.75/SPC-1 KIOPS™
SPC-1 IOPS™ Response Time	0.723 ms
SPC-1 Overall Response Time	0.537 ms
SPC-1 ASU Capacity	76,408 GB
SPC-1 ASU Price	\$16.84/GB
SPC-1 Total System Price	\$1,286,535.26
Data Protection Level	Protected 2 (RAID-10)
Physical Storage Capacity	214,800 GB
Pricing Currency / Target Country	U.S. Dollars / USA

SPC-1 V3.2

SUBMISSION IDENTIFIER: A31003

SUBMITTED FOR REVIEW: DECEMBER 27, 2016

Benchmark Configuration Diagram



Tested Storage Product Description

The OceanStor™ 18000 series storage systems is an optimal choice for mission-critical enterprise applications. The OceanStor™ 18500 and OceanStor™ 18800 have a storage platform designed for next-generation data centers that require virtualization, hybrid cloud, thin IT, and a low carbon footprint.

These enterprise storage solutions are scalable from 2 to 16 controllers and up to 7 PB storage capacity.

This OceanStor™ 18000 series provides critical data storage for finance, government, energy, manufacturing, transport, education, and telecommunication industries.

For more details, visit:

<http://e.huawei.com/en/products/cloud-computing-dc/storage/unified-storage/18000>

Priced Storage Configuration Components

104 x QLogic dual-ported QLE2562 FC HBA
16 x OceanStor™ 18500 V3 Active-Active Controller, each with: 256 GB cache (4096 GB total) 4 x 4-port 8Gbps Smart I/O Module
8 x 12-port 12Gbps SAS I/O Module
16 x 2U disk enclosure, each with: 15 x 900 GB SSD (240 total)
2 x PCIe 16 port switch
1 x Service Processor
1 x 8-port KVM

Storage Configuration Pricing

	Description	Qty	Unit Price	Ext. Price	Disc.	Disc. Price
Hardware & Software						
85V3-4C1TE-AC	OceanStor 18500 V3 Engine (Four Controller, AC240HVDC, 1TB Cache, 16*4 port SmartIO I/O module, 2*12 port 12Gb SAS Entire Sharing I/O module, SPE72C0600) ,Enhanced Version	4	291,029.00	1,164,116.00	72%	325,952.48
LPU5PCIEV3H	2 port PCIe I/O module	16	3,245.00	51,920.00	75%	12,980.00
SSD900-2-H2	900GB SSD SAS Disk Unit(2.5")	240	10,621.00	2,549,040.00	75%	637,260.00
DAE22525U2-H-AC	Disk Enclosure (2U,2.5",AC240HVDC,DAE22525U2)	16	7,032.00	112,512.00	75%	28,128.00
RACK-SYS-H-AC	OceanStor 18000 V3 Series System Cabinet	2	23,672.00	47,344.00	75%	11,836.00
SVP4-V3H	Service Processor (1U, AC240HDVC,8GB Cache,Including Windows OS Software and Security software)	1	15,042.00	15,042.00	75%	3,760.50
KVM-HIGH-END	KVM,KVM,1U, 17" LED, 8 KVM ports, With Power Cable,1 USB Straight signal cables/With mounting Accessories	1	634.00	634.00	0%	634.00
SWITCH-V3H	PCIe Switch(AC240HVDC,2GB Cache,16 Port,SWE1603P05)	2	6,350.00	12,700.00	75%	3,175.00
OQSFPOM00	Quadwire 40 Gb/s Parallel AOC	32	1,494.00	47,808.00	0%	47,808.00
PDU2000-V3-H	AC Power Distribution Unit	8	127.00	1,016.00	0%	1,016.00
HS-SAS-1-01	High Speed Cable, External MiniSAS HD Cable,1m, (28AWG*4P*2B(S), Indoor use	24	55.00	1,320.00	0%	1,320.00
HS-SAS-3-01	High Speed Cable,Mini SAS HD Cable,3m, (28AWG*4P*2B(S), Indoor use	24	96.00	2,304.00	0%	2,304.00
N8GHBA000	QLOGIC QLE2562 HBA Card, PCIe, 8Gbps DualPort FC Multimode LC Optic Interface	104	1,000.00	104,000.00	0%	104,000.00
VADMSMR02	Software Service, Trend Micro, 05280169,Original Manufacturer Service, 1Year, 7*24 Standard Service, 10 users	2	314.00	628.00	0%	628.00
SN2F01FCPC	Patch Cord,DLC/PC,DLC/PC,Multi-mode, 3m, A1a.2,2mm, OM3 bending insensitive	208	11.00	2,288.00	0%	2,288.00
P-16mm^2-Olivine-LSZH	Power Cable,450V/750V,H07Z-K UL3386, 16mm^2, 107A, LSZH Cable, VDE, UL	10	3.80	38.00	0%	38.00
C3006BK01	Power Cable,600V/1000V,ZA-RVV,3x6mm^2,Black(3Cores:Brown,Blue,Yellow/Green),46A,Outdoor Cable,CE (Unit:meter)	80	6.90	552.00	0%	552.00
85V3-LBASIC-N	Basic Software Suite License(OceanStor OS, DeviceManager ,SmartThin, SmartMotion ,SmartQos, SmartPartition, SmartCache, SmartMigration, SmartErase, SmartMulti-tenant, SystemReporter, Cloud Service)	1	5,631.00	5,631.00	72%	1,576.68
85V3-LBASIC200	Basic Software Suite Capacity License (101-200TB)	200	644.00	128,800.00	72%	36,064.00
85V3-LULTRAPATH	OceanStor UltraPath Software License	1	2,386.00	2,386.00	72%	668.08
Hardware & Software Subtotal						1,221,988.74

Support & Maintenance						
88125ESH	OceanStor 18500 V3 Installation Service - Engineering	1	75,803.64	75,803.64	0.3	53,062.55
88032XSE-88134UHK-36	Basic Software Suite Capacity License(101-200TB)-Hi-Care Application Software Upgrade Support Service-36Month(s)	200	193.05	38,609.40	0.72	10,810.63
88032XUD-88134UHK-36	OceanStor UltraPath Software License-Hi-Care Application Software Upgrade Support Service-36Month(s)	1	715.64	715.64	0.72	200.38
88033JKQ-88134UHK-36	Basic Software Suite License(OceanStor OS,DeviceManager,SmartThin,SmartMotion,SmartQos,SmartPartition,SmartCache,SmartMigration,SmartErase,SmartMulti-tenant,SystemReporter,Cloud Service)-Hi-Care Application Software Upgrade Support Service-36Month(s)	1	1,689.16	1,689.16	0.72	472.96
Support & Maintenance Subtotal						64,546.52
SPC-1 Total System Price						1,286,535.26
SPC-1 IOPS™						2,340,241
SPC-1 Price-Performance™ (\$/SPC-1 KIOPS™)						549.75
SPC-1 ASU Capacity (GB)						76,408
SPC-1 ASU Price (\$/GB)						16.84

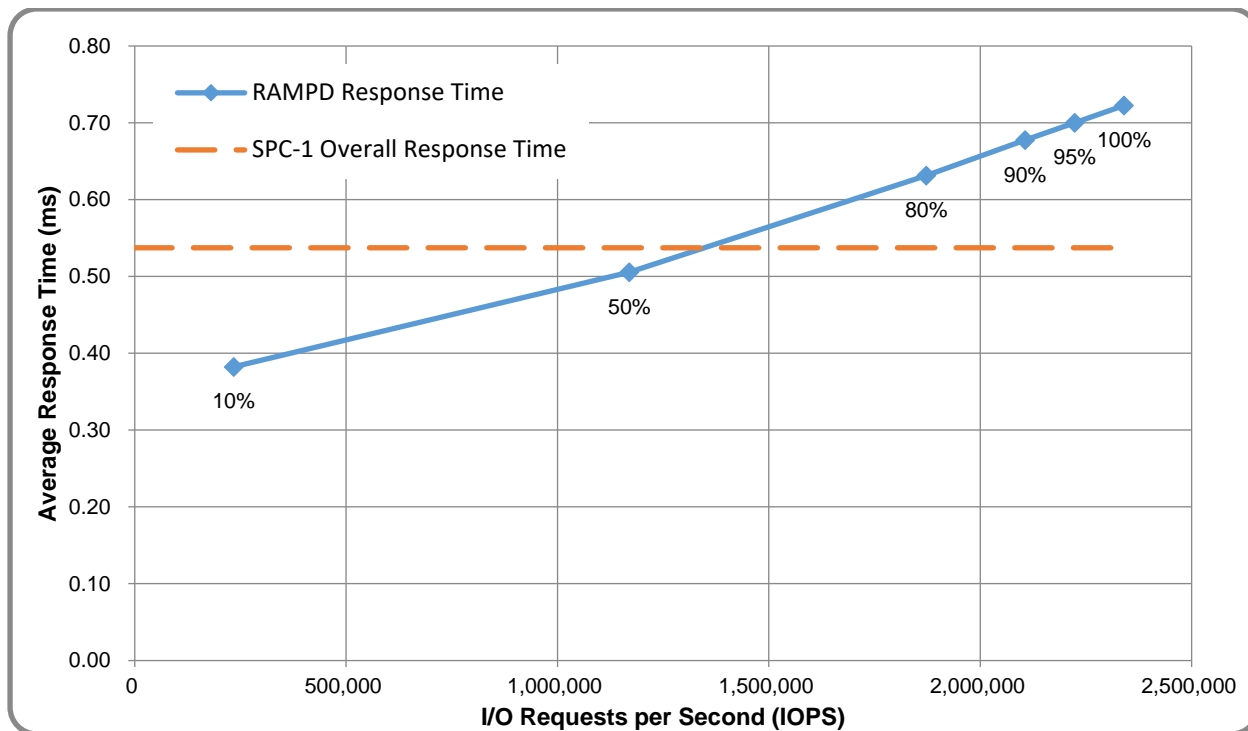
Third-Party Reseller: Huawei Technologies Co., Ltd. only sells its products to third-party resellers who, in turn, sell those products to U.S. customers. The above reflects the pricing quoted by one of those third-party resellers. See Appendix B of the Full Disclosure Report for a copy of the third-party reseller's quotation.

Discount Details: The discounts shown are based on the storage capacity purchased and are generally available.

Warranty: Hi-Care Premier On-Site Service include: 7x24 Technical Assistance Center Access. Access to all new software updates and Online Support. 24x7 with 4-hour On-site Hardware Replacement.

Availability Date: Currently available.

Response Time and Throughput Graph



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Revision Information	
SPC Benchmark 1™ Revision	V3.2.0
SPC-1 Workload Generator Revision	V3.0 build d34fb3c
Publication Revision History	<ul style="list-style-type: none"> • First Edition: December 27, 2016 • Second Edition: February 15, 2018 <ul style="list-style-type: none"> - Updated SPC-1 Price-Performance™ metric based on SPC-1 v3.6.0 definition.