

Broadberry CyberStore 424S storage system



Executive summary

After performing all tests, the Broadberry CyberStore 424S has been officially certified according to the [Open-E](#) Hardware Certification Program.

During the tests, it was found that the system is functional and efficient. With the [Open-E DSS V7](#) operating system installed, the Broadberry CyberStore 424S is stable and performs well.

In general, the system can be used for many different applications, but the following are recommended:

✓ NAS filer

The following features make Broadberry CyberStore 424S a good NAS filer solution:

- Twenty-two high class SATA hard drives provide a plenty of space for user files.
- Hardware RAID5, RAID6, RAID10, RAID50 and RAID60 for fault tolerance and the most efficient use of available disk space.
- Two 10GbE and four 1GbE interfaces for independent connection to different networks or link aggregation for improved throughput.
- SSD cache for faster access to frequently used files.

✓ Storage for databases

The following features make the Broadberry CyberStore 424S great storage for a databases:

- Four 1GbE interfaces for a fast MPIIO network connection to a target.
- Two 10GbE interfaces for fast database connection.
- Hardware RAID5, RAID50, RAID6, RAID60 and RAID10 for high performance and data safety.
- Twenty-two high class enterprise SATA drives combined with SSD cache for reliability, plenty of storage space and fast random data access.

✓ Storage for virtualization

For this application the following can be used:

- HW RAID5, RAID6, RAID10, RAID50 or RAID 60 for high performance and data safety.
- Two 10GbE interfaces for efficient network connections to virtualization systems.
- Four 1GbE interfaces, which may be aggregated, for connections with virtualized systems
- Redundant power supply for system reliability.
- SSD cache for I/O bottlenecks elimination and increased virtual machine density.

Certification notes

For link aggregation, it is recommended to use balance-alb bonding mode.

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Broadberry CyberStore 424S hardware components

Technical specifications about the certified system are listed below:

Model	Broadberry CyberStore 424S
Operating system	Open-E DSS V7 build 6645
Enclosure/chassis	Supermicro SC846BE160-R1200B
CPU	Intel Xeon E5-2620 2.00GHz
Motherboard	Supermicro X9DRi-LN4F+
Memory	4x 8GB DDR3 Samsung M393B1K70DH0-CK0
Network	4x Intel Gigabit Server Adapter I350 (on-board)
Network	Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter
HW RAID	LSI MegaRAID SAS 9280-4i4e
Hard disk drives	2x 32GB Kingston SSDNow V100 SV100S2/32G
Hard disk drives	2x 240GB OCZ Vertex-3 MAX IOPS VTX3MI-25SAT3-240G
Hard disk drives	22x 3TB Seagate Constellation ES.2 ST33000650SS

TABLE 1: Hardware components list of Certified System with Open-E DSS V7

All components were detected and properly recognized.



Broadberry CyberStore 424S photos



FIGURE 1: Front photo



FIGURE 2: Rear photo

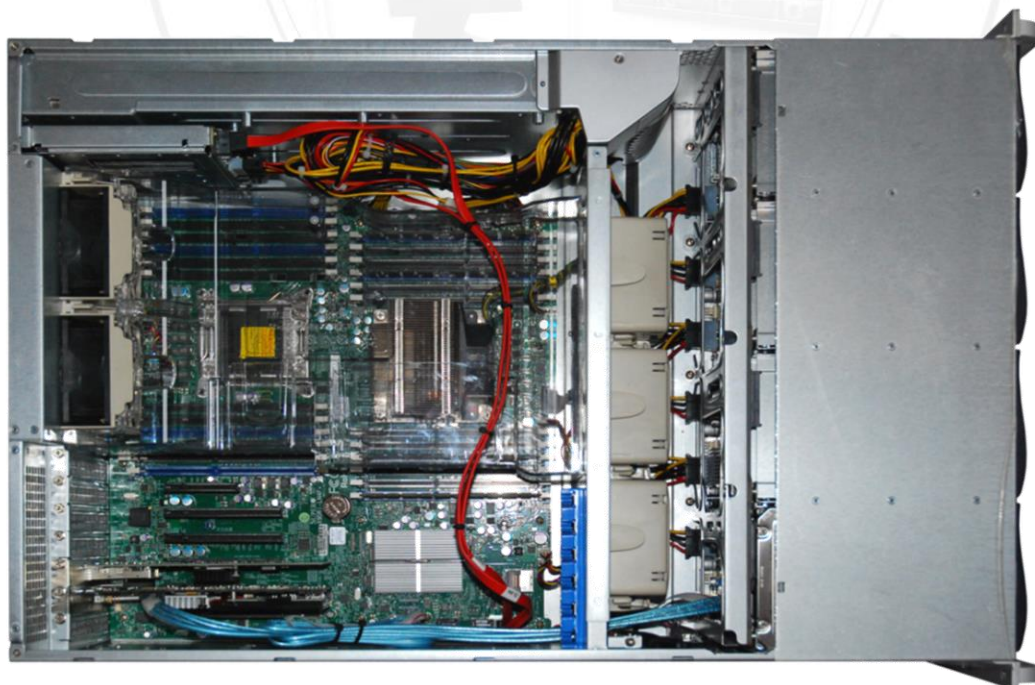


FIGURE 3: Top photo

Auxiliary systems hardware components

Auxiliary systems with MS Windows or Open-E DSS V7 installed, used in Open-E Hardware Certification Process.

Model	Supermicro SYS-6026TT-BIBQRF
Operating system	MS Windows Server 2008 R2
Enclosure/chassis	Supermicro CSE-827H-R1400B
Motherboard	Supermicro X8DTT-IBQF
CPU	Intel Xeon E5620 2.40GHz
Memory	6x 4GB DDR3 1333 ECC-REG ATP AL12M72E4BJH9S
Network	Intel Gigabit ET Dual Port Server Adapter (i82576) (on board)
Network	Intel Ethernet Server Adapter X520-SR2
Hard disk drives	1x 750GB Seagate Barracuda ST3750330NS

TABLE 2: Hardware components of first Workstation with MS Windows

Model	Supermicro SYS-6026TT-BIBQRF
Operating system	MS Windows Server 2008 R2
Enclosure/chassis	Supermicro CSE-827H-R1400B
Motherboard	Supermicro X8DTT-IBQF
CPU	Intel Xeon E5620 2.40GHz
Memory	6x 4GB DDR3 1333 ECC-REG ATP AL12M72E4BJH9S
Network	Intel Gigabit ET Dual Port Server Adapter (i82576) (on board)
Network	Intel Ethernet Server Adapter X520-SR2
Hard disk drives	1x 750GB Seagate Barracuda ST3750330NS

TABLE 3: Hardware components of second Workstation with MS Windows

Model	Broadberry CyberStore 424S
Operating system	Open-E DSS V7 build 6645
Enclosure/chassis	Supermicro SC846BE160-R1200B
CPU	Intel Xeon E5-2620 2.00GHz
Motherboard	Supermicro X9DRi-LN4F+
Memory	4x 8GB DDR3 Samsung M393B1K70DH0-CK0
Network	4x Intel Gigabit Server Adapter I350 (on-board)
Network	Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter
HW RAID	LSI MegaRAID SAS 9280-4i4e
Hard disk drives	2x 32GB Kingston SSDNow V100 SV100S2/32G

TABLE 4: Hardware components of Workstation with Open-E DSS V7

Model	Supermicro SSE-G24-TG4
Description	24-ports 1GbE and 4-ports 10GbE switch

TABLE 5: Network switch details

Administration functionality

The following functionality has been tested.

Drive identifier	OK
Power button	OK
Front and rear LEDs	OK

TABLE 6: Administration functionality test results



Network functionality

Tests performed in this section check the functionality, performance and stability of the network solutions available in the Open-E DSS V7 product on the certified system.

The tests rely on configuring the iSCSI targets and copying the data from many *Workstations with MS Windows* through various network connections with big block size using appropriate testing tools.

Network test topology

Network topology for Network testing is shown below.

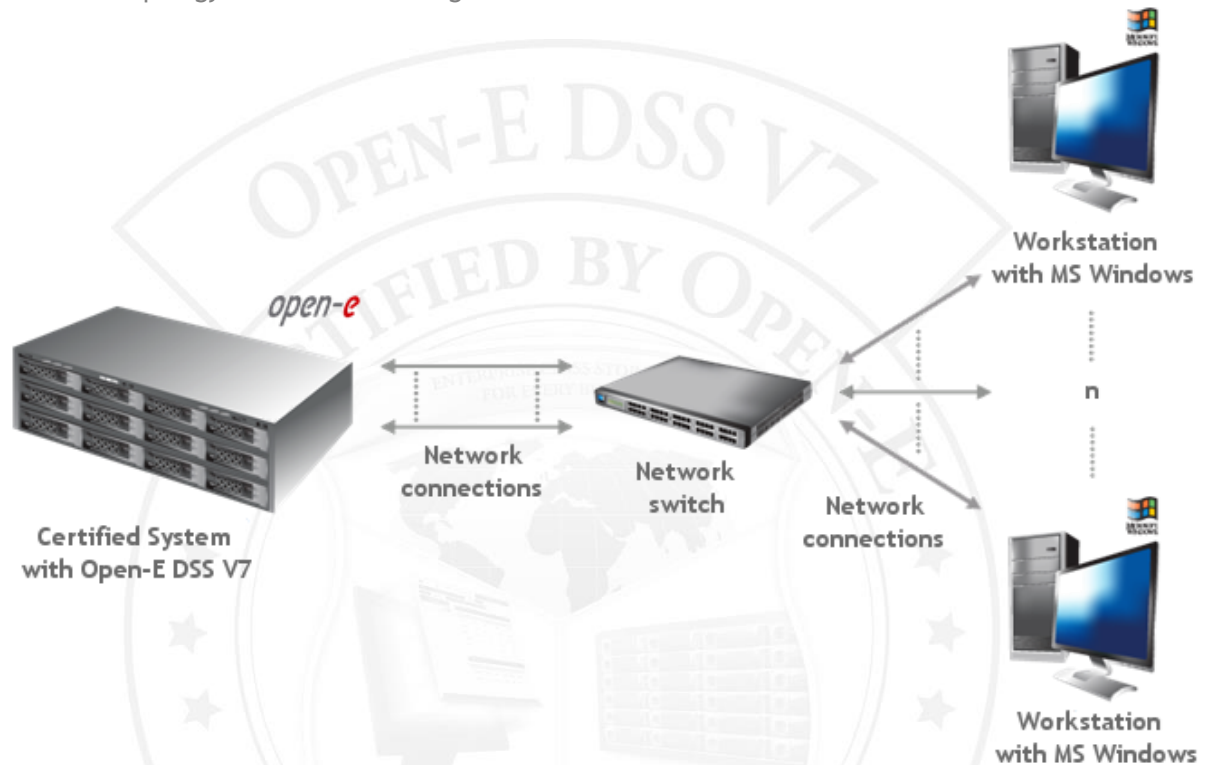


FIGURE 4: Network topology for Network testing

802.3ad bonding mode test

1. Test description

The test relies on configuring the iSCSI targets and copying the data from many *Workstations with MS Windows* through an 802.3ad bonding mode network connection with a 4MB block size using the iometer testing tool.

2. Test results for 802.3ad bonding mode test performed on Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

802.3ad bonding mode performance test results			
NIC model	Solarflare SFN5162F Dual-Port 10GbE SFP+		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 st Workstation	651.39	515.14	passed
2 nd Workstation	649.17	516.10	passed

TABLE 7: 802.3ad bonding mode performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

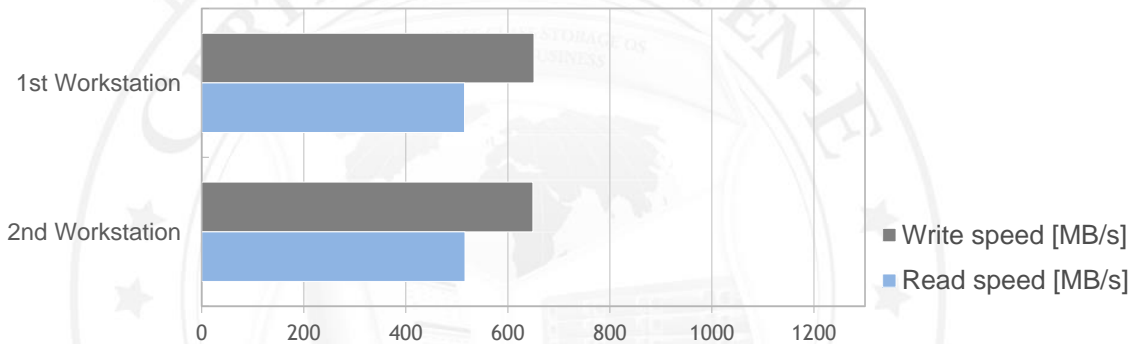


FIGURE 5: 802.3ad bonding mode performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

3. Test results for 802.3ad bonding mode test performed on Intel Gigabit Server Adapter I350 (on-board)

802.3ad bonding mode performance test results			
NIC model	Intel Gigabit Server Adapter I350 (on-board)		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 st Workstation	49.82	43.37	passed
2 nd Workstation	46.92	43.51	passed
3 rd Workstation	109.84	112.13	passed
4 th Workstation	109.01	111.16	passed

TABLE 8: 802.3ad bonding mode performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

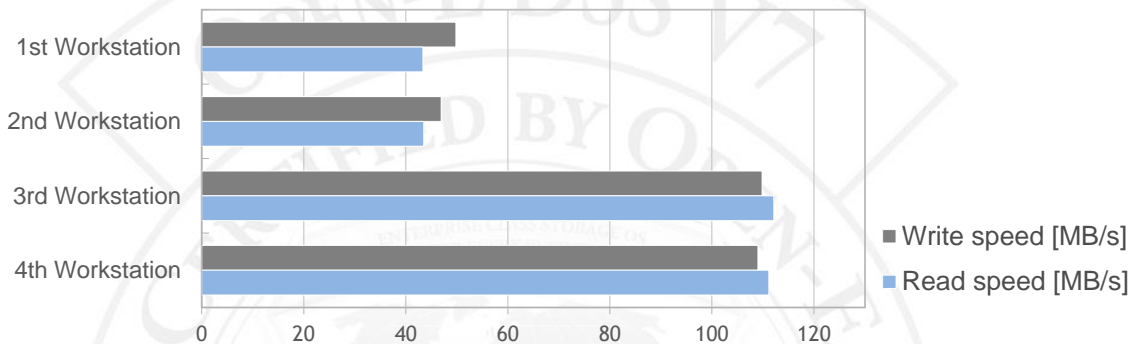


FIGURE 6: 802.3ad bonding mode performance test results for chart Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

Balance-alb bonding mode test

1. Test description

The test relies on configuring the iSCSI targets and copying the data from many *Workstations with MS Windows* through a Balance-alb bonding mode network connection with a 4MB block size using the iometer testing tool.

2. Test results for Balance-alb bonding mode test performed on Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

Balance-alb bonding mode performance test results			
NIC model	Solarflare SFN5162F Dual-Port 10GbE SFP+		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 st Workstation	654.02	527.57	passed
2 nd Workstation	634.45	558.89	passed

TABLE 9: Balance-alb bonding mode performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

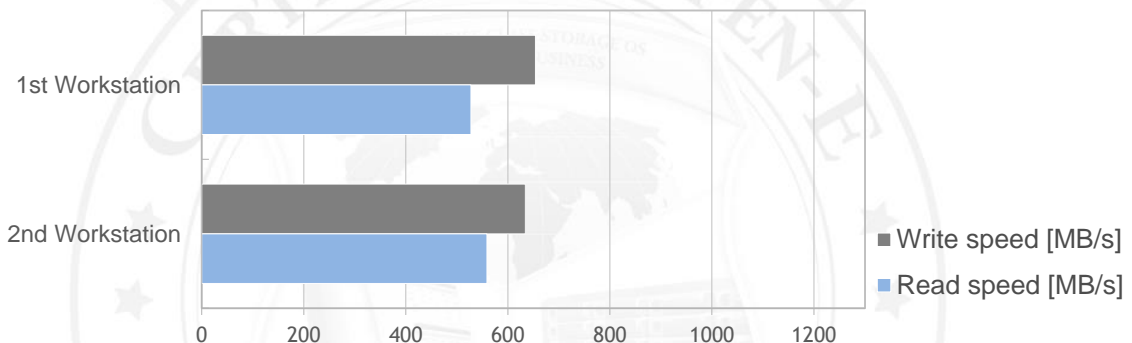


FIGURE 7: Balance-alb bonding mode performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

3. Test results for Balance-alb bonding mode test performed on Intel Gigabit Server Adapter I350 (on-board)

Balance-alb bonding mode performance test results			
NIC model	Intel Gigabit Server Adapter I350 (on-board)		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 st Workstation	109.10	111.80	passed
2 nd Workstation	110.28	111.74	passed
3 rd Workstation	109.60	111.83	passed
4 th Workstation	109.02	111.64	passed

TABLE 10: Balance-alb bonding mode performance test results table for Intel Gigabit Server Adapter I350 (on-board)

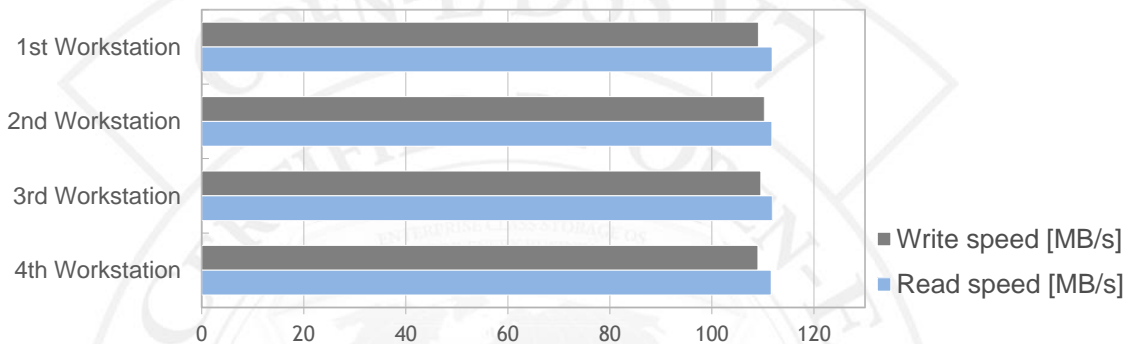


FIGURE 8: Balance-alb bonding mode performance test results chart for Intel Gigabit Server Adapter I350 (on-board)

Balance-rr bonding mode test

1. Test description

The test relies on configuring the iSCSI targets and copying the data from many *Workstations with MS Windows* through a Balance-rr bonding mode network connection with a 4MB block size using the Iometer testing tool.

2. Test results for Balance-rr bonding mode test performed on Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

Balance-rr bonding mode performance test results			
NIC model	Solarflare SFN5162F Dual-Port 10GbE SFP+		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 st Workstation	654.93	292.98	passed
2 nd Workstation	662.37	297.55	passed

TABLE 11: Balance-rr bonding mode performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

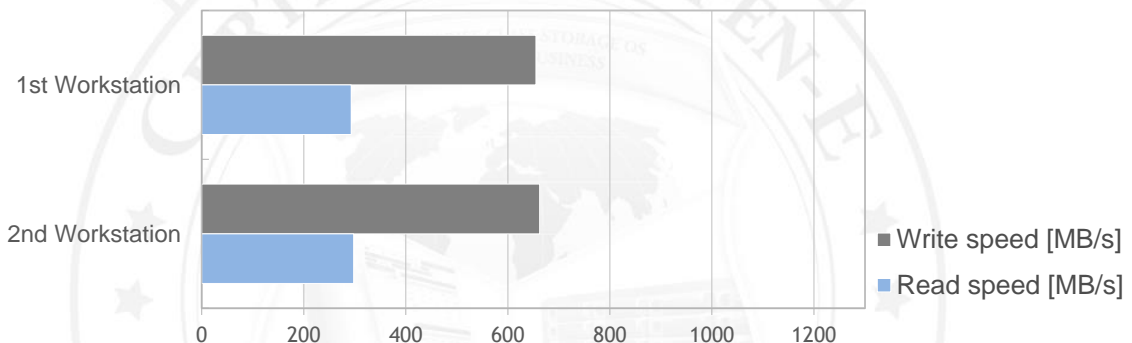


FIGURE 9: Balance-rr bonding mode performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

3. Test results for Balance-rr bonding mode test performed on Intel Gigabit Server Adapter I350 (on-board)

Balance-rr bonding mode performance test results			
NIC model	Intel Gigabit Server Adapter I350 (on-board)		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 st Workstation	50.74	55.99	passed
2 nd Workstation	54.59	47.72	passed
3 rd Workstation	46.97	72.64	passed
4 th Workstation	43.77	56.70	passed

TABLE 12: Balance-rr bonding mode performance test results table for Intel Gigabit Server Adapter I350 (on-board)

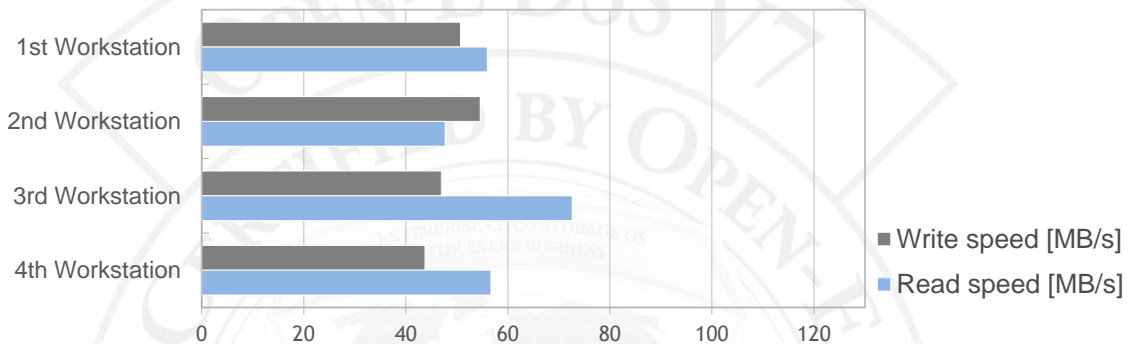


FIGURE 10: Balance-rr bonding mode performance test results chart for Intel Gigabit Server Adapter I350 (on-board)

Single NIC performance test

1. Test description

The test relies on configuring the iSCSI targets and copying the data from *Workstations with MS Windows* through single NIC with a 4MB block size using the iometer testing tool.

2. Test results for single NIC test performed on Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

Single NIC performance test results			
NIC model	Solarflare SFN5162F Dual-Port 10GbE SFP+		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance [passed/failed]
1 st Workstation	999.39	584.94	passed

TABLE 13: Single NIC test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

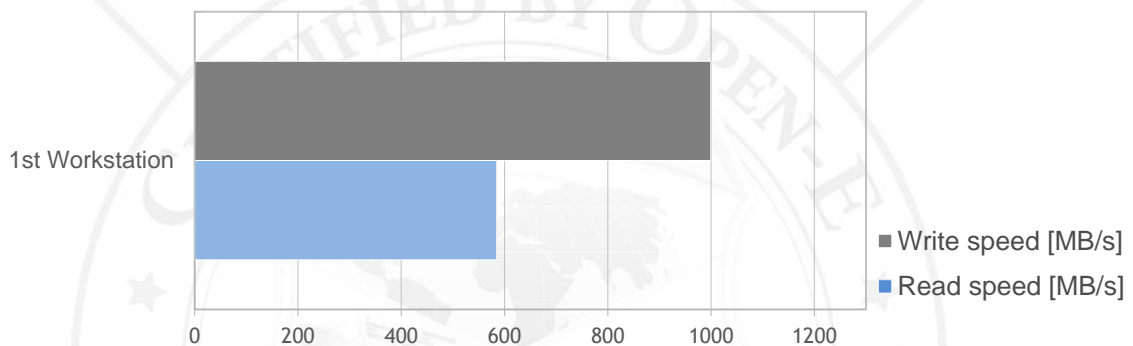


FIGURE 11: Single NIC performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

3. Test results for single NIC test performed on Intel Gigabit Server Adapter I350 (on-board)

Single NIC performance test results			
NIC model	Intel Gigabit Server Adapter I350 (on-board)		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance [passed/failed]
1 st Workstation	109.71	111.98	passed

TABLE 14: Single NIC test results table for Intel Gigabit Server Adapter I350 (on-board)

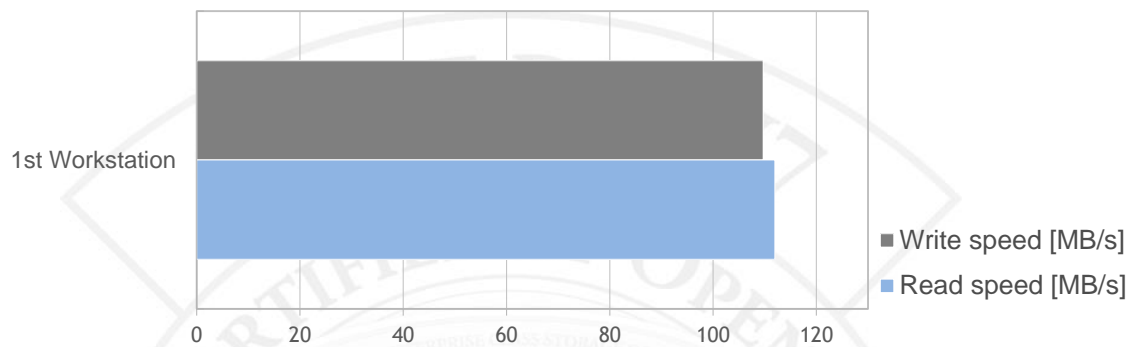


FIGURE 12: Single NIC performance test results chart for Intel Gigabit Server Adapter I350 (on-board)

RAID functionality

Tests performed in this section check the functionality, performance and stability of Open-E DSS V7 storage devices on the certified system.

Tests in this section rely on the creation of the RAID units on 0, 5, 6, 10, 50 and 60 levels, configuring the iSCSI target and copying the data from a *Workstation with MS Windows* via network connection with various block sizes using the lometer testing tool.

RAID test topology

Network test topology for RAID testing is shown below

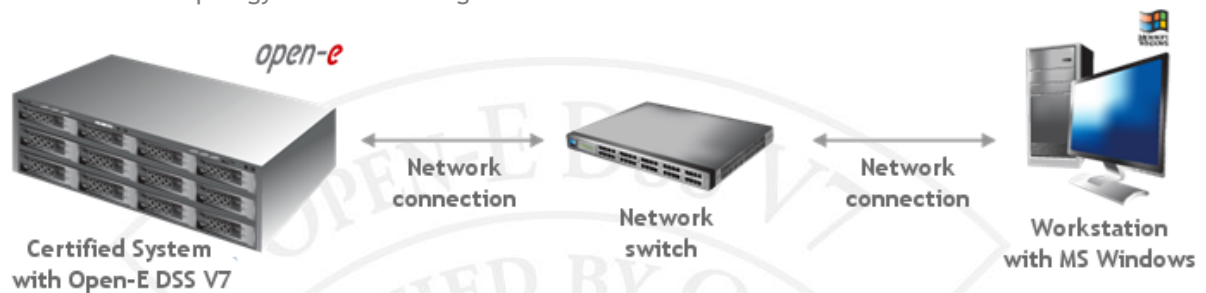


FIGURE 13: Network test topology for RAID testing

Hardware RAID0 test

1. Test description

The test relies on creation of the RAID0 unit on all hard disk drives, configuring the iSCSI target and copying the data from a *Workstation with MS Windows* via network connection with various block sizes using the lometer testing tool.

2. Test results for RAID0 and Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

RAID0 performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	10.85	102.18	passed
32	66.65	499.31	passed
64	169.17	662.68	passed
128	470.74	700.68	passed
256	696.09	722.83	passed
512	706.17	739.62	passed
1024	715.35	707.18	passed
4096	711.90	707.17	passed

TABLE 15: RAID0 performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

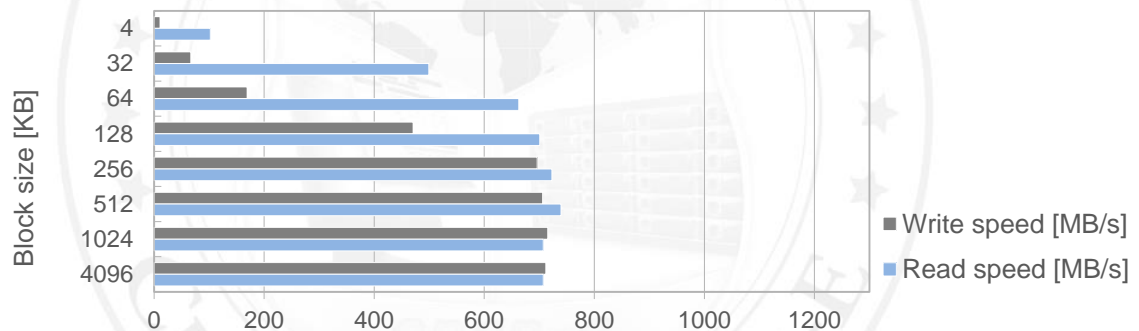


FIGURE 14: RAID0 performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

Hardware RAID5 test

1. Test description

The test relies on creation of the RAID5 unit on all hard disk drives, configuring the iSCSI target and copying the data from a *Workstation with MS Windows* via network connection with various block sizes using the Iometer testing tool.

2. Test results for RAID5 and Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

RAID5 performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	6.08	130.17	passed
32	55.38	563.60	passed
64	163.94	664.42	passed
128	452.46	694.85	passed
256	643.29	766.90	passed
512	672.22	747.68	passed
1024	680.99	728.36	passed
4096	692.95	793.84	passed

TABLE 16: RAID5 performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

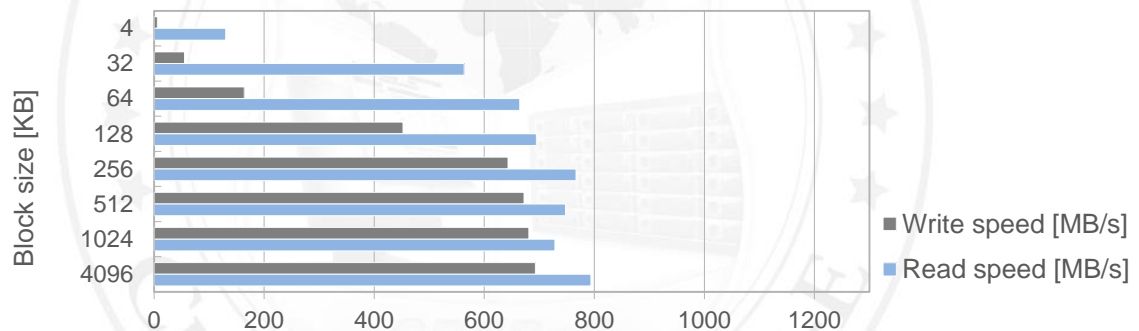


FIGURE 15: RAID5 performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

Hardware RAID6 test

1. Test description

The test relies on creation of the RAID6 unit on all hard disk drives, configuring the iSCSI target and copying the data from a *Workstation with MS Windows* via network connection with various block sizes using the Iometer testing tool.

2. Test results for RAID6 and Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

RAID6 performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	6.24	131.96	passed
32	55.94	565.35	passed
64	225.42	607.46	passed
128	643.16	673.40	passed
256	763.51	781.77	passed
512	782.32	746.23	passed
1024	807.04	718.95	passed
4096	823.52	753.36	passed

TABLE 17: RAID6 performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

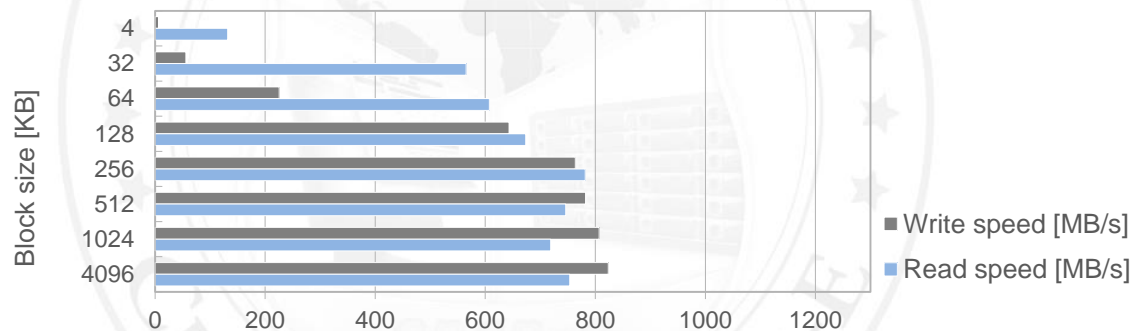


FIGURE 16: RAID6 performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

Hardware RAID10 test

1. Test description

The test relies on creation of the RAID10 unit on all hard disk drives, configuring the iSCSI target and copying the data from a *Workstation with MS Windows* via network connection with various block sizes using the iometer testing tool.

2. Test results for RAID10 and Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

RAID10 performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	8.42	146.40	passed
32	59.79	573.55	passed
64	166.24	665.67	passed
128	496.12	680.31	passed
256	693.51	690.34	passed
512	704.98	587.79	passed
1024	693.74	506.08	passed
4096	704.04	546.51	passed

TABLE 18: RAID10 performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

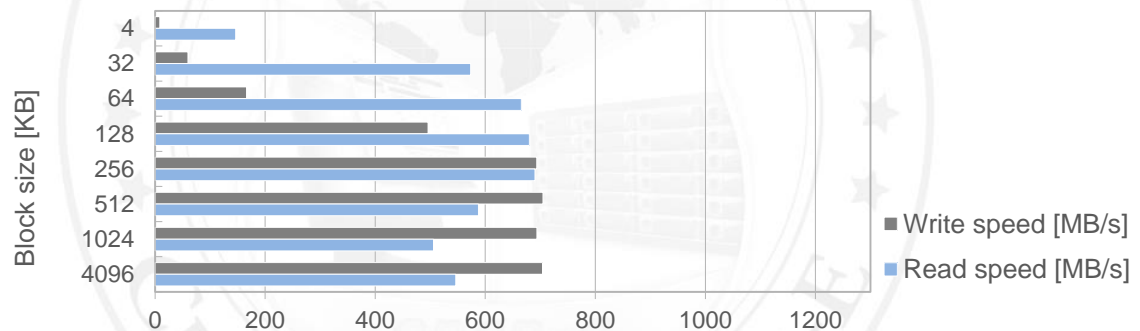


FIGURE 17: RAID10 performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

Hardware RAID50 test

1. Test description

The test relies on creation of the RAID50 unit on all hard disk drives, configuring the iSCSI target and copying the data from a *Workstation with MS Windows* via network connection with various block sizes using the lometer testing tool.

2. Test results for RAID50 and Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

RAID50 performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	6.49	129.79	passed
32	57.12	564.46	passed
64	152.63	606.97	passed
128	472.48	709.15	passed
256	694.06	774.96	passed
512	704.29	753.93	passed
1024	710.53	731.18	passed
4096	723.63	761.51	passed

TABLE 19: RAID50 performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

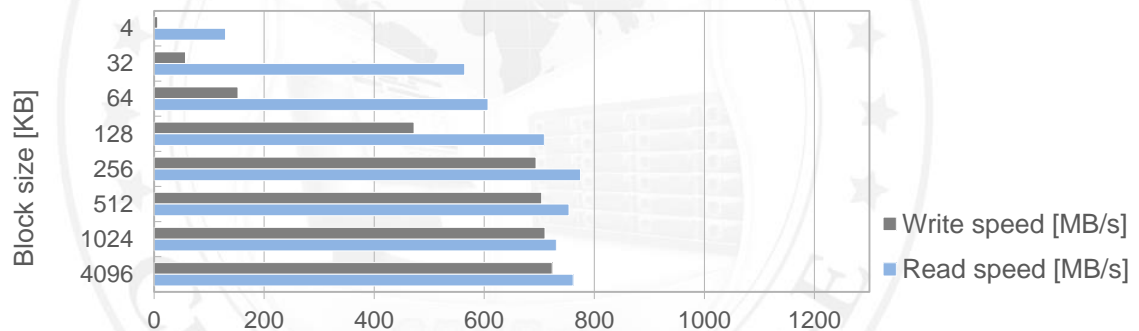


FIGURE 18: RAID50 performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

Hardware RAID60 test

1. Test description

The test relies on creation of the RAID60 unit on all hard disk drives, configuring the iSCSI target and copying the data from a *Workstation with MS Windows* via network connection with various block sizes using the Iometer testing tool.

2. Test results for RAID60 and Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

RAID60 performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	5.91	132.84	passed
32	57.67	558.76	passed
64	151.17	647.64	passed
128	477.11	703.77	passed
256	695.79	800.67	passed
512	696.19	745.55	passed
1024	715.38	777.83	passed
4096	729.12	759.74	passed

TABLE 20: RAID60 performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

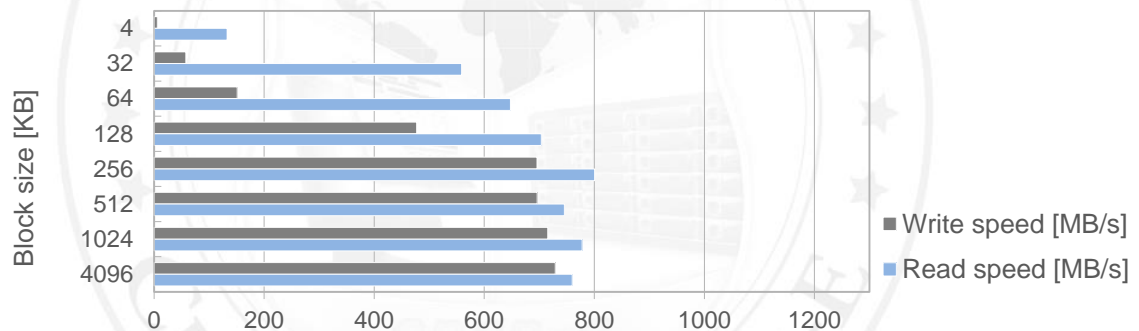


FIGURE 19: RAID60 performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

NAS functionality

Tests performed in this section check the functionality, performance and stability of the NAS protocols in the Open-E DSS V7 product on the certified system.

The tests rely on creating NAS shares and copying the data from a *Workstation with MS Windows* via network connection with various block sizes using the Iometer testing tool.

NAS test topology

Network topology for NAS testing is shown below.

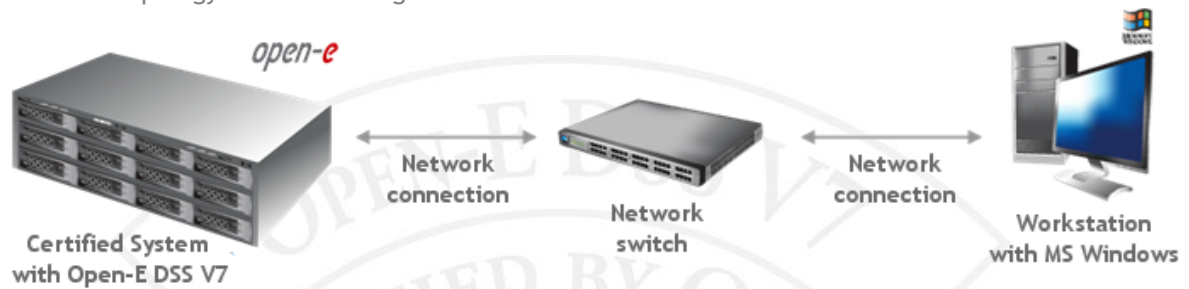
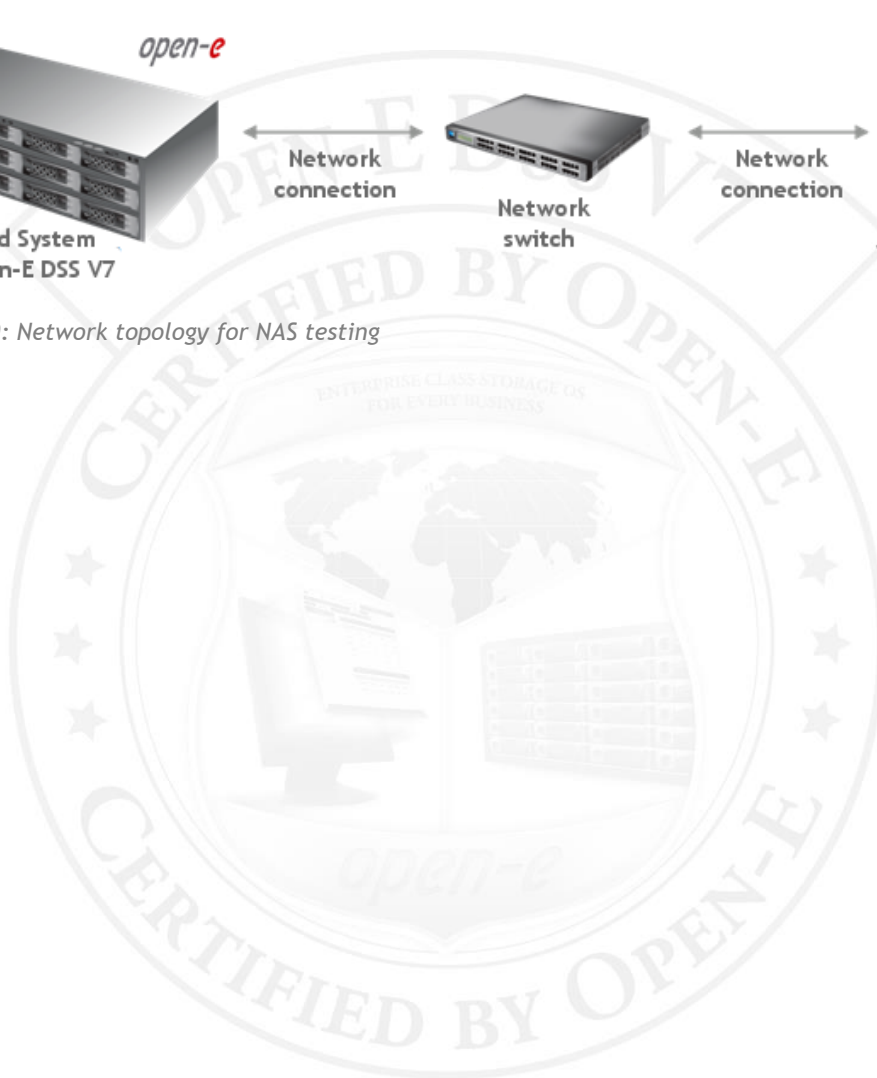


FIGURE 20: Network topology for NAS testing



SMB test

1. Test description

The tests rely on creating NAS shares and copying the data from a *Workstation with MS Windows* via network connection with various block sizes using the Iometer testing tool.

2. Test results for SMB and Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

SMB performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	185.23	137.86	passed
32	574.98	605.08	passed
64	915.57	603.60	passed
128	915.46	661.82	passed
256	942.33	681.10	passed
512	919.55	651.22	passed
1024	922.88	626.36	passed
4096	922.96	624.69	passed

TABLE 21: SMB performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

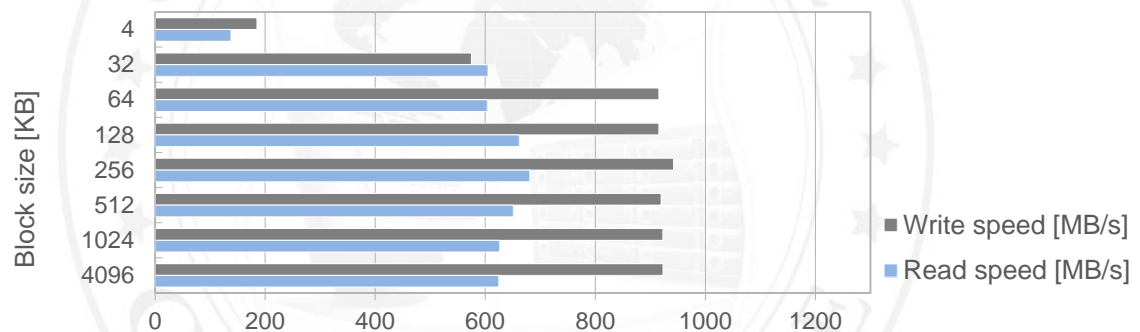


FIGURE 21: SMB performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

iSCSI functionality

Tests performed in this section check the functionality, performance and stability of the iSCSI protocol in the Open-E DSS V7 product on the certified system.

iSCSI Initiator test topology

Network topology for iSCSI Initiator testing is shown below.

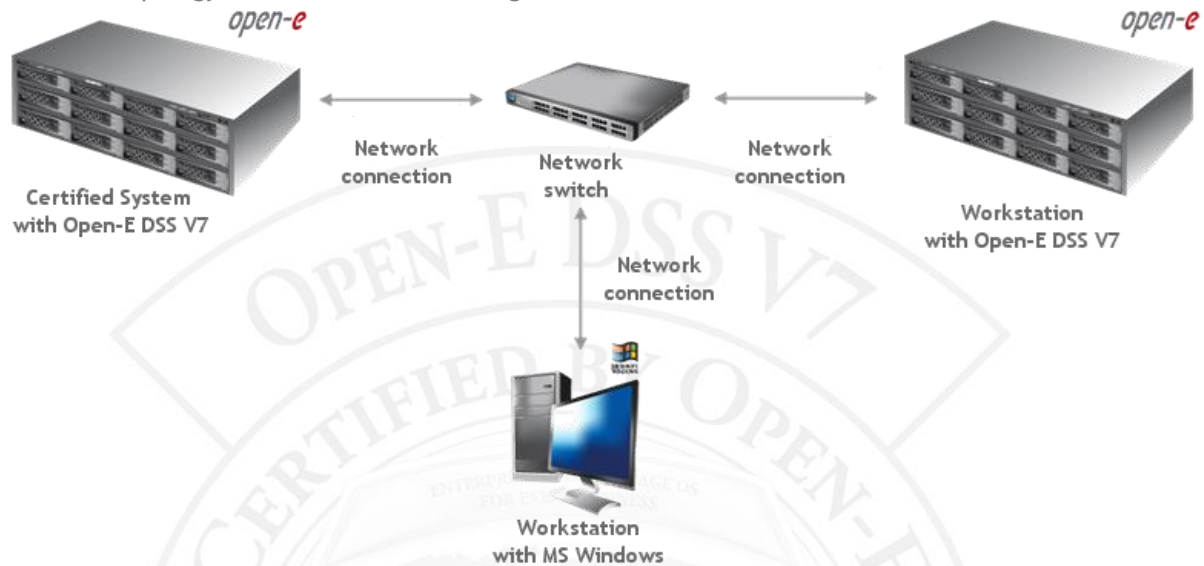


FIGURE 22: Network topology for iSCSI Initiator testing

iSCSI Target test topology

Network topology for iSCSI Target testing is shown below.

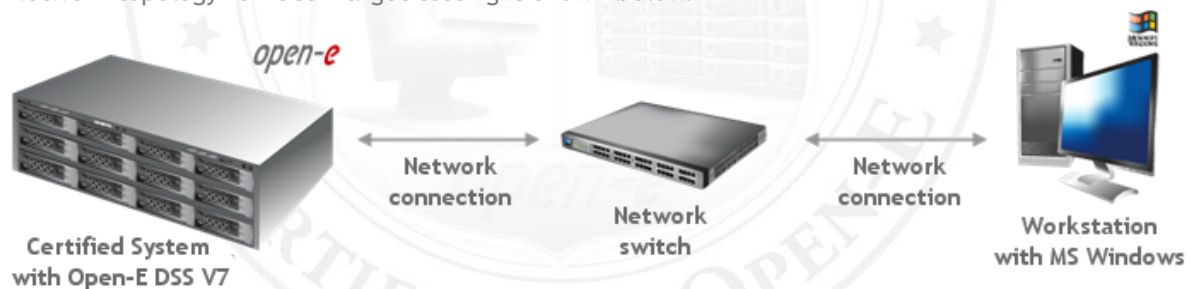


FIGURE 23: Network topology for iSCSI Target testing

iSCSI Initiator test

1. Test description

The test relies on using the storage connected via the built-in iSCSI Initiator for NAS volumes, creating SMB shares on these NAS volumes and copying data from a *Workstation with MS Windows* to them with various block sizes using the Iometer testing tool.

2. Test results for iSCSI Initiator and Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

iSCSI Initiator performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	165.11	142.65	passed
32	587.33	604.62	passed
64	781.20	603.12	passed
128	821.93	666.66	passed
256	837.84	682.87	passed
512	799.07	659.59	passed
1024	798.18	631.66	passed
4096	798.58	633.75	passed

TABLE 22: iSCSI Initiator performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

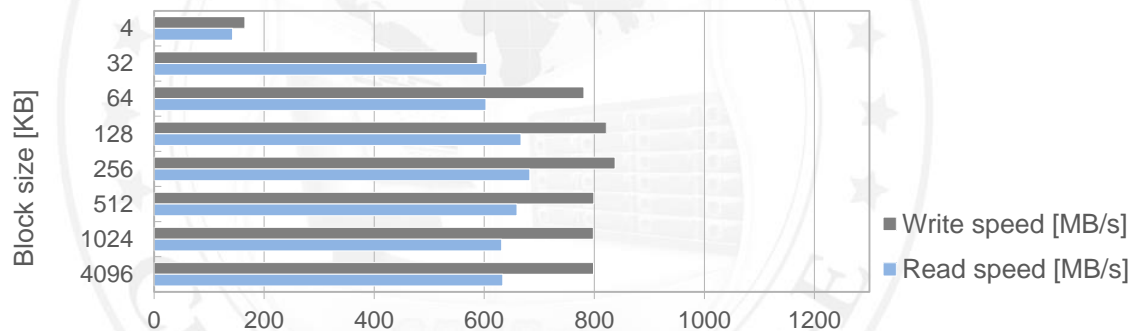


FIGURE 24: iSCSI Initiator performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

iSCSI Target test

1. Test description

The test relies on creating the iSCSI target on the certified system and copying the data from a *Workstation with MS Windows* to it with various block sizes using the *lomometer* tool.

2. Test results for iSCSI Target and Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

iSCSI Target performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	7.00	128.16	passed
32	58.86	572.16	passed
64	186.24	613.41	passed
128	481.60	666.76	passed
256	709.04	585.20	passed
512	724.97	549.71	passed
1024	721.70	528.79	passed
4096	737.91	590.17	passed

TABLE 23: iSCSI Target performance test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

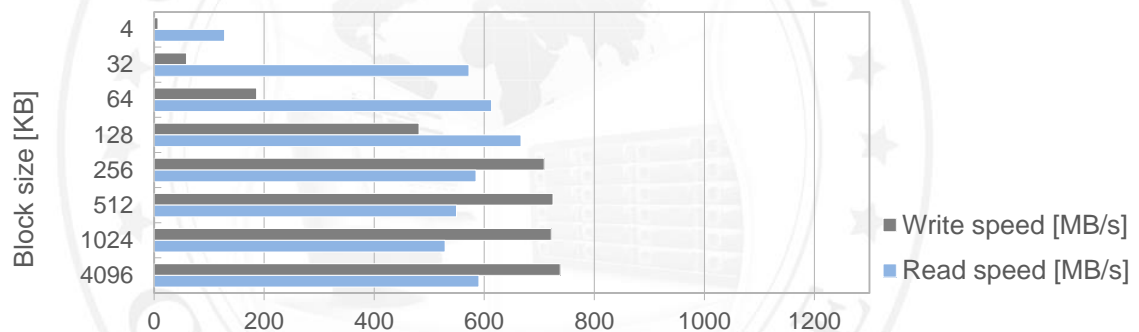


FIGURE 25: iSCSI Target performance test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

SSD Cache performance

Tests performed in this section check the performance of SSD cache in the Open-E DSS V7 product on the certified system.

SSD Cache test topology

Network topology for SSD Cache testing is shown below.

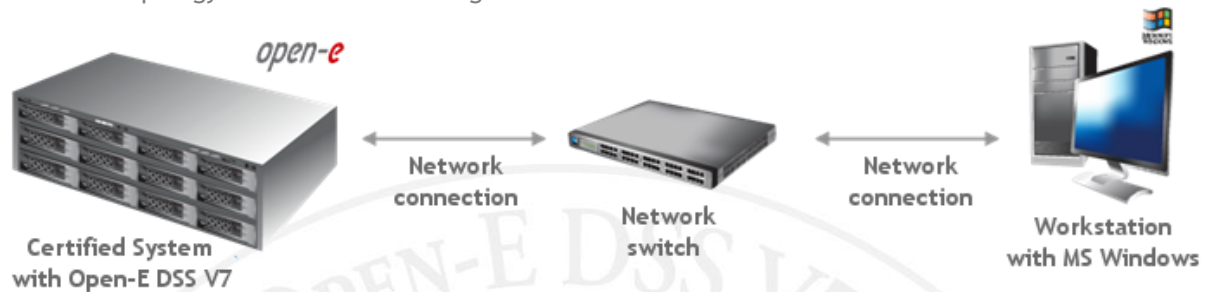


FIGURE 26: Network topology for SSD Cache testing



SSD Cache with real life pattern test

1. Test description

The test relies on creating the iSCSI target on the certified system, writing (35%) and reading (65%) random data from a *Workstation with MS Windows* to it with various block sizes using the iometer tool.

2. Test results for SSD Cache with real life pattern and Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

SSD Cache with real life pattern test results		
Block size [KB]	Performance [IOPS]	Performance test results
1	6572	passed
2	14027	passed
4	12826	passed

TABLE 24: SSD Cache with real life pattern test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

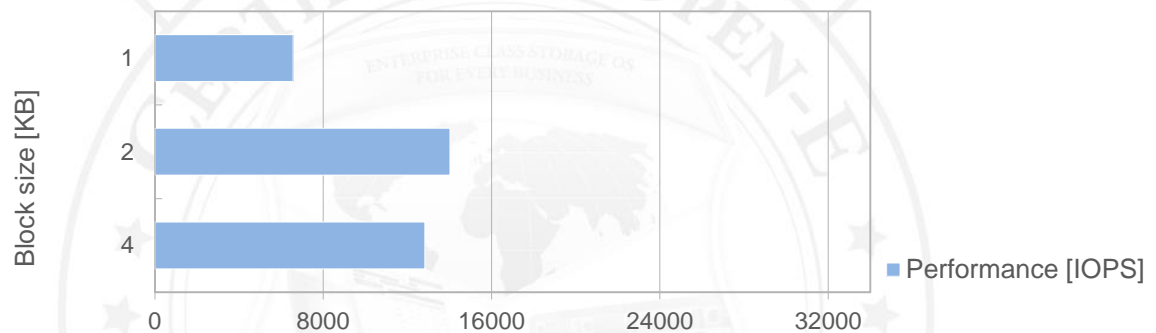


FIGURE 27: SSD Cache with real life pattern test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

SSD Cache with random read/write pattern test

1. Test description

The test relies on creating the iSCSI target on the certified system and copying random data from a *Workstation with MS Windows* to it with various block sizes using the iometer tool.

2. Test results for SSD cache with random read/write pattern Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

SSD cache with random read/write pattern test results			
Block size [KB]	Write speed [IOPS]	Read speed [IOPS]	Performance test results
1	16589	20674	passed
2	15964	21684	passed
4	15326	21945	passed

TABLE 25: SSD cache with random read/write pattern test results table for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter

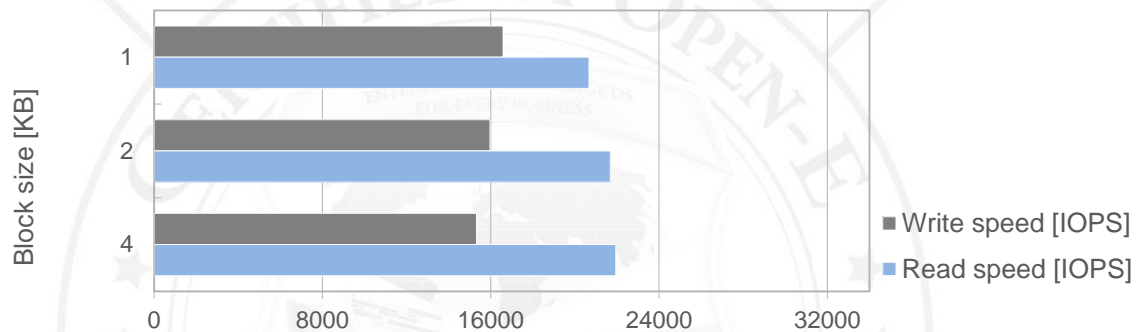


FIGURE 28: SSD cache with random read/write pattern test results chart for Solarflare SFN5162F Dual-Port 10GbE SFP+ Midrange Server Adapter