

# CORETO AG RECT ST-3682R8-N Storage system



## Executive summary

After performing all tests, the CORETO AG RECT ST-3682R8-N has been officially certified according to the [Open-E Hardware Certification Program Guide 2.0](#).

During the tests, it was found that the system is functional and efficient. With the [Open-E DSS V7](#) operating system installed, the CORETO AG RECT ST-3682R8-N is stable and performs well.

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

### ✓ iSCSI storage

The following features make CORETO AG RECT ST-3682R8-N good iSCSI storage:

- HW RAID5, RAID6 or RAID10 for high performance and data safety.
- Four 1GbE and four 10GbE interfaces for fast MPIO connection and flexible network topology.
- Redundant power supply for system reliability.

### ✓ Storage for backup

The following features make CORETO AG RECT ST-3682R8-N great storage for a backup:

- Four 1GbE and four 10GbE network interfaces provides enough throughput for demanding backup networks and ensure flexibility in backup network topology.
- Combination of six high capacity SAS hard drives and RAID50, ensures a safe storage space for backups.

### ✓ Storage for CCTV

For this application the following can be used:

- Six high capacity SAS drives with high level RAID5 provide lots of redundant storage for CCTV records.
- Four 1GbE and four 10GbE interfaces for independent connection to different networks or link aggregation for improved throughput.
- Redundant power supply for system reliability.

## Certification notes

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

Some tests were performed on two iSCSI targets simultaneously.

During all tests performance Intel I/O AT was enabled.

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## CORETO AG RECT ST-3682R8-N hardware components

Technical specifications about the certified system are listed below:

Model	CORETO AG RECT ST-3682R8-N
Operating system	Open-E DSS V7 build 10529
Enclosure/chassis	Chenbro 19" Gehäuse RM23608
CPU	2x Intel® Xeon® Processor E5-2609 v2
Motherboard	Tyan S7050GM4NR
Memory	4x 8GB Kingston KVR16R11S4/8KF
Network	Intel® Ethernet Controller I350-AM2
Network	2x Intel® 82574L Gigabit Ethernet Controller
Network	Intel® Ethernet Converged Network Adapter X520-DA2
Network	Intel® Ethernet Converged Network Adapter X540-T2
HW RAID	Adaptec RAID 7805Q
Hard disk drives	6x 1.2TB GST Ultrastar C10K1200 HUC101212CSS600
Hard disk drives	2x 240GB Intel® SSD DC S3500 Series (SSDSC2BB240G401)

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



## CORETO AG RECT ST-3682R8-N photos



FIGURE 1: Front photo

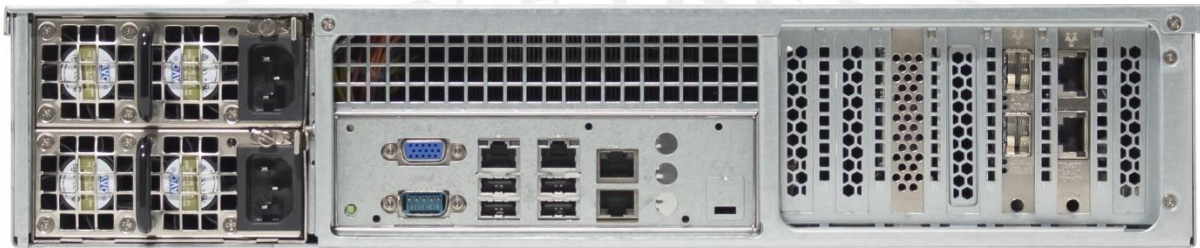


FIGURE 2: Rear photo

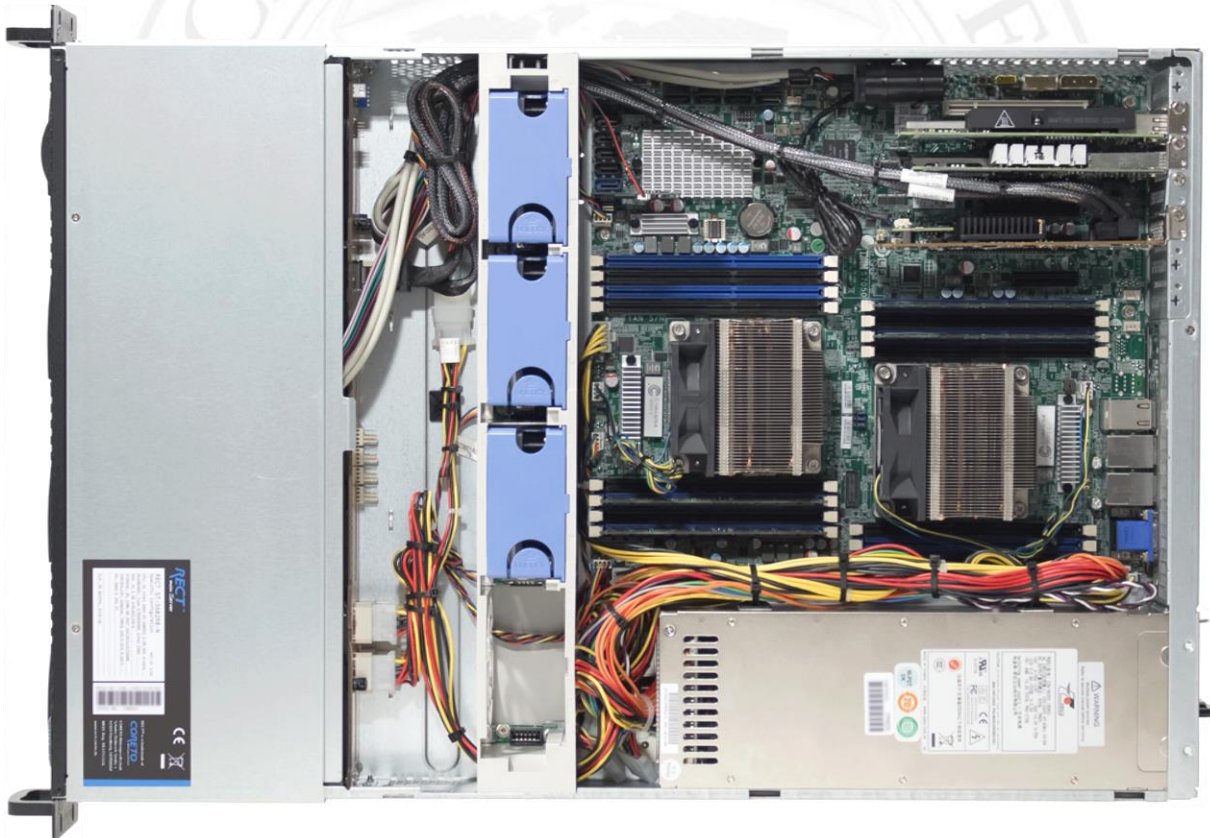


FIGURE 3: Top photo



## Auxiliary systems hardware components

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

<b>Model</b>	Custom
<b>Operating system</b>	MS Windows Server 2012 R2
<b>Enclosure/chassis</b>	Custom
<b>Motherboard</b>	Supermicro X10SLM+-F
<b>CPU</b>	Intel® Xeon® Processor E3-1220 v3
<b>Memory</b>	2x 4GB Kingston DDR3 1600MHz ECC
<b>Network</b>	2x Intel® Gigabit Server Adapter i210AT
<b>Network</b>	Intel® Ethernet Converged Network Adapter X520-DA2
<b>Network</b>	Intel® Ethernet Converged Network Adapter X540-T2
<b>Hard disk controller</b>	2x Intel® C220
<b>Hard disk drives</b>	1TB WD RE4 WD1003FBYX

TABLE 2: Hardware components of first Workstation with MS Windows

<b>Model</b>	Custom
<b>Operating system</b>	MS Windows Server 2012 R2
<b>Enclosure/chassis</b>	Custom
<b>Motherboard</b>	Supermicro X10SLM+-F
<b>CPU</b>	Intel® Xeon® Processor E3-1220 v3
<b>Memory</b>	2x 4GB Kingston DDR3 1600MHz ECC
<b>Network</b>	2x Intel® Gigabit Server Adapter i210AT
<b>Network</b>	Intel® Ethernet Converged Network Adapter X520-DA2
<b>Network</b>	Intel® Ethernet Converged Network Adapter X540-T2
<b>Hard disk controller</b>	2x Intel® C220
<b>Hard disk drives</b>	1TB WD RE4 WD1003FBYX

TABLE 3: Hardware components of second Workstation with MS Windows

Model	Custom
Operating system	Open-E DSS V7 build 10529
Enclosure/chassis	Custom
Motherboard	Asus P8B-WS
CPU	Intel® Core™ i3-3210 Processor
Memory	2x 4GB Kingston KVR1333D3N9/4G
Network	2x Intel® 82574L Gigabit Ethernet Controller
Network	Intel® Ethernet Converged Network Adapter X520-DA2
Network	Intel® Ethernet Converged Network Adapter X540-T2
Hard disk controller	Intel® C206
Hard disk drives	300GB WD VelociRaptor WD3000HLFS
Hard disk drives	2x 1TB WD RE4 WD1003FBYX

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

Model	Netgear ProSafe GS728TXS-100NES
Description	24 ports 1GbE and 4 ports SFP+ 10GbE

TABLE 5: Network switch details for connection with Intel® Ethernet Converged Network Adapter X520-DA2

Model	Netgear ProSafe XS712T-100NES
Description	12 ports 10GbE and 2 ports SFP+ 10GbE

TABLE 6: Network switch details for connection with Intel® Ethernet Converged Network Adapter X540-T2

## Administration functionality

The following functionality has been tested.

Drive identifier	OK
Power button	OK
Front and rear LEDs	OK
Intel I/O AT	OK

TABLE 7: 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.

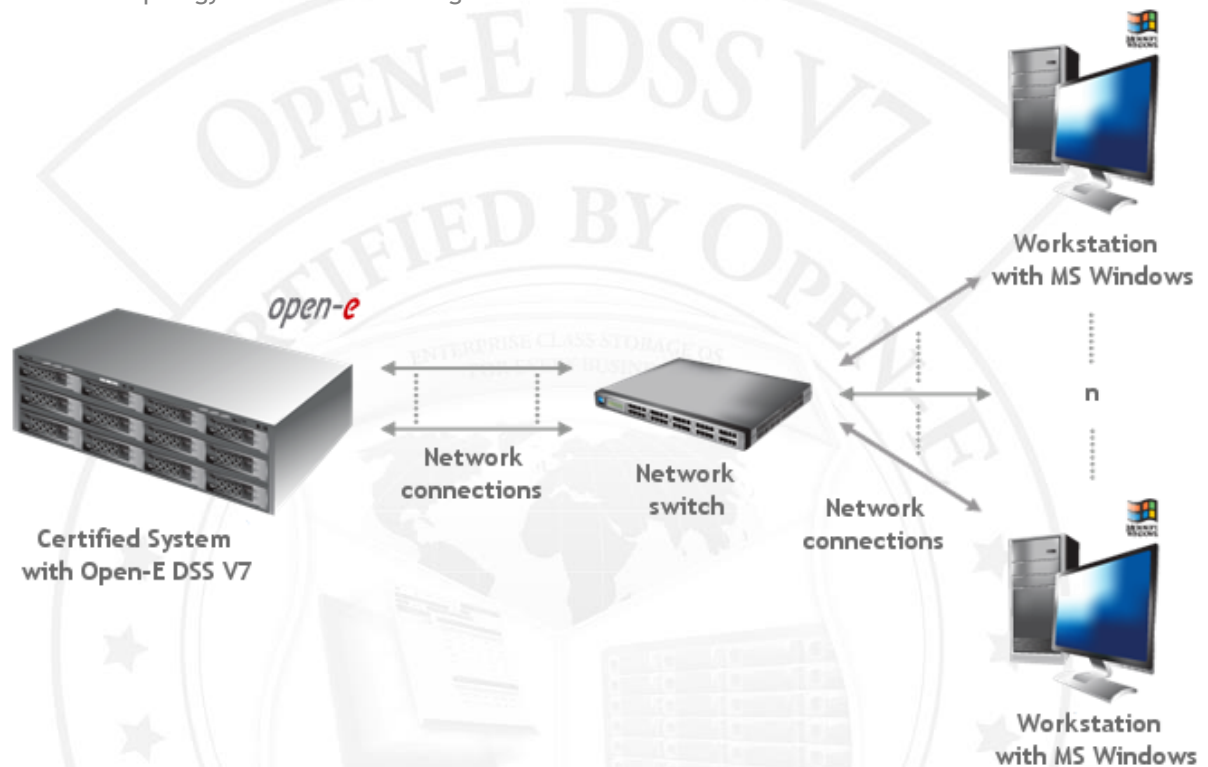


FIGURE 4: Network topology for Network testing



## 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 Intel® 82574L Gigabit Ethernet Controller

802.3ad bonding mode performance test results			
NIC model	Intel® 82574L Gigabit Ethernet Controller		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 <sup>st</sup> Workstation	110.57	62.58	passed
2 <sup>nd</sup> Workstation	110.40	49.79	passed

TABLE 8: 802.3ad bonding mode performance test results table for Intel® 82574L Gigabit Ethernet Controller

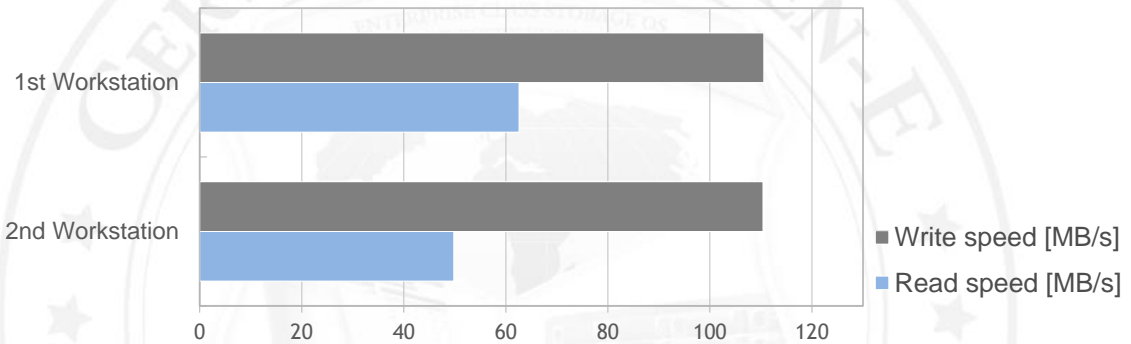


FIGURE 5: 802.3ad bonding mode performance test results chart for Intel® 82574L Gigabit Ethernet Controller

### 3. Test results for 802.3ad bonding mode test performed on Intel® Ethernet Controller I350-AM2

802.3ad bonding mode performance test results			
NIC model	Intel® Ethernet Controller I350-AM2		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 <sup>st</sup> Workstation	110.17	59.97	passed
2 <sup>nd</sup> Workstation	110.64	53.55	passed

TABLE 9: 802.3ad bonding mode performance test results table for Intel® Ethernet Controller I350-AM2

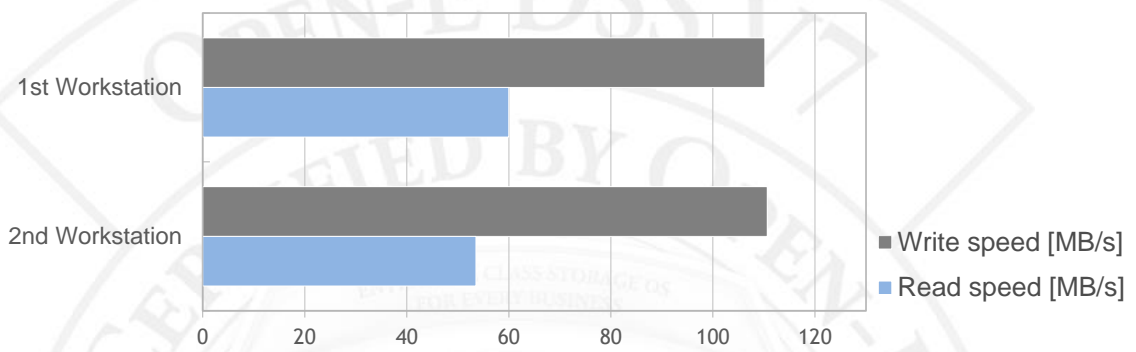


FIGURE 6: 802.3ad bonding mode performance test results chart for Intel® Ethernet Controller I350-AM2

#### 4. Test results for 802.3ad bonding mode test performed on Intel® Ethernet Converged Network Adapter X540-T2

802.3ad bonding mode performance test results			
NIC model	Intel® Ethernet Converged Network Adapter X540		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 <sup>st</sup> Workstation	1120.63	552.86	passed
2 <sup>nd</sup> Workstation	1068.03	556.83	passed

TABLE 10: 802.3ad bonding mode performance test results table for Intel® Ethernet Converged Network Adapter X540-T2

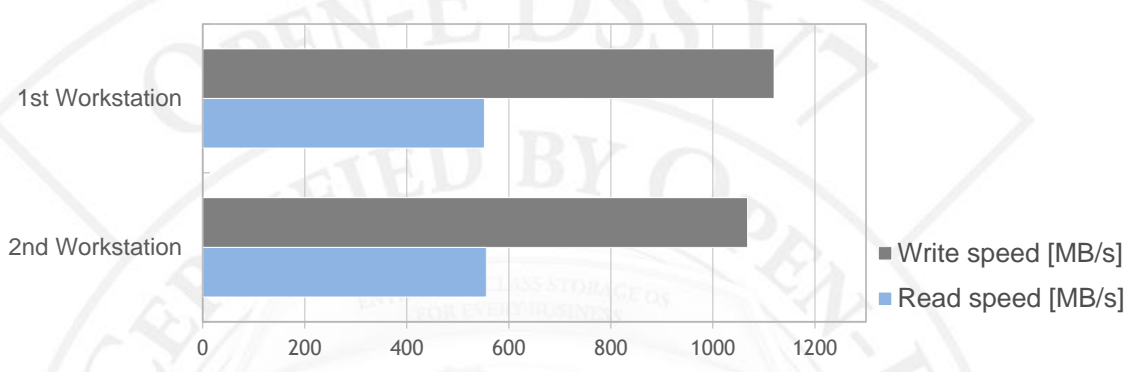


FIGURE 7: 802.3ad bonding mode performance test results chart for Intel® Ethernet Converged Network Adapter X540-T2

### 5. Test results for 802.3ad bonding mode test performed on Intel® Ethernet Converged Network Adapter X520-DA2

802.3ad bonding mode performance test results			
NIC model	Intel® Ethernet Converged Network Adapter X520		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 <sup>st</sup> Workstation	1112.06	544.18	passed
2 <sup>nd</sup> Workstation	1000.86	564.46	passed

TABLE 11: 802.3ad bonding mode performance test results table for Intel® Ethernet Converged Network Adapter X520-DA2

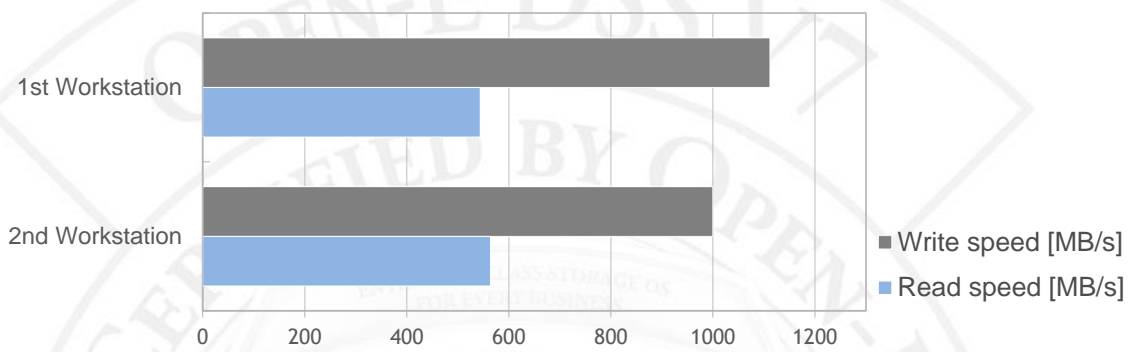


FIGURE 8: 802.3ad bonding mode performance test results chart for Intel® Ethernet Converged Network Adapter X520-DA2

## 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 Intel® 82574L Gigabit Ethernet Controller

Balance-alb bonding mode performance test results			
NIC model	Intel® 82574L Gigabit Ethernet Controller		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 <sup>st</sup> Workstation	112.08	109.45	passed
2 <sup>nd</sup> Workstation	112.13	109.85	passed

TABLE 12: Balance-alb bonding mode performance test results table for Intel® 82574L Gigabit Ethernet Controller

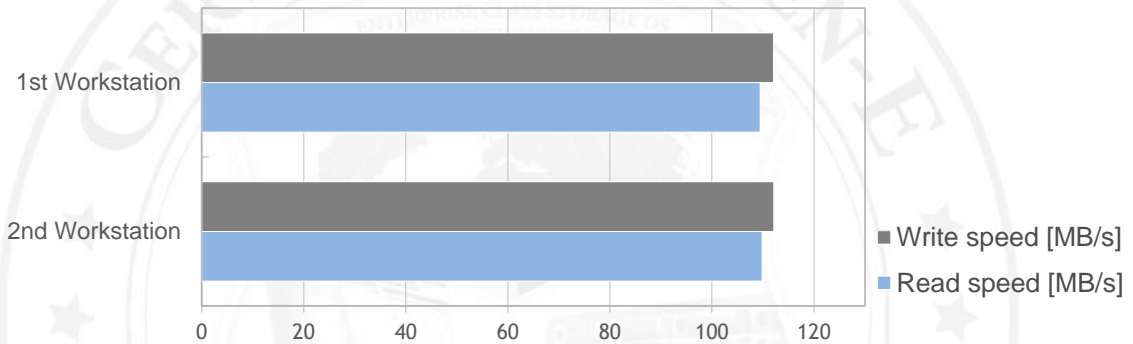


FIGURE 9: Balance-alb bonding mode performance test results chart for Intel® 82574L Gigabit Ethernet Controller



### 3. Test results for Balance-alb bonding mode test performed on Intel® Ethernet Controller I350-AM2

Balance-alb bonding mode performance test results			
NIC model	Intel® Ethernet Controller I350-AM2		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 <sup>st</sup> Workstation	111.01	111.80	passed
2 <sup>nd</sup> Workstation	111.46	112.22	passed

TABLE 13: Balance-alb bonding mode performance test results table for Intel® Ethernet Controller I350-AM2

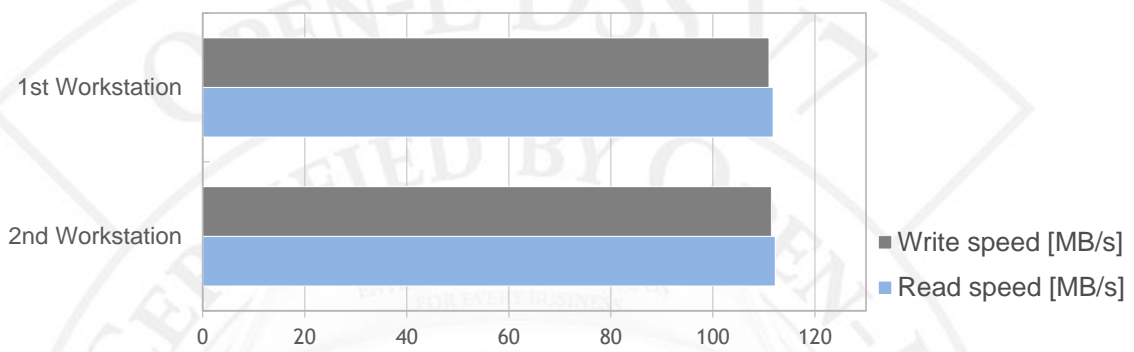


FIGURE 10: Balance-alb bonding mode performance test results chart for Intel® Ethernet Controller I350-AM2

#### 4. Test results for Balance-alb bonding mode test performed on Intel® Ethernet Converged Network Adapter X540-T2

Balance-alb bonding mode performance test results			
NIC model	Intel® Ethernet Converged Network Adapter X540		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 <sup>st</sup> Workstation	1104.59	1104.20	passed
2 <sup>nd</sup> Workstation	1104.02	1114.01	passed

TABLE 14: Balance-alb bonding mode performance test results table for Intel® Ethernet Converged Network Adapter X540-T2

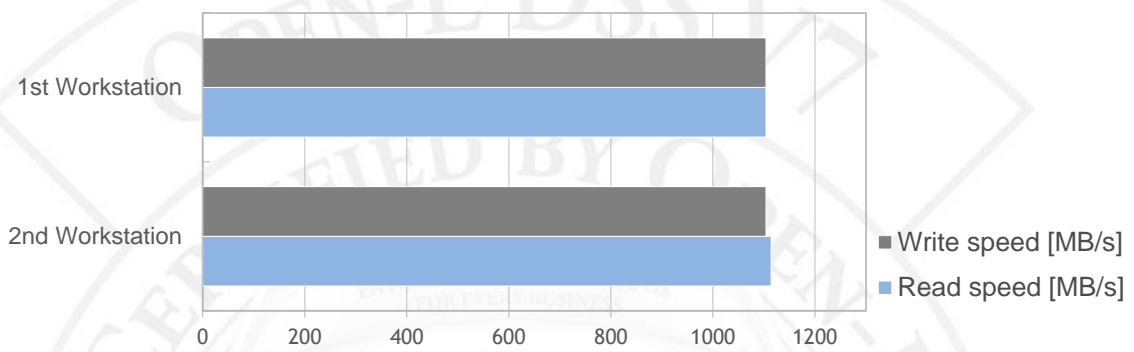


FIGURE 11: Balance-alb bonding mode performance test results chart for Intel® Ethernet Converged Network Adapter X540-T2

### 5. Test results for Balance-alb bonding mode test performed on Intel® Ethernet Converged Network Adapter X520-DA2

Balance-alb bonding mode performance test results			
NIC model	Intel® Ethernet Converged Network Adapter X520		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 <sup>st</sup> Workstation	1072.94	1104.47	passed
2 <sup>nd</sup> Workstation	1072.42	1116.14	passed

TABLE 15: Balance-alb bonding mode performance test results table for Intel® Ethernet Converged Network Adapter X520-DA2

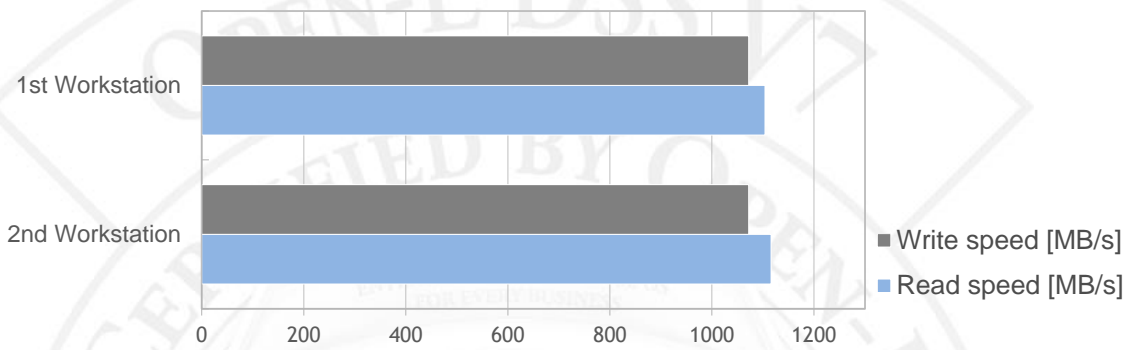


FIGURE 12: Balance-alb bonding mode performance test results chart for Intel® Ethernet Converged Network Adapter X520-DA2

## 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 Intel® 82574L Gigabit Ethernet Controller

Balance-rr bonding mode performance test results			
NIC model	Intel® 82574L Gigabit Ethernet Controller		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 <sup>st</sup> Workstation	112.19	76.23	passed
2 <sup>nd</sup> Workstation	112.39	93.79	passed

TABLE 16: Balance-rr bonding mode performance test results table for Intel® 82574L Gigabit Ethernet Controller

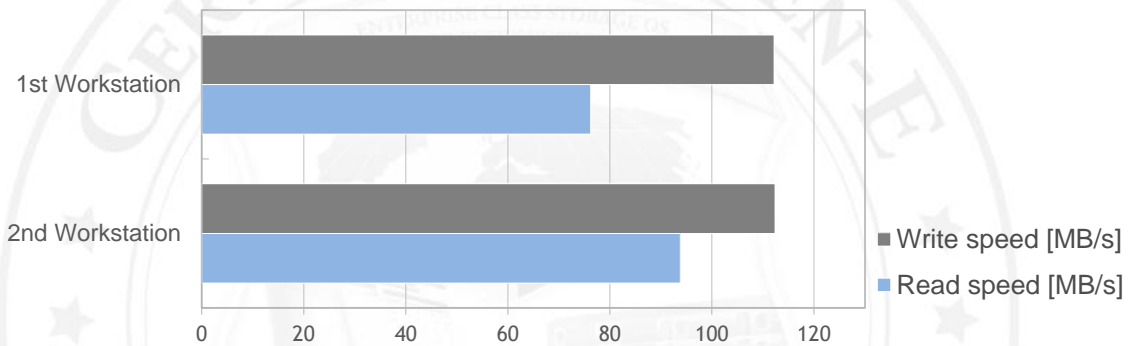


FIGURE 13: Balance-rr bonding mode performance test results chart for Intel® 82574L Gigabit Ethernet Controller

### 3. Test results for Balance-rr bonding mode test performed on Intel® Ethernet Controller I350-AM2

Balance-rr bonding mode performance test results			
NIC model	Intel® Ethernet Controller I350-AM2		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 <sup>st</sup> Workstation	111.94	62.96	passed
2 <sup>nd</sup> Workstation	112.31	77.59	passed

TABLE 17: Balance-rr bonding mode performance test results table for Intel® Ethernet Controller I350-AM2

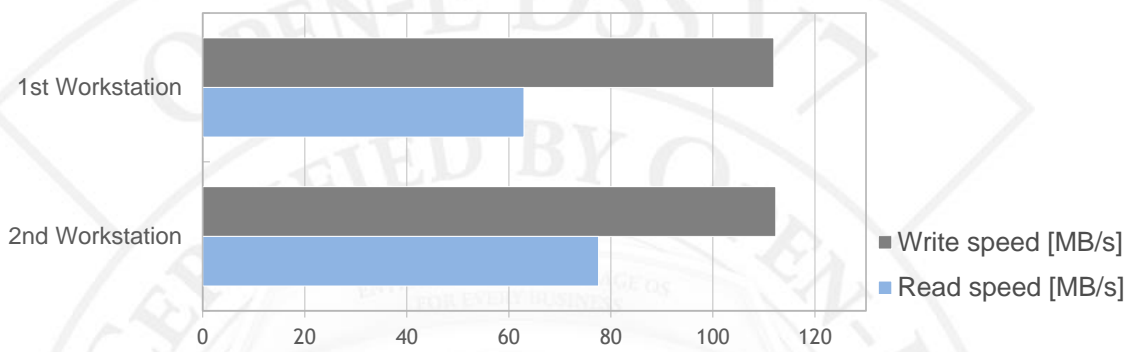


FIGURE 14: Balance-rr bonding mode performance test results chart for Intel® Ethernet Controller I350-AM2



#### 4. Test results for Balance-rr bonding mode test performed on Intel® Ethernet Converged Network Adapter X540-T2

Balance-rr bonding mode performance test results			
NIC model	Intel® Ethernet Converged Network Adapter X540		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 <sup>st</sup> Workstation	1112.53	328.21	passed
2 <sup>nd</sup> Workstation	1120.09	376.82	passed

TABLE 18: Balance-rr bonding mode performance test results table for Intel® Ethernet Converged Network Adapter X540-T2

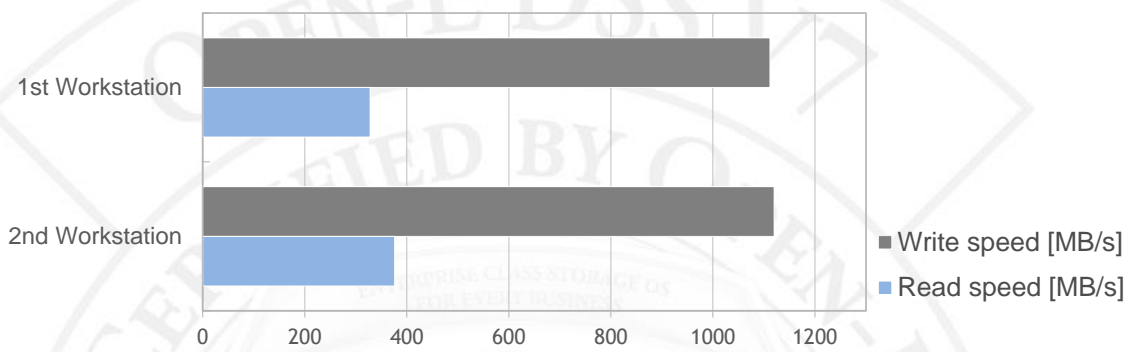


FIGURE 15: Balance-rr bonding mode performance test results chart for Intel® Ethernet Converged Network Adapter X540-T2

### 5. Test results for Balance-rr bonding mode test performed on Intel® Ethernet Converged Network Adapter X520-DA2

Balance-rr bonding mode performance test results			
NIC model	Intel® Ethernet Converged Network Adapter X520		
Workstations with MS Windows	Write speed [MB/s]	Read speed [MB/s]	Performance test results
1 <sup>st</sup> Workstation	1056.12	344.95	passed
2 <sup>nd</sup> Workstation	1100.34	364.05	passed

TABLE 19: Balance-rr bonding mode performance test results table for Intel® Ethernet Converged Network Adapter X520-DA2

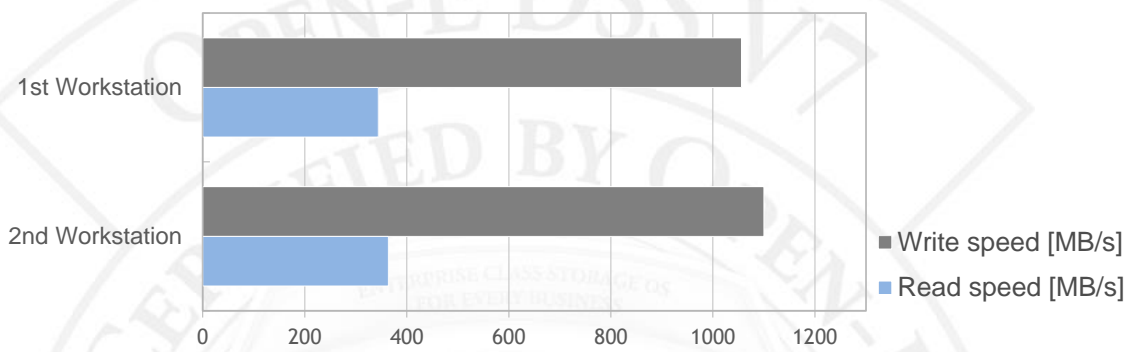


FIGURE 16: Balance-rr bonding mode performance test results chart for Intel® Ethernet Converged Network Adapter X520-DA2

## 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, 1, 1E, 5, 6 and 10 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

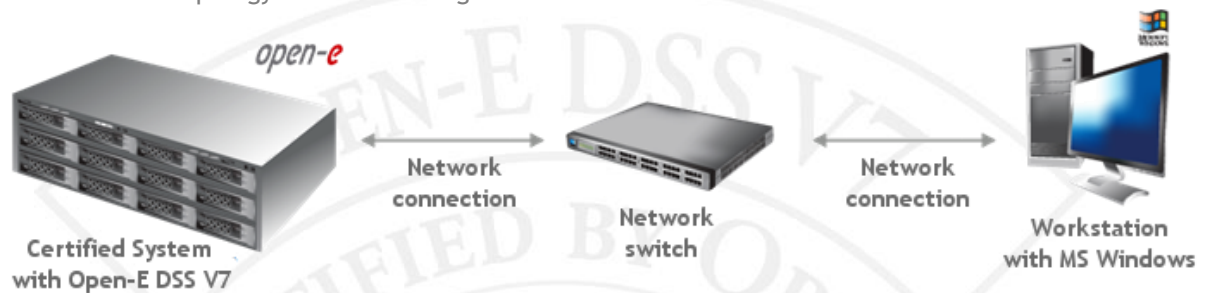


FIGURE 17: Network test topology for RAID testing

## 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 iometer testing tool.

### 2. Test results for RAID0 and Intel® Ethernet Converged Network Adapter X520-DA2

RAID0 performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	68.86	108.03	passed
32	352.53	432.50	passed
64	448.45	512.74	passed
128	616.20	856.60	passed
256	824.20	1093.37	passed
512	848.53	1072.29	passed
1024	895.21	1112.81	passed
4096	895.30	1112.64	passed

TABLE 20: RAID0 performance test results table for Intel® Ethernet Converged Network Adapter X520-DA2

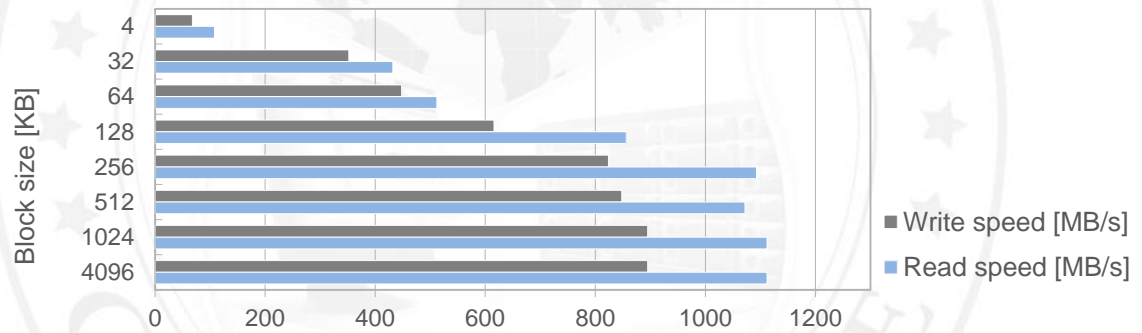


FIGURE 18: RAID0 performance test results chart for Intel® Ethernet Converged Network Adapter X520-DA2

## Hardware RAID1 test

### 1. Test description

The test relies on creation of the RAID1 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 RAID1 and Intel® Ethernet Converged Network Adapter X520-DA2

RAID1 performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	76.80	97.98	passed
32	475.60	623.86	passed
64	631.04	839.94	passed
128	840.12	981.23	passed
256	1048.58	1089.04	passed
512	1035.45	1101.60	passed
1024	1044.02	1062.88	passed
4096	1047.40	828.65	passed

TABLE 21: RAID1 performance test results table for Intel® Ethernet Converged Network Adapter X520-DA2

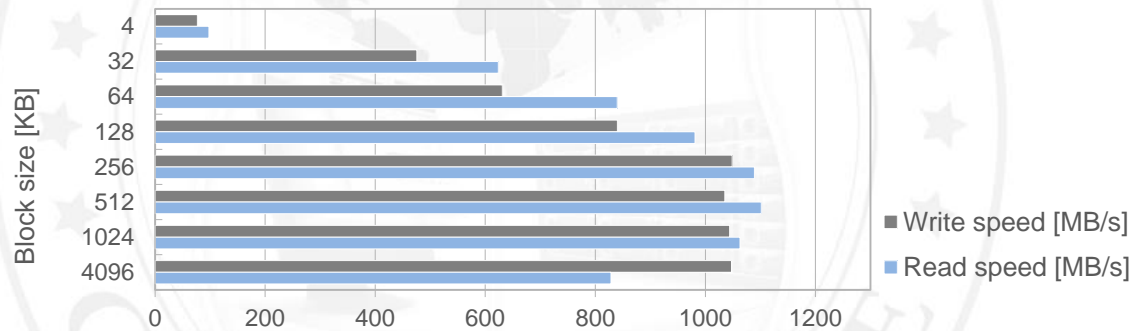


FIGURE 19: RAID1 performance test results chart for Intel® Ethernet Converged Network Adapter X520-DA2



## Hardware RAID1E test

### 1. Test description

The test relies on creation of the RAID1E 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 RAID1E and Intel® Ethernet Converged Network Adapter X520-DA2

RAID1E performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	74.23	112.90	passed
32	425.23	332.26	passed
64	534.54	590.87	passed
128	730.02	1015.99	passed
256	895.03	1116.05	passed
512	924.24	1095.70	passed
1024	931.66	1117.44	passed
4096	918.48	1123.73	passed

TABLE 22: RAID1E performance test results table for Intel® Ethernet Converged Network Adapter X520-DA2

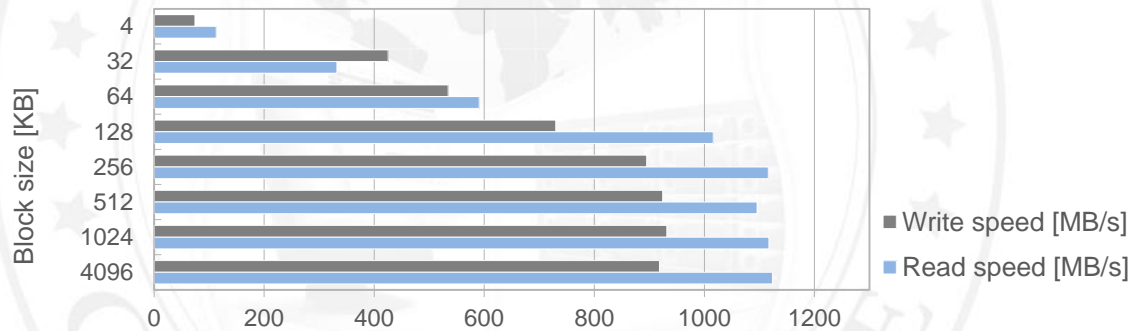


FIGURE 20: RAID1E performance test results chart for Intel® Ethernet Converged Network Adapter X520-DA2

## 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 lometer testing tool.

### 2. Test results for RAID5 and Intel® Ethernet Converged Network Adapter X520-DA2

RAID5 performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	77.64	105.07	passed
32	481.31	543.44	passed
64	642.25	1073.34	passed
128	852.05	1092.40	passed
256	1050.24	1115.67	passed
512	1057.96	1079.73	passed
1024	1114.29	1098.65	passed
4096	1082.53	1121.64	passed

TABLE 23: RAID5 performance test results table for Intel® Ethernet Converged Network Adapter X520-DA2

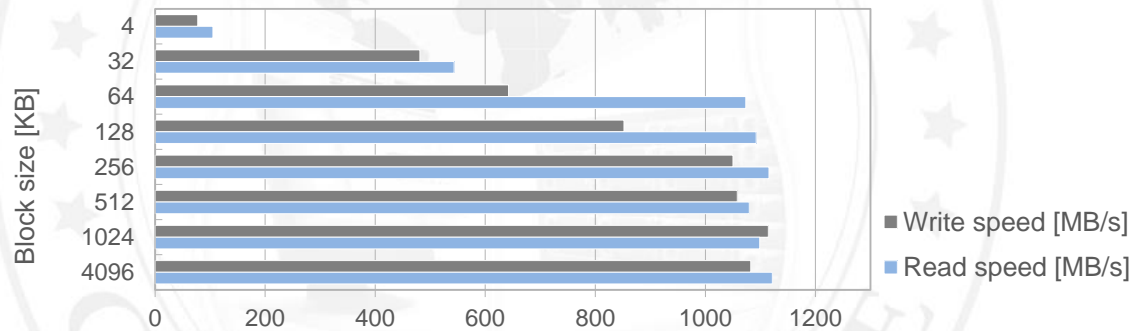


FIGURE 21: RAID5 performance test results chart for Intel® Ethernet Converged Network Adapter X520-DA2

## 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 lometer testing tool.

### 2. Test results for RAID6 and Intel® Ethernet Converged Network Adapter X520-DA2

RAID6 performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	15.02	44.28	passed
32	120.04	227.06	passed
64	224.48	369.53	passed
128	322.75	579.33	passed
256	445.11	635.64	passed
512	485.70	673.89	passed
1024	486.33	498.12	passed
4096	502.56	491.88	passed

TABLE 24: RAID6 performance test results table for Intel® Ethernet Converged Network Adapter X520-DA2

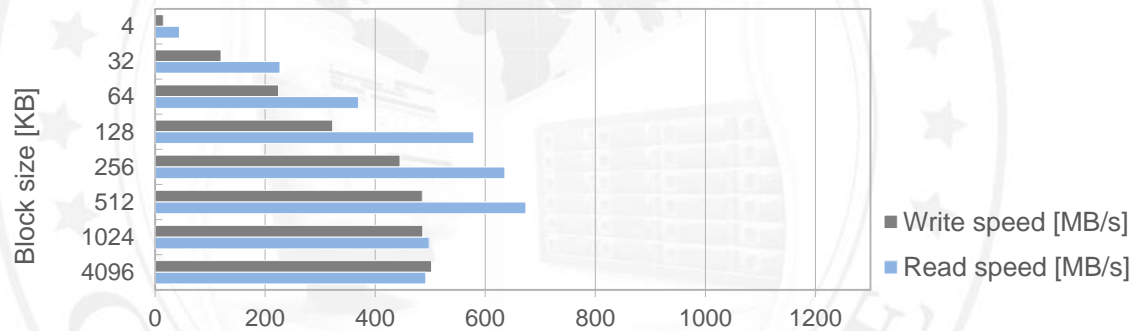


FIGURE 22: RAID6 performance test results chart for Intel® Ethernet Converged Network Adapter X520-DA2

## 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 lometer testing tool.

### 2. Test results for RAID10 and Intel® Ethernet Converged Network Adapter X520-DA2

RAID10 performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	76.84	103.97	passed
32	496.10	711.06	passed
64	682.13	1097.62	passed
128	935.32	1113.74	passed
256	1102.58	1108.64	passed
512	1120.43	1081.18	passed
1024	1120.75	1072.09	passed
4096	1103.17	1046.78	passed

TABLE 25: RAID10 performance test results table for Intel® Ethernet Converged Network Adapter X520-DA2

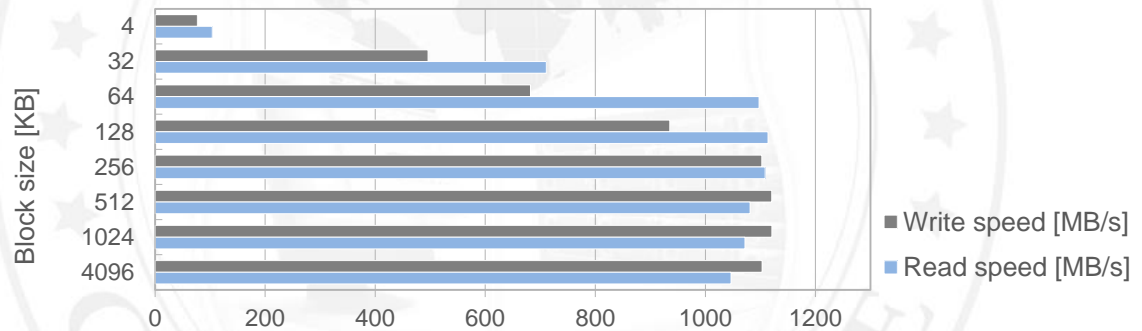


FIGURE 23: RAID10 performance test results chart for Intel® Ethernet Converged Network Adapter X520-DA2

## 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.

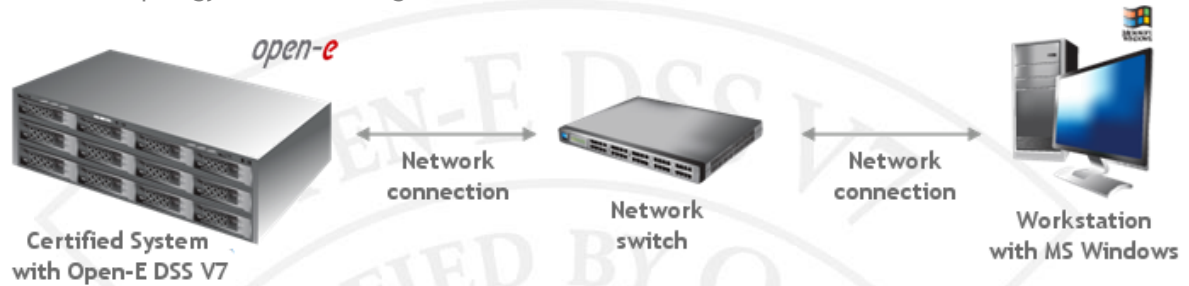


FIGURE 24: Network topology for NAS testing

## 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 lometer testing tool.

### 2. Test results for SMB and Intel® Ethernet Converged Network Adapter X520-DA2

SMB performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	52.61	56.65	passed
32	468.19	572.17	passed
64	875.89	416.46	passed
128	912.34	666.11	passed
256	926.45	780.96	passed
512	904.50	870.73	passed
1024	909.71	920.53	passed
4096	865.25	950.00	passed

TABLE 26: SMB performance test results table for Intel® Ethernet Converged Network Adapter X520-DA2

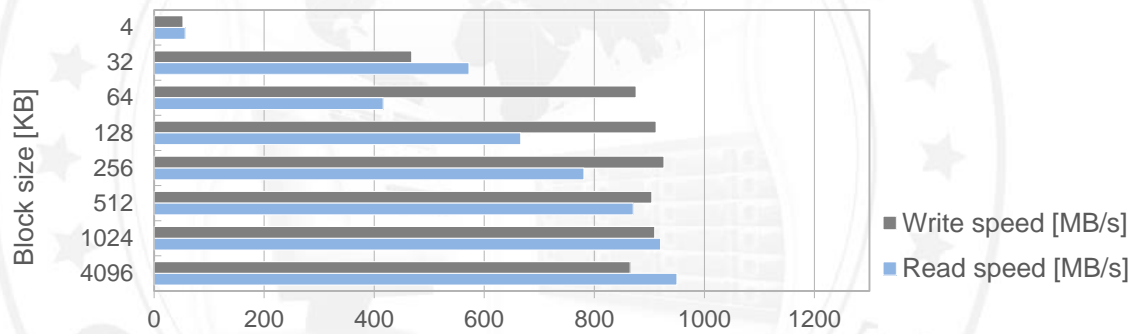


FIGURE 25: SMB performance test results chart for Intel® Ethernet Converged Network Adapter X520-DA2

## 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.

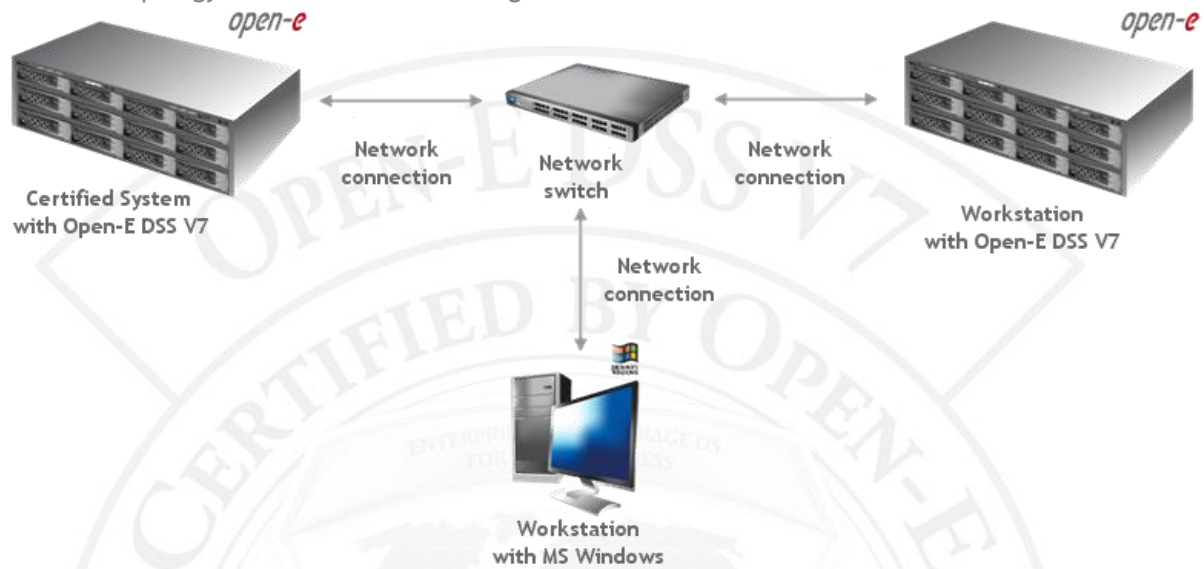


FIGURE 26: Network topology for iSCSI Initiator testing

### iSCSI Target test topology

Network topology for iSCSI Target testing is shown below.

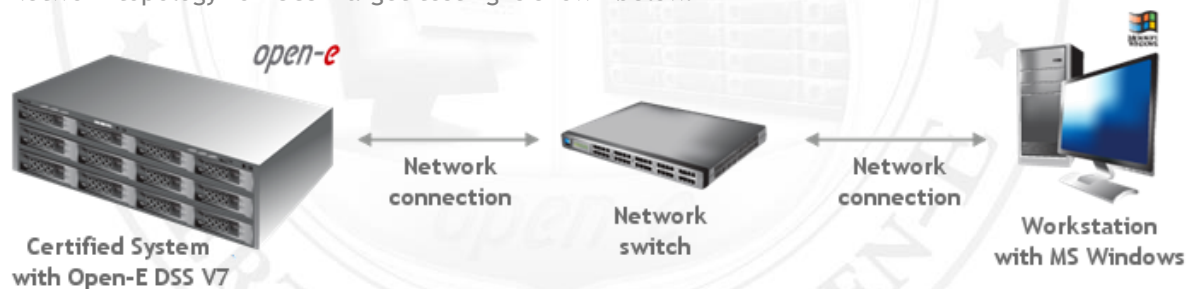


FIGURE 27: Network topology for iSCSI Target testing



## 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 Intel® Ethernet Converged Network Adapter X520-DA2

iSCSI Initiator performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	51.88	54.43	passed
32	446.86	286.06	passed
64	831.35	240.50	passed
128	907.64	263.38	passed
256	922.83	261.92	passed
512	895.80	274.46	passed
1024	865.84	254.98	passed
4096	845.64	249.89	passed

TABLE 27: iSCSI Initiator performance test results table for Intel® Ethernet Converged Network Adapter X520-DA2

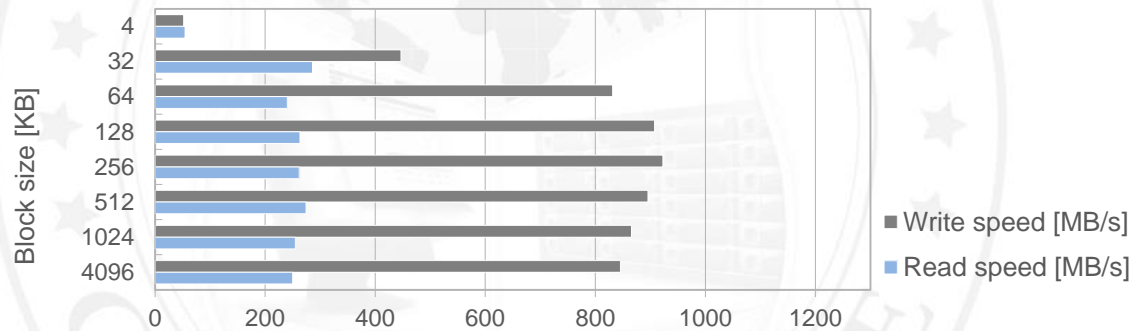


FIGURE 28: iSCSI Initiator performance test results chart for Intel® Ethernet Converged Network Adapter X520-DA2

## 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 *lometer* tool.

### 2. Test results for iSCSI Target and Intel® Ethernet Converged Network Adapter X520-DA2

iSCSI Target performance test results			
Block size [KB]	Write speed [MB/s]	Read speed [MB/s]	Performance test results
4	77.50	107.92	passed
32	478.99	608.80	passed
64	649.30	882.57	passed
128	919.05	1082.33	passed
256	1114.28	1122.89	passed
512	1098.84	1122.72	passed
1024	1109.93	1124.41	passed
4096	1103.34	1122.32	passed

TABLE 28: iSCSI Target performance test results table for Intel® Ethernet Converged Network Adapter X520-DA2

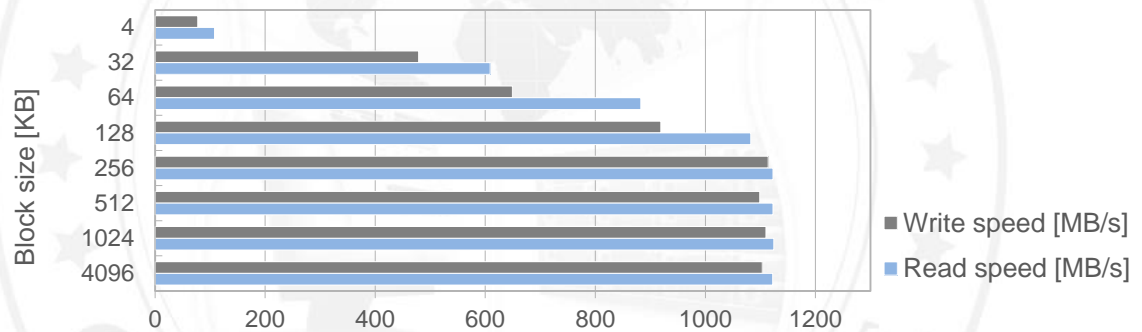


FIGURE 29: iSCSI Target performance test results chart for Intel® Ethernet Converged Network Adapter X520-DA2