



Step-by-Step Guide

to configure

Open-E DSS V7 Active-Active iSCSI Failover

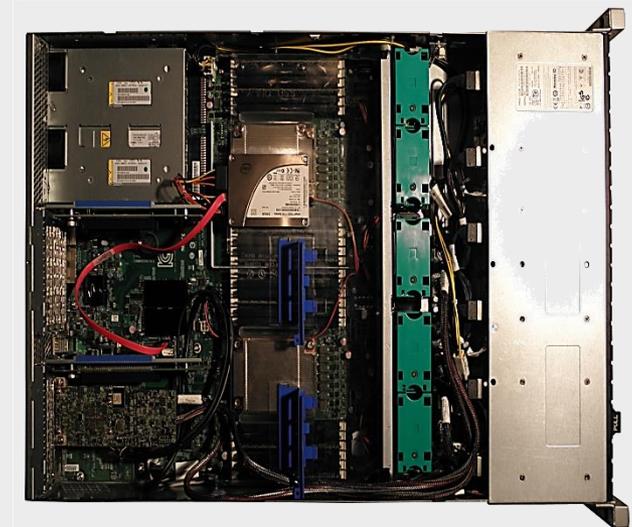
on Intel Server Systems R2224GZ4GC4

Software Version: DSS ver. 7.00 up01

Presentation updated: April 2013

TECHNICAL SPECIFICATIONS OF THE INTEL SERVER SYSTEM R2224GZ4GC4 USED DURING TESTS ARE LISTED BELOW:

Model	Intel Server System R2224GZ4GC4
Operating system	Open-E DSS V7
Enclosure/chassis	Intel R2224 2U Chassis
CPU	Intel Xeon E5-2643 3.30GHz
Motherboard	Intel Server Board S2600GZ
Memory	8x 4GB DDR3 1600 ECC-REG Kingston KVR16R11D8/4
Network	1GbE Intel I350 Quad Port Ethernet Controller (on-board)
Network	10GbE Intel AXX10GBNIAIOM Dual Port I/O Module (i82599EB)
HW RAID	Intel Integrated RAID Module RMS25PB080
Hard disk drives	24x 900GB Western Digital WD9001BKHG-02D22V1
Hard disk drives	100GB Intel 710 Series SSDSA2BZ100G301



NOTE:

Presented Intel server is an example. Other Intel servers could be used for the purpose of this configuration.



TO SET UP ACTIVE-ACTIVE iSCSI FAILOVER ON INTEL SERVER SYSTEMS R2224GZ4GC4, GO THROUGH THE FOLLOWING STEPS:

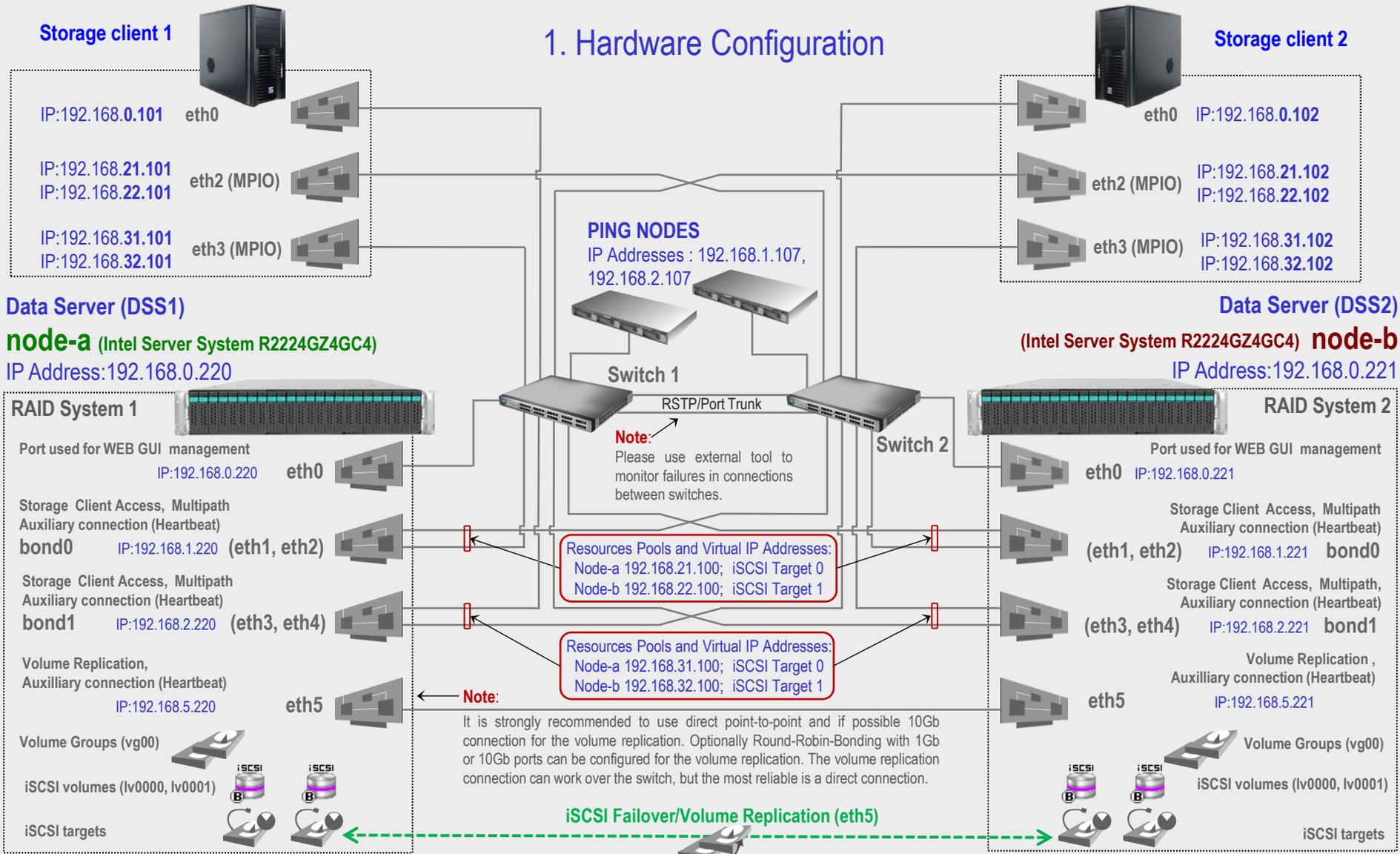
1. Hardware Configuration
2. Network Configuration
 - Set server hostnames and Ethernet ports on both nodes (node-a, node-b)
3. Configure the node-b:
 - Create a Volume Group, iSCSI Volume
 - Configure Volume Replication mode (destination and source mode) – define remote mode of binding, create Volume Replication task and start the replication task
4. Configure the node-a:
 - Create a Volume Group, iSCSI Volume
 - Configure Volume Replication mode (source and destination mode), create Volume Replication task and start the replication task.
5. Create targets (node-a and node-b)
6. Configure Failover (node-a and node-b)
7. Start Failover Service
8. Test Failover Function
9. Run Failback Function



Open-E DSS V7 Active-Active iSCSI Failover



1. Hardware Configuration



NOTE:

To prevent switching loops, it's recommended to use RSTP (802.1w) or Port Trunking on network switches used to build A-A Failover network topology.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

2. Network Configuration

After logging on to the Open-E DSS V7 (node-b), please go to **SETUP** and choose the "Network interfaces" option. In the **Hostname** box, replace the "dss" letters in front of the numbers with "node-b" server, in this example "node-b-59979144" and click the **apply** button (this will require a reboot).

The screenshot displays the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Network interfaces'. On the left, a list of interfaces (eth0 to eth5) is shown. On the right, there are three configuration panels: 'Server name' (with 'dss2' in the input field), 'Hostname' (with 'node-b-59979144' in the input field), and 'DNS settings' (with '194.204.152.34;194.204.159.1' in the input field). Each panel has an 'apply' button. A blue box on the left contains instructions, with arrows pointing to the 'Network interfaces' section and the 'Hostname' input field.



Data Server (DSS2)

node-b

IP Address: 192.168.0.221

2. Network Configuration

Next, select **eth0** interface and in the **IP address field**, change the IP address from 192.168.0.220 to 192.168.0.221
Then click **apply** (this will restart network configuration).

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates 'You are here: Setup > Network interfaces > eth0'. On the left, a list of interfaces shows 'eth0' selected with a red dot. The main content area is divided into two panels. The 'Interface info' panel shows 'Intel Corporation 82571EB Gigabit Ethernet Controller (rev 06)'. The 'IP address' panel features a yellow warning box: 'Warning! You are currently connected through this interface.' Below this, the 'Active' checkbox is checked. The 'Static' radio button is selected, and the 'IP address' field is set to '192.168.0.221'. Other fields include 'Netmask: 255.255.255.0', 'Broadcast: auto', and 'Gateway: 192.168.0.1'. A red 'apply' button is at the bottom right. The footer contains 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

2. Network Configuration

Once again, select **Interfaces** and in the "**Create new bond interface**" function, check two boxes with **eth1** and **eth2**. Next, in the field **Create** select a bonding mode. In this example select **New balance-alb**.

Next, in the field **Address IP** enter 192.168.1.221 and in the **Netmask** field enter 255.255.255.0
Afterwards, click the **create** button and confirm this action by clicking the **yes** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Setup > Network interfaces'. On the left, the 'Interfaces' list shows eth0 through eth5. On the right, the 'Create new bond interface' form is displayed. A table lists available interfaces with checkboxes for selection. Below the table, the 'Create' dropdown is set to 'New balance-alb', and the 'Static' radio button is selected. The 'Address IP' field contains '192.168.1.221' and the 'Netmask' field contains '255.255.255.0'. The 'MAC' field shows '02:38:22:48:C2:69'. At the bottom, there is an 'Event Viewer' icon and a footer with 'Data Storage Software V7 - All rights reserved'.

Select	Primary	Interface	Active	Cable	Available
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	yes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth1	yes	cable	yes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth2	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth4	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth5	yes	cable	yes



Data Server (DSS2)

node-b

IP Address:192.168.0.221

2. Network Configuration

Again, in the "Create new bond interface" function check two boxes with **eth3** and **eth4**. Next, in the field **Create** select a bonding mode. In this example select **New balance-alb**.

Next, in the field **Address IP** enter 192.168.2.221 and in the **Netmask** field enter 255.255.255.0
Afterwards, click the **create** button and confirm this action by clicking the **yes** button.

open-e | ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS | DATA STORAGE SOFTWARE V7

SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Setup > Network interfaces

Interfaces

- eth0
- eth1 (bond0)
- eth2 (bond0)
- eth3
- eth4
- eth5
- bond0

Create new bond interface

Select	Primary	Interface	Active	Cable	Available	
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	yes	▼
<input type="checkbox"/>	<input type="checkbox"/>	eth1	yes	cable	no (bond0)	▼
<input type="checkbox"/>	<input type="checkbox"/>	eth2	yes	cable	no (bond0)	▼
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	yes	▼
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth4	yes	cable	yes	▼
<input type="checkbox"/>	<input type="checkbox"/>	eth5	yes	cable	yes	▼

Create:

MAC:

DHCP

Static

Address IP:

Netmask:

Broadcast:

Gateway:

★ Event Viewer

Data Storage Software V7 - All rights reserved



Data Server (DSS2)

node-b

IP Address: 192.168.0.221

2. Network Configuration

Next, select **eth5** interface and in the **IP address field**, change the IP address from 192.168.5.220 to 192.168.5.221 and click the **apply** button.

The screenshot shows the Open-E web interface for configuring network interfaces. The breadcrumb trail is "You are here: Setup > Network interfaces > eth5".

- Interfaces:** A list of network interfaces including eth0, eth1 (bond0), eth2 (bond0), eth3 (bond1), eth4 (bond1), **eth5** (selected), bond0, and bond1.
- Interface info:** Shows "Intel Corporation 82546GB Gigabit Ethernet Controller (rev 03)".
- IP address:** Configuration panel with the following fields:
 - Active
 - MAC: 00:04:23:B6:EC:83
 - DHCP
 - Static
 - IP address: 192.168.5.221
 - Netmask: 255.255.255.0
 - Broadcast: auto
 - Gateway: (empty)
- apply** button

At the bottom, there is an "Event Viewer" section with a warning icon and the text: "Activation required. Without activation system services will continue running for 30 days after volume group creation." Below that, it says "Data Storage Software V7 - All rights reserved."



Data Server (DSS1)

node-a

IP Address:192.168.0.220

2. Network Configuration

After logging in to node-a, please go to **SETUP** and choose the **"Network interfaces"** option. In the **Hostname** box, replace the "dss" letters in front of the numbers with "node-a" server, in this example **"node-a-39166501"** and click **apply** (this will require a reboot).

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Setup > Network interfaces'. On the left, there is a list of network interfaces: eth0, eth1, eth2, eth3, eth4, and eth5. On the right, there are three configuration panels: 'Server name' (with 'Server name:' set to 'dss1' and 'Comment:' set to 'Data Storage Software'), 'Hostname' (with 'Hostname:' set to 'node-a-39166501'), and 'DNS settings' (with 'DNS' set to '194.204.152.34;194.204.159.1'). Each panel has an 'apply' button. A blue arrow points from the text box to the 'node-a-39166501' input field in the Hostname section. The footer of the interface includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

2. Network Configuration

Next, select **Interfaces** and in the "Create new bond interface" function check two boxes with **eth1** and **eth2**. Then, in the field **Create** select a bonding mode. In this example select **New balance-alb**.

In the field **Address IP** enter 192.168.1.220 and in the **Netmask** field enter 255.255.255.0
Afterwards, click the **create** button and confirm this action by clicking the **yes** button.

The screenshot shows the Open-E DSS V7 web interface for network configuration. The 'Create new bond interface' form is active, showing a table of available interfaces and configuration options.

Select	Primary	Interface	Active	Cable	Available
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	yes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth1	yes	cable	yes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth2	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth4	yes	cable	yes
<input type="checkbox"/>	<input type="checkbox"/>	eth5	yes	cable	yes

Configuration fields below the table:

- Create: **New balance-alb**
- MAC: 02:1C:75:D6:55:FB
- DHCP:
- Static:
- Address IP: 192.168.1.220
- Netmask: 255.255.255.0
- Broadcast:
- Gateway:



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

2. Network Configuration

Again in the "Create new bond interface" function, check two boxes with **eth3** and **eth4**. Next, in the field **Create** select a bonding mode. In this example select **New balance-alb**.

Next, in the field **Address IP** enter 192.168.2.220 and in the **Netmask** field enter 255.255.255.0
Afterwards, click the **create** button and confirm this action by clicking the **yes** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Setup > Network interfaces'. A modal window titled 'Create new bond interface' is open, displaying a table of network interfaces and configuration options.

Select	Primary	Interface	Active	Cable	Available	
<input type="checkbox"/>	<input type="checkbox"/>	eth0	yes	cable	yes	▼
<input type="checkbox"/>	<input type="checkbox"/>	eth1 (bond0)	yes	cable	no (bond0)	▼
<input type="checkbox"/>	<input type="checkbox"/>	eth2 (bond0)	yes	cable	no (bond0)	▼
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth3	yes	cable	yes	▼
<input checked="" type="checkbox"/>	<input type="checkbox"/>	eth4	yes	cable	yes	▼
<input type="checkbox"/>	<input type="checkbox"/>	eth5	yes	cable	yes	▼

Configuration fields below the table:

- Create: **New balance-alb** (dropdown menu)
- MAC: 02:1C:26:AA:B4:38
- Radio buttons: DHCP, Static
- Address IP: 192.168.2.220
- Netmask: 255.255.255.0
- Broadcast: (empty field)
- Gateway: (empty field)

At the bottom of the interface, there is an 'Event Viewer' icon and a footer: 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

Under **CONFIGURATION**, select "Volume manager", then click on "Volume groups".

In the **Unit manager** function menu, add the selected physical units (Unit MD0 or other) to create a new volume group (in this case, vg00) and click the **apply** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Configuration > Volume manager > Volume groups'. The main content area is divided into several panels:

- Vol. groups**: A panel with a settings icon and a help icon.
- Unit rescan**: A panel with a refresh icon and a help icon, containing a red 'rescan' button.
- Unit manager**: A panel with a refresh icon and a help icon. It contains a table of units and an action form.
- Vol. replication**: A panel with a settings icon and a help icon.
- Drive identifier**: A panel with a refresh icon and a help icon, containing a table of drives.

The **Unit manager** table is as follows:

Unit	Size (GB)	Serial number	Status	
<input checked="" type="checkbox"/>	Unit MD0	298.10	N/A	available

The **Unit manager** action form is as follows:

Action:

Name:

There is a red 'apply' button at the bottom of the form. Below the form, a blue message reads: 'Please apply changes or press "reload" button to discard'. At the bottom of the interface, there is an 'Event Viewer' icon and the text 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

Select the appropriate volume group (**vg00**) from the list on the left and create a **new iSCSI volume** of the required size. Please set 2 logical volumes in the Active-Active option. The 1st logical volume (**lv0000**) will be a destination of the replication process on node-b.

Next, check the box **Use volume replication**.

After assigning an appropriate amount of space for the iSCSI volume, click the **apply** button

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Configuration > Volume manager > Volume groups > vg00'. The interface is divided into two main panels: 'Vol. groups' on the left and 'Volume manager' on the right. In the 'Vol. groups' panel, 'vg00' is selected. In the 'Volume manager' panel, the 'Action' dropdown is set to 'new iSCSI volume' and the 'Options' dropdown is set to 'Just create volume'. The 'Use volume replication' checkbox is checked. Under 'Block I/O', the 'Rate' is set to 'medium'. At the bottom, the 'add:' field is set to '50 GB' with a note '(+0.12 GB for replication)'. The 'apply' button is highlighted in red. A footer note says 'Please apply changes or press "reload" button to discard'.

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.00
Free	290.06



Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

Next, create the 2nd logical volume on the node-b. Logical volume (lv0001) will be the source of the replication process on this node.

Next, check the box **Use volume replication**.

After assigning an appropriate amount of space for the iSCSI volume, click the **apply** button.

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	iSCSI		✓		N/A	50.00

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.13
Free	239.94



Data Server (DSS2)

node-b

IP Address: 192.168.0.221

3. Configure the node-b

2 logical iSCSI Volume Block I/O are now configured.

The screenshot shows the Open-E DSS V7 Volume manager interface. The 'Volume manager' section contains a table of logical volumes:

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	iSCSI		✓		N/A	50.00
lv0001	iSCSI		✓		N/A	50.00

Below the table, the 'System volumes' section shows the following details:

- SWAP: 4.00 GB
- Reserved for snapshots: 0.00 GB
- Reserved for system: 4.00 GB
- Reserved for replication: 0.25 GB
- Free: 189.81 GB

The 'Action' dropdown is set to 'new NAS volume'. There are checkboxes for 'Use volume replication' and 'WORM', both of which are unchecked. A slider shows the current size (0 GB) and a maximum of 189.81 GB. An 'add:' field is set to 0.00 GB. An 'apply' button is visible at the bottom right.



iSCSI volume (lv0000) is set to destination



iSCSI volume (lv0001) is set to source



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

4. Configure the node-a

Under **CONFIGURATION**, select "Volume manager" and then click on "Volume groups".

Add the selected physical units (Unit S001 or other) to create a new volume group (in this case, vg00) and click **apply** button.



Volume Groups (vg00)

open-e | ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS | DATA STORAGE SOFTWARE V7

SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > Volume manager > Volume groups

Vol. groups

Unit rescan

Unit manager

Unit	Size (GB)	Serial number	Status
Unit S001	465.70	N/A	available

Action: new volume group

Name: vg00

apply

Vol. replication

Drive identifier

Unit	Serial number	Status
Unit S001	N/A	

Event Viewer

Data Storage Software V7 - All rights reserved



Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the node-a

Select the appropriate volume group (**vg00**) from the list on the left and create a **new iSCSI volume** of the required size. Please set 2 logical volumes in the Active-Active option. The 1st logical volume (**lv0000**) will be a source of the replication process on the node-a.

Next, check the box for "Use volume replication"

After assigning an appropriate amount of space to the iSCSI volume, click the **apply** button.

NOTE:

The source and destination volumes must be of identical size.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Configuration > Volume manager > Volume groups > vg00'. The main content area is divided into two panels: 'Vol. groups' on the left and 'Volume manager' on the right. In the 'Vol. groups' panel, 'vg00' is selected. In the 'Volume manager' panel, the 'System volumes' table shows the following data:

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.00
Free	457.66

Below the table, the 'Action' dropdown is set to 'new iSCSI volume' and the 'Options' dropdown is set to 'Just create volume'. The 'Use volume replication' checkbox is checked. Under 'Block I/O', the 'Rate' is set to 'medium'. At the bottom, a slider shows the volume size set to 50 GB, with a note '(+0.12 GB for replication)'. The 'apply' button is highlighted in red. A footer note reads: 'Please apply changes or press "reload" button to discard'. The bottom status bar shows 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the node-a

Next, create the 2nd logical volume on the node-a. Logical volume (lv0001) will be a destination of the replication process on this node.

Next, check the box for "Use volume replication".

After assigning an appropriate amount of space to the iSCSI volume, click the **apply** button.

NOTE:
The source and destination volumes must be of identical size.

The screenshot shows the Open-E DSS V7 web interface. The breadcrumb trail is: Configuration > Volume manager > Volume groups > vg00. The 'Vol. groups' section shows a single group 'vg00'. The 'Vol. replication' section has the 'Use volume replication' checkbox checked. The 'Action' dropdown is set to 'new iSCSI volume' and the 'Options' dropdown is set to 'Just create volume'. The 'Rate' is set to 'medium'. A slider for volume size is set to 50 GB, with a note '(+0.12 GB for replication)'. The 'apply' button is highlighted in red.

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	iSCSI		✓		N/A	50.00

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.13
Free	407.53



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

4. Configure the node-a

2 logical iSCSI Volume Blocks I/O are now configured.

The screenshot shows the Open-E DSS V7 Volume manager interface. The 'Volume manager' section contains a table with the following data:

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
Iv0000	iSCSI		✓		N/A	50.00
Iv0001	iSCSI		✓		N/A	50.00

Below the table, the 'System volumes' section shows:

- SWAP: 4.00 GB
- Reserved for snapshots: 0.00 GB
- Reserved for system: 4.00 GB
- Reserved for replication: 0.25 GB
- Free: 357.41 GB

The 'Action' dropdown is set to 'new NAS volume'. There are checkboxes for 'Use volume replication' and 'WORM', both of which are unchecked. A slider shows the current size at 0 GB, with an 'add' field set to 0.00 GB. An 'apply' button is visible at the bottom right.



iSCSI volume (Iv0000) is set to source



iSCSI volume (Iv0001) is set to destination



Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

Now, on the node-b, go to "Volume replication". Within Volume replication mode function, check the Destination box for lv0000 and check the Source box for lv0001. Then, click the **apply** button.

In the Hosts binding function, enter the IP address of node-a (in our example, this would be 192.168.5.220), enter node-a administrator password and click the **apply** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Volume replication' under 'Volume manager'. A table shows the 'Volume replication mode' configuration:

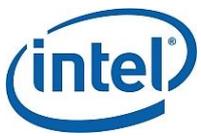
Logical Volume	Init	Source	Destination	Clear metadata
lv0000	done	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
lv0001	done	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Below the table is an 'apply' button. The 'Hosts binding' section is also visible, with fields for 'Remote node IP address' (192.168.5.220) and 'Remote node GUI (administrator) password'. A 'connect' button is present. At the bottom, a message states: 'Volume replication tasks can not be created because there is no remote node connected.'

NOTE:

The remote node IP Address must be on the same subnet in order for the replication to communicate. VPN connections can work providing you are not using a NAT. Please follow example:

- node-a: 192.168.5.220
- node-b: 192.168.5.221



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

4. Configure the node-a

Next, on the node-a, go to "Volume replication". Within Volume replication mode function, check the **Source** box for **lv0000** and check the **Destination** box for **lv0001**. Next, click the **apply** button.

Logical Volume	Init	Source	Destination	Clear metadata
lv0000	done	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lv0001	done	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

apply

Please apply changes or press "reload" button to discard

Hosts binding

Remote node

Host name: node-b-5... IP address: 192.168.5.221 Status: Reachable

disconnect

Create new volume replication task

Task name:

Source volume:



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

4. Configure the node-a

In the **Create new volume replication task**, enter the task name in the **Task name** field, then click on the  button. In the **Destination volume** field, select the appropriate volume (in this example, lv0000).

In case of a 10GbE connection it is recommended to set for the replication a higher **Bandwidth for SyncSource (MB)**. To achieve better performance you can set 500MB. In the example, maximum 600MB is used. Next, click the **create** button.

The screenshot displays the Open-E DSS V7 web interface for configuring a volume replication task. The breadcrumb trail indicates the current location: Configuration > Volume manager > Volume replication. The main content area is titled 'Create new volume replication task' and contains the following fields:

- Task name:** MirrorTask-a
- Source volume:** lv0000
- Destination volume:** lv0000
- Bandwidth for SyncSource (MB):** 600

A red 'create' button is located at the bottom right of the form. Below the form, a 'Replication tasks manager' section shows an information message: 'No tasks have been found.' The interface also includes a 'Vol. groups' sidebar with 'vg00' and a 'disconnect' button in the top right corner.



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

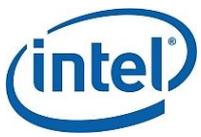
4. Configure the node-a

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Configuration > Volume manager > Volume replication'. The interface is divided into several panels:

- Vol. groups:** Shows a single group named 'vg00'.
- Vol. replication:** Shows a single replication task named 'MirrorTask-a'.
- Hosts binding:** Shows a 'Remote node' configuration for 'node-b-5...' with IP address '192.168.5.221' and status 'Reachable'. A 'disconnect' button is visible.
- Create new volume replication task:** Displays an information message: 'No volumes with replication functionality found or all volumes have a task assigned already.'
- Replication tasks manager:** A table listing the replication tasks. The 'MirrorTask-a' entry has a 'Start time' of 'n/a' and an 'Action' column with a play button icon.

A blue callout box on the left contains the text: 'Now, in the Replication task manager function, click the corresponding "play" button to start the Replication task on the node-a.' A blue arrow points from this text to the play button in the 'Replication tasks manager' table.

Now, in the **Replication task manager** function, click the corresponding "play" button to start the Replication task on the node-a.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the node-a

In the **Replication tasks manager** function, information is available on currently running replication tasks. When a task is started, a date and time will appear.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'Configuration > Volume manager > Volume replication'. The main content area is divided into several sections:

- Vol. groups:** Shows a single group named 'vg00'.
- Vol. replication:** Shows a single replication task named 'MirrorTask-a'.
- Replication tasks manager:** A table listing the details of the 'MirrorTask-a' task.

Name	Start time	Action
MirrorTask-a	2012-09-05 20:20:31	[Play] [Stop] [Delete]
Source volume:	lv0000	
Destination volume:	lv0000	
Destination IP:	192.168.5.221	
Protocol type:	Synchronous	

At the bottom of the interface, there is an 'Event Viewer' section and a footer that reads 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

4. Configure the node-a

You can check the status of Volume Replication anytime in **STATUS** -> "**Tasks**" -> "**Volume Replication**" menu.

Click on the  button, located next to a task name (in this case **MirrorTask-a**) to display detailed information on the current replication task.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Volume Replication' under the 'Tasks' menu. The 'Tasks' list on the left shows 'Volume Replication' as the active task. The 'Running tasks' table displays the following information:

Name	Type	Start time
MirrorTask-a	Volume replication	2012-09-05 20:20:31

Below the table, the 'Source info' and 'Destination info' sections show:

- Protocol type: Synchronous
- Connection: Connected
- Source info: Logical volume: lv0000, Consistency: Consistent
- Destination info: Logical volume: lv0000, Consistency: Consistent
- IP address: 192.168.5.221

The 'Tasks log' table at the bottom shows a recent task completion:

Time	Name	Type	Status	Action
2012-09-05 20:20:38	MirrorTask-a	Volume replication	OK	Started

NOTE:

Please allow the replication task to complete (similar to above with status being "Consistent") before writing to the iSCSI Logical Volume.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

Next, go to the node-b.
Within **Create new volume replication task**, enter the task name in the **Task name** field, then click on the  button.
In the **Destination volume** field, select the appropriate volume (in this example, **lv0001**).

As in the node-a, in the **Bandwidth for SyncSource (MB)** field you must change the value of a minimum of 500 MB. In our example 600 MB is used. Next click the **create** button.

The screenshot displays the Open-E DSS V7 web interface for configuring volume replication. The breadcrumb trail indicates the user is in Configuration > Volume manager > Volume replication. The 'Create new volume replication task' form is the central focus, with the following fields and values:

- Task name: MirrorTask-b
- Source volume: lv0001
- Destination volume: lv0001
- Bandwidth for SyncSource (MB): 600

A red 'create' button is located at the bottom right of the form. Below the form is a 'Replication tasks manager' table:

Name	Start time	Action
MirrorTask-a_reverse	n/a	[Play] [Stop] [Delete]

At the bottom of the interface, there is an 'Event Viewer' icon and the text 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

3. Configure the node-b

In the **Replication tasks manager** function, click the corresponding "play" button to start the Replication task on the node-b: **MirrorTask-b**.

In this box you can find information about currently running replication tasks.

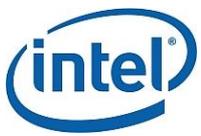
When a task is started a date and time will appear.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates 'You are here: Configuration > Volume manager > Volume replication'. The interface is divided into several panels:

- Vol. groups:** Shows a single group named 'vg00'.
- Vol. replication:** Lists two replication tasks: 'MirrorTask-a_reverse' and 'MirrorTask-b'.
- Hosts binding:** Shows a remote node configuration for 'node-a-3...' with IP address '192.168.5.220' and status 'Reachable'. A 'disconnect' button is present.
- Create new volume replication task:** An info box states 'No volumes with replication functionality found or all volumes have a task assigned already.'
- Replication tasks manager:** A table showing the status of replication tasks.

Name	Start time	Action
MirrorTask-a_reverse	n/a	[Play] [Stop] [Delete]
MirrorTask-b	2012-09-05 20:25:27	[Play] [Stop] [Delete]

At the bottom, there is an 'Event Viewer' icon and a footer: 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS2)

node-b

IP Address: 192.168.0.221

5. Create new target on the node-b

Choose **CONFIGURATION**, "iSCSI target manager" and "Targets" from the top menu.

In the **Create new target** function, uncheck the box **Target Default Name**.
In the **Name** field, enter a name for the new target and click **apply** to confirm.

iSCSI targets



★ Event Viewer

Data Storage Software V7 - All rights reserved

NOTE:
Both systems must have the same Target name.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

5. Create new target on the node-b

Next, you must set the 2nd target. Within the **Create new target** function, uncheck the box **Target Default Name**. In the **Name** field, enter a name for the 2nd new target and click **apply** to confirm.

iSCSI targets



NOTE:

Both systems must have the same Target name.



Data Server (DSS2)

node-b

IP Address:192.168.0.221

5. Create new target on the node-b

After that, select **target0** within the **Targets** field.

To assign appropriate volume to the target (**iqn.2012-09:mirror-0 -> lv0000**) and click the **+** button located under **Action**.

open-e | ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS | DATA STORAGE SOFTWARE V7

SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > iSCSI target manager > Targets > iqn.2012-09:mirror-0 (target0)

Targets

- target0
- target1

Target volume manager

Info
Currently there are no LUN's added to this target. In order to add a LUN, click on the plus "+" sign in the "Action" column for this LUN.

Info
There are logical volumes selected as mirror destination. There is no direct access to mirror destination volume. In order to access such volume, you can stop mirror task and switch destination mode to source mode or create a snapshot on the destination volume and assign the snapshot to a new target.

Info
Please note that in order to access iSCSI-enabled data from an initiator, the target needs to have a LUN 0, otherwise the data in all other LUNs will be inaccessible. The data will also be inaccessible if you select an inactive snapshot or a destination volume (volume replication) as LUN 0.

Volume	SCSI ID	LUN	RO	WB	Action
lv0000	yakFXJGNEV587eA	0	<input type="checkbox"/>	<input type="checkbox"/>	+ -
lv0001	iZGxwlh33QBSpRdN	0	<input type="checkbox"/>	<input type="checkbox"/>	+ -

CHAP user access authentication

No CHAP user access authentication

★ Event Viewer

Data Storage Software V7 - All rights reserved

NOTE:

Volumes on both sides must have the same SCSI ID and LUN# for example: lv0000 SCSI ID on node-a = lv0000 on node-b.

WARNING:

Please do not switch on the write back (WB) cache !



Data Server (DSS2)

node-b

IP Address:192.168.0.221

5. Create new target on the node-b

Next, select **target1** within the **Targets** field.

To assign appropriate volume to the target (**iqn.2012-09:mirror-1->lv0001**) and click the **+** button located under **Action**.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'Configuration > iSCSI target manager > Targets > iqn.2012-09:mirror-1 (target1)'. The main content area is divided into several panels:

- Targets:** A list of targets with 'target0' and 'target1'. 'target1' is selected and highlighted in red.
- Target volume manager:** Contains informational text and a table for managing LUNs. The table has columns for Volume, SCSI ID, LUN, RO, WB, and Action. A row is shown with Volume 'lv0001', SCSI ID 'iZGxwIh33QBSpRdN', and LUN '0'. The 'Action' column contains a '+' button, which is highlighted by a blue arrow from the text box below.
- CHAP users:** A panel for managing CHAP users, currently empty.
- CHAP user access authentication:** A panel with two radio buttons: 'No CHAP user access authentication' (selected) and 'Enable CHAP user access authentication'. An 'apply' button is at the bottom right.

At the bottom of the interface, there is an 'Event Viewer' icon and a footer that reads 'Data Storage Software V7 - All rights reserved'.

NOTE:

Both systems must have the same SCSI ID and LUN#

WARNING:

Please do not switch on the write back (WB) cache !



Data Server (DSS1)

node-a

IP Address:192.168.0.220

5. Create new target on the node-a

On the node-a, choose **CONFIGURATION**, "iSCSI target manager" and "Targets" from the top menu.

Within the **Create new target** function, uncheck the box **Target Default Name**.
In the **Name** field, enter a name for the new target and click **apply** to confirm.

iSCSI targets



NOTE:

Both systems must have the same Target name.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

5. Create new target on the node-a

Next, you must set the 2nd target. In the **Create new target** function, uncheck the box **Target Default Name**.

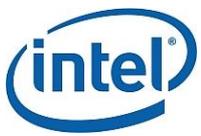
In the Name field, enter a name for the 2nd new target and click **apply** to confirm.

iSCSI targets



NOTE:

Both systems must have the same Target name.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

5. Create new target on the node-a

Select the **target0** within the **Targets** field.

To assign appropriate volume to the target (**iqn.2012-09:mirror-0 -> lv0000**) and click the **+** button located under **Action**.

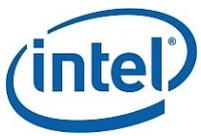
Volume	SCSI ID	LUN	RO	WB	Action
lv0000	yakFXJ3NEV587eA	0	<input type="checkbox"/>	<input type="checkbox"/>	+ -
lv0001	79tECRjeM3GuhBfa	0	<input type="checkbox"/>	<input type="checkbox"/>	+ -

NOTE:

Before clicking the **+** button again, please copy & paste the SCSI ID and LUN# from the node-b.

WARNING:

Please do not switch on the write back cache (WB) !



Data Server (DSS1)

node-a

IP Address:192.168.0.220

5. Create new target on the node-a

Select the **target1** within the **Targets** field.

To assign appropriate volume to the target (iqn.2012-09:mirror-1->lv0001) and click the **+** button located under **Action**.

open-e | ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS | DATA STORAGE SOFTWARE V7

SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > iSCSI target manager > Targets > iqn.2012-09:mirror-1 (target1)

Targets

- target0
- target1**

Target volume manager

Info

There are logical volumes selected as mirror destination. There is no direct access to mirror destination volume. In order to access such volume, you can stop mirror task and switch destination mode to source mode or create a snapshot on the destination volume and assign the snapshot to a new target.

Info

Please note that in order to access iSCSI-enabled data from an initiator, the target needs to have a LUN 0, otherwise the data in all other LUNs will be inaccessible. The data will also be inaccessible if you select an inactive snapshot or a destination volume (volume replication) as LUN 0.

Volume	SCSI ID	LUN	RO	WB	Action
lv0001	iZGxwlh33QBSpRdN	0	<input type="checkbox"/>	<input type="checkbox"/>	+ -

CHAP user access authentication

- No CHAP user access authentication
- Enable CHAP user access authentication

apply

Event Viewer

Data Storage Software V7 - All rights reserved

NOTE:

Before clicking the **+** button again, please copy & paste the SCSI ID and LUN# from the node-b.

WARNING:

Please do not switch on the write back cache (WB) !



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Failover

On the node-a, go to **SETUP** and select "Failover".

In the **Auxiliary paths** function, select the 1st New auxiliary path on the local and remote node and click the **add new auxiliary path** button.



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Failover

In the **Auxiliary paths** function, select the 2nd **New auxiliary path** on the local and remote node and click the **add new auxiliary path** button.



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Failover

In the **Ping nodes** function, enter two ping nodes.
In the **IP address** field enter IP address and click the **add new ping node** button (according to the configuration in the third slide).
In this example, IP address of the first ping node is: 192.168.1.107 and the second ping node: 192.168.2.107

Ping nodes

Info
Ping node has been added successfully.

Ping node IP address	node-a-3... status (local node)	node-b-5... status (remote node)
192.168.1.107	Reachable	Reachable

New ping node

IP address: 192.168.2.107

cancel add new ping node

Please apply changes or press "reload" button to discard

Failover trigger policy

- Ignore I/O errors
- Trigger failover on I/O errors (any volume)
- Trigger failover on I/O errors (only volumes configured in failover)

[Show advanced options](#)

apply

Event Viewer

Data Storage Software V7 - All rights reserved



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Failover

Next, go to the **Resources Pool Manager** function (on node-a resources) and click the **add virtual IP** button. After that, enter **Virtual IP**, (in this example 192.168.21.100 according to the configuration in the third slide) and select two appropriate interfaces on local and remote nodes. Then, click the **add** button.



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Failover

Now, still on node-a resources (local node) enter the next Virtual IP address. Click **add virtual IP** enter **Virtual IP**, (in this example 192.168.31.100), and select two appropriate interfaces on the local and remote nodes. Then, click the **add** button.



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Failover

Then, go to node-b resources and click the **add virtual IP** button again and enter the **Virtual IP** (In this example 192.168.22.100 according to the configuration in the third slide) and select two appropriate interfaces on the local and remote nodes. Then, click the **add** button.

open-e | ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS | DATA STORAGE SOFTWARE V7

SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Setup > Failover

add virtual IP

Virtual IP	Interface on local node:	Interface on remote node:	
192.168.21.100	bond0 (192.168.1.220)	bond0 (192.168.1.221)	⚙️ 🗑️
192.168.31.100	bond1 (192.168.2.220)	bond1 (192.168.2.221)	⚙️ 🗑️

node-b-59979144 resources
(remote node)

Status: **unknown** move

Synchronization status: not configured sync between nodes

Virtual IP addresses | iSCSI resources

add virtual IP

Virtual IP:

Interface on local node:

Interface on remote node:

Netmask:

Broadcast (optional):

cancel add

★ Event Viewer

Data Storage Software V7 - All rights reserved



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Failover

Now, still on node-b resources, click the **add virtual IP** button and enter the next **Virtual IP**, (in this example 192.168.32.100, according to the configuration in the third slide) and select two appropriate interfaces on the local and remote nodes. Then, click the **add** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Failover' under 'Setup'. A table lists existing virtual IP configurations:

Virtual IP	Interface on local node:	Interface on remote node:	
192.168.21.100	bond0 (192.168.1.220)	bond0 (192.168.1.221)	[Settings] [Delete]
192.168.31.100	bond1 (192.168.2.220)	bond1 (192.168.2.221)	[Settings] [Delete]

Below the table, the 'node-b-59979144 resources (remote node)' section shows the status as 'unknown' and 'Synchronization status: not configured'. There are 'move' and 'sync between nodes' buttons. A tabbed interface shows 'Virtual IP addresses' selected. The 'add virtual IP' form is open, with the following fields:

- Virtual IP: 192.168.32.100
- Interface on local node: bond1 (192.168.2.220)
- Interface on remote node: bond1 (192.168.2.221)
- Netmask: 255.255.255.0
- Broadcast (optional):

Buttons for 'cancel' and 'add' are at the bottom of the form. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Failover

Now you have 4 Virtual IP addresses configured on two interfaces.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Failover' under 'Setup'. The interface is divided into sections for 'node-a' and 'node-b-59979144 resources (remote node)'. Each section has tabs for 'Virtual IP addresses' and 'iSCSI resources'. Under 'Virtual IP addresses', there is an 'add virtual IP' button and a table with columns: 'Virtual IP', 'Interface on local node:', and 'Interface on remote node:'. For node-a, two Virtual IPs are listed: 192.168.21.100 and 192.168.31.100. For node-b, two Virtual IPs are listed: 192.168.22.100 and 192.168.32.100. Each entry has a 'move' button and a 'sync between nodes' button. A blue box on the left points to the Virtual IP entries in both sections.

Virtual IP	Interface on local node:	Interface on remote node:
192.168.21.100	bond0 (192.168.1.220)	bond0 (192.168.1.221)
192.168.31.100	bond1 (192.168.2.220)	bond1 (192.168.2.221)
192.168.22.100	bond0 (192.168.1.220)	bond0 (192.168.1.221)
192.168.32.100	bond1 (192.168.2.220)	bond1 (192.168.2.221)



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Failover

When you are finished with setting the virtual IP, go to the **iSCSI resources** tab on the local node resources and click the **add or remove targets** button. After moving the target **mirror-0** from **Available targets** to **Targets already in cluster**, click the **apply** button.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Failover

Next, go to the **iSCSI resources** tab on the **remote node resources** and click the **add or remove targets** button. After moving the target **mirror-1** from **Available targets** to **Targets already in cluster**, click the **apply** button.

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Setup > Failover'. The main content area is titled 'node-b-59979144 resources (remote node)'. It shows the status of iSCSI resources, including a table with columns for 'Replication task', 'Logical volume', and 'Replication task state'. Below this, there are buttons for 'move' and 'sync between nodes'. The 'iSCSI resources' tab is selected, showing two lists: 'Available targets' and 'Targets already in cluster'. The target 'iqn.2012-09:mirror-1' is being moved from the 'Available targets' list to the 'Targets already in cluster' list. At the bottom, there are 'cancel' and 'apply' buttons. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Failover

After that, scroll to the top of the **Failover manager** function.
At this point, both nodes are ready to start the Failover.
In order to run the Failover service, click the **start** button and confirm this action by clicking the **start** button again.

Failover manager

Cluster status: Ready for Start

All required settings have been set up, cluster is ready to be started.

start

Resources pool

node-a-39166501 (local node) resources pool:
Status: inactive
Replication state: **synced**

node-b-59979144 (remote node) resources pool:
Status: inactive
Replication state: **synced**

[See details >](#)

Network statuses

Ping nodes: **2 of 2 reachable**
[See details >](#)

Auxiliary paths: 3 defined
[See details >](#)

Remote node status

Remote node availability: **Reachable**
Remote node hostname: **node-b-59979144**
Remote node IP: **192.168.5.221**
[See details >](#)

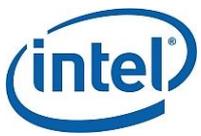
Auxiliary paths

★ **Event Viewer**

Data Storage Software V7 - All rights reserved

NOTE:

If the start button is grayed out, the setup has not been completed.



Data Server (DSS1)

node-a

IP Address:192.168.0.220

7. Start Failover Service

After clicking the **start** button, configuration of both nodes is complete.

The screenshot shows the Open-E DSS V7 web interface. At the top, there is a navigation bar with tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Failover', indicated by the breadcrumb 'You are here: Setup > Failover'. The main content area is titled 'Failover manager' and shows the following information:

- Cluster status:** Running - OK (with a green checkmark icon)
- Resources pool:**
 - node-a-39166501 (local node) resources pool:**
 - Status: active on node-a-3... (local node)
 - Replication state: synced
 - node-b-59979144 (remote node) resources pool:**
 - Status: active on node-b-5... (remote node)
 - Replication state: synced
- Network statuses:**
 - Ping nodes: 2 of 2 reachable
 - Auxiliary paths: 3 of 3 reachable
- Remote node status:**
 - Remote node availability: Reachable
 - Remote node hostname: node-b-59979144
 - Remote node IP: 192.168.5.221

Below the main content, there is an 'Auxiliary paths' section with an 'Info' icon. At the bottom of the interface, there is an 'Event Viewer' icon and a footer that reads 'Data Storage Software V7 - All rights reserved'.

NOTE:

You can now connect with iSCSI Initiators. The first storage client, in order to connect to target0 please setup multipath with following IP on the initiator side: 192.168.21.101 and 192.168.31.101. In order to connect to target1 please setup multipath with following IP on the initiator side: 192.168.22.101 and 192.168.32.101.

For the next storage client please setup multipath accordingly: for access to target: 192.168.21.102, 192.168.31.102 and for access to target1: 192.168.22.102, 192.168.32.102.



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

8. Test Failover Function

In order to test Failover, go to the **Resources pool manager** function. Then, in the **local node** resources, click on the **move to remote node** button and confirm this action by clicking the **move** button.

Resources pool manager

Info
While a cluster is running you are not able to change settings. Please stop cluster in order to make changes.

node-a-39166501 resources
(local node)

Status: **active on node-a-3... (local node)** **move to remote node**

Synchronization status: **synced** **sync between nodes**

Virtual IP addresses **iSCSI resources**

add or remove targets

iSCSI target: target0 (iqn.2012-09:mirror-0)

Replication task	Logical volume	Replication task state
MirrorTask-a	lv0000	OK

node-b-59979144 resources
(remote node)

Info
Targets have been added/removed successfully.

Status: **active on node-b-5... (remote node)** **move to local node**

Synchronization status: **synced** **sync between nodes**

★ **Event Viewer**

Data Storage Software V7 - All rights reserved



Data Server (DSS1)

node-a

IP Address:192.168.0.220

8. Test Failover Function

After performing this step, the status for **local node** resources should state "active on node-b (remote node)" and the **Synchronization status** should state "synced".

The screenshot shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Failover' under 'Setup'. The main content area is titled 'Resources pool manager' and contains several sections:

- Info:** While a cluster is running you are not able to change settings. Please stop cluster in order to make changes.
- node-a-39166501 resources (local node):**
 - Info:** Resources were moved successfully.
 - Status: **active on node-b-5... (remote node)** (with a 'move to local node' button)
 - Synchronization status: **synced** (with a 'sync between nodes' button)
 - Virtual IP addresses | **iSCSI resources**
 - add or remove targets
 - iSCSI target: target0 (iqn.2012-09:mirror-0)**
 - Replication task: MirroTask-a
 - Logical volume: lv0000
 - Replication task state: **OK**
- node-b-59979144 resources (remote node):**
 - Info:** Targets have been added/removed successfully.
 - Status: **active on node-b-5... (remote node)** (with a 'move to local node' button)

At the bottom, there is an 'Event Viewer' icon and a footer: 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

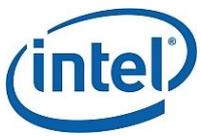
9. Run Failback Function

In order to test failback, click the **move to local node** button in the **Resources pool manager** box for local node resources and confirm this action by clicking the **move** button.

The screenshot shows the Open-E DSS V7 web interface. At the top, there's a navigation bar with 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. Below that, a breadcrumb trail says 'You are here: Setup > Failover'. The main content area is titled 'Resources pool manager' and contains an 'Info' box with a warning: 'While a cluster is running you are not able to change settings. Please stop cluster in order to make changes.' Below this, there are sections for 'node-a-39166501 resources (local node)' and 'node-b-59979144 resources (remote node)'. Both sections show a status of 'active on node-b-5... (remote node)' and a 'sync between nodes' button. A blue arrow points from the text box to the 'move to local node' button in the local node section. Below the resources, there's an 'iSCSI target: target0 (iqn.2012-09:mirror-0)' section with a table of replication tasks:

Replication task	Logical volume	Replication task state
MirrorTask-a	lv0000	OK

At the bottom, there's an 'Event Viewer' icon and a footer that says 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

9. Run Failback Function

After completing this step, the status for node-a resources should state "active on node-a (local node)" and the Synchronization status should state "synced". Then, you can apply the same actions for node-b resources.

NOTE:

The Active-Active option allows configuring resource pools on both nodes and makes it possible to run some active volumes on node-a and other active volumes on node-b. The Active-Active option is enabled with the TRIAL mode for 60 days or when purchasing the Active-Active Failover Feature Pack. The Active-Passive option allows configuring a resource pool only on one of the nodes. In such a case, all volumes are active on a single node only.

The configuration and testing of Active-Active iSCSI Failover is now complete.

open-e | ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS | DATA STORAGE SOFTWARE V7

SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Setup > Failover

Resources pool manager

Info
While a cluster is running you are not able to change settings. Please stop cluster in order to make changes.

node-a-39166501 resources (local node)

Info
Resources were moved successfully.

Status: **active on node-a-3... (local node)** move to remote node

Synchronization status: **synced** sync between nodes

Virtual IP addresses | **iSCSI resources**

add or remove targets

iSCSI target: target0 (iqn.2012-09:mirror-0)

Replication task	Logical volume	Replication task state
MirrorTask-a	lv0000	OK

node-b-59979144 resources (remote node)

Status: **active on node-b-5... (remote node)** move to local node

Synchronization status: **synced** sync between nodes

★ Event Viewer

Data Storage Software V7 - All rights reserved



Thank you!

Follow Open-E:

