

Step-by-Step Guide to Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster

(without bonding)

Software Version: DSS ver. 7.00 up10

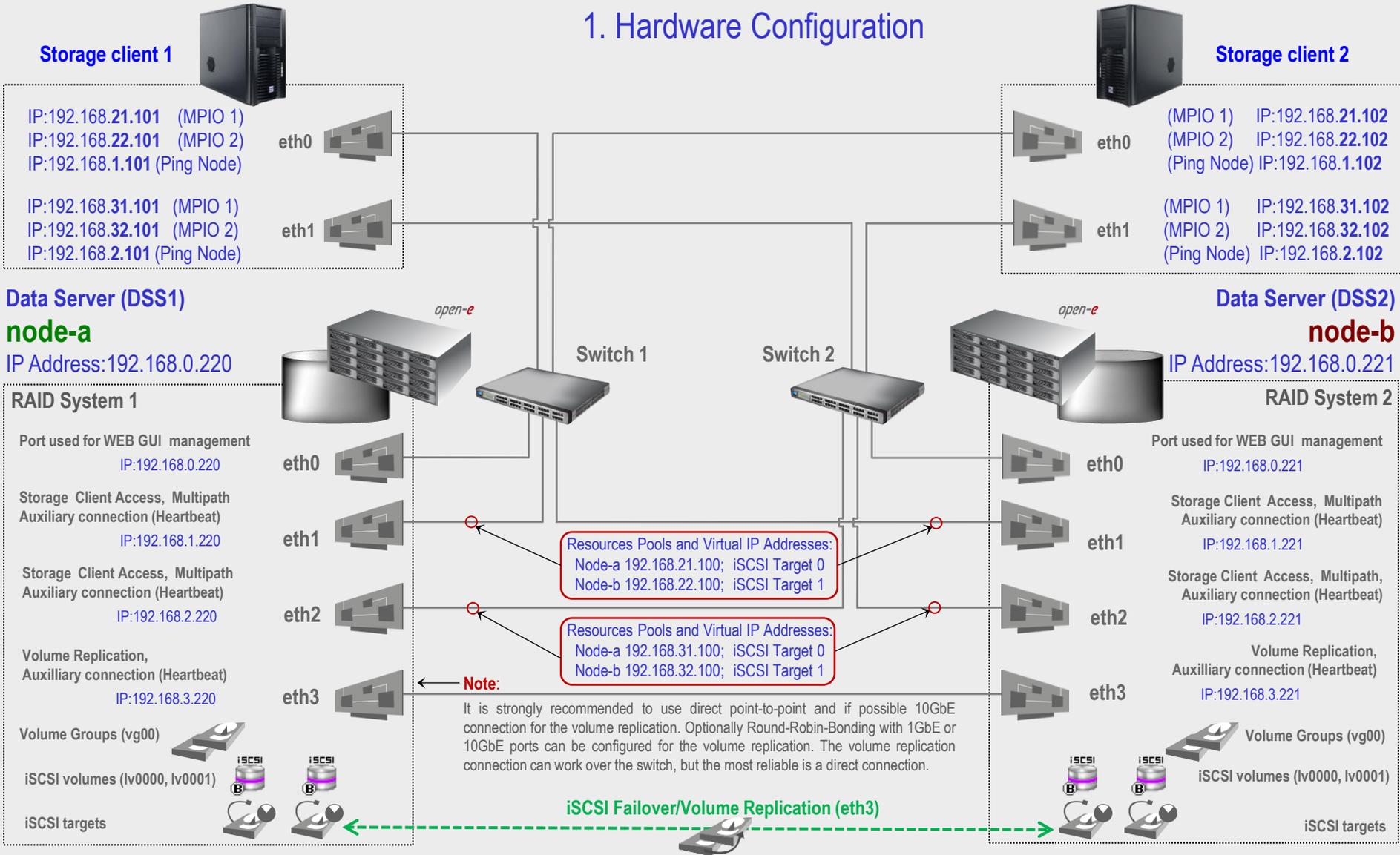
Presentation updated: May 2013

TO SET UP ACTIVE-ACTIVE iSCSI FAILOVER, PERFORM 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 Cluster (node-a and node-b)
7. Start Failover Service
8. Test Failover Function
9. Run Failback Function

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1. Hardware Configuration



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Data Server (DSS2)

node-b

IP Address:192.168.0.221

1. Hardware 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 shows the Open-E DSS V7 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Network interfaces'. The 'Interfaces' section lists eth0, eth1, eth2, and eth3. The 'Server Name' section has a 'Server name' field with 'dss2' and a 'Comment' field with 'Data Storage Software'. The 'Hostname' section has a 'Hostname' field with 'node-b-59979144'. The 'DNS settings' section has a 'DNS' field with '194.204.152.34;194.204.159.1'. The 'apply' button is highlighted in red. A blue box on the left contains instructions, with arrows pointing to the 'Network interfaces' and 'Hostname' sections.

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Data Server (DSS2)

node-b

IP Address: 192.168.0.221

1. Hardware 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).

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Setup > Network interfaces > eth0

Interfaces

- eth0
- eth1
- eth2
- eth3

Interface info

Intel Corporation 82546GB Gigabit Ethernet Controller (rev 03)

IP address

Warning
Warning! You are currently connected through this interface.

Active

MAC: 00:04:23:B9:86:FA

DHCP

Static

IP address: 192.168.0.221

Netmask: 255.255.255.0

Broadcast: auto

Gateway: 192.168.0.1

apply

★ Event Viewer

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Data Server (DSS2)

node-b

IP Address: 192.168.0.221

1. Hardware Configuration

Afterwards, select **eth1** interface and change the IP address from 192.168.1.220 to 192.168.1.221 in the field **IP address** and click the **apply** button.

Next, change the IP addresses in **eth2** and **eth3** interfaces accordingly.

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 > eth1'. On the left, a list of interfaces shows 'eth1' selected. The main content area is divided into two panels: 'Interface info' and 'IP address'. The 'Interface info' panel shows 'Intel Corporation 82546GB Gigabit Ethernet Controller (rev 03)'. The 'IP address' panel has 'Active' checked, 'DHCP' unselected, and 'Static' selected. The 'IP address' field is set to '192.168.1.221', 'Netmask' is '255.255.255.0', and 'Broadcast' is 'auto'. An 'apply' button is at the bottom right. A blue box with arrows points to the 'eth1' interface and the 'IP address' field.

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Data Server (DSS1)

node-a

IP Address:192.168.0.220

1. Hardware 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 web interface for 'DATA STORAGE SOFTWARE V7'. The navigation menu includes SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is 'Network interfaces' under the 'SETUP' section. The 'Interfaces' list shows eth0, eth1, eth2, and eth3. The 'Server Name' section has 'Server name: dss1' and 'Comment: Data Storage Software'. The 'Hostname' section has 'Hostname: node-a-39166501'. The 'DNS settings' section has 'DNS: 194.204.152.34;194.204.159.1'. There are 'apply' buttons for each section. A blue arrow points from the text box to the 'node-a-39166501' hostname field.

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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 current page is 'Configuration > Volume manager > Volume groups'. The 'Vol. groups' section shows a tree view with 'vg00'. The 'Unit manager' section displays a table of units:

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

Below the table, the 'Action' dropdown is set to 'new volume group' and the 'Name' field contains 'vg00'. The 'apply' button is visible. The 'Drive identifier' section shows a table of physical drives:

Unit	Serial number	Status
<input type="checkbox"/> Unit S000	9SY0QWBT	
<input type="checkbox"/> Unit S001	9RA6VDG3	

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

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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: '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. The 'Vol. groups' panel shows a list with 'vg00' selected. The 'Volume manager' panel displays system volumes and their sizes, with a 'Free' space of 290.06 GB. Below this, 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, and the 'Block I/O' radio button is selected. A slider for volume size is set to 50 GB, with a note indicating '+0.12 GB for replication'. The 'apply' button is highlighted in red at the bottom right.

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

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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.

The screenshot shows the Open-E Data Storage Software 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' and 'Vol. replication'. The 'Vol. groups' panel shows a list of volume groups, with 'vg00' selected. The 'Vol. replication' panel shows the configuration for the selected volume group. The 'Logical Volume' table shows a single entry: 'lv0000' with a size of 50.00 GB. The 'System volumes' table shows the following details:

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

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. The 'Rate' is set to 'medium'. The 'Block I/O' section has a slider set to 50 GB, with a note '(+0.12 GB for replication)'. The 'apply' button is visible at the bottom right.

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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.

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

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.25
Free	189.81

Action: new NAS volume

Use volume replication

WORM

0 189.81

< > add: 0.00 GB

apply



iSCSI volume (lv0000) is set to destination



iSCSI volume (lv0001) is set to source

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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)

The screenshot shows the open-e web interface for configuring storage. The breadcrumb trail is: Configuration > Volume manager > Volume groups. The 'Vol. groups' panel shows a list with 'vg00'. The 'Unit manager' panel shows a table with one unit selected:

Unit	Size (GB)	Serial number	Status
Unit S001	1862.95	N/A	available

The 'Action' dropdown is set to 'new volume group' and the 'Name' field contains 'vg00'. The 'apply' button is visible. The 'Unit rescan' and 'Drive identifier' panels are also visible.

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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: '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. The 'Volume manager' panel shows system volumes and their sizes. Below this, there are configuration options for creating a new volume. 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 'Initialize' checkbox is checked, and the 'Rate' is set to 'medium'. A slider for volume size is shown, with '50 GB' entered in the 'add:' field. The 'apply' button is highlighted in red. At the bottom, there is an 'Event Viewer' icon and a footer with 'Data Storage Software V7 - All rights reserved'.

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.00
Free	1854.91

Action: new iSCSI volume
Options: Just create volume

Use volume replication
 File I/O
 Initialize
Rate: medium

Block I/O

add: 50 GB (+0.12 GB for replication)

apply

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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 web interface for configuring a logical volume. The breadcrumb trail is: Configuration > Volume manager > Volume groups > vg00. The 'Vol. groups' section shows 'vg00'. The 'Vol. replication' section has the 'Use volume replication' checkbox checked. The 'Logical Volume' table shows 'lv0000' with a size of 50.00 GB. The 'System volumes' section shows 'SWAP' (4.00 GB), 'Reserved for snapshots' (0.00 GB), 'Reserved for system' (4.00 GB), 'Reserved for replication' (0.13 GB), and 'Free' (1804.78 GB). The 'Action' dropdown is set to 'new iSCSI volume' and 'Options' is 'Just create volume'. The 'Rate' is set to 'medium'. The 'Block I/O' section has a slider set to 50 GB, with a note '(+0.12 GB for replication)'. The 'apply' button is visible at the bottom right.

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	1804.78

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Data Server (DSS1)

node-a

IP Address: 192.168.0.220

4. Configure the node-a

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

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)	
lv0000	iSCSI		✓		N/A	50.00	
lv0001	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	0.25	
Free	1754.66	

Action:

Use volume replication

WORM

0 GB 1754.66



iSCSI volume (lv0000) is set to source



iSCSI volume (lv0001) is set to destination

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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 192.168.3.220), 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 'Configuration > Volume manager > Volume replication'. The 'Vol. groups' section shows 'vg00'. The 'Volume replication mode' table is as follows:

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"/>

The 'Hosts Binding' section is visible below, with the 'Define remote node' section containing:

- Remote node IP address: 192.168.3.220
- Remote node GUI (administrator) password: [masked]

The 'Create new volume replication task' section shows an error message: '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: 192.168.3.220
- node-b: 192.168.3.221

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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.

The screenshot displays 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 main content area is divided into several panels:

- Vol. groups:** Shows a single group named 'vg00'.
- Volume replication mode:** A table with columns: Logical Volume, Init, Source, Destination, and Clear metadata. The table contains two rows:

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"/>

Below the table is a red 'apply' button and a note: 'Please apply changes or press "reload" button to discard'.
- Hosts Binding:** Shows a 'Remote node' section with 'Host name: node-b-5...' and 'IP address: 192.168.3.221'. The 'Status' is 'Reachable'. A red 'disconnect' button is present.
- Create new volume replication task:** A form with 'Task name:' and 'Source volume:' (set to 'lv0000').

The bottom of the interface features an 'Event Viewer' icon and a footer: 'Data Storage Software V7 - All rights reserved'.

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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 the **Bandwidth for SyncSource (MB)** field you must change the value. In the example, 35MB is used. Next, click the **create** button.

NOTE:

The "Bandwidth for SyncSource (MB)" need to be calculated based on available Ethernet Network throughput and number of replication tasks and the limitation factor (about 0.7).

For example: 1 Gbit Ethernet and 2 replication tasks (assuming 1 Gbit provides about 100 MB/sec sustained network throughput)

- Bandwidth for SyncSource (MB): = 0.7 * 100 / 2 = 35

For example: 10 Gbit Ethernet and 10 replication tasks (assuming 10 Gbit provides about 700 MB/sec sustained network throughput)

- Bandwidth for SyncSource (MB): = 0.7 * 700 / 10 = 49

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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 main content area is divided into several sections:

- Vol. groups:** A list containing 'vg00'.
- Vol. replication:** A list containing 'Mirror_0000'.
- Hosts Binding:** A section for configuring remote nodes. It shows a 'Remote node' with 'Host name: node-b-5...' and 'IP address: 192.168.3.221'. The status is 'Reachable'. A 'disconnect' button is present.
- Create new volume replication task:** A section with an 'Info' message: 'No volumes with replication functionality found or all volumes have a task assigned already.'
- Replication tasks manager:** A table with columns 'Name', 'Start time', and 'Action'. It contains one entry: 'Mirror_0000' with 'Start time: n/a'. The 'Action' column has a play button, a stop button, and a delete button. A blue arrow points from the play button to the 'Info' message.

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

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

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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 'You are here: 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 'Mirror_0000'.
- Replication tasks manager:** A table listing the details of the 'Mirror_0000' task.

Name	Start time	Action
Mirror_0000	2013-05-17 19:11:18	[Play] [Stop] [Delete]

Additional details for the 'Mirror_0000' task:

- Source volume: lv0000
- Destination volume: lv0000
- Destination IP: 192.168.3.221
- Protocol type: Synchronous

The interface also features a 'disconnect' button, an 'Info' message stating 'No volumes with replication functionality found or all volumes have a task assigned already.', and an 'Event Viewer' link at the bottom.

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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 **Mirror_0000**) to display detailed information on the current replication task.

Name	Type	Start time
Mirror_0000	Volume replication	2013-05-17 19:11:18

Time	Name	Type	Status	Action
2013-05-17 19:11:26	Mirror_0000	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.

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Data Server (DSS2)

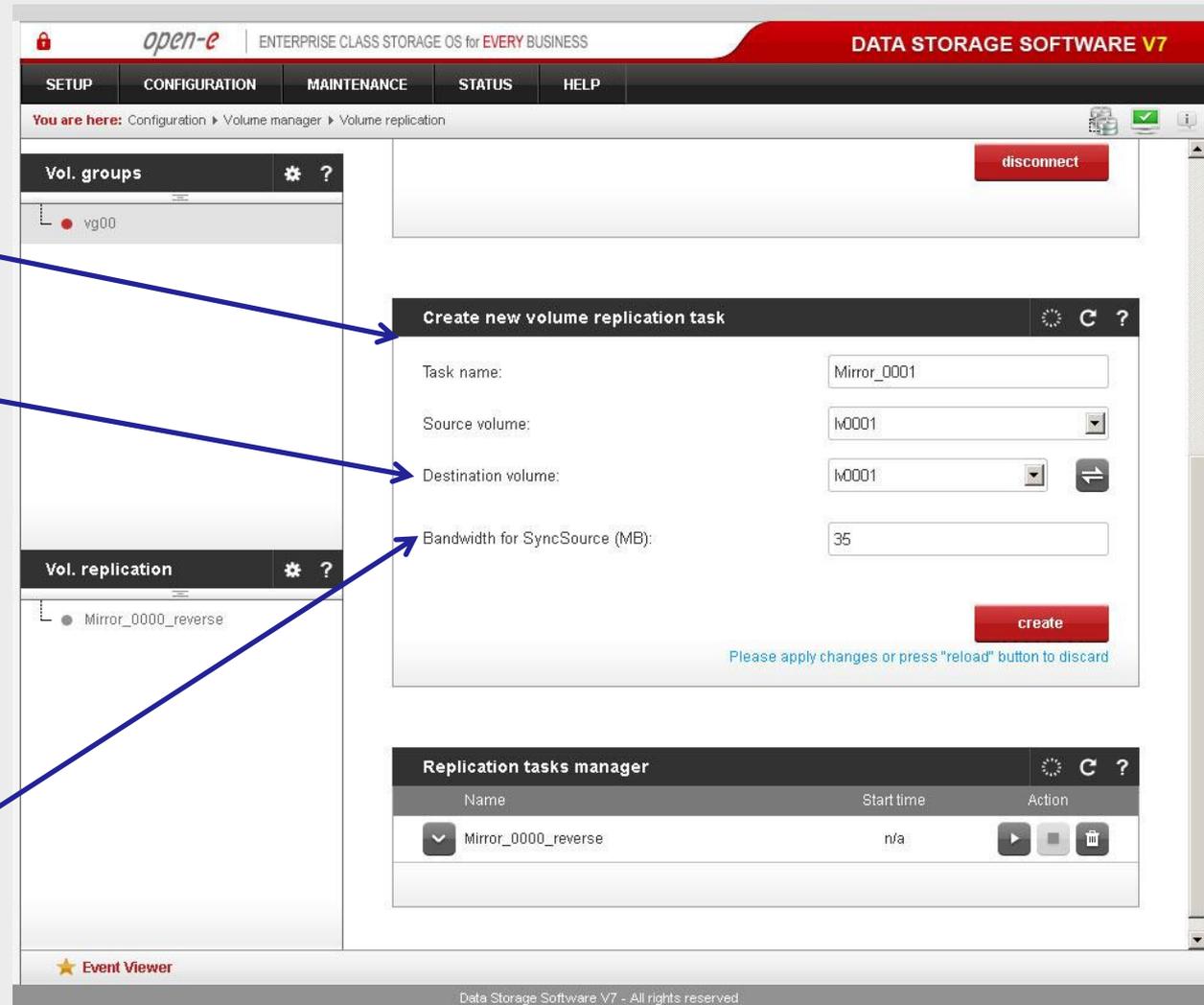
node-b

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. In our example 35 MB is used. Next click the **create** button.



The screenshot shows the open-e web interface for configuring volume replication. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'Volume replication' under 'Volume manager'. The 'Vol. groups' section shows 'vg00'. The 'Vol. replication' section shows 'Mirror_0000_reverse'. The 'Create new volume replication task' form is open, with the following fields:

- Task name: Mirror_0001
- Source volume: lv0001
- Destination volume: lv0001
- Bandwidth for SyncSource (MB): 35

The 'create' button is highlighted in red. Below the form is the 'Replication tasks manager' table:

Name	Start time	Action
Mirror_0000_reverse	n/a	  

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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: **Mirror_0001**.

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

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

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > Volume manager > Volume replication

Vol. groups

- vg00

Vol. replication

- Mirror_0000_reverse
- Mirror_0001

Hosts Binding

Remote node

Host name: node-a-3... IP address: 192.168.3.220 Status: Reachable

disconnect

Create new volume replication task

Info

No volumes with replication functionality found or all volumes have a task assigned already.

Replication tasks manager

Name	Start time	Action
Mirror_0000_reverse	n/a	[play] [stop] [delete]
Mirror_0001	2013-05-17 19:27:50	[play] [stop] [delete]

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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



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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.

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 > iSCSI target manager > Targets'. The main content area is split into two panels. The left panel, titled 'Targets', shows a list with one entry: 'target0'. The right panel, titled 'Create new target', displays a success message: 'New target has been created successfully!'. Below this, there is an unchecked checkbox for 'Target Default Name'. The 'Name' field is filled with 'iqn.2013-05:mirror-1' and the 'Alias' field is filled with 'target1'. A red 'apply' button is visible at the bottom of this panel. Below the 'Create new target' panel is the 'Discovery CHAP user access' panel, which has two radio button options: 'No discovery CHAP user access authentication' (selected) and 'Enable discovery CHAP user access authentication'. A red 'apply' button is also present here. At the bottom of the interface, there is an 'Event Viewer' icon and a footer that reads 'Data Storage Software V7 - All rights reserved'.

iSCSI targets



NOTE:

Both systems must have the same Target name.

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



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.2013-05:mirror-0 -> lv0000) and click **attach** 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.2013-05:mirror-0 (target0)'. The main content area is divided into two panels. The left panel, titled 'Targets', shows a list of targets: 'target0' (selected with a red dot) and 'target1' (unselected with a grey dot). The right panel, titled 'Target volume manager', displays information about the selected target. It includes two informational messages: one about logical volumes selected as mirror destinations and another about LUN 0 requirements. Below the messages is a table for 'Logical volumes attached to this target', which is currently empty. At the bottom, there is a table for 'Available logical volumes' with two entries: 'lv0000' and 'lv0001'. Each entry has columns for 'Volume', 'Type', 'SCSI ID', 'LUN', 'Access mode', and 'Action'. The 'Action' column for both volumes contains an 'attach' button. A blue arrow points from the 'attach' button in the 'Available logical volumes' table to the 'attach' button in the 'Action' column of the 'Logical volumes attached to this target' table.

Volume	Type	SCSI ID	LUN	Access mode	Action
lv0000	iSCSI	YAkFXJf3NEV5870A	0	write-through	attach
lv0001	iSCSI	ZiGxwlh33QBSpR1N	0	write-through	attach

NOTE:

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

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



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.2013-05:mirror-1->lv0001) and click **attach** button located under **Action**.

The screenshot shows the Open-E DSS V7 web interface. The breadcrumb navigation indicates the user is in the configuration section for the target 'iqn.2013-05:mirror-1 (target1)'. The 'Targets' section on the left shows 'target1' selected. The 'Target volume manager' section on the right provides information about LUN 0 and shows a table of available logical volumes. The table has columns for Volume, Type, SCSI ID, LUN, Access mode, and Action. The volume 'lv0001' is selected, and the 'attach' button is highlighted. The 'CHAP user access authentication' section at the bottom shows 'No CHAP user access authentication' selected.

Volume	Type	SCSI ID	LUN	Access mode	Action
lv0001	iSCSI	ZIGxwlh33QBSpR1N	0	write-through	attach

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Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



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



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Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



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.

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 > iSCSI target manager > Targets'. The main content area is split into two panels. The left panel, titled 'Targets', shows a list with 'target0'. The right panel, titled 'Create new target', displays a success message: 'New target has been created successfully!'. Below this, there is an unchecked checkbox for 'Target Default Name'. The 'Name' field is filled with 'iqn.2013-05:mirror-1' and the 'Alias' field is filled with 'target1'. A red 'apply' button is visible at the bottom of this panel. Below the 'Create new target' panel is the 'Discovery CHAP user access' panel, which has two radio button options: 'No discovery CHAP user access authentication' (selected) and 'Enable discovery CHAP user access authentication'. A red 'apply' button is also present at the bottom of this panel. The footer of the interface includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

iSCSI targets



NOTE:

Both systems must have the same Target name.

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



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.2013-05:mirror-0 -> lv0000**) and click **attach** 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.2013-05:mirror-0 (target0)'. The main content area is divided into two panels. The left panel, titled 'Targets', shows a list of targets: 'target0' (selected with a red dot) and 'target1' (with a grey dot). The right panel, titled 'Target volume manager', displays information about the selected target. It includes two 'Info' sections: the first explains that logical volumes are selected as mirror destinations and that direct access is not possible; the second notes that a LUN 0 is required for iSCSI access. Below the info sections is a table for 'Logical volumes attached to this target', which is currently empty. At the bottom, there is a table for 'Available logical volumes' with two entries:

Volume	Type	SCSI ID	LUN	Access mode	Action
lv0000	iSCSI	YAkFXJi3NEV5870A	0	write-through	attach
lv0001	iSCSI	ZiG:xlh33QBSpR1N	0	write-through	attach

Blue arrows from the text boxes point to 'target0' in the Targets list and the 'attach' button for the 'lv0000' volume in the Available logical volumes table.

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

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



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.2013-05:mirror-1->lv0001**) and click **attach** button located under **Action**.

The screenshot shows the Open-E DSS V7 web interface. The breadcrumb navigation indicates the user is in the 'Targets' section for the target 'iqn.2013-05:mirror-1 (target1)'. The 'Targets' list on the left shows 'target0' and 'target1', with 'target1' selected. The 'Target volume manager' panel on the right displays information about the target and a table of available logical volumes. The table has columns for Volume, Type, SCSI ID, LUN, Access mode, and Action. The row for 'lv0001' is selected, and the 'attach' button in the Action column is highlighted. Below the table, there is a 'CHAP user access authentication' section.

Volume	Type	SCSI ID	LUN	Access mode	Action
lv0001	iSCSI	ZiGxwlh33QBSpR1N	0	write-through	attach

NOTE:

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

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



Data Server (DSS1)
node-a
IP Address:192.168.0.220

6. Configure Cluster

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.

Auxiliary paths

Status	node-a-3... interface (local node)	node-b-5... interface (remote node)
Inactive	eth3 (192.168.3.220)	eth3 (192.168.3.221)

New auxiliary path

Interface on local node: eth1 (192.168.1.220)

Interface on remote node: eth1 (192.168.1.221)

cancel add new auxiliary path

Please apply changes or press "reload" button to discard

Ping nodes

Ping node IP address	node-a-3... status (local node)	node-b-5... status (remote node)
No ping nodes defined.		

add new ping node

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Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Cluster

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.

Auxiliary paths

Info
Auxiliary path has been created successfully.

Status	node-a-3... interface (local node)	node-b-5... interface (remote node)	
Inactive	eth1 (192.168.1.220)	eth1 (192.168.1.221)	
Inactive	eth3 (192.168.3.220)	eth3 (192.168.3.221)	

New auxiliary path

Interface on local node: eth2 (192.168.2.220)

Interface on remote node: eth2 (192.168.2.221)

cancel **add new auxiliary path**

Please apply changes or press "reload" button to discard

Ping nodes

Ping node IP address	node-a-3... status (local node)	node-b-5... status (remote node)
No ping nodes defined.		

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Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Cluster

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: 192.168.1.101, 192.168.2.101, 192.168.1.102, and the fourth ping node: 192.168.2.102

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)	
192.168.1.101	Reachable	Reachable	
192.168.2.101	Reachable	Reachable	
192.168.1.102	Reachable	Reachable	

New ping node

IP address: 192.168.2.102

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)

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Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Cluster

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.

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 'Failover' under 'Setup'. The main content area is titled 'Resources pool manager' and shows configuration for 'node-a-39166501 resources (local node)'. The status is 'unknown'. There are buttons for 'move' and 'sync between nodes'. Below this, there are tabs for 'Virtual IP addresses' and 'iSCSI resources'. The 'add virtual IP' form is visible, with the following fields: Virtual IP (192.168.21.100), Interface on local node (eth1 (192.168.1.220)), Interface on remote node (eth1 (192.168.1.221)), Netmask (255.255.255.0), and Broadcast (optional). There are 'cancel' and 'add' buttons at the bottom of the form. Below the form, there is a section for 'node-b-59979144 resources (remote node)' with a status of 'unknown' and a 'move' button. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Cluster

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.

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Cluster

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.

Virtual IP **Interface on local node:** **Interface on remote node:**

192.168.21.100	eth1 (192.168.1.220)	eth1 (192.168.1.221)	
192.168.31.100	eth2 (192.168.2.220)	eth2 (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: 192.168.22.100

Interface on local node: eth1 (192.168.1.220) ▼

Interface on remote node: eth1 (192.168.1.221) ▼

Netmask: 255.255.255.0

Broadcast (optional):

cancel **add**

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Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Cluster

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 'Setup > Failover'. The main content area displays a table of resources with columns for 'Virtual IP', 'Interface on local node', and 'Interface on remote node'. Below the table, there is a section for 'node-b-59979144 resources (remote node)' with a status of 'unknown' and a 'sync between nodes' button. A modal window titled 'add virtual IP' is open, showing fields for 'Virtual IP' (192.168.32.100), 'Interface on local node' (eth2 (192.168.2.220)), 'Interface on remote node' (eth2 (192.168.2.221)), 'Netmask' (255.255.255.0), and 'Broadcast (optional)'. The 'add' button is highlighted in red.

Virtual IP	Interface on local node:	Interface on remote node:	
192.168.21.100	eth1 (192.168.1.220)	eth1 (192.168.1.221)	
192.168.31.100	eth2 (192.168.2.220)	eth2 (192.168.2.221)	

node-b-59979144 resources
(remote node)

Status: **unknown** move

Synchronization status: not configured sync between nodes

add virtual IP

Virtual IP: 192.168.32.100

Interface on local node: eth2 (192.168.2.220)

Interface on remote node: eth2 (192.168.2.221)

Netmask: 255.255.255.0

Broadcast (optional):

cancel add

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



Data Server (DSS1)

node-a

IP Address: 192.168.0.220

6. Configure Cluster

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 main content area is divided into two sections for 'node-a' and 'node-b-59979144 resources (remote node)'. Each section has a 'Virtual IP addresses' tab and an 'add virtual IP' button. Below the button is a table with columns for 'Virtual IP', 'Interface on local node:', and 'Interface on remote node:'. In the 'node-a' section, two Virtual IP addresses are listed: 192.168.21.100 and 192.168.31.100. In the 'node-b' section, two Virtual IP addresses are listed: 192.168.22.100 and 192.168.32.100. A blue callout box with arrows points to these four Virtual IP addresses. Below the table in the 'node-b' section, there is an 'Info' message: 'Virtual IP has been created successfully.' and a 'Status: unknown' with a 'move' button. A 'sync between nodes' button is also present.

Virtual IP	Interface on local node:	Interface on remote node:
192.168.21.100	eth1 (192.168.1.220)	eth1 (192.168.1.221)
192.168.31.100	eth2 (192.168.2.220)	eth2 (192.168.2.221)

Virtual IP	Interface on local node:	Interface on remote node:
192.168.22.100	eth1 (192.168.1.220)	eth1 (192.168.1.221)
192.168.32.100	eth2 (192.168.2.220)	eth2 (192.168.2.221)

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



Data Server (DSS1)

node-a

IP Address:192.168.0.220

6. Configure Cluster

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.

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



Data Server (DSS1)
node-a
IP Address:192.168.0.220

6. Configure Cluster

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 displays the configuration for a remote node, 'node-b-59979144 (remote node)'. The 'iSCSI resources' tab is selected, showing a table of iSCSI targets:

Replication task	Logical volume	Replication task state
Mirror_0000	lv0000	OK

Below the table, there are buttons for 'move' and 'sync between nodes'. At the bottom, there are two lists: 'Available targets' (empty) and 'Targets already in cluster' (containing 'iqn.2013-05:mirror-1'). A red 'cancel' button and a red 'apply' button are at the bottom right. A blue callout box with arrows points to the 'add or remove targets' button and the 'apply' button.

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



Data Server (DSS1)
node-a
IP Address: 192.168.0.220

6. Configure Cluster

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.

Important! Please refer to [Failover: Important notes](#) help for important information related to configuration and maintenance of failover services.

start

Resources pool

node-a-39166501 (local node) resources pool:

Status: inactive

Replication state: **synced**

Persistent reservation synchronization: inactive

node-b-59979144 (remote node) resources pool:

Status: inactive

Replication state: **synced**

Persistent reservation synchronization: inactive

[See details >](#)

Network statuses

Ping nodes: **4 of 4 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: **192.168.3.221**

[See details >](#)

★ **Event Viewer**

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NOTE:

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

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



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.

Failover Manager

Cluster status: Running - OK

Important! Please refer to [Failover: Important notes](#) help for important information related to configuration and maintenance of failover services.

stop

Resources pool

node-a-39166501 (local node) resources pool:

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

Replication state: **synced**

Persistent reservation synchronization: **active**

node-b-59979144 (remote node) resources pool:

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

Replication state: **synced**

Persistent reservation synchronization: **active**

[See details >](#)

Network statuses	Remote node status
Ping nodes: 4 of 4 reachable	Remote node availability: Reachable
See details >	Remote node hostname: node-b-59979144
Auxiliary paths: 3 of 3 reachable	Remote node IP: 192.168.3.221
See details >	See details >

★ **Event Viewer**

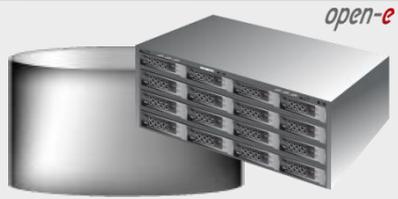
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NOTE:

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 target0: 192.168.21.102, 192.168.31.102 and for access to target1: 192.168.22.102, 192.168.32.102.

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



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.

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

- Info:** While a cluster is running you are not able to change Virtual IPs settings. Please stop cluster in order to make changes.
- node-a-39166501 resources (local node):**
 - Status: **active on node-a-3... (local node)**
 - Synchronization status: **synced**
 - Buttons: **move to remote node** (highlighted with a blue arrow), **sync between nodes**
 - Virtual IP addresses and iSCSI resources tabs.
 - add or remove targets** button.
 - iSCSI target: target0 (iqn.2013-05:mirror-0)**
 - Table:

Replication task	Logical volume	Replication task state
Mirror_0000	lv0000	OK
- node-b-59979144 resources (remote node):**
 - Info:** Targets have been added/removed successfully.
 - Status: **active on node-b-5... (remote node)**
 - Synchronization status: **synced**
 - Buttons: **move to local node**, **sync between nodes**

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

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



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 Virtual IP's 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 and iSCSI resources tabs.
 - 'add or remove targets' button.
 - iSCSI target: target0 (iqn.2013-05:mirror-0) with a trash icon.
 - Table with columns: Replication task, Logical volume, Replication task state.

Replication task	Logical volume	Replication task state
Mirror_0000	lv0000	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'.

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



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 displays 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 'Resources pool manager' and contains an information box stating: 'While a cluster is running you are not able to change Virtual IPs settings. Please stop cluster in order to make changes.' Below this, the 'node-a-39166501 resources (local node)' section shows the status as 'active on node-b-5... (remote node)' and 'Synchronization status: synced'. A red button labeled 'move to local node' is highlighted with a blue arrow. Below this are tabs for 'Virtual IP addresses' and 'iSCSI resources', and a red button 'add or remove targets'. The 'iSCSI target: target0 (iqn.2013-05:mirror-0)' section shows a replication task 'Mirror_0000' with logical volume 'lv0000' and a state of 'OK'. The 'node-b-59979144 resources (remote node)' section also shows 'active on node-b-5... (remote node)' and 'synced' status, 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'.

Open-E DSS V7 Active-Active Load Balanced iSCSI HA Cluster *open-e*



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.

The screenshot shows the Open-E Data Storage Software 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 displays information for 'node-a-39166501 resources (local node)'. The status is 'active on node-a-3... (local node)' and the synchronization status is 'synced'. There are buttons for 'move to remote node', 'sync between nodes', and 'add or remove targets'. Below this, there is a table for 'iSCSI target: target0 (iqn.2013-05:mirror-0)' with columns for 'Replication task', 'Logical volume', and 'Replication task state'. The table shows a replication task 'Mirror_0000' with logical volume 'lv0000' and a state of 'OK'. At the bottom, there is information for 'node-b-59979144 resources (remote node)' with status 'active on node-b-5... (remote node)' and synchronization status 'synced'. There are buttons for 'move to local node' and 'sync between nodes'.

Thank you!

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