

**A Step-by-Step Guide to
Asynchronous Volume Replication
(Block Based) over a LAN
with Open-E® DSS™**



Asynchronous **Volume Replication** over a LAN



	Replication Mode		Source/Destination			Data Transfer		Volume Type			
	Synchronous	Asynchronous	w/ System	LAN	WAN	File based	Block based	NAS	iSCSI		FC
									File-IO	Block-IO	
Asynchronous Volume Replication over a LAN		✓		✓			✓	✓	✓	✓	✓

- **Volume Replication** is a process of coping a source logical volume to a destination system.
 - Volume replication provides maximal availability in case one of the systems or units fails.

REPLICATION BETWEEN TWO SYSTEMS WITHIN ONE LAN

■ **Recommended Resources**

- Key Hardware (two systems)
 - ✓ x86 compatible,
 - ✓ RAID Controller,
 - ✓ HDD's,
 - ✓ Network Interface Cards.
- Software
 - ✓ Open-E DSS (recommended) or Open-E iSCSI-R3, 2 units.

■ **Benefits**

- Data Redundancy over a LAN,
- Enables continuous data access.

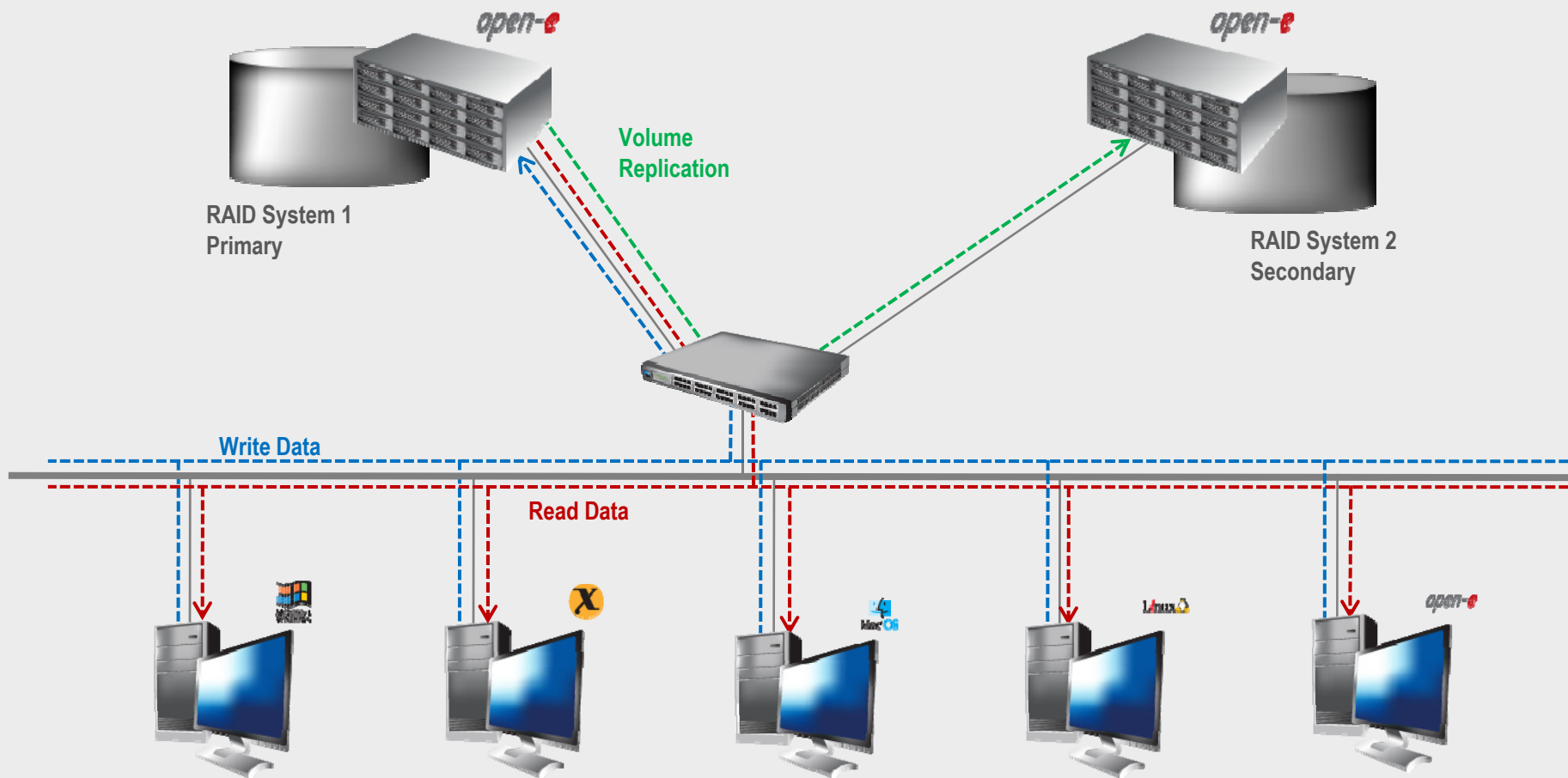
■ **Disadvantages**

- High cost of solution,
- Natural disasters can destroy local systems.

Asynchronous **Volume Replication** over a LAN

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- Data is written and read to System 1
- Data is continuously replicated to System 2



Asynchronous **Volume Replication** over a LAN

open-e

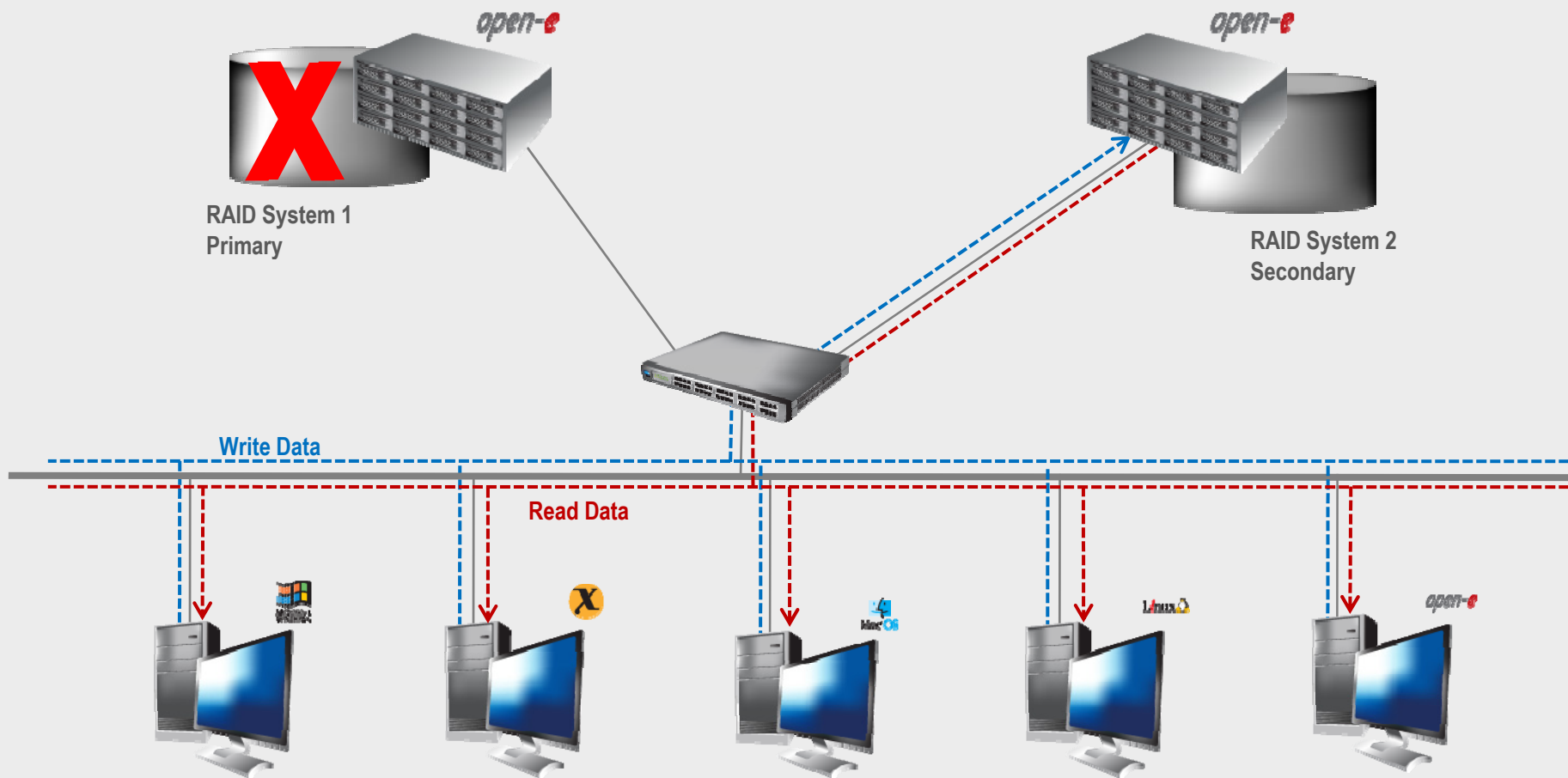
- In case of raid array error or disk drive error on the System 1, the server will send an e-mail notification to the administrator,
- In the case of a failure of system 1, users will be notified,
- Administrator then switches users to the System 2.



Asynchronous Volume Replication over a LAN

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- After switching, replicated volume is available on System 2



Setting up Synchronous **Volume Replication** over a LAN *open-e*

TO SET UP VOLUME REPLICATION, PERFORM THE FOLLOWING STEPS:

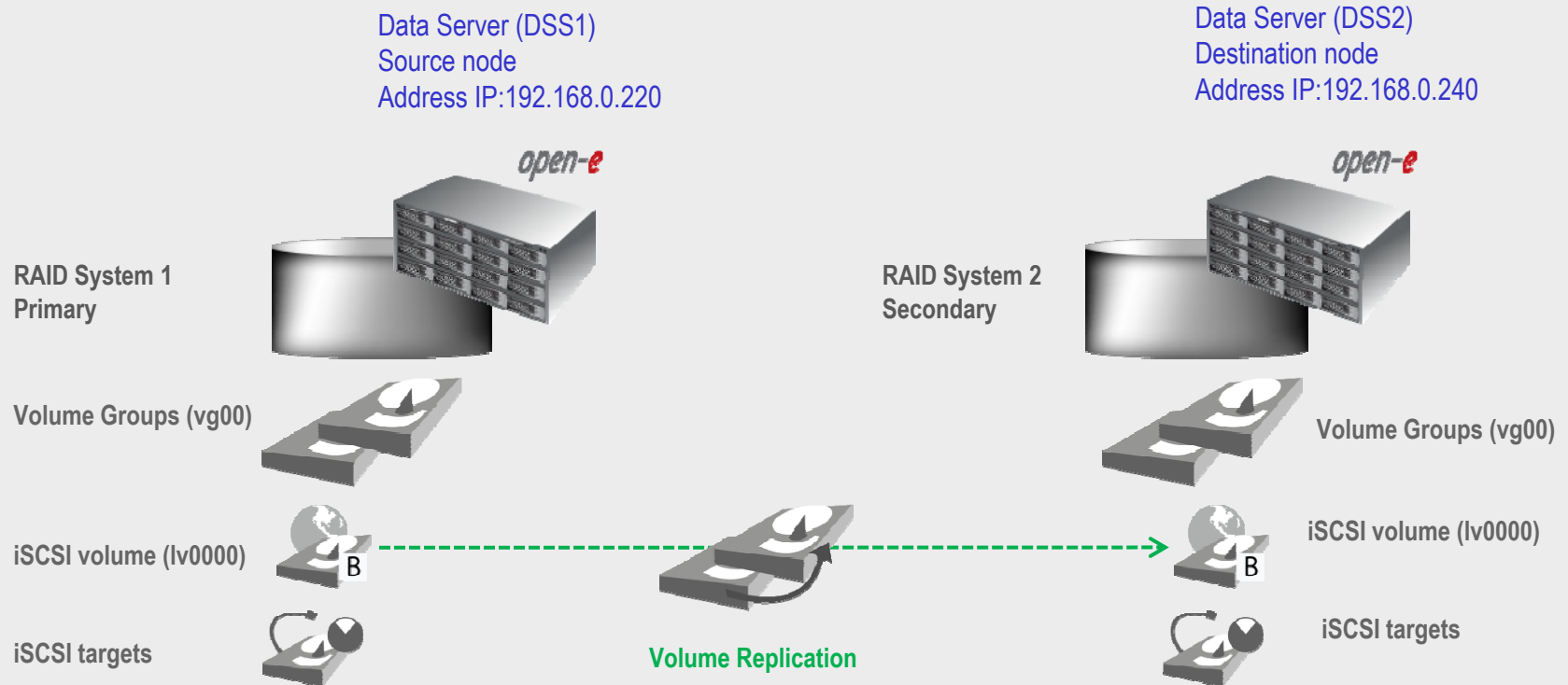
1. Hardware configuration
2. Configure the destination node
3. Configure the source node
4. Create the replication task
5. Checking status volume replication

Setting up Synchronous Volume Replication over a LAN *open-e*

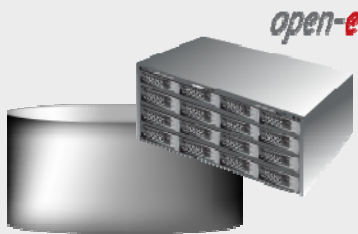
Hardware Requirements

To run the Volume replication of Open-E DSS (or iSCSI-R3), a minimum of two systems are required. Both servers are working in the Local Area Network. An example configuration is shown below:

1. Hardware Configuration



Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS2)
Destination node
Address IP:192.168.0.240

2. Configure the Destination Node

Under the „CONFIGURATION” tab, select „volume manager”.

Volume Groups (vg00)



Add the selected physical units (Unit MD0) to create a new volume group (in this case, vg00) and click **apply** button.

The screenshot shows the open-e DSS web interface. The top navigation bar includes 'logout', 'DSS', 'DATA STORAGE SERVER', and 'open-e'. Below this are tabs for 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. Under the 'CONFIGURATION' tab, there are sub-tabs for 'volume manager', 'NAS settings', 'NAS resources', 'iSCSI target manager', and 'FC target manager'. The 'volume manager' sub-tab is selected. The main content area is divided into three sections: 'Vol. groups', 'Vol. replication', and 'Unit manager'. The 'Unit manager' section contains a table with the following data:

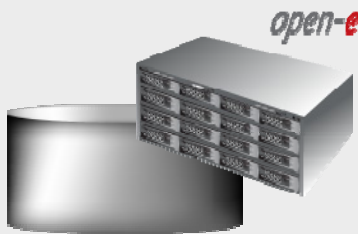
Unit	Size (GB)	Serial number	Status
Unit S000	230.08	N/A	available

Below the table, there is an 'Action:' dropdown menu set to 'new volume group' and a 'Name:' input field containing 'vg00'. An 'apply' button is located at the bottom right of this section. The 'Drive identifier' section below shows a table with one entry:

Unit	Serial number	Status
Unit S000	N/A	

At the bottom of the interface, there is an 'Event Viewer' field and a footer that reads 'Data Storage Server. All rights reserved'.


Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS2)
Destination node
Address IP:192.168.0.240

2. Configure the Destination Node

Select the appropriate volume group (**vg00**) from the list on the left and create a **new iSCSI volume** of the required size. This logical volume will be the destination of the replication process.

iSCSI volume (lv0000)  B

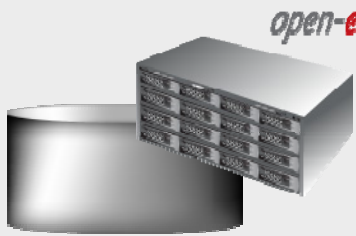
Next check the box to **Use volume replication**

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

The screenshot shows the 'DSS DATA STORAGE SERVER' web interface. The 'CONFIGURATION' tab is active, and the 'volume manager' sub-tab is selected. On the left, under 'Vol. groups', the 'vg00' group is selected. The main area shows the 'Volume manager' configuration for 'vg00'. A table lists system volumes: Reserved Pool (4.00 GB), Reserved for snapshots (0.00 GB), Reserved for system (1.00 GB), Reserved for replication (0.00 GB), and Free (225.03 GB). 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 'File I/O', the 'Initialize' checkbox is checked. Under 'Block I/O', there is a slider and a text input field set to '10.00 GB (+0.12 GB for replication)'. An 'apply' button is at the bottom right.

System volumes	Size (GB)
Reserved Pool	4.00
Reserved for snapshots	0.00
Reserved for system	1.00
Reserved for replication	0.00
Free	225.03

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS2)
Destination node
Address IP:192.168.0.240

2. Configure the Destination Node

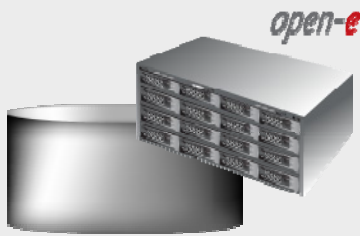
iSCSI volume (lv0000)



The destination iSCSI Volume Block I/O is now configured.

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	B	✓	✓	✓	N/A	10.00
System volumes						Size (GB)
Reserved Pool						4.00
Reserved for snapshots						0.00
Reserved for system						1.00
Reserved for replication						0.13
Free						214.91

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS2)
Destination node
Address IP:192.168.0.240

2. Configure the Destination Node

Now, select the Vol. replication and check box under **Destination** and click the **apply** button

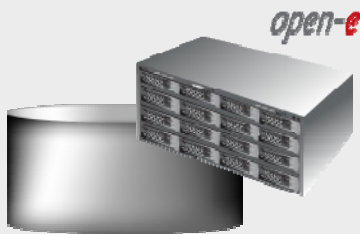
Volume Replication



Next, under **Mirror Server IP** function, enter the IP address of the source node. In our example, this would be 192.168.0.220 click the **apply** button

The screenshot shows the 'DSS DATA STORAGE SERVER' web interface. The 'CONFIGURATION' tab is active, and the 'volume manager' sub-tab is selected. The 'Vol. replication' option is highlighted in the left sidebar. The main content area shows the 'Volume replication mode' configuration. A table lists logical volumes with columns for 'Logical Volume', 'Init', 'Source', 'Destination', and 'Clear metadata'. The row for 'lv0000' shows 'Init' as 'done', 'Source' as an empty checkbox, and 'Destination' as a checked checkbox. Below the table is an 'apply' button. The 'Mirror server IP' section has an 'IP address' field containing '192.168.0.220' and a 'WAN' checkbox. Another 'apply' button is present. At the bottom, there is a 'Create new volume replication task' section with an information message: 'No volumes with replication functionality found or all volumes have a task assigned already.'

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS2)
Destination node
Address IP:192.168.0.240

2. Configure the Destination Node

Under the „CONFIGURATION” tab, select „iSCSI target manager”.

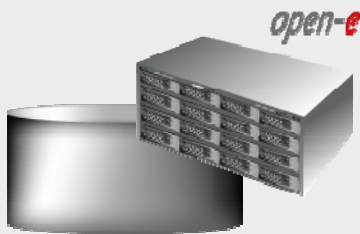
iSCSI targets



In the **Create new target** function enter a name for the new target (as desired) in the Name field and click **apply** to confirm.

The screenshot shows the web interface for the Data Storage Server (DSS). The top navigation bar includes 'logout', 'DSS', 'DATA STORAGE SERVER', and the 'open-e' logo. Below this are tabs for 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. Under the 'CONFIGURATION' tab, there are sub-tabs for 'volume manager', 'NAS settings', 'NAS resources', 'iSCSI target manager', and 'FC target manager'. The 'iSCSI target manager' sub-tab is selected. The main content area shows a 'Targets' section with a 'Create new target' form. The form has a checked checkbox for 'Target Default Name', a 'Name' field containing 'iqn.2009-04:dss2.target0', and an 'Alias' field containing 'target0'. There is an 'apply' button below the form. Below the 'Create new target' form is a 'CHAP user target access' section with an unchecked checkbox for 'Enable CHAP user access authentication' and another 'apply' button. At the bottom of the interface, there is an 'Event Viewer' section and a footer that reads 'Data Storage Server. All rights reserved'.

Setting up Synchronous Volume Replication over a LAN *open-e*




Data Server (DSS2)
Destination node
Address IP:192.168.0.240

2. Configure the Destination Node

Select target0 within the Targets field.



iSCSI targets



To assign a volume to the target, click the button  located under **Action**

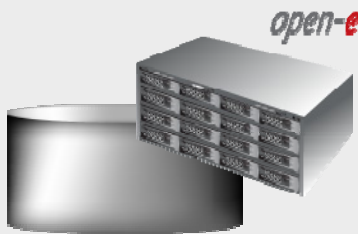
The screenshot shows the DSS web interface with the following elements:

- Navigation tabs: SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP
- Sub-navigation tabs: volume manager, NAS settings, NAS resources, iSCSI target manager, FC target manager
- Left sidebar: Targets (with target0 selected), CHAP users
- Main content area: Target: iqn.2009-04:dss2.target0
- Target volume manager section: Info box with a warning icon and text: "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."
- Table of logical volumes:

Volume	SCSI ID	LUN	RO	WB	Action
lv0000	vAskaol0QGzI0Nnt	0	<input type="checkbox"/>	<input type="checkbox"/>	 
- CHAP user target access section: Enable CHAP user access authentication
- Target IP access section: Deny access: [input field], Allow access: [input field]
- Buttons: apply
- Footer: Data Storage Server. All rights reserved

The configuration of the Destination Node (storage server) is now complete.

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS1)
Source node
Address IP:192.168.0.220

3. Configure the Source Node

Under the **CONFIGURATION** tab, select **volume manager**.

Volume Groups (vg00)



Add the selected physical units (**Unit MD0**) to create a **new volume group** (in this case, **vg00**) and click **apply** button.

The screenshot shows the open-e Data Storage Server (DSS) web interface. The top navigation bar includes 'logout', 'DSS', 'DATA STORAGE SERVER', and 'open-e'. Below this are tabs for 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. Under the 'CONFIGURATION' tab, there are sub-tabs for 'volume manager', 'NAS settings', 'NAS resources', 'iSCSI target manager', and 'FC target manager'. The 'volume manager' sub-tab is active, showing a 'Vol. groups' section with a search icon and a question mark. Below this is a 'Vol. replication' section. On the right side, there are three main sections: 'Unit rescan' with a 'rescan' button, 'Unit manager' with a table of units, and 'Drive identifier' with another table. The 'Unit manager' table has the following data:

Unit	Size (GB)	Serial number	Status
Unit MD0	465.77	N/A	available

Below the table, there is an 'Action:' dropdown menu set to 'new volume group' and a 'Name:' text input field containing 'vg00'. An 'apply' button is located below these fields. The 'Drive identifier' table has the following data:

Unit	Serial number	Status
Unit S000	9RY1GP7W	


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

Setting up Synchronous Volume Replication over a LAN *open-e*

open-e Data Server (DSS1)
Source node
Address IP:192.168.0.220

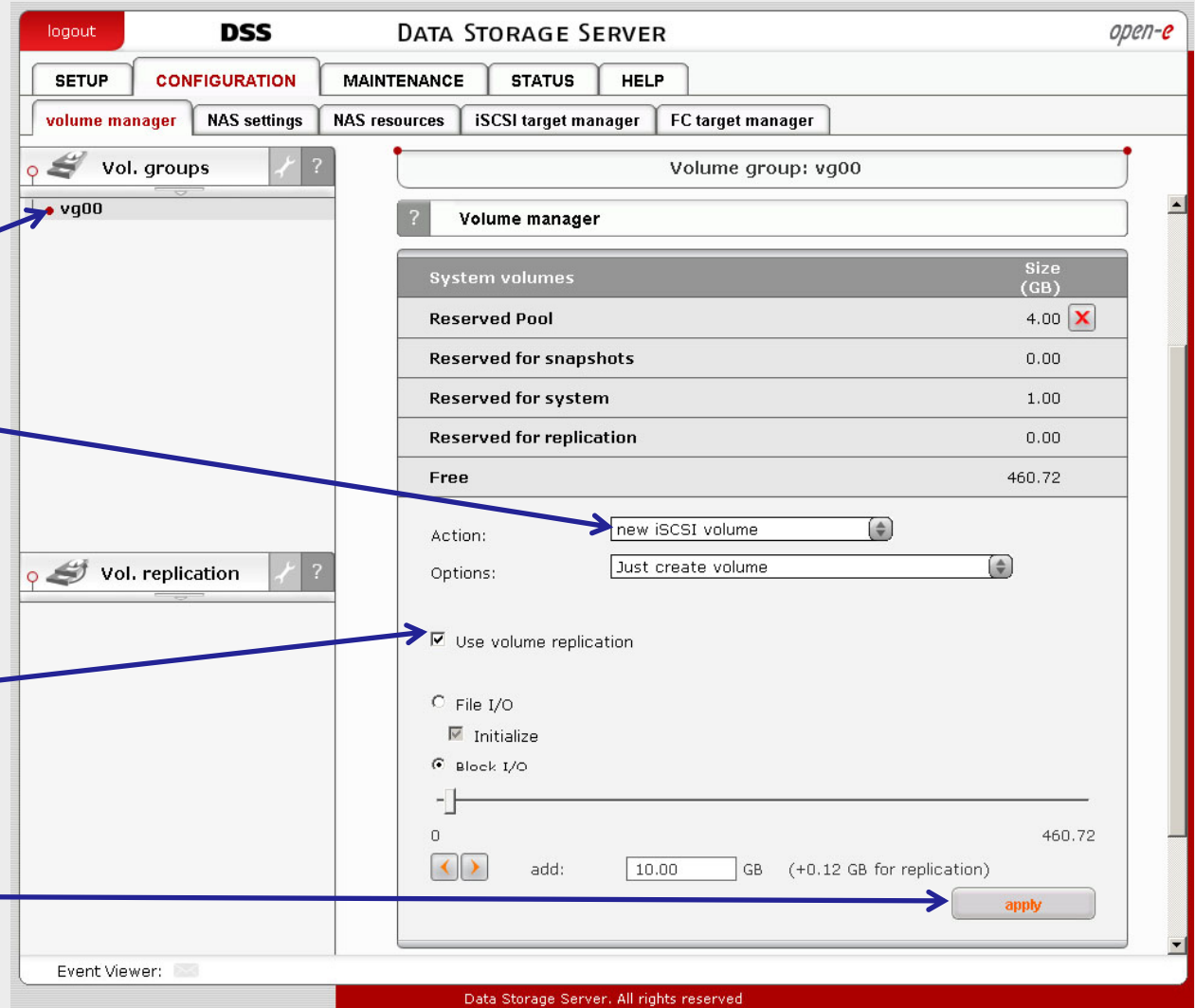
3. Configure the Source Node

Select the appropriate volume group (**vg00**) from the list on the left and create a **new iSCSI volume** of the required size. This logical volume will be the destination of the replication process.

iSCSI volume (lv0000) 

Next check the box to **Use volume replication**

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

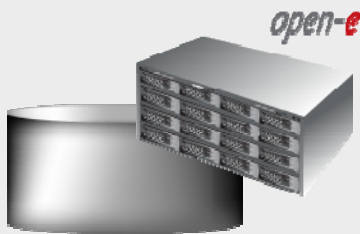


The screenshot shows the 'DSS DATA STORAGE SERVER' web interface. The 'CONFIGURATION' tab is active, and the 'volume manager' sub-tab is selected. On the left, under 'Vol. groups', the 'vg00' group is selected. Below it, the 'Vol. replication' section is visible. On the right, the 'Volume manager' configuration panel shows 'Volume group: vg00'. A table lists system volumes: Reserved Pool (4.00 GB), Reserved for snapshots (0.00 GB), Reserved for system (1.00 GB), Reserved for replication (0.00 GB), and Free (460.72 GB). The 'Action' dropdown is set to 'new iSCSI volume' and 'Options' is 'Just create volume'. The 'Use volume replication' checkbox is checked. Under 'File I/O', 'Initialize' is checked. Under 'Block I/O', a slider is set to 10.00 GB, with a note '(+0.12 GB for replication)'. An 'apply' button is at the bottom right.

NOTE:

The source and destination volumes must be of identical size. Remember to enable Volume Replication

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS1)
Source node
Address IP:192.168.0.220

3. Configure the Source Node

iSCSI volume (lv0000)



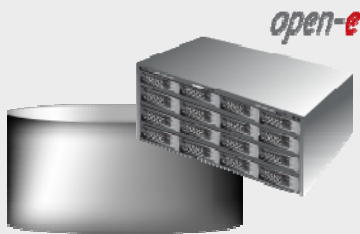
The destination iSCSI Volume Block I/O is now configured.

The screenshot shows the 'DSS DATA STORAGE SERVER' web interface. The 'CONFIGURATION' tab is active, and the 'volume manager' sub-tab is selected. The 'Vol. groups' section shows 'vg00'. The 'Volume manager' section displays a table of logical volumes:

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	B		✓		N/A	10.00
System volumes						Size (GB)
Reserved Pool						4.00
Reserved for snapshots						0.00
Reserved for system						1.00
Reserved for replication						0.13
Free						450.59

Below the table, the 'Action' dropdown is set to 'new NAS volume'. There are checkboxes for 'Use volume replication' and 'WORM', both of which are unchecked. At the bottom, there is an 'add:' field with '0.00' and 'GB' units, and an 'apply' button.

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS1)
Source node
Address IP:192.168.0.220

3. Configure the Source Node

Under the „CONFIGURATION” tab, select „iSCSI target manager”.

iSCSI targets

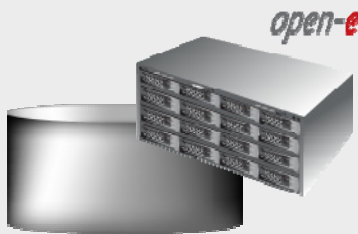


In the **Create new target** function enter a name for the new target (as desired) in the Name field and click **apply** to confirm.

The screenshot shows the web interface of the Data Storage Server (DSS) with the following elements:

- Header: "logout", "DSS", "DATA STORAGE SERVER", "open-e"
- Navigation tabs: "SETUP", "CONFIGURATION", "MAINTENANCE", "STATUS", "HELP"
- Sub-navigation tabs: "volume manager", "NAS settings", "NAS resources", "iSCSI target manager", "FC target manager"
- Main content area: "Targets" section with a "Create new target" form and "CHAP user target access" section.
- Form fields: "Name:" (value: iqn.2009-04:dss.target0), "Alias:" (value: target0)
- Buttons: "apply" buttons for both sections.
- Footer: "Event Viewer:" and "Data Storage Server. All rights reserved"

Setting up Synchronous Volume Replication over a LAN *open-e*




Data Server (DSS1)
Source node
Address IP:192.168.0.220

3. Configure the Source Node



Select target0 within the Targets field.

iSCSI targets

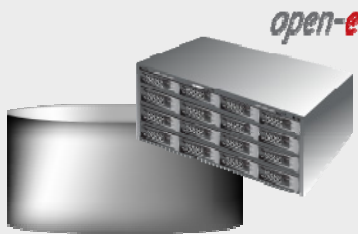


To assign a volume to the target, click the button  located under **Action**

The screenshot shows the 'iSCSI target manager' configuration page for a target named 'iqn.2009-04:dss.target0'. The interface includes a 'Targets' list on the left with 'target0' selected. The main area shows configuration options for 'Target volume manager', 'CHAP user target access', and 'Target IP access'. A table under 'Target volume manager' lists volumes, with the first row showing 'lv0000' and a '+' button in the 'Action' column. An arrow points from the text box to this '+' button. The page also features a navigation menu at the top and an 'Event Viewer' at the bottom.

Volume	SCSI ID	LUN	RO	WB	Action
lv0000	TAc2daWYOXQNY33d	0	<input type="checkbox"/>	<input type="checkbox"/>	 

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS1)
Source node
Address IP:192.168.0.220

3. Configure the Source Node

Now, select the **Vol. replication** and check box under **Source** and click the „**apply**” button

Volume Replication



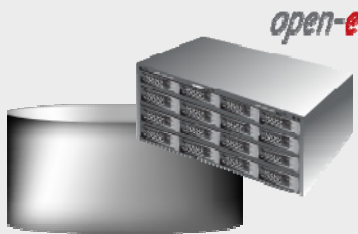
Next, under **Mirror Server IP** function, enter the IP address of the destination node. In our example, this would be 192.168.0.240 click the **apply** button

The screenshot shows the 'DSS DATA STORAGE SERVER' web interface. The 'CONFIGURATION' tab is active, and the 'volume manager' sub-tab is selected. The 'Vol. groups' section shows 'vg00'. The 'Vol. replication' section is expanded, showing a table with the following data:

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


Below the table, there is an 'apply' button. The 'Mirror server IP' section has an 'IP address' field containing '192.168.0.240' and a 'WAN' checkbox. There is also an 'apply' button here. The 'Create new volume replication task' section shows an info message: 'Mirror Server IP is not set.' The 'Replication tasks manager' section shows an info message: 'No tasks have been found.'

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS1)
Source node
Address IP:192.168.0.220

4. Creating replication task

Enter the task name in field **Task name** next, click on the  button

In the **Destination volume** field select the appropriate volume (in this example, **lv0000**). Next check the **Asynchronous protocol** box and click **create** to confirm

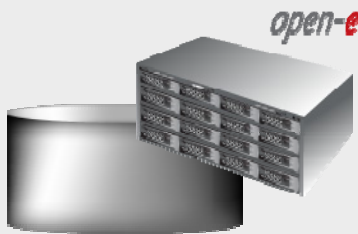
The screenshot shows the 'DSS DATA STORAGE SERVER' web interface. The 'CONFIGURATION' tab is active, and the 'Vol. replication' section is selected. The 'Create new volume replication task' form is visible, with the following fields and values:

- IP address: 192.168.0.240
- WAN:
- Task name: Replication_01
- Source volume: lv0000
- Destination volume: lv0000
- Bandwidth for SyncSource (MB): 40
- Asynchronous protocol:

Buttons for 'apply', 'create', and 'create' are visible. Below the form is a 'Replication tasks manager' section showing 'No tasks have been found.' The footer of the interface reads 'Data Storage Server. All rights reserved.'

The configuration of the Source Node (storage server) is now complete.

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS1)
Source node
Address IP:192.168.0.220

4. Creating replication task

After the DSS console has reloaded, you can start, stop or delete the task within the **Replication task manager** function.

logout **DSS** DATA STORAGE SERVER *open-e*

SETUP **CONFIGURATION** MAINTENANCE STATUS HELP

volume manager NAS settings NAS resources iSCSI target manager FC target manager

Vol. groups

vg00

Vol. replication

Replication_01

IP address: 192.168.0.240

WAN:

apply

Create new volume replication task

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

Replication tasks manager

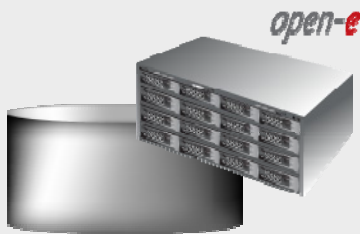
Name	Start time	Action
Replication_01	n/a	

Source volume: lv0000
Destination volume: lv0000
Destination IP: 192.168.0.240
Protocol type: Asynchronous

Event Viewer:

Data Storage Server. All rights reserved

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS1)
Source node
Address IP:192.168.0.220

4. Creating replication task

Also, you can start, stop or delete the task within the **Replication Task Manager** function by clicking on the name replication (in this case, Replication_01)

The screenshot shows the open-e Data Storage Server (DSS) web interface. The main navigation bar includes 'logout', 'DSS', 'DATA STORAGE SERVER', and 'open-e'. Below this are tabs for 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. Under 'CONFIGURATION', there are sub-tabs for 'volume manager', 'NAS settings', 'NAS resources', 'iSCSI target manager', and 'FC target manager'. The 'volume manager' tab is active, showing 'Vol. groups' with 'vg00' and 'Vol. replication' with 'Replication_01'. A blue box with text points to 'Replication_01' in the 'Vol. replication' list and to the 'Replication tasks manager' section on the right. The 'Replication tasks manager' section shows a table with one task: 'Replication_01' starting at '2009-04-10 01:06:57'. Below the table is a 'Create schedule for volume replication task' section with a 'Comment' field, checkboxes for days of the week (Monday through Sunday), and a section for frequency: 'Every week' (selected), 'Every even week', and 'Every odd week'. There are also 'Start' and 'Stop' time pickers.

Name	Start time	Action
Replication_01	2009-04-10 01:06:57	[Play] [Stop] [Delete]

Source volume: lv0000
Destination volume: lv0000
Destination IP: 192.168.0.240
Protocol type: Asynchronous

Comment:

Monday Saturday
 Tuesday Sunday
 Wednesday
 Thursday
 Friday

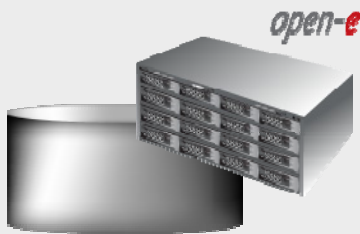
Start :
Stop :

Every week
 Every even week
 Every odd week

NOTE:

Once the replication process has started, the replication direction cannot be changed.

Setting up Synchronous Volume Replication over a LAN *open-e*



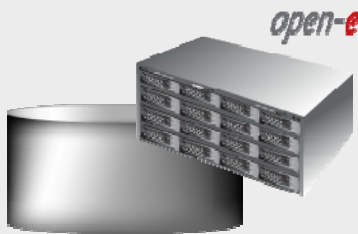
Data Server (DSS1)
Source node
Address IP:192.168.0.220

4. Creating replication task

In the "Create schedule for volume replication task" function, enter a comment for the new schedule and select for all days of the week. In this example choose **Every week** and select time for the start task (7 am) and stop (3 pm). Next, click the **apply** button.

The screenshot shows the open-e Data Storage Server (DSS) web interface. The main navigation bar includes 'logout', 'DSS', 'DATA STORAGE SERVER', and 'open-e'. Below this are tabs for 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. Under 'CONFIGURATION', there are sub-tabs for 'volume manager', 'NAS settings', 'NAS resources', 'iSCSI target manager', and 'FC target manager'. The 'volume manager' tab is active, showing 'Vol. groups' with 'vg00' and 'Vol. replication' with 'Replication_01'. The 'Replication_01' task details are shown in a window: 'Replication_01' (2009-04-10 01:06:57), Source volume: lv0000, Destination volume: lv0000, Destination IP: 192.168.0.240, Protocol type: Asynchronous. Below this is the 'Create schedule for volume replication task' section. It includes a 'Comment' field with 'EveryDayAt7AM', checkboxes for all days of the week (Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday), and a time selection for 'Start' (07:00) and 'Stop' (15:00). The 'Every week' radio button is selected. An 'apply' button is at the bottom right. The footer of the interface reads 'Data Storage Server. All rights reserved'.

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS1)
Source node
Address IP:192.168.0.220

5. Checking volume replication status

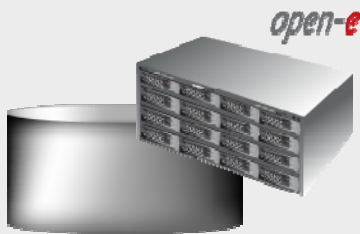
Under the „STATUS” tab, select „tasks” and select Volume Replication to display information on existing volume replication tasks

The screenshot shows the open-e Data Storage Server (DSS) web interface. The top navigation bar includes 'logout', 'DSS', 'DATA STORAGE SERVER', and 'open-e'. Below this are tabs for 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. Under the 'STATUS' tab, there are sub-tabs for 'network', 'logical volume', 'connections', 'system', 'hardware', 'tasks', and 'S.M.A.R.T.'. The 'tasks' sub-tab is selected, and the left sidebar shows a tree view of tasks with 'Volume Replication' selected. The main content area displays 'Tasks: Volume Replication' and includes sections for 'Running tasks' and 'Tasks log'.

Name	Type	Start time
Replication_01	Volume replication	2009-04-10 01:06:57


Time	Name	Type	Status	Action
2009-04-10 01:07:06	Replication_01	Volume replication	OK	Started

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS1)
Source node
Address IP:192.168.0.220

5. Checking volume replication status

Click on  button with task name (in this case **Replication_01**) to display detailed information on the current replication task.

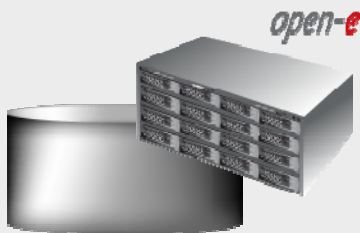
The screenshot shows the 'DATA STORAGE SERVER' interface with the 'tasks' tab selected. Under 'Tasks: Volume Replication', there is a 'Running tasks' section with a table:

Name	Type	Start time
Replication_01	Volume replication	2009-04-10 01:06:57

Below the table, detailed information for the selected task is shown:

- Protocol type: Asynchronous
- Connection: SyncSource
- Total size to replicate: 8549 MB
- Remain to replicate: 2454 MB
- Speed (avg): 68316 kB/s (32500 kB/s)
- Time left: 0:00:36
- Source info:**
 - Logical volume: lv0000
 - Consistency: Consistent
- Destination info:**
 - Logical volume: lv0000
 - Consistency: **Inconsistent**
 - IP address: 192.168.0.240

Setting up Synchronous Volume Replication over a LAN *open-e*



Data Server (DSS1)
Source node
Address IP:192.168.0.220

5. Checking volume replication status

The replication tasks shows consistency status of the destination volume. This will state **Inconsistent** immediately upon starting a new replication.

This will switch to **Consistent** once reaching the state that both volumes are in sync. Destination volume has useful data only when replication task reaches **Consistent** state.

Asynchronous replication does not guarantee exact mirror of the data especially with slow uplink, but data remains consistent.

It could be that some of the most recent files are missing on destination volume. The amount of the not replicated data depends on the uplink speed and the amount of the new data on the source volume.

The screenshot shows the DSS (Data Storage Server) web interface. The main menu includes 'logout', 'DSS', 'DATA STORAGE SERVER', and 'open-e'. The navigation tabs are 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The sub-navigation tabs are 'network', 'logical volume', 'connections', 'system', 'hardware', 'tasks', and 'S.M.A.R.T.'. The 'tasks' tab is selected, and the 'Tasks: Volume Replication' section is active. The 'Tasks' list on the left includes 'Backup', 'Restore from backup', 'Data Replication', 'Antivirus', 'Volume Replication' (selected), and 'Snapshots'. The 'Running tasks' section shows a table with the following data:

Name	Type	Start time
Replication_01	Volume replication	2009-04-10 01:06:57

Below the table, the details for the selected task are shown:

Protocol type: Asynchronous
Connection: Connected
Source info:
Logical volume: lv0000
Consistency: Consistent
Destination info:
Logical volume: lv0000
Consistency: Consistent
IP address: 192.168.0.240

The 'Tasks log' section is also visible, with a table header: Time, Name, Type, Status, Action.

Volume Replication, between source and destination nodes, is now complete

Thank You!