

Step-by-Step Guide to Open-E DSS V7 Asynchronous Data (File) Replication over a LAN

Software Version: DSS ver. 7.00 up11

Presentation updated: July 2013

TO SET UP DATA (FILE) REPLICATION, PERFORM THE FOLLOWING STEPS:

1. Configure hardware
2. Configure the destination node
3. Configure the source node
4. Configure replication schedule
5. Check the status of Data (File) Replication

Setting up Data (File) Replication over a LAN



1. Configure hardware

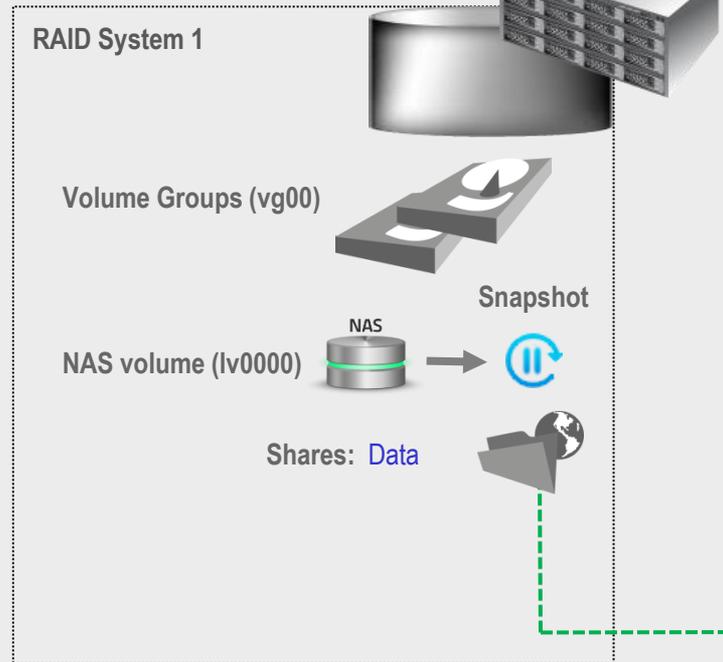
Hardware Requirements

To run the Data (File) Replication on Open-E DSS V7 over LAN, a minimum of two systems are required. Logical volumes working on the source node must have snapshots created and enabled. Both servers are working in the Local Area Network. An example configuration is shown below:

Data Server (DSS1)

Source node

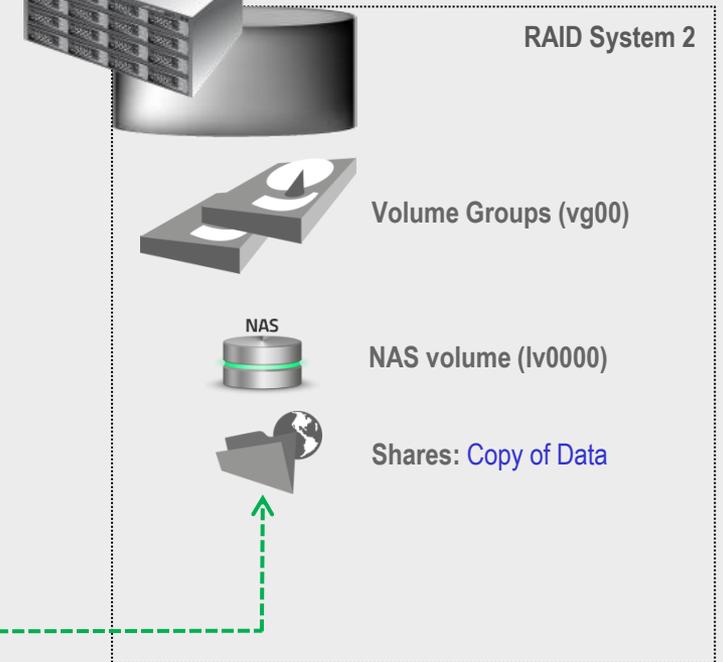
IP Address: 192.168.0.220



Data Server (DSS2)

Destination node

IP Address: 192.168.0.221



Setting up Data (File) Replication over a LAN



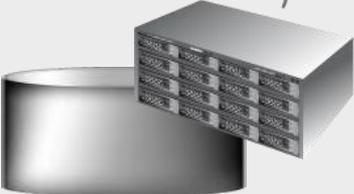
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Data Server (DSS2)

Destination node

IP Address: 192.168.0.221

2. Configure the destination node



In the "CONFIGURATION" menu, select "Volume manager" and "Volume groups".

Volume Groups (vg00)



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

The screenshot shows the open-e web interface with the following sections:

- Navigation:** SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP. Breadcrumbs: You are here: Configuration > Volume manager > Volume groups.
- Vol. groups:** A table with one row for 'Unit MD0' (checked, 298.10 GB, N/A, available).
- Unit rescan:** A 'rescan' button.
- Unit manager:** A table with columns: Unit, Size (GB), Serial number, Status. Row: Unit MD0 (checked, 298.10, N/A, available).
- Action:** A dropdown menu set to 'new volume group'.
- Name:** A text input field containing 'vg00'.
- Buttons:** 'apply' and 'Please apply changes or press "reload" button to discard'.
- Drive identifier:** A table with columns: Unit, Serial number, Status. Rows: Unit S000 (9SY0QWBT), Unit S001 (9RA6VDG3).
- Footer:** Event Viewer, Data Storage Software V7 - All rights reserved.

Setting up Data (File) Replication over a LAN



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Data Server (DSS2)

Destination node

IP Address: 192.168.0.221

2. Configure the destination node



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

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

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > Volume manager > Volume groups > vg00

Vol. groups	Size (GB)
vg00	

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

Action: new NAS volume

Use volume replication

WORM

add: 40 GB

apply

Please apply changes or press "reload" button to discard

Snapshot definition

Info

No snapshot volumes defined.

Event Viewer

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Setting up Data (File) Replication over a LAN



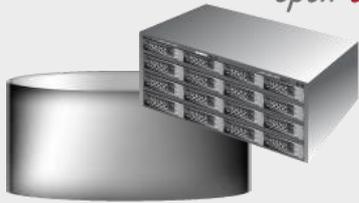
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Data Server (DSS2)

Destination node

IP Address: 192.168.0.221

2. Configure the destination node



Volume Groups (vg00)



The destination NAS Volume is now configured.

NAS volume (lv0000)



The screenshot shows the open-e web interface for configuring a destination node. The breadcrumb trail is: Configuration > Volume manager > Volume groups > vg00. The 'Volume manager' section displays a table of logical volumes:

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	NAS				N/A	40.00

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: 0.00 GB
- Free: 250.06 GB

The 'Action' dropdown is set to 'new NAS volume'. There are checkboxes for 'Use volume replication' and 'WORM', both of which are currently unchecked. A slider bar is visible with a value of 0.00 GB. An 'apply' button is located at the bottom right of the configuration area.

Setting up Data (File) Replication over a LAN



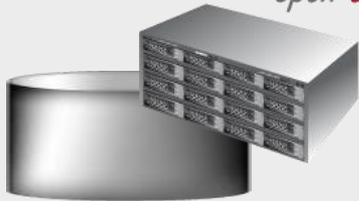
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Data Server (DSS2)

Destination node

IP Address: 192.168.0.221

2. Configure the destination node



Under the "CONFIGURATION" tab, select the "NAS settings" menu.

Data (File) Replication



In the Data (file) replication agent function, check the Enable data (file) replication agent box, and click the **apply** button.

The screenshot shows the open-e web interface for configuring the destination node. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The current page is 'NAS settings' under the 'CONFIGURATION' tab. The 'You are here' breadcrumb shows 'Configuration > NAS settings'. The main content area has three sections: 'NDMP data server' with an unchecked 'Enable NDMP data server' checkbox and an 'apply' button; 'Data (file) replication agent' with a checked 'Enable data (file) replication agent' checkbox, an 'apply' button, and a note 'Please apply changes or press "reload" button to discard'; and 'Antivirus setup' with an 'Info' section stating 'No shares found.' The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved.'

Setting up Data (File) Replication over a LAN



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Data Server (DSS2)

Destination node

IP Address: 192.168.0.221

2. Configure the destination node



Under the "CONFIGURATION" menu, select "NAS resources" and "Shares".

Shares: Copy of Data



A tree listing of NAS shared volumes (**Shares**) will appear on the left side of the DSS console. In the example, a shared volume named **Copy of Data** on **lv0000** has been created.

Setting up Data (File) Replication over a LAN



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Data Server (DSS2)

Destination node

IP Address: 192.168.0.221

2. Configure the destination node

After creating the new shared volume, click on the share name, check the box **Use data (file) replication** within **Data (file) replication agent settings** function and click on the **apply** button.

Data (File) Replication



NOTE:

It is strongly recommended to protect the replication protocol with a username and password, along with a list of allowed IP addresses. This will prevent other data (file) replication tasks from accessing this share.

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

Setting up Data (File) Replication over a LAN



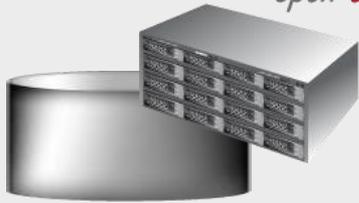
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Data Server (DSS1)

Source node

IP Address: 192.168.0.220

3. Configure the source node



In the "CONFIGURATION" menu, select "Volume manager" and "Volume groups".

Volume Groups (vg00)



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

The screenshot shows the open-e web interface with the following sections:

- Vol. groups:** A table with one empty row.
- Unit rescan:** A panel with a "rescan" button.
- Unit manager:** A table with one row:

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

 Below the table are fields for "Action:" (set to "new volume group") and "Name:" (set to "vg00"). An "apply" button is at the bottom.
- Vol. replication:** A panel with a "Vol. replication" header.
- Drive identifier:** A table with one row:

Unit	Serial number	Status
Unit S001	N/A	

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

Setting up Data (File) Replication over a LAN



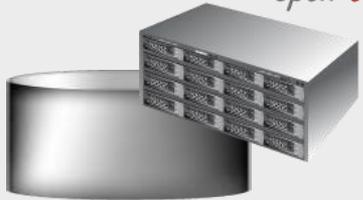
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Data Server (DSS1)

Source node

IP Address: 192.168.0.220

3. Configure the source node



Volume Groups (vg00)



NAS volume (lv0000)



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

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

The screenshot shows the open-e web interface for configuring a new NAS volume. The breadcrumb trail is: Configuration > Volume manager > Volume groups > vg00. The left sidebar shows a tree view with 'Vol. groups' containing 'vg00' and 'Vol. replication'. The main content area is titled 'Volume manager' and contains a table of system volumes:

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

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. A slider is positioned at 0, with a value of 40 GB entered in the 'add:' field. A red 'apply' button is visible at the bottom right of the configuration area. Below the configuration area is a 'Snapshot definition' section with an 'Info' icon and the text 'No snapshot volumes defined.'

Setting up Data (File) Replication over a LAN



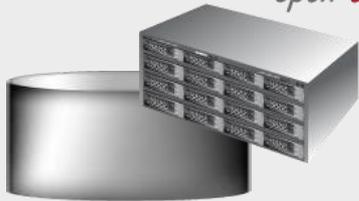
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Data Server (DSS1)

Source node

IP Address: 192.168.0.220

3. Configure the source node



Snapshot

To run the replication process, you must first define a **new snapshot** to be taken of the volume to be replicated. The snapshot size should be large enough to accommodate the changes you anticipate, 10% to 15% of the logical volume is sometimes recommended. Next, select **"Assign to volume lv0000"**.

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

The screenshot shows the open-e web interface for configuring a new snapshot. The breadcrumb trail is: Configuration > Volume manager > Volume groups > vg00. The 'Vol. groups' panel shows 'vg00'. The 'Vol. replication' panel is empty. The 'Volume manager' panel displays a table of logical volumes and system volumes.

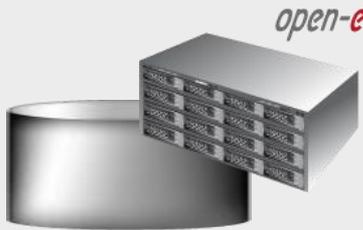
Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000					N/A	40.00

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.00
Free	1814.91

The 'Action' dropdown is set to 'new snapshot'. The 'Assign to volume' dropdown is set to 'Assign to volume lv0000'. A slider shows the current size is 0 GB out of 1814.91 GB. The 'add' field is set to 4 GB. The 'apply' button is highlighted in red.

Please apply changes or press "reload" button to discard

Setting up Data (File) Replication over a LAN



Data Server (DSS1)
Source node
IP Address: 192.168.0.220

3. Configure the source node

NAS volume
(lv0000)



The snapshot is now created, and has been assigned to the logical volume lv0000.

The screenshot shows the open-e web interface for configuring a source node. The breadcrumb trail is: Configuration > Volume manager > Volume groups > vg00. The interface is divided into several sections:

- Vol. groups:** Shows a list with 'vg00' selected.
- Vol. replication:** Contains configuration options:
 - Reserved for system: 4.00
 - Reserved for replication: 0.00
 - Free: 1810.91
 - Action: new NAS volume (dropdown)
 - Use volume replication
 - WORM
 - Progress bar: 0 to 1810.91
 - add: 0.00 GB
 - apply button
- Snapshot definition:** A table with columns Name, LV, and Status.

Name	LV	Status
snap00000	lv0000	in use/inactive

apply button

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

Setting up Data (File) Replication over a LAN



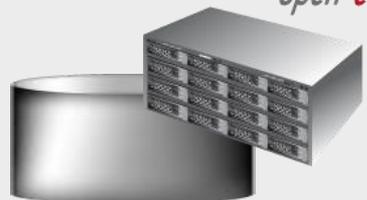
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Data Server (DSS1)

Source node

IP Address: 192.168.0.220

3. Configure the source node



In the "CONFIGURATION" menu, select "NAS settings".

Data (File) Replication



Check the **Enable data (file) replication agent** box, and click the **apply** button.

Setting up Data (File) Replication over a LAN



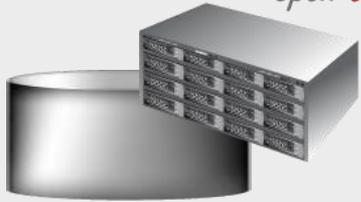
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Data Server (DSS1)

Source node

IP Address: 192.168.0.220

3. Configure the source node



In the "CONFIGURATION" menu, select "NAS resources" and "Shares".

Shares: Data



To create a share, enter the share name in the field **Name**. In this example a new share named **Data** has been created.

The screenshot shows the open-e web interface for configuring a share. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Configuration > NAS resources > Shares'. The main content area is divided into two panels. The left panel shows a list of shares, with 'Data' being the one being configured. The right panel is the 'Create new share' form, which includes fields for 'Name' (set to 'Data'), 'Comment', 'Default path' (set to '/v0000/Data'), and 'Specified path' (set to '/'). An 'apply' button is located at the bottom right of the form. Below the form is the 'ACL (Access control list)' section, which has three tabs: 'Browser', 'Users & Groups', and 'Access Permissions'. The 'Users & Groups' tab is selected, showing a list of users (1. users) and a file icon (v0000). The footer of the interface includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.

Setting up Data (File) Replication over a LAN



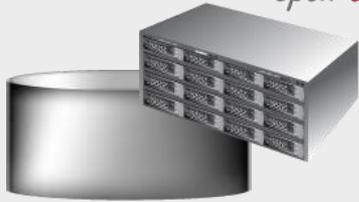
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Data Server (DSS1)

Source node

IP Address: 192.168.0.220

3. Configure the source node



After the share to be replicated has been configured, go to the "MAINTENANCE" menu and select "Data (file) replication".

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Maintenance > Data (file) replication

Data (file) rep. [Settings] [Help]

Create new data (file) replication task

Task name:

Source share:

Snapshot:

Destination IP:

Destination share:

Destination agent login:

Destination agent password:

Log replication errors

Use ACL

Don't delete files

Data (file) replication tasks [Refresh] [Close] [Help]

★ Event Viewer

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Data (File) Replication



Setting up Data (File) Replication over a LAN



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Data Server (DSS1)

Source node

IP Address: 192.168.0.220

3. Configure the source node

Select the source share to be replicated. Under **Create new Data (File) Replication task** function, enter a name for the task and select the **Source share** to be replicated. At this point, a snapshot (**snap00000**) of the source share will automatically be assigned.

In the **Destination IP** field, enter the IP address of the destination server (in this example, 192.168.0.221) and the username/password (if applicable) for the destination. Next, configure the **Destination share** field by clicking on the  button. In this example, the **Copy of Data** share will appear. Next, click on the **apply** button.

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 'Data (file) replication' under 'Maintenance'. The main content area is titled 'Create new data (file) replication task'. The form contains the following fields and options:

- Task name: ReplicationTask
- Source share: Data
- Snapshot: snap00000
- Destination IP: 192.168.0.221
- Destination share: Copy of Data (selected via a share selection icon)
- Destination agent login: (empty field)
- Destination agent password: (empty field)
- Log replication errors:
- Use ACL:
- Don't delete files:
- apply button

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

Setting up Data (File) Replication over a LAN



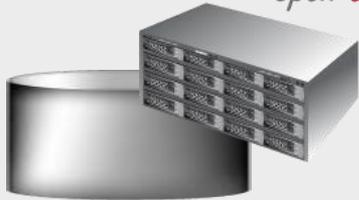
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Data Server (DSS1)

Source node

IP Address: 192.168.0.220

3. Configure the source node



After Open-E DSS V7 Web console, has been reloaded, the new task (**ReplicationTask**) should appear. An additional information about the selected replication task is visible in the **Data (file) replication task** window.

The configuration of the source node (storage server) is now complete.

The screenshot shows the Open-E DSS V7 Web console interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Maintenance > Data (file) replication > ReplicationTask'. The main content area is divided into two panels. The left panel, titled 'Data (file) rep.', shows a tree view with a single item 'ReplicationTask'. The right panel, titled 'Data (file) replication task', displays a table of configuration attributes and values. Below this is a section for creating a schedule for the task.

Attribute	Value
Destination IP:	192.168.0.221
Source share:	Data
Snapshot:	snap00000
Destination share:	Copy of Data
Log replication errors:	Yes
Use ACL:	No
Don't delete files:	No

Create schedule for data (file) replication task

Comment:

Select time:

Interval:

Setting up Data (File) Replication over a LAN



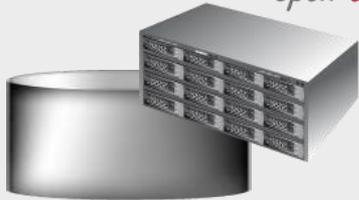
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Data Server (DSS1)

Source node

IP Address: 192.168.0.220

4. Configure replication schedule



The screenshot shows the open-e web interface for configuring a replication task. The breadcrumb trail is: Maintenance > Data (file) replication > ReplicationTask. The left sidebar shows 'Data (file) rep.' with a sub-item 'ReplicationTask'. The main content area has a table with the following settings:

Log replication errors:	Yes
Use ACL:	No
Don't delete files:	No

Below this is a form titled 'Create schedule for data (file) replication task' with the following fields:

- Comment: EveryHour
- Select time: Interval
- Interval: 1h time period

An 'apply' button is at the bottom right of the form. Below the form is a section titled 'Schedule for data (file) replication task' which contains an 'Info' message: 'No schedules found.'

Using the **Create schedule for data (file) Replication task** function, set the desired replication schedules or explicitly start, stop and delete data (file) replication tasks, as desired.

Setting up Data (File) Replication over a LAN



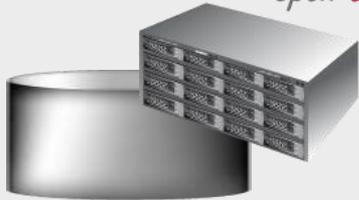
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Data Server (DSS1)

Source node

IP Address: 192.168.0.220

5. Check the status of Data (File) Replication



In **Data (file) replication tasks** function set the desired Data (File) Replication to start, stop and delete tasks.

Click on the  button with the task name (in this case **ReplicationTask**) to display detailed information on the current replication task (the replication task running at 7p.m.).

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Maintenance > Data (file) replication

Data (file) rep. [Settings] [Help]

- ReplicationTask

Data (file) replication tasks [Refresh] [Help]

Name	Start time	Action
ReplicationTask	2013-07-18 19:00:04	[Play] [Stop] [Delete]

Destination IP: 192.168.0.221

Source share: Data

Snapshot: snap00000

Destination share: Copy of Data

Destination agent login:

Log replication errors: yes

Use ACL: no

Don't delete files: no

Event Viewer

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Setting up Data (File) Replication over a LAN



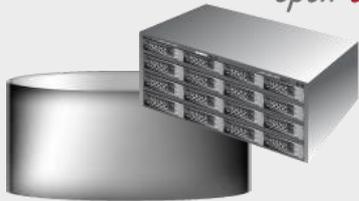
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Data Server (DSS1)

Source node

IP Address: 192.168.0.220

5. Check the status of Data (File) Replication



To obtain detailed information about the progress of Data (File) Replication tasks, under the "STATUS" menu, select "Tasks". Then, click Data (File) Replication tasks and select the task.

The screenshot shows the open-e web interface with the following components:

- Navigation Menu:** SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP.
- Breadcrumbs:** You are here: Status > Tasks > Data (File) Replication
- Tasks List:**
 - Data (File) Replication (Selected)
 - Antivirus
 - Volume Replication
 - Snapshots
- Running tasks Table:**

Name	Type	Start time
ReplicationTask	Data (file) replication	2013-07-18 19:00:04
- Tasks log Table:**

Time	Name	Type	Status	Action
2013-07-18 19:00:35	ReplicationTask	Data (file) replication	OK	Started
2013-07-18 18:01:05	ReplicationTask	Data (file) replication	OK	Finished
2013-07-18 18:00:32	ReplicationTask	Data (file) replication	OK	Started
- Footer:** Event Viewer, Data Storage Software V7 - All rights reserved.

Setting up Data (File) Replication over a LAN

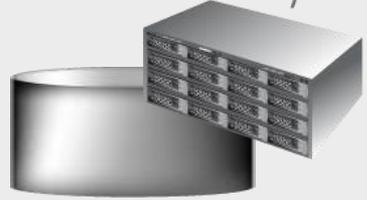
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Data Servers (DSS1 and DSS2)

Source and Destination node

IP Address: 192.168.0.220 and 192.168.0.221

5. Check the status of Data (File) Replication

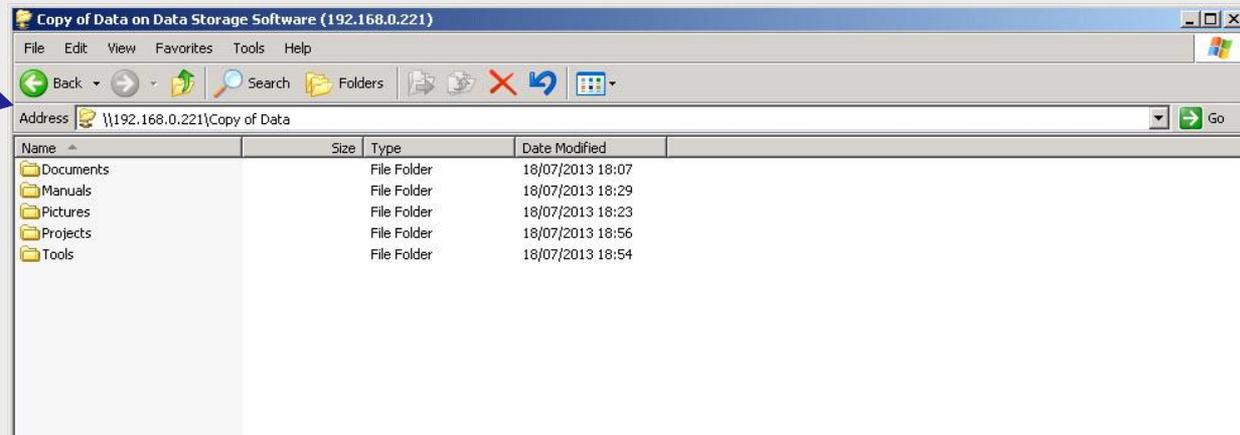
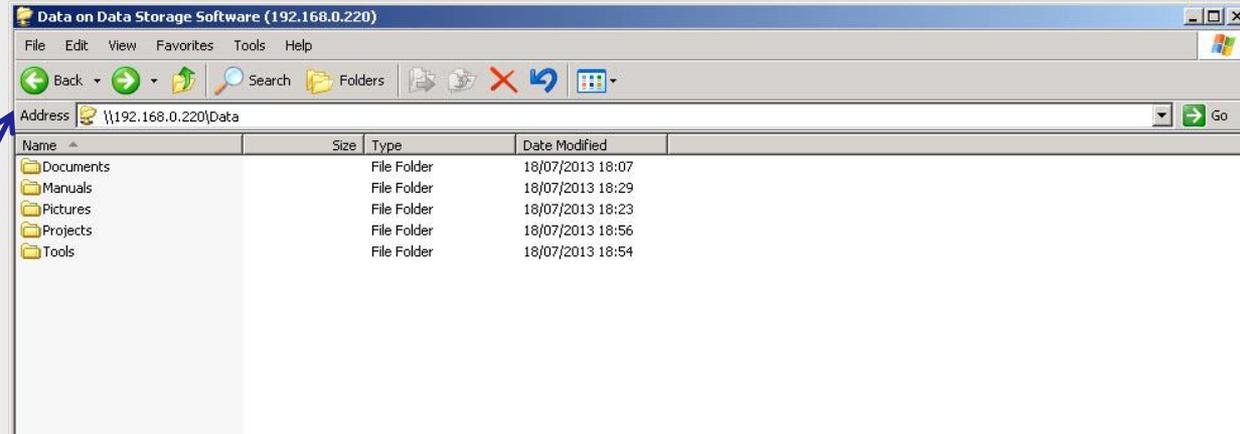


Share: Data



Once Data (File) Replication task is completed, all data from the "Data" share will be available on the "Copy of data" share.

Share: Copy of Data



The configuration of the source and destination nodes for asynchronous Data (File) Replication is now complete.

Thank you!

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