

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

Software Version: DSS ver. 7.00 up11

Presentation updated: July 2013

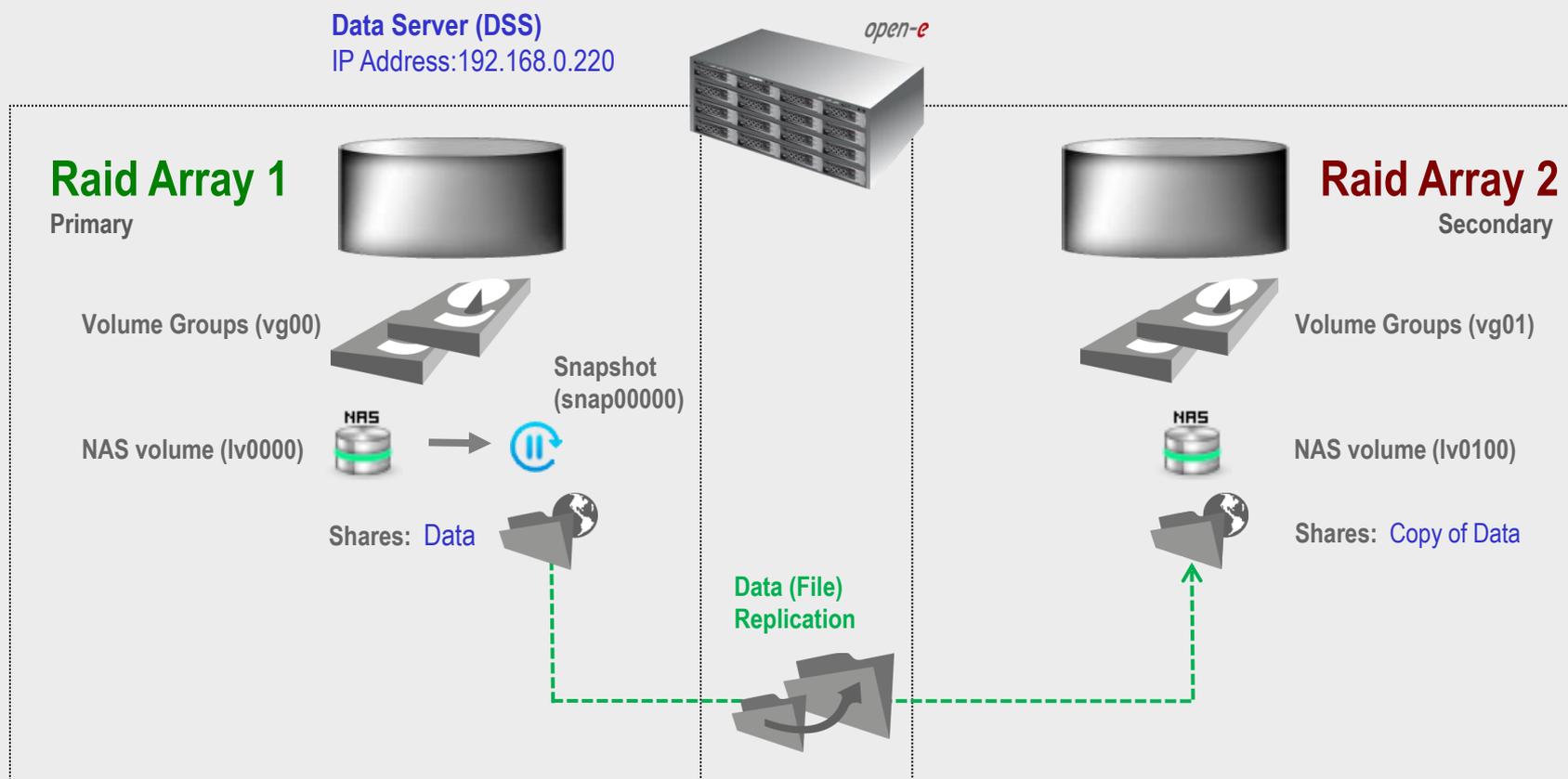
TO SET UP DATA (FILE) REPLICATION, PERFORM THE FOLLOWING STEPS:

1. Configure Hardware
2. Configure the destination volume
3. Configure the source volume
4. Configure Schedule replication
5. Check the status of Data (File) Replication

1. Configure Hardware

Hardware Requirements

To run the Data (File) Replication on Open-E DSS V7, a minimum of two RAID arrays are required on one system. Logical volumes working on RAID Array 1 must have snapshots created and enabled. An example configuration is shown below:



Setting up Data (File) Replication within a System



Data Server (DSS)
Raid Array 2
IP Address:192.168.0.220

2. Configure the destination volume

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

Volume Groups (vg01)



Add the selected physical units (Unit S002) to create a new volume group (in this case, vg01) and click **apply**

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

- Navigation Menu:** SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP
- Breadcrumbs:** You are here: Configuration > Volume manager > Volume groups
- Vol. groups:** A panel with a settings icon and a question mark.
- Unit rescan:** A panel with a "rescan" button.
- Unit manager:** A table with columns: Unit, Size (GB), Serial number, Status.

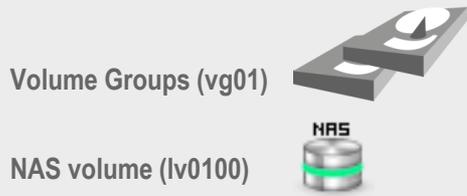
Unit	Size (GB)	Serial number	Status
<input type="checkbox"/> Unit S000	931.51	JP2940N117Y2BV	available
<input checked="" type="checkbox"/> Unit S002	931.47	N/A	available
- Action:** A dropdown menu set to "new volume group".
- Name:** A text input field containing "vg01".
- Buttons:** "apply" and "Please apply changes or press 'reload' button to discard".
- Drive identifier:** A table with columns: Unit, Serial number, Status.

Unit	Serial number	Status
<input type="checkbox"/> Unit S000	JP2940N117Y2BV	
<input type="checkbox"/> Unit S002	N/A	
- Footer:** Event Viewer, Data Storage Software V7 - All rights reserved.



Data Server (DSS)
Raid Array 2
IP Address: 192.168.0.220

2. Configure the destination volume



Select the appropriate **volume group (vg01)** from the list on the left and create a **new NAS volume** of the required size. This logical volume **lv0100** will be the destination 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 indicates the current location: Configuration > Volume manager > Volume groups > vg01. The main configuration 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	923.44

Below the table, the 'Action' dropdown menu is set to 'new NAS volume'. There are checkboxes for 'Use volume replication' and 'WORM'. A slider shows the available space (0 to 923.44 GB) with a value of 200 GB entered in the 'add:' field. An 'apply' button is visible at the bottom right of the configuration area.

Setting up Data (File) Replication within a System



Data Server (DSS)
Raid Array 2
IP Address:192.168.0.220

2. Configure the destination volume

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

Data (File) Replication



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



Data Server (DSS)
Raid Array 2
IP Address:192.168.0.220

2. Configure the destination volume

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 **lv0100** has been created.

The screenshot shows the open-e web interface for configuring a share. The breadcrumb trail is "Configuration > NAS resources > Shares". The "Shares" sidebar on the left shows a tree view with "1. users" under the "Shares" section. The main form has "Name: Copy of Data", "Comment:" (empty), "Default path: /lv0100/Copy of Data", and "Specified path: /". There is an "apply" button and a note "Please apply changes or press 'reload' button to discard". The "ACL (Access control list)" section is also visible at the bottom.



Data Server (DSS)
Raid Array 2
IP Address:192.168.0.220

2. Configure the destination volume

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

Data (File) Replication



NOTE:
It is strongly recommended protecting the replication protocol with a user name and password, along with a list of allowed IP address. This will prevent other Data (File) Replication tasks from accessing this share.

The configuration of the destination volume is now complete.

Setting up Data (File) Replication within a System



Data Server (DSS)
Raid Array 1
IP Address:192.168.0.220

3. Configure the source volume

In the "CONFIGURATION", select "volume manager" and "Volume groups"

Volume Groups (vg00)



Add the selected physical units (Unit S000) 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 list containing 'vg01'.
- Unit rescan:** A panel with a 'rescan' button.
- Unit manager:** A table with columns: Unit, Size (GB), Serial number, Status. It lists 'Unit S000' (931.51 GB, JP2940N117 Y2BV, available) and 'Unit S002' (931.47 GB, N/A, in use, vg01). Below the table is an 'Action' dropdown set to 'new volume group' and a 'Name' input field containing 'vg00'. An 'apply' button is at the bottom.
- Vol. replication:** An empty panel.
- Drive identifier:** A table with columns: Unit, Serial number, Status. It lists 'Unit S000' (JP2940N117 Y2BV).

Navigation tabs at the top include: SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP. The breadcrumb trail reads: You are here: Configuration > Volume manager > Volume groups.



Data Server (DSS)
Raid Array 1
IP Address:192.168.0.220

3. Configure the source volume

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 interface is divided into several panels:

- Vol. groups:** A list of volume groups with 'vg00' selected.
- Volume manager:** A table showing system volumes and their sizes. Below the table, the 'Action' dropdown is set to 'new NAS volume'. The 'add' field is set to '200 GB'. The 'apply' button is highlighted in red.
- Vol. replication:** A panel for configuring replication settings, currently empty.
- Snapshot definition:** A panel showing 'No snapshot volumes defined.'

Blue arrows point from the text boxes on the left to the 'vg00' selection, the '200 GB' input field, and the 'apply' button.



Data Server (DSS)
Raid Array 1
IP Address:192.168.0.220

3. Configure the source volume

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, you select "Assign to volume lv0000".

Snapshot

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

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SETUP CONFIGURATION MAINTENANCE STATUS HELP

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

Vol. groups

- vg00
- vg01

Vol. replication

Volume manager

Info

Logical volume lv0000 has been created successfully.

Logical Volume	Type	Snab.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000					N/A	200.00

System volumes

	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.00
Free	723.47

Action: new snapshot

Assign to volume: Assign to volume lv0000

add: 20 GB

apply

Please apply changes or press "reload" button to discard

Event Viewer

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Data Server (DSS)
Raid Array 1
IP Address:192.168.0.220

3. Configure the source volume

NAS volume
(lv0000)



Snapshot (snap00000)

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

The screenshot shows the open-e web interface for configuring storage. The breadcrumb trail is: Configuration > Volume manager > Volume groups > vg00. The left sidebar shows 'Vol. groups' with 'vg00' selected. The main content area is divided into two sections: 'Vol. replication' and 'Snapshot definition'. The 'Vol. replication' section shows a table with columns 'Reserved for snapshots', 'Reserved for system', 'Reserved for replication', and 'Free'. The 'Snapshot definition' section shows a table with columns 'Name', 'LV', and 'Status'. A blue arrow points from the text box to the 'snap00000' entry in the 'Snapshot definition' table.

Reserved for snapshots	Reserved for system	Reserved for replication	Free
20.00	4.00	0.00	703.47

Action: new NAS volume

Use volume replication

WORM

add: 0.00 GB

apply

Name	LV	Status
snap00000	lv0000	in use/inactive

apply

Setting up Data (File) Replication within a System



Data Server (DSS)
Raid Array 1
IP Address:192.168.0.220

3. Configure the source volume

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

Shares: 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 **Data** has been created.

The configuration of the source volume is now complete.

The screenshot shows the open-e web interface for configuring a share. The breadcrumb trail is Configuration > NAS resources > Shares. The 'Shares' list on the left contains '1. Copy of Data'. The 'Create new share' form has the following fields: Name (Data), Comment (empty), Default path (selected, /v0000/Data), and Specified path (/). An 'apply' button is at the bottom right of the form. Below the form is the 'ACL (Access control list)' section with tabs for 'Browser', 'Users & Groups', and 'Access Permissions'. The 'Selection' and 'Filter' fields are empty. A tree view shows folders 'v0000' and 'v0100'. The footer includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS)
Raid Array 1
IP Address:192.168.0.220

3. Configure the source volume

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

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 Server (DSS)
Raid Array 1
IP Address:192.168.0.220

3. Configure the source volume

Select the source share to be replicated. Under the **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, 192.168.0.220) 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 appears. 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'. 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: 192.168.0.220
- Destination share: Copy of Data
- Destination agent login: (empty)
- Destination agent password: (empty)
- Log replication errors
- Use ACL
- Don't delete files

An 'apply' button is located at the bottom right of the form. Below the form, there is a footer that says 'Please apply changes or press "reload" button to discard'. At the bottom of the page, there is an 'Event Viewer' icon and the text 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS)
Raid Array 1
IP Address:192.168.0.220

3. Configure the source volume

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

The configuration of the source volume is now complete.

The screenshot shows the Open-E DSS V7 Web console interface. The breadcrumb navigation indicates the user is in the 'ReplicationTask' configuration page. The main content area is divided into two panels. The left panel, titled 'Data (file) rep.', shows a list of tasks with 'ReplicationTask' selected. The right panel, titled 'Data (file) replication task', displays a table of configuration attributes and values.

Attribute	Value
Destination IP:	192.168.0.220
Source share:	Data
Snapshot:	snap00000
Destination share:	Copy of Data
Log replication errors:	Yes
Use ACL:	No
Don't delete files:	No

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

- Comment:
- Select time:
- Interval:
-

The footer of the console includes 'Event Viewer' and 'Data Storage Software V7 - All rights reserved'.



Data Server (DSS)
Raid Array 1
IP Address:192.168.0.220

4. Configure Schedule replication

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

The screenshot shows the open-e web interface for configuring a data replication task. The breadcrumb trail is: Maintenance > Data (file) replication > ReplicationTask. The main content area is divided into two sections. The top section, titled "Data (file) rep.", contains a table with the following rows:

Destination share:	Copy of Data
Log replication errors:	Yes
Use ACL:	No
Don't delete files:	No

The bottom section, titled "Create schedule for data (file) replication task", contains the following fields:

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

An "apply" button is located at the bottom right of this section. Below the "apply" button, there is a message: "Please apply changes or press 'reload' button to discard".

At the bottom of the main content area, there is a section titled "Schedule for data (file) replication task" with an "Info" icon and the text: "No schedules found."

The footer of the interface includes "Event Viewer" and "Data Storage Software V7 - All rights reserved".



Data Server (DSS)
Raid Array 1
IP Address:192.168.0.220

4. Configure Schedule replication

In the **Data (file) replication tasks** function set the desired data (file) replication to start or stop, or you can delete tasks. Click on the  button next to the task name (in this case Replication Task) to display detailed information of the current replication task (the replication task running at 1 p.m.)

The screenshot shows the open-e Data Storage Software V7 interface. The breadcrumb trail is "You are here: Maintenance > Data (file) replication". The main content area is titled "Data (file) rep." and contains a list of replication tasks. One task, "ReplicationTask", is selected. A detailed view of this task is shown on the right, including a table of configuration parameters.

Name	Start time	Action
ReplicationTask	2013-07-07 13:00:05	  

Destination IP:	192.168.0.220
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



Data Server (DSS)
Raid Array 1
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". Next click Data (File) Replication tasks and select the Tasks

The screenshot shows the open-e web interface for 'DATA STORAGE SOFTWARE V7'. The navigation menu includes SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: Status > Tasks > Data (File) Replication. The 'Tasks' section lists several tasks, with 'Data (File) Replication' selected. The 'Running tasks' table shows a single task named 'ReplicationTask' of type 'Data (file) replication' starting at 2013-07-07 13:00:05. The 'Tasks log' table shows a log entry for 'ReplicationTask' at 2013-07-07 13:00:44 with a status of 'OK' and an action of 'Started'.

Name	Type	Start time
ReplicationTask	Data (file) replication	2013-07-07 13:00:05

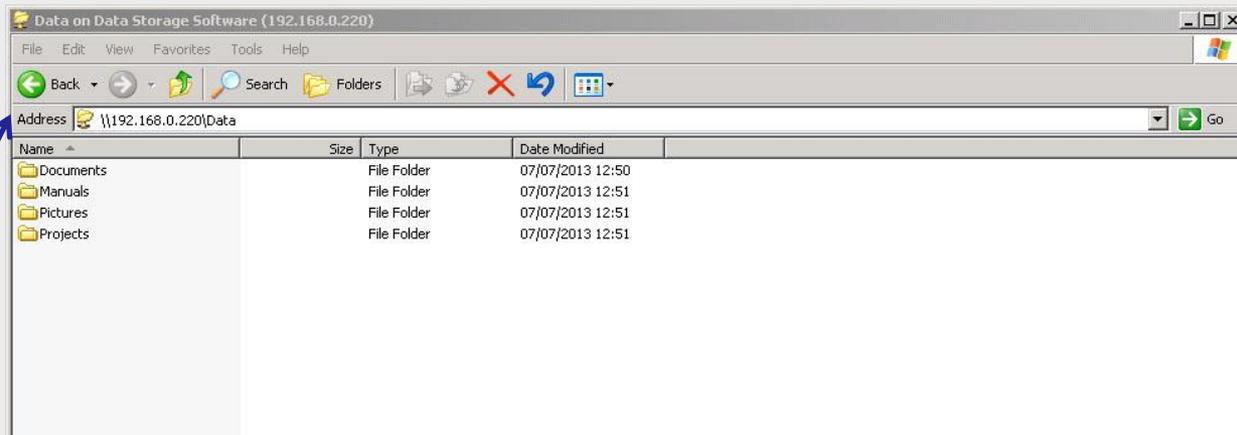
Time	Name	Type	Status	Action
2013-07-07 13:00:44	ReplicationTask	Data (file) replication	OK	Started



Data Server (DSS)
Raid Array 1 and 2
IP Address:192.168.0.220

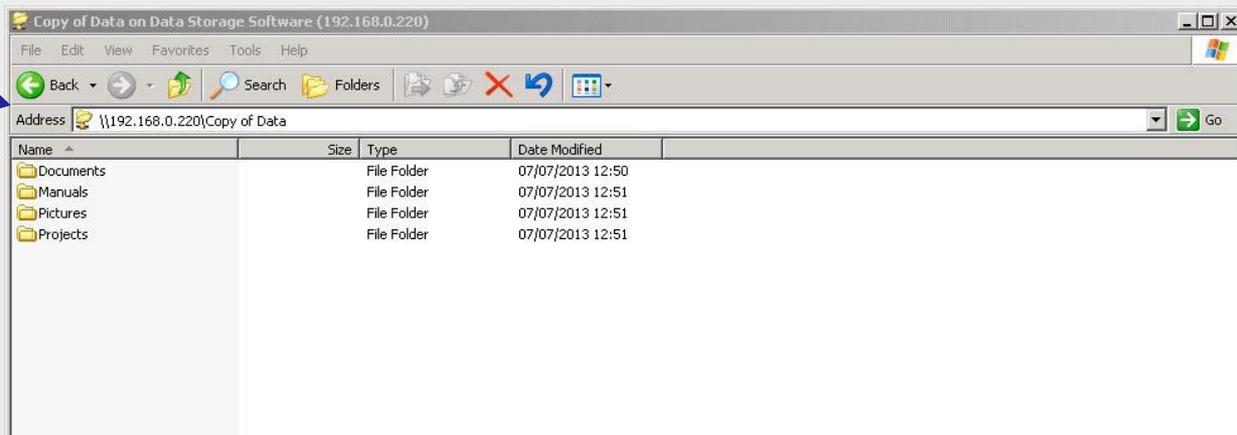
5. Check the status of Data (File) Replication

Share: Data



After the end of the Data (File) Replication task all data from the "Data" share are available on the "Copy of data" share.

Share: Copy of Data



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

Thank you!

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