

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

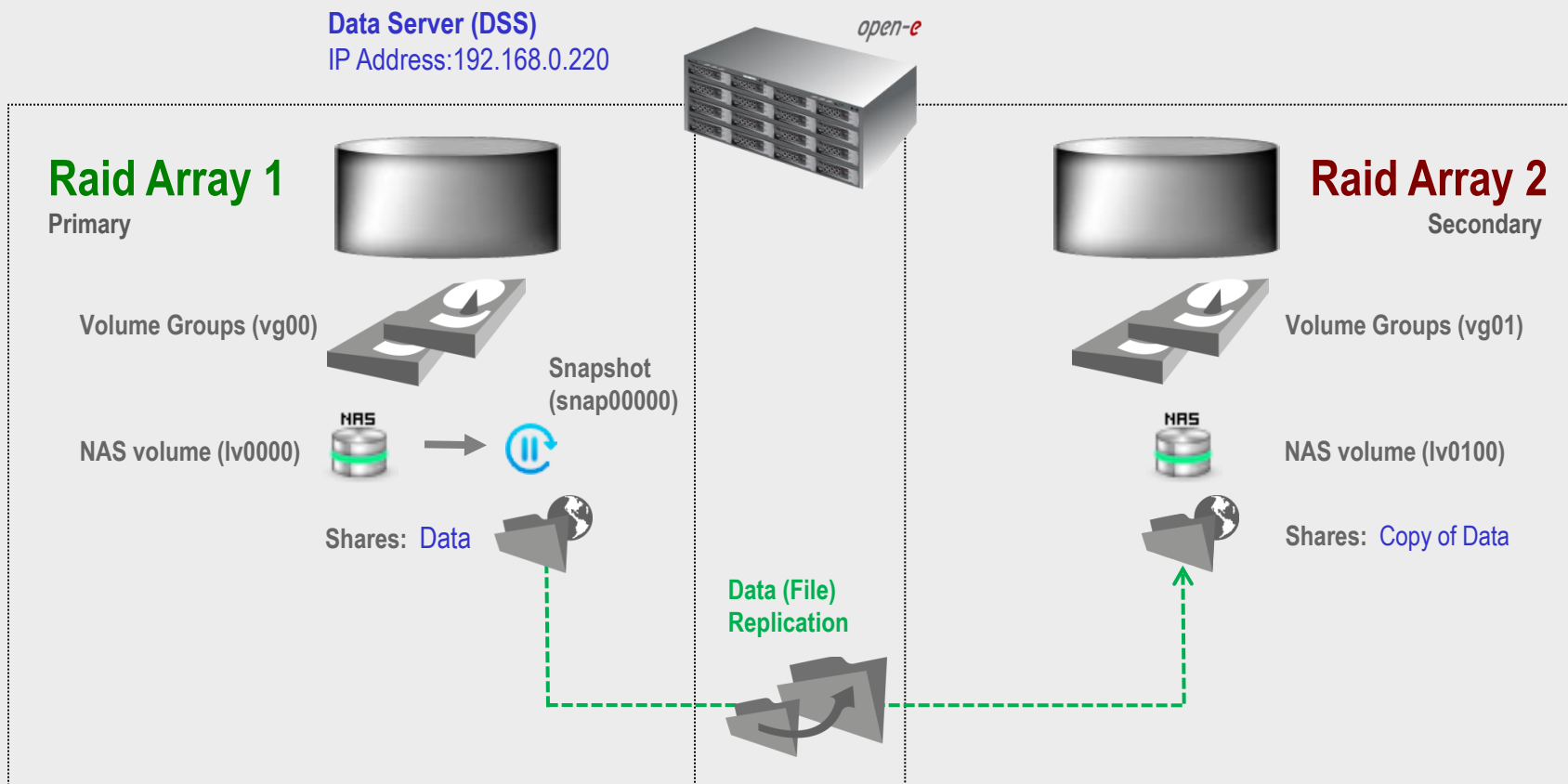
TO SET UP DATA (FILE) REPLICATION, PERFORM THE FOLLOWING STEPS:

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**

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: Configuration > Volume manager > Volume groups

Vol. groups

Unit rescan

rescan

Unit manager

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: new volume group

Name: vg01

apply

Please apply changes or press "reload" button to discard

Drive identifier

Unit	Serial number	Status
<input type="checkbox"/> Unit S000	JP2940N117Y2BV	
<input type="checkbox"/> Unit S002	N/A	

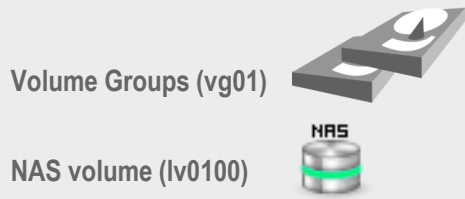
Event Viewer

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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 path: Configuration > Volume manager > Volume groups > vg01. 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 'vg01' selected. The 'Vol. replication' panel is currently empty. The 'Volume manager' panel displays a table of system volumes and configuration options.

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

The 'Action:' dropdown menu is set to 'new NAS volume'. Below this, there are checkboxes for 'Use volume replication' and 'WORM'. A slider control is visible, with a value of 200 GB. The 'apply' button is highlighted in red.

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

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

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.



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

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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



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:

Assign to volume:

GB

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 'Vol. groups' section shows two groups: vg00 (selected) and vg01. The 'Vol. replication' section is empty. On the right, the 'Reserved for snapshots' section shows: Reserved for snapshots: 20.00, Reserved for system: 4.00, Reserved for replication: 0.00, Free: 703.47. Below this, the 'Action' dropdown is set to 'new NAS volume'. There are checkboxes for 'Use volume replication' and 'WORM', both unchecked. A slider shows a value of 0 out of 703.47. The 'add:' field is set to 0.00 GB. An 'apply' button is at the bottom right. Below this, the 'Snapshot definition' section shows a table with columns Name, LV, and Status. The table contains one entry: snap00000, lv0000, in use/inactive. An 'apply' button is at the bottom right of this section. At the bottom left of the interface is an 'Event Viewer' icon. At the bottom center is 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

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



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 new share. The breadcrumb path is Configuration > NAS resources > Shares. 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. Below the form is the 'ACL (Access control list)' section, which includes a 'Browser' tab and a tree view showing a folder structure with 'v0000' and 'v0100' volumes. The left sidebar shows a tree listing of NAS shared volumes with '1. Copy of Data' under Shares and '1. users' under Groups.



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




The screenshot shows the open-e web interface. At the top, there is a navigation bar with 'open-e' logo, 'ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS', and 'DATA STORAGE SOFTWARE V7'. Below this is a menu with 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. A breadcrumb trail indicates 'You are here: Maintenance > Data (file) replication'. The main content area is split into two panels. The left panel is titled 'Data (file) rep.' and is currently empty. The right panel is titled 'Create new data (file) replication task' and contains several form fields: 'Task name' (text input), 'Source share' (dropdown menu with '<choose share>' selected), 'Snapshot' (dropdown menu), 'Destination IP' (text input), 'Destination share' (dropdown menu with a right-pointing arrow icon), 'Destination agent login' (text input), and 'Destination agent password' (text input). There are three checkboxes: 'Log replication errors' (checked), 'Use ACL' (unchecked), and 'Don't delete files' (unchecked). A red 'apply' button is at the bottom right of the form. At the bottom of the interface, there is an 'Event Viewer' section and a footer with 'Data Storage Software V7 - All rights reserved'.



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' under the 'MAINTENANCE' section. 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 (selected via a share selection button)
- Destination agent login: (empty field)
- Destination agent password: (empty field)
- 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 with '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 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 list of tasks with 'ReplicationTask' selected. The right panel, titled 'Data (file) replication task', displays the configuration details for the selected task in a table format.

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 (dropdown menu)
- Interval: 10 min. time period (dropdown menu)
- apply (button)

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 left sidebar shows a tree view with 'Data (file) rep.' and a sub-item 'ReplicationTask'. The main content area is divided into two sections. The top section, titled 'ReplicationTask', contains a table with the following data:

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 a form with 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 form is an 'Info' box stating '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 web interface for configuring data replication. The breadcrumb trail indicates the user is in the Maintenance section, specifically for Data (file) replication. A table titled "Data (file) replication tasks" lists a single task named "ReplicationTask" with a start time of 2013-07-07 13:00:05. Below the table, the configuration details for this task are displayed:

Property	Value
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 on the left lists several tasks, with 'Data (File) Replication' selected and highlighted in red. Other tasks include Antivirus, Volume Replication, and Snapshots.

The 'Running tasks' table shows the following data:

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

The 'Tasks log' table shows the following data:

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

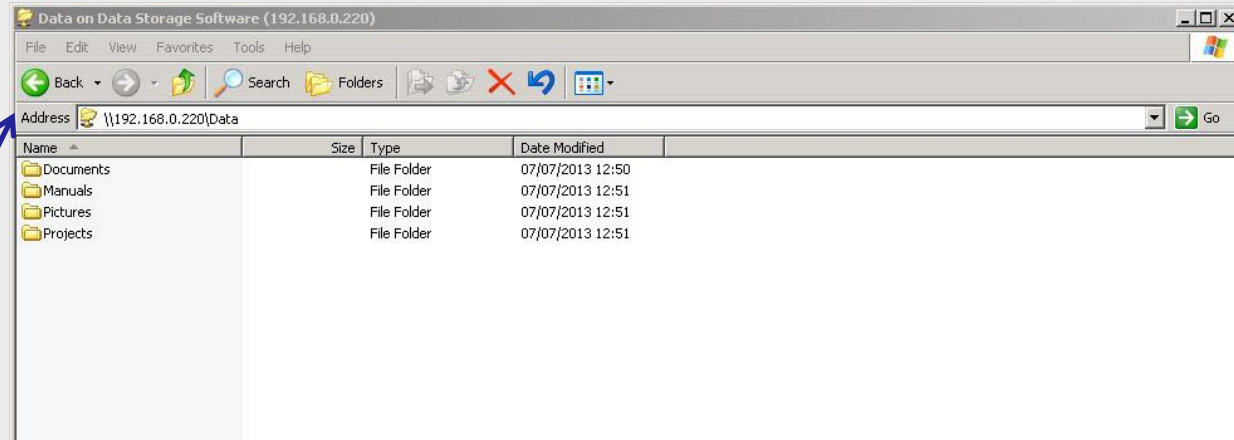
At the bottom of the interface, there is an 'Event Viewer' icon and a footer that reads 'Data Storage Software V7 - All rights reserved'.



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

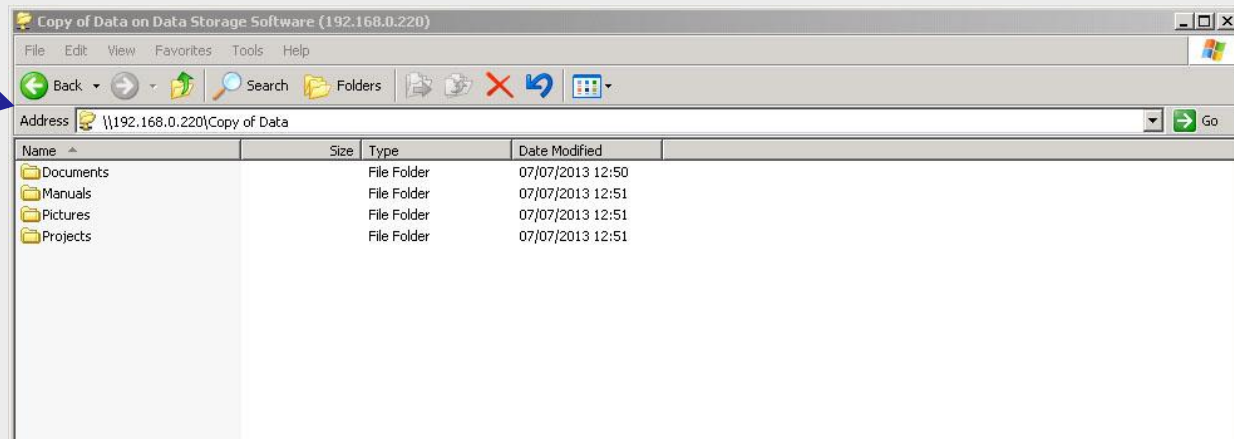
5. Check the status of Data (File) Replication

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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