

AER Recovery Overview

Version 19.70

Recovering backup data from an AER tape once the AER node no longer exists requires a specialized process to retrieve and use its backup content. An AER backup is written to a proprietary PAX file format which is not usable directly until processed using this procedure to convert its contents to a standard Avamar backup format. From the AER Recovery tab used to display the Networker metadata gathered from an AER system, you can identify and import a given AER export on tape to a target Avamar GSAN. This process relies on unsupported software from AER therefore, technical support is considered a best effort only in the event it fails to import successfully.

When multiple AER's are involved, the Networker metadata must be gathered from each and the appropriate metadata csv file put in place as needed.

The import or recovery procedure has several prerequisites which must be strictly adhered to as described below.

The first half of this help file pertains primarily to initial setup steps while the second half focuses on the operational aspects of importing an AER exported backup from tape. These procedures are intended to be used on an as need basis only, as they do not lend themselves to importing a series of backups in an automated fashion.

Prerequisite Summary:

- A Networker instance with compatible tape drive(s) to perform the read from the AER tape. Use latest supported Networker version.
- Provide a target Avamar system preferably version 7.2 with enough GSAN capacity to import the largest individual AER import required. This process has been proven up to Avamar version 18.2.
Note: Data Domain storage or a metadata node/grid with DD cannot be used as the import target
- The **dpndtoclient-7.2.101-32.sles11_64.x86_64.rpm** must be installed on the target Avamar system being used to receive the import and its **avdto** service started
- From a functional AER, gather its Networker media database content where its o/p is directed to a **.csv** file (refer to the mminfo syntax below)
- The NetWorker 64 bit Linux agent both basic and extended rpm's must be installed on the target Avamar and its service started. This may require a bounce of the **avfirewall** service to open the Networker related ports after the Networker agent is installed and its service started.
- The target Avamar must be established as a Linux client to Networker and ***@*** added to its remote access list. Update its sav set field to **/etc/hosts** or **/dummy**
- Establish a generic client account name on the target Avamar of **/REPLICATE/AerRecovery** to receive the imported backups

Initial Manual Setup Steps

Obtain Copy of Required Media-DB Info from AER

The following **mminfo** command must be run on AER as root to gather the needed Networker metadata prior to it being decommissioned and the .csv file it creates copied to the Avamar system where ADMe resides to folder **/home/admin/admeadmin/customize**. This csv file contains the metadata used to perform AER tape imports from the ADMe Web-UI. It must be protected in a safe place as it is crucial to the import and recovery process.

Run the **mminfo** command, use the following syntax:

```
mminfo -ocnt -av -xc, -r
"client,ssid,ssflags,level,nsavetime,savetime(25),sscreate(15),sscomp(15),ssbrowse,ssretent,totalsize,nfiles,group(15),volume(15),barcode(8),name,attrs" > Your-AER-hostname.csv
```

Update ADMe Web-UI Config File

From the ADMe CLI interactive menu UI do the following:

A=Administration -> W=Web-UI-Customize -> Y=Yes

edit the highlighted variables as shown in the table below. Editing the highlighted variables minimizes manual entries required during the import process.

WEB-UI customizable parameter settings:

- 1 **WEBUI_AEREXTERNALAVAMARNAME=**
- 2 **WEBUI_AERNETWORKERNAME=**
- 3 **WEBUI_AERRECOVERY=enabled**
- 4 **WEBUI_AERRECOVERYCSVFILE=/home/admin/admeadmin/customize/myaermetadata-final.csv**
- 5 WEBUI_AUTOREFRESH=600
- 6 WEBUI_BINARY=adme.war
- 7 WEBUI_GROUPSIZEBUTYPE=NONE
- 8 WEBUI_LOG=/home/admin/admeadmin/log
- 9 WEBUI_PATH=/home/admin/admeadmin
- 10 WEBUI_REFRESHLOOPCNT=5
- 11 WEBUI_REFRESHLOOPDELAY=1
- 12 WEBUI_REFRESHSTYPE2=partial
- 13 WEBUI_REFRESHSTYPE=full

=====

To edit above parameters Enter: Y=Yes [Def=N]:>

Note: By default, AER tape imports are managed from the production Avamar using the ADMe Web-UI. However, ADMe can also be installed on the target Avamar being used to receive the AER imports and the import process can be managed from there if desired.

| Variable Name | Variable Description |
|--------------------------|--|
| WEBUI_AERRECOVERY | Enabled |
| WEBUI_AERRECOVERYCSVFILE | /home/admin/admeadmin/customize/Name-of-AER Media-DB.csv |

| | |
|-----------------------------|----------------------------------|
| WEBUI_AERNETWORKERNAME | Target Networker Server name |
| WEBUI_AEREXTERNALAVAMARNAME | Target Import Target Avamar name |

Add AER Import Account

On the target Avamar system being used to receive the AER imports you must manually establish an account name of **/REPLICATE/AerRecovery** from a putty session with the following command syntax.

```
avmgr newd --path=/REPLICATE (required only if REPLICATE domain does not already exist)
```

```
avmgr newm --path=/REPLICATE/AerRecovery
```

When a true client name is preferred, modify the **AerRecovery** name to the desired client name.

Installing DPNDTO Client

On the target Avamar system install the **dpndtoclient-7.2.101-32.sles11_64.x86_64.rpm** rpm and ensure its service is started and activate the **avdto** client.

Refer to the steps below:

1. Transfer the **dpndtoclient-7.2.101-32.sles11_64.x86_64.rpm** file to a folder such as **/home/admin/admeadmin**
2. Login as **root** to install the rpm: **rpm -ivh dpndtoclient-7.2.101-32.sles11_64.x86_64.rpm**
3. Start **avdto** service: **service avdto start**
4. Check whether duplicate client names are enabled in file, **/usr/local/avamar/var/mc/server_data/prefs/mcserver.xml**

Confirm whether variable name **allow_duplicate_client_names** is set to **true**. If not, change it to **true** then stop and start the mcs service using:

```
dpnctl stop mcs
```

```
dpnctl start mcs
```

5. Activate the **avdto** client by issuing the following command:

```
/usr/local/avamar/bin/dto/avmultiregister.pl
```

6. Choose **Opt-1** then enter the name of the target Avamar and a domain name where the **avdto** client will be activated to, use domain **/clients** or **/ADME** if it exists.

Networker Client Definitions

Avamar Client Definitions

By default, the client account name used to hold an imported AER backup in the target Avamar will be **/REPLICATE/AerRecovery**. This client account name must exist prior to starting the import process and is covered in the above steps. If it is desirable to have the imported backup assigned to a client name matching that of the original Avamar source client name, this too is supported, and the corresponding client definitions must be predefined under the **/REPLICATE** domain prior to starting the import process. When using source named client accounts, the potential exists for many clients needing to be defined. A script has been provided with the ADMe tar ball named `/home/admin/admeadmin/tools/establish_client_accounts.sh` to be run on the target Avamar using the AER csv file described above as input. Options are provided to:

- view the discovered client list names
- automatically create them
- optionally be prompted for each client name to confirm whether the account is to be established or not

Note: this script requires Korn shell be installed on the import target Avamar.

Scanning an AER Tape to Networker

An AER tape must first be scanned to Networker in order to update its media DB with the required save sets and for its barcode to be inventoried. Using scanner is a lengthy process required on an as need basis. However, tapes can be scanned ahead of time in preparation of their use to save time.

1. In AER Recovery tab filter to locate the specific client's name and date you want to import
2. From this row, identify required criteria required **barcode code** and **save set-id**
3. Using Networker NMC-UI highlight tape library then right click and choose **Deposit** to unlock the library CAP (perform this step only if a Library CAP exists)
4. Enter the required tape(s) into the tape library or CAP ensuring each tape cartridge has its write protect tab enabled
5. Once the barcodes are inventoried, use the Networker NMC GUI to **load** NOT **mount** the appropriate tape into a tape drive and make note of its SCSI level drive address. Refer to device properties where the SCSI level address can be copied from.

Note: The selected device must be set to a **disabled** state while **scanner** is being run on it to prevent NetWorker from attempting to unload the volume automatically resulting in a **scanner** failure. It should also be set to Read-Only as a safeguard.
6. Manually create the media pool names used in AER, these can be retrieved from the AER if it exists using **nsradmin** command in interactive mode. If the AER is not available scanner will fail informing

you of the media pool name required. Once the media pools are defined in Networker this step can be ignored going forward.

7. From a command prompt on the Networker server, issue the following command to scan a tape for a save set or all save sets on the tape. It is advised to establish a common folder from where all scanner calls will be made from such as C:\SCANNER or /nsr/SCANNER

Note: scanner command often appears to be hung as there's not a lot of progress messages displayed unless debug flags are set, be careful not to kill the process prematurely. By directing the scanner o/p to a log file as shown, it can be monitored to determine the status of the scanner progress.

Refer to Networker CLI documentation for more details on the use of scanner and its syntax.

NOTE: As of Networker version 19.5 and higher, a new option was added **-F** needed in order to perform a full usable scan of a saveset. Include this option if appropriate.

Scan whole tape and provide a listing of the backups it contains Windows examples:

```
scanner -i -m \\.\Tape0 > barcode123.txt 2>&1
```

Scan for a specific saveid only:

```
scanner -i -S ssid# \\.\Tape0 > savesetid123.txt 2>&1
```

Linux example:

```
scanner -i -m /dev/rmt0.1 > barcode123.txt 2>&1
```

8. After the scanner process completes from the Networker Administration-UI click on **Media -> Tape Volumes -> Select Appropriate Tape Volume** and **Right-Click** and chooses **Show Save Sets**. From here you should now be able to view the scanned save sets and adjust their assigned retention value if required as to how long it will be retained in the Networker media DB. If the required tape volume is not seen here it has not been added to the media-DB therefore the scanner process has probably not completed as expected.
9. Once a tape and required save set has been successfully scanned and verified to be present in the Networker Media-DB, inventory the barcode once more and it is now available to perform the save set import from ADMe to your defined target Avamar GSAN.

Importing an AER Backup from Tape Using ADMe

Once required tape(s) have been successfully scanned, go to the ADMe **AER Recovery** tab and locate again the appropriate line initially identified above containing the metadata of the backup to be imported. Highlight this row and click on the **AER Import** tool in upper right of the Web-UI to open a dialogue used to initiate the import process. The dialogue will request the following details:

| | |
|--------------------------|--|
| Local GRID Info | If using the same Avamar where ADMe resides to the direct the import to click this check box. The External GRID name field can be ignored in this scenario |
| External Avamar | If using a different external Avamar to direct the import to meaning it is not one where ADMe is installed enter its hostname taken automatically from variable name: WEBUI_AEREXTERNALAVAMARNAME described above |
| External Avamar Username | Avamar administration level UserID such as MCUser |

| | |
|--------------------------|---|
| External Avamar Password | Password of the administration account used such as MCUser1 |
| Networker Hostname | Name of the Networker host server also taken automatically from variable name WEBUI_AEREXTERNALAVAMARNAME described above |
| Import Requirements | Comment section is a basic reminder of the import procedure requirements |

Prior to clicking the **Recover** button from the dialogue box, ensure all of the following:

- The dummy client name resource owning the Networker backup is established in Networker and is ping-able, this client name is taken from the first column named **NW Client name**
- The appropriate target client account is established on the target Avamar under the **/REPLICATE** domain which by default uses a generic name of **/REPLICATE/AerRecovery** or when preserving the original Avamar source client names click the check box to automatically use it but this name must be manually defined under **/REPLICATE** domain
- Once the desired external or target Avamar is chosen. If it's this Avamar from where you are running ADMe Web-UI from click the check box to use local Avamar or uncheck it to specify a different Avamar target.
- Use valid Avamar credentials for the external or target Avamar being used

After the Recover button is clicked a message will be displayed indicating the import process has been initiated and the credentials used accepted. You should then see a tape request being made to Networker using **nsrwatch** available from ADMe interactive CLI menu or using Networker Administration UI NMC.

It may be necessary to mount the required tape manually from NMC as sometimes the auto mount does not fully complete. Once the requested tape has been mounted, use the target Avamar MCS GUI Activity panel to monitor the import progress and its log viewed normally by double clicking on the row entry. Once the import completes, its backup is available from the MCS Recovery UI on the target Avamar by navigating to the **/REPLICATE** and the client account used for the import to view the backup contents of the imported backup.

Note: An imported backup does not retain its original backup date; its date will be that of the date the import was performed. The import log will contain a string value showing the Networker save set-ID and its original backup date relative to a given import.

Client Backup Recovery

The recovery process from an AER imported backup is like those from a native AER. A recovery requires the activation of the original source client or a proxy/staging client to which recoveries can be directed to. Since plug-in details are preserved recoveries are subject to standard plug-in recovery procedures requiring the appropriate plug-ins on the target client name involved.

Recovering backups as flat files can be accomplished using **avtar** or by installing **ADMe** on the target Avamar system where the imports have been directed to by staging the data to a staging server. Using ADMe in this scenario results in original backup dates not being preserved. To overcome this challenge a script named **aer-establish-admejobs.sh** is available in the tools folder to establish ADMe jobs to preserve the original backup date and to determine remaining retention time if needed.

