

# Release Notes

EMC<sup>®</sup> Avamar<sup>®</sup>

Release number 7.2

## Release Notes

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These release notes contain supplemental information about EMC Avamar release 7.2.

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## Revision history

The following table presents the revision history of this document.

**Table 1** Revision history

Revision	Date	Description
05	January 13, 2016	Update to Avamar 7.2 Service Pack 1 (build 32); amended information about BRM support and removed references to known limitation 247452 (Lotus Domino and Oracle plug-ins on AIX not supported).
04	December 15, 2015	General availability release of Avamar 7.2 Service Pack 1.
03	August 17, 2015	General availability release of Avamar 7.2.
02	June 30, 2015	Feedback regarding supported version of DD OS, the 5000 virtual machine feature, and legacy sections that no longer apply.
01	June 2015	Initial release of Avamar 7.2.

## Product description

EMC® Avamar® is backup and recovery software with integrated data deduplication technology. Avamar solves the challenges associated with traditional backup, enabling fast, reliable backup and recovery for remote offices, VMware® environments, and data center LANs. Unlike traditional solutions, Avamar reduces the size of backup data at the source — before it transfers across the network and stores to disk. As a result, Avamar delivers fast, efficient daily full backups despite slow or congested infrastructure, and data encryption for added security. Avamar uses patented RAIN technology for high availability, and a scalable grid architecture enables you to upgrade capacity and performance when necessary.

## New features and changes

The following topics provide details on the new features and changes in Avamar 7.2 for each product component.

### NOTICE

If you are upgrading to Avamar 7.2 from an earlier release to take advantage of new features and changes, review the information in [Upgrade requirements for Avamar 7.2 on page 39](#) before the upgrade.

## New features and changes for the Avamar 7.2 Service Pack 1 release

The following new features and changes have been made to the Avamar 7.2 Service Pack 1 release:

- Support for VMware Virtual Volumes (vVol) on EMC VMAX 3
- Support for Exchange Mailbox backup on Microsoft Exchange 2016. Granular Level Recovery is not supported.
- Backup and Recovery Manager (BRM) is supported at release level 1.3.0-121. If you are using version of BRM prior to version 1.3, download the most recent BRM 1.3

software at the following location: [https://support.emc.com/products/27368\\_Backup-&Recovery-Manager-avamar](https://support.emc.com/products/27368_Backup-&Recovery-Manager-avamar) . If you are currently using BRM version 1.3 prior to build 121, see <http://support.emc.com/kb/210994> for upgrade information.

## New features and changes for the Avamar 7.2 release

The following topics provide details on the new features and changes that are available starting with the GA release of Avamar 7.2.

### Avamar server features and changes

The following sections list the new features and changes for the Avamar server in release 7.2.

#### Virtualization support expanded

Avamar 7.2 supports the following:

- vSphere 6.0
- Dynamic policy improvements – automatically discovers and protects virtual machines within the sub-folder.
- Automated proxy deployment – point-in-time analysis of VM's attached to vCenter and automated deployment of recommended virtual backup proxies.
- Orphan snapshot discovery and remediation – logging, alerting, and removal of orphaned snapshots.
- VM File Level Recovery Interface – modern rewrite to HTML5 (elimination of Flash).

#### Proxy Deployment Manager

In the VMware section of the Avamar 7.2 Administrator Console, the Proxy Deployment Manager allows you to easily deploy and manage VMware proxies. It cannot be used to manage existing 7.1 and earlier proxies (you must manually delete older proxy virtual machines before creating new 7.2 proxies). In the future, though, deployment and management of proxies will be more simplified. Instructions for using the Proxy Deployment Manager are in the *Avamar 7.2 VMware User Guide*.

#### System manageability improved

Avamar 7.2 improved system manageability in the following ways:

- Retention tagging - set custom date for monthly, weekly backup retention tags.
- Browse replica backups from source – you can browse, manage, and recover replicated data from the source Avamar server.

#### REST API enhanced (available by RPQ only)

Tenant-level capacity reporting was enhanced so that service providers could automate the collection of tenant-level front end capacity via REST APIs. The service admin can select a custom period in time and report on average and/or high water capacity utilization through REST API calls.

#### Backup and Recovery Manager improved

BRM was improved with added support for multi-system monitoring of Avamar 7.2 and Data Domain OS 5.6, support for deployment on VMware ESXi 6.0 and vSphere 6.0, and support for mobile apps: Android tablets on Google Play and iOS iPad tablets on the Apple App Store.

#### New port required for Installation Manager

The port number has changed required for the Avamar Installation Manager to port 7543 from port 8543, which was used in prior versions of the Installation Manager.

## Avamar Extended Retention features and changes

Avamar Extended Retention 7.2 supports Avamar 7.2. When you use Avamar Extended Retention 7.2, the Media Access node and all Avamar servers with backups to export to tape must use version 7.2.

## Data Domain system support

Avamar 7.2 supports version 5.5 or later of the Data® Domain® Operating System (DD OS).

## Backup clients features and changes

Avamar clients and plug-ins were updated in release 7.2 to include several new features and enhancements.

Details on new and existing platform and environment support is available in the *EMC Avamar Compatibility and Interoperability Matrix* on EMC Online Support at <https://support.EMC.com>.

### Client currency on Avamar 7.2

Avamar 7.2 clients support the following:

- Microsoft Client Support – Windows 10
- NAS and NDMP – EMC VNX2e, Isilon OneFS 7.2, and NDMP Accelerator with 10GbE Support
- Cross-platform Client Support – SuSe Linux Enterprise Server 12, Mac OS X 10.10 (“Yosemite”), Ubuntu 12.04 / 14.04 LTS for Avamar and Data Domain, and CentOS 6.5 / 7.0 for Avamar and Data Domain.

## Fixed problems

This section provides details on fixed problems for Avamar 7.2.

### Fixed problems for the Avamar 7.2 release

The following table lists fixed problems for the Avamar 7.2 release.

**Table 2** Fixed problems for the Avamar 7.2 release

Issue number	Product feature	Problem summary
188526	Data Domain Integration	The avtar.bin process on avamar server take continually 100% CPU usage
223120	Lotus Domino	Cluster Services are not listed while un-configuring the MSCS cluster for lotus plugin using the wizard
61201	Microsoft Exchange VSS	GLR issues occur when you configure IPv6 after you create and register the AvamarBackupUser account
61256	Microsoft Exchange VSS	Restore of an Exchange 2007 backup completes with an error when the database name contains special characters

**Table 2** Fixed problems for the Avamar 7.2 release (continued)

Issue number	Product feature	Problem summary
189788	Microsoft Hyper-V VSS	CSV with SMB: multi-stream by-target backup to DD failed with error "avtar FATAL <18129>: DDRIO_Write::Shutdown: ddp_close() failed: DDR result code: 5057, desc: File handle is stale"
186767	Microsoft Windows Client	WCFS Plug-in   Windows Server 2012/2012R2: cannot retrieve data from the path specified in "Enter path to retrieve history for"
189337	NDMP Accelerator	Redirected restore of Windows Summary file completes with no errors, but nothing is restored
200018	Oracle	QUAL: Qualify Oracle plug-in 6.1 and up on SLES 10
198140	Replication	IPv6: Replication through replicate-plugin fails on Pure IPv6 Avamar to Avamar setup, shows avrepl Error <0000> and <7934>
56299	Sybase ASE	Sybase using encrypted password need to pass through correctly
48465	VMware	VMimage restore fail with invalid snapshot configuration due to storage DRS
58895	Avamar server	Client is not being enabled on the 3RD server in a Cascading replication scenario (1->2->3) and must uncheck "Disable All backups"

## Fixed problems for the Avamar 7.2 Service Pack 1 release

The following table lists fixed problems for the Avamar 7.2 Service Pack 1 release.

**Table 3** Fixed problems for the Avamar 7.2 Service Pack 1 release

Issue number	Product feature	Problem summary
226443	Oracle	Escalation 23121:ORA-01017: invalid username/password; logon denied
236340	Exchange VSS	CLONE: bug 236324-Escalation 23354:Recent registry changes are not included in the System State backup
239673	Data Domain	CLONE: bug 239671-Escalation 24341:MSG_ERR_DDR_ERROR - HFS check fails - bad timestamp [original 0 != current 1437509724]
240020	Avamar server	CLONE: bug 237999-Escalation 24165 - Prevent grid from crunching during GC
240669	Avamar client	CLONE: bug 240668 : esc 24415: Backup completes successfully even though one of the source paths is incorrect
240926	Web Services	CLONE: bug 240802-Escalation 24486:RCA for MCS crashed:: Thread Dump 'PSPermGen object space used 99%'
240975	Avamar Administrator	Escalation 24454:RFE to include the policy based client replication logs in the getnodelogs bundle
241024	Avamar client	CLONE: bug 240649-Escalation 24333:avtar FATAL <5351>: MAIN: Unhandled internal exception Unix exception Value too large to be stored in data type
241545	Avamar client	CLONE: bug 241314-Escalation 24265:Windows VSS backup stalls when the --cpu-throttle flag is used and backups are sent to DD

**Table 3** Fixed problems for the Avamar 7.2 Service Pack 1 release (continued)

Issue number	Product feature	Problem summary
241815	VMware	Escalation 24572:FLR browse is not showing proper directory content for a single LVM vm
242058	Workflow	Escalation 24616 - Migrating history table fails when title/description contains " "
242168	Workflow	Escalation 24616 - When GSAN is down or not 100% up, Avinstaller waits a long time before coming fully up
242472	VMware	CLONE: bug 242430-Escalation 24643:vmware Deployment Manager recommendation requests are timing out
242753	Desktop/Laptop	CLONE: bug 242752-Esc 24607 - DTLT users can see other clients backup and can perform restore, with a new install of avamar client using â€œMS System Center 2012â€
242784	Management Console	CLONE: bug 242342-Escalation 24598:no VMs shown under container since upgrade to 7.2
242830	Avamar client	CLONE: bug 242789-Escalation 24566:Avtar : WCFS Cluster enumerating needs improvement
243171	Management Console	CLONE: bug 242932-Escalation 24696:user with "backup/restore operator role or restore operator role cannot perform restore"
243212	Oracle	CLONE: bug 239887-Escalation 24215:Oracle backups to datadomain fail if Avamar server goes read-only for a few minutes
243368	Avamar client	CLONE: bug 241645-Escalation 24498:Avtar : Slow backup Performance after upgrading from 7.0 to 7.1 due to reparse points
243806	Management Console	CLONE: Escalation 24773:MCS shuts down daily due to â€œjdbc connections have run outâ€
244405	Management Console	CLONE: Escalation 24327:100's of seemingly random clients per day are not acknowledging the work order.
244528	Management Console	CLONE: bug 242617-Escalation 24646:MCS crash and backup failed
244554	Avamar client	Escalation 24573:avvcbimage Info <6688>: Process 18084 (/usr/local/avamarclient/bin/avtar) finished (code 176: fatal signal)
244636	Management Console	CLONE: bug 241892-Escalation 23867:After upgrading to 7.1.1-145 we only see around 107 backup jobs running at one time when before the upgrade it was over 400
244817	VMware	CLONE: bug 244800-Escalation 24923:vm image backup : vmAction can not run script because ESX version is lower than 5 (Actual ESX is 6.0)
244874	Avamar server	CLONE: Escalation 24012:Replication shows no progress for a long time or several hours
244901	Avamar client	CLONE: bug 236979-Escalation 23698:Parallel flags set in avtar.cmd do not function as expected
244935	Management Console	CLONE: bug 244759-Escalation 24857:On-demand replication for VMs started from policy screen find no backups
245199	Avamar server	CLONE: bug 235315-Escalation 23685:Upgrade to Avamar 7.1 performed on a non-RAIN multinode grid caused thousands of OFFLINE_MEDIA_ERROR stripes during final checkpoint in upgrade workflow.

**Table 3** Fixed problems for the Avamar 7.2 Service Pack 1 release (continued)

Issue number	Product feature	Problem summary
245398	Management Console	CLONE: Escalation 24948:SR 74720626 - FLR fails with "browse result is empty" while browsing for destination folder
245505	Management Console	CLONE: Escalation 24327:100's of seemingly random clients per day are not acknowledging the work order.

## Environment and system requirements

This following topics describe specific environment and system requirements.

### Client, server, and platform compatibility

Details on client, server, and platform compatibility is available in the *EMC Avamar Compatibility and Interoperability Matrix* on EMC Online Support at <https://support.EMC.com>.

### Client hardware requirements

Client hardware requirements are listed in each client user guide, such as the *EMC Avamar for Oracle User Guide*, *EMC Avamar for Windows Server User Guide*, or *EMC Avamar for SQL Server User Guide*. A full list of Avamar documentation is available in [Documentation on page 32](#).

### Avamar Downloader Service operating system requirements

The Avamar Downloader Service is supported on Windows operating systems, including Windows Server 2012 (64-bit), Windows Server 2008, Windows 8, Windows 7, and Windows Vista.

Starting with release 7.1, the Avamar Downloader Service is no longer supported on Windows XP or Windows Server 2003.

The *EMC Avamar Administration Guide* provides a list of supported operating systems for the Avamar Downloader Service.

### Server dependencies for client features

The following client features require specific versions of Avamar server software:

- Granular Level Recovery (GLR) with the Exchange VSS plug-in requires build 6.0.0-580 or later.
- The SharePoint VSS plug-in requires build 6.0.0-580 or later.
- The SQL Server plug-in requires release 6.1 or later.
- To store backups on a Data Domain system, you must use build 6.0.0-580 or later.

### Data Domain system requirements

The *EMC Avamar Compatibility and Interoperability Matrix* provides details on supported DD OS and DD Boost versions.

Avamar supports the Data Domain with Extended Retention feature on DD OS versions 5.0.2.3 through 5.4.x and then 5.5.1 through 5.6, subject to information listed in the *EMC*

*Avamar Compatibility and Interoperability Matrix.* Data Domain with Extended Retention feature is not fully supported in DD OS version 5.5.0.

## Known problems and limitations

The following topics discuss known issues and limitations in this release of Avamar. Temporary solutions are provided if they are available.

### Avamar server known problems and limitations

The following list describes known problems for this release of the Avamar server.

#### **246602 — First backup of the new year showing incorrect retention information in the Management Console**

The first backup after the first of the year shows the retention tag of DW, which is incorrect. The tag should read M.

#### **46224 — Scheduled backups are missed during daylight savings time transitions**

During days when Daylight Saving Time transitions occur, if you have backups scheduled to run during the following times, the backups do not occur:

- For the Spring Daylight Saving Time transition, daily backups scheduled during the hour from 2:00 a.m. through 2:59 a.m. do not occur.
- For the Autumn Daylight Saving Time transition, daily backup scheduled during the hour from 1:00 a.m. through 1:59 a.m. do not occur.

The interim solution to this problem is to avoid scheduling backups during these time ranges, or to perform an ad-hoc backup if the scheduled backup does not occur.

#### **8503 — Backups to Data Domain storage corrupted due to client NIC configuration**

If the Network Interface Card on client machines does not have ECC memory enabled, backups to Data Domain could result in silent corruption of data.

#### **Avamar 7.2 does not support DPSearch**

Avamar 7.2 does not support Data Protection Search (DPSearch) 1.0. It will support DPSearch 1.1 when that is released.

DPSearch is a scalable, fault-tolerant, indexing, and search virtual appliance. It provides a fast and powerful way to search backup data across one or more Avamar and/or NetWorker servers, and then restore or download the search results. Scheduled collection activities are used to gather and index the metadata and/or content of backups, which is then stored within the DPSearch node or cluster.

### Avamar Administrator known problems and limitations

The following list describes known problems for this release of Avamar Administrator.

#### **52801 — Progress Bytes column in the Activity Monitor displays different values from one Level 0 backup to the next**

The value that appears in the **Progress Bytes** column in the Activity Monitor for backups with the Windows File System plug-in is different from one Level 0 backup to the next for an unchanged backup set. The issue is a display issue only and does not affect the validity of the backup itself.



**231095 — Backup of VM with containers fails**

Running a backup of a virtual machine that contains containers from within the **Policy>Clients** tab fails to initiate the backup and does not report any errors to the MCS logs.

**232446 — Hard limit does not function properly**

In some scenarios, the hard limit in MB (**Policy>Client**) for client backups does not work properly. Backups from the client that exceed that size should be cancelled. Sometimes, the backup finishes before the system can report an updated number of bytes, and therefore, it is too late to cancel the backup.

**Avamar Client Manager known problems and limitations**

There are no significant known problems for this release of Avamar Client Manager.

**Avamar Config Checker known problems and limitations**

The following list describes known problems and limitations with the Avamar Config Checker.

**57968 — Configuration check fails on an Exchange Server when the AvamarBackupUser is the Exchange GLR service account**

If you run the Avamar Config Checker on an Exchange Server and the Exchange GLR service is running on the server as the AvamarBackupUser account, then the configuration check fails.

To work around this issue, temporarily assign a different service account to the Exchange GLR service while you run the Config Checker, and then reset the service account to the AvamarBackupUser account after the check completes.

**60806 — Config Checker exits unexpectedly during a SharePoint configuration check when SharePoint is not installed**

If you run a SharePoint configuration check on a server where SharePoint is not installed, then the Avamar Config Checker exits unexpectedly.

To avoid this issue, run a SharePoint configuration check only on servers where SharePoint is already installed.

**Avamar Data Store Gen4 known problems and limitations**

The following list describes known problems for Avamar Data Store Gen4.

**Limitations when rerunning `dpnnetutil`**

You cannot add or change replication and management parameters when rerunning `dpnnetutil` on ADS Gen4 systems.

If you rerun `dpnnetutil`, the following prompt appears: `Use existing dpnnetutil configuration file?` If you click **Yes** (the proper response), then management and replication prompts are excluded in successive screens.

To work around this issue, delete the `probe.xml` file in the `/usr/local/avamar/var` directory before you rerun `dpnnetutil`.

### Changing subnets is not allowed on single-node servers

You cannot use `dpnnetutil` to change subnets in a postinstallation single-node server environment. The `dpnnetutil` utility initially allows you to change the subnet IP address, but an error message appears later that directs you to return the configuration to its original state. To work around this issue:

- Run a `nodedb update if` command in the following form:  

```
nodedb update if --addr=old_ip_address --new-addr=new_ip_address --new-nwgrp=network_id
```
- Manually update the configurations of network interfaces, such as `/etc/sysconfig/network/ifcfg-eth0`.
- Manually edit the contents of `/etc/hosts`.
- Update the configurations of the Avamar subsystems (that is, `gsan`, `mcs`, `ems`).

## Avamar Desktop/Laptop known problems and limitations

The following list describes known problems for this release of the Avamar Desktop/Laptop.

### 238461 — Logjam security vulnerability

For users of Mozilla Firefox v39 or later, the logjam security vulnerability must be manually disabled with the following workaround: open a Firefox browser, type "about:config" in the URL box, type "dhe" in the Search box, and right-click and toggle the values for "security.ssl3.dhe\_rsa\_aes\_256\_sha" and "security.ssl3.dhe\_rsa\_aes\_128\_sha".

### 240455 — DTLT launch will fail with "Microsoft Edge" as default browser on Windows 10

DTLT has been certified to run on client computers running Microsoft Windows 10. But the DTLT application will fail to open if the client computer has Windows Edge set as the default browser. DTLT works only when Internet Explorer 11, Firefox, or Chrome is set as the default. The following workaround is required to reenabte DTLT:

1. In Windows 10, search for "System Settings."
2. In the **System Settings** pane, go to Default Apps > Webbrowser.
3. Select one of the three DTLT-compatible browsers.
4. Start DTLT.

## Avamar Extended Retention known problems and limitations

The following list describes known problems for this release of Avamar Extended Retention.

### 246460 — Importing from Oracle RMAN CLI backups imports incorrect backup pieces

During importing of Oracle RMAN CLI backup pieces from Extended Retention tape to the Media Access Node, incorrect backup pieces are being imported.

To workaround this issue, use the Management Console to perform Oracle backups.

## Avamar Installation Manager known problems and limitations

The following list describes known problems for this release of Avamar Installation Manager.

### **200207 — "Configuring Website if required Failed" error appears occasionally during installation**

When you are performing a new installation of the Avamar server software, a failure error sometimes occurs during the **Configuring Website if required** task in Avamar Installation Manager.

To work around this issue, click **Retry Current Task** to retry the installation. The task completes successfully upon the retry.

### **207291 — Continue button does not work properly**

The **Continue** button is enabled even though user input settings are not yet saved. The **Save** button saves current settings even when there are errors. Clicking **Continue** saves the current page and continues the workflow. When switching user input pages, save is done implicitly.

## Avamar Plug-in for vSphere Web Client known problems and limitations

There are no significant known problems for this release of the Avamar Plug-in for the vSphere Web client.

## Avamar Web Restore known problems and limitations

The following list describes known problems for this release of Avamar Web Restore.

### **225311 — Windows Explorer unzip does not display restored files**

After restoring multiple files with Web Restore in Microsoft Windows, unzipping the compressed files with Windows Explorer does not display the restored files. Install and use the WinZip application to unzip and view the files.

### **234505 — Unable to login using LDAP in Web Restore with "user-login-module=mix"**

If "user-login-module=mix" is set in the ldap.properties file on the Avamar server, login to the Web Restore page using LDAP will fail with the message, "Error initializing list of backups."

### **235686 - Web Restore: Restore of files and folders with multi-byte characters in filename fails**

Restore of files and folders with multi-byte characters in the filename through Web Restore fails with an error in the DTLT trace log.

### **230620 — Unable to login using LDAP in Web Restore with "user-login-module=avamar"**

If "user-login-module=avamar" is set in the ldap.properties file on the Avamar server, login to the Web Restore page using LDAP will fail with the message, "Error initializing list of backups."

## Data Domain system integration known problems and limitations

The following list describes known problems for this release of Avamar with Data Domain system integration.

**39003 — Browsing VMware backups stored on Data Domain systems may fail**

When browsing VMware backups stored on Data Domain systems for FLR, after browsing VMware backups on one Data Domain system, attempts to browse VMware backups on another Data Domain system fail with the following error:

```
axionfs Error <10588>: Failed to get block data from DDR
stream, stream index:12, DDR stream: -1, DDR result code:
5008, desc: invalid argument
```

The interim solution to this problem is to log in to the proxy and restart the `axionfs` service.

**51085 — New Bytes % displays 0% until backup is complete**

When performing file system backups to a Data Domain system, the **New Bytes %** field displays 0% until the backup completes.

**51684 — New Bytes % incorrect for replicated VMware image backups**

When performing replication of VMware image backups that are stored on a Data Domain system, the **New Bytes %** value is reported incorrectly.

**53567 — `hfscheck` fails after clients are removed from the `/REPLICATE` domain and then re-replicated**

When you remove clients from the `/REPLICATE` domain and the client backups are on a Data Domain system, the garbage collection process removes the replicated backup files from the Data Domain system that is the replication destination. If the client is then replicated to the Data Domain system again, subsequent `hfschecks` fail with a `MSG_ERR_DDR_ERROR` error.

## Known problems and limitations for all backup clients and plug-ins

The following list describes known problems for this release of all backup clients and plug-ins.

**1403 — Backups longer than seven days might fail due to session ticket expiration**

Backups that take longer than seven days to complete might fail if they are forced to re-establish a connection with the server and their session ticket has expired. However, the data that was backed up is not lost. To complete the process, perform another backup.

**32873 — Special ACLs are not supported**

The `avtar` process does not support backup or restore of special UNIX and Linux ACLs such as `setuid` and `setgid` bits, or mandatory file lock bits in newer versions of Linux.

**52496 — Cluster Configuration Tool fails to activate virtual cluster clients in dual stack environments**

In a dual stack environment, when the Avamar server's IPv6 address is used during configuration with the Avamar Cluster Configuration Tool, the Cluster Configuration Tool fails to properly activate virtual cluster clients.

The interim solution to this problem is to use the Cluster Configuration Tool to create the cluster client, but clear the **Bring the cluster client online and activate it with the Avamar server** checkbox. Then manually create the virtual cluster client and with Avamar Administrator, and in **Policy Management**, edit the client and select the **Activated** checkbox in the **Edit Client** dialog box.

**56606 — Level 1 backup to Data Domain with over 16 critical disks may default to level 0**

After a level 0 backup has been performed for a client with more than 16 critical disks, cache file information for one or more of the disks may no longer be available, and subsequent level 1 backups are performed as level 0.

**AIX, FreeBSD, HP-UX, Linux, CentOS, and Solaris client known problems and limitations**

The following list describes known problems for this release of the Avamar clients for AIX, FreeBSD, HP-UX, Linux, and Solaris.

**26077 — Push upgrade on Linux fails for non-default installation location**

Using Avamar upgrade to push an Avamar client upgrade to a Red Hat Enterprise Linux or SuSE Linux Enterprise Server client fails when the Avamar client software is installed in a non-default location. The use of the `rpm` option `--relocate` to install the Avamar client in a non-default location causes subsequent push upgrades to fail.

**IBM DB2 plug-in known problems and limitations**

There are no significant known problems for this release of the Avamar Plug-in for DB2.

**Microsoft Exchange VSS plug-in known problems and limitations**

The following list describes known problems for this release of the Avamar Plug-in for Exchange VSS.

**246462 — Granular Level Recovery on Exchange 2007 with Windows 2008 R2 fails if most recent Windows update is not installed**

Exchange GLR may fail with the following error:

```
Invalid mount letter, most likely caused by AvFS mount failure.
```

To workaround this issue, ensure that the latest updates for Windows 2008 R2 have been installed.

**53773 — Cannot browse Exchange Information Store after upgrade to Exchange 2013 CU2**

If a database in Active Directory Domain Services (ADDS) is corrupt, when you try to browse that database in ADDS it will fail. When you browse the Exchange Information Store it will time out and no databases will be displayed. As an interim solution, if browsing the Exchange Information Store fails, determine which database is corrupt using the `Get-MailboxDatabase` command from Exchange Management Shell. This will return an error similar to:

```
The Exchange server for the database object "Database1"
wasn't found in Active Directory Domain Services. The
object may be corrupted.
```

Delete the corrupt database and browsing will be successful.

**54465 — Restore of an incremental backup fails after restore a full backup**

If you restore a full backup of an Exchange database and then you restore a subsequent incremental backup of the database, the restore fails.

To work around this issue, rerun the restore and use the **Move logs path** plug-in option to move the existing log files to a different directory.

## Microsoft Hyper-V VSS plug-in known problems and limitations

The following list describes known problems for this release of the Avamar Plug-in for Hyper-V VSS.

### **246462 — Granular Level Recovery on Hyper-V with Windows 2008 R2 fails if most recent Windows update is not installed**

Hyper-V GLR may fail with the following error:

```
Invalid mount letter, most likely caused by AvFS mount failure.
```

To workaround this issue, ensure that the latest updates for Windows 2008 R2 have been installed.

### **37177 — Conflict between Hyper-V host and guest backup application**

If you install backup applications on a Hyper-V virtual machine and you perform image-level backups with the Hyper-V VSS plug-in, then the two backups may conflict.

To work around this issue, exclude virtual machines with backup applications from image-level backups.

### **188679 — Restore takes a long time when restoring virtual machines on multiple CSVs in an environment with multiple proxies**

When you restore multiple virtual machines on multiple CSVs in an environment with multiple proxies, the restore might take a long time.

To improve restore performance, ensure that the primary proxy node is the owner of the CSV to which you restore the virtual machines.

### **231900 — Opening Hyper-V FLR user interface fails**

Using port 8888 in the URL to open the Hyper-V File Level Restore user interface fails. To successfully open the FLR user interface, use port 10000.

## Microsoft SharePoint VSS plug-in known problems and limitations

The following list describes known problems for this release of the Avamar Plug-in for SharePoint VSS.

### **246462 — Granular Level Recovery on SharePoint 2007 with Windows 2008 R2 fails if most recent Windows update is not installed**

SharePoint GLR may fail with the following error:

```
Invalid mount letter, most likely caused by AvFS mount failure.
```

To workaround this issue, ensure that the latest updates for Windows 2008 R2 have been installed.

### **190158 — GLR fails when the backup data is stored on a Data Domain system available over a WAN**

Granular level recovery (GLR) fails after a significant amount of processing time when you store SharePoint backups on a Data Domain system over a WAN. An `Error in`

mounting disk message appears, and a virtual drive icon is visible in Windows Explorer. However, you cannot browse the virtual drive for data to restore.

To work around this issue, restore the backup to a different location as files, and then use a third-party recovery tool, such as Kroll Ontrack PowerControls, to restore specific data from the backup.

#### **191035 — Backup fails for a SharePoint 2007 database with Unicode characters in the name**

If a SharePoint 2007 database name contains Unicode characters, the SharePoint VSS plug-in cannot back up the database. The backup of the farm completes with exceptions and reports that the database could not be found.

This issue does not occur in SharePoint 2010 environments.

#### **233076 — Redirected restores to flat files with an IPv4 backend fail**

Redirected restores to flat files with an IPv4 backend fail with a "Writer- file map is empty! No data to parse!" error. NOTE: IPv4 backend or alias configured for browse/backup/Full Farm DR restores work correctly. Suggested workaround: Use SQL aliases in which the IP addresses point to real hostnames.

## **Microsoft SQL Server plug-in known problems and limitations**

The following list describes known problems for this release of the Avamar Plug-in for SQL Server.

#### **19575 — Tail-log backup of a small amount of data may result in data not available**

If the tail-log backup fails for any reason during a restore, then an error message appears and the restore is aborted. However, if the amount of data added or changed since the most recent backup is very small (less than about 25 MB) then SQL Server may not be able to retain the information. The recovery exits with an error, and the tail-log backup is not available.

#### **49416 — Restore of differential backup after database is removed from availability group may fail**

After a database is removed from an availability group, restores from differential backups of the database may fail.

#### **52299 — Restore from a Data Domain system fails after upgrade**

If you store backups on a Data Domain system, then you must perform a full backup after you upgrade the SQL Server plug-in to a newer version. Otherwise, restore fails when you restore from either a tail-log backup or an incremental backup that occurs after the upgrade.

#### **61026 — Restore of a differential backup fails when the transaction log is truncated from a non-Avamar backup and you skip log gap detection for Avamar backups**

Restore of a differential backup fails if you skip log gap detection when you back up SQL Server data with the Avamar Plug-in for SQL Server, and you are also performing transaction log backups with Microsoft SQL Server tools that truncate the transaction log.

To work around this issue, restore the most recent Avamar full backup before the log truncation and select the `NORECOVERY` recovery option; restore the database from the differential backup to a file by using the Avamar Plug-in for SQL Server; and then use SQL Server management tools to restore the database.

**229517 — Scheduled backup of a group of multiple availability group clients to secondary replica fails**

A scheduled backup of a group of multiple availability group clients to the secondary replica intermittently completes backup for one availability group successfully and times out the other with a Failed/aborted error. Suggested workaround is to schedule a backup group for each availability group client to secondary replica separately.

**Microsoft Windows client known problems and limitations**

The following list describes known problems for this release of the Avamar Client for Windows.

**58121 — Restore of a folder with 1,000,000 files fails on 32-bit operating system**

If you restore a folder that contains a significant number of files, such as 1,000,000 files, on a 32-bit Windows operating system, then restore fails.

To work around this issue, restore the parent folder of the folder with the significant number of files. For example, if `F:\folder\large_folder` contains 1,000,000 files, then restore `F:\folder` instead of `F:\folder\large_folder`.

**26802 — Office XML files may need special flag to restore correctly**

If you back up an Office XML file (.docx, .xlsx), then an error message similar to the following may appear when you restore the file and open it:

```
Excel cannot open the file 'Spreadsheet.xlsx' because the file
format or file extension is not valid...
```

or

```
The Office Open XML file filename.docx cannot be opened because
there are problems with the contents, Word found unreadable
content in documentfile.docx. Do you want to recover the contents
of this document? If you trust the source, click Yes.
```

If you open the file anyway, the file may be empty or unusable. When this occurs, rerun the restore using the `--deflateofficexml=false` flag in the **Restore Command Line Options** dialog box. After restore, when you open the file you may get the same MS Office error message, but if you click **OK** to open the file anyway, the file should open correctly.

**NDMP Accelerator known problems and limitations**

The following list describes known problems for this release of the Avamar NDMP Accelerator.

**35153 — Redirected restore of multiple volumes does not work**

Redirected restore of multiple volumes fails and results in the following error:

```
avndmp Error <11803>: [avndmp_assist] Unable to redirect
multiple volumes. Please restore them separately
```

To work around this issue, restore each volume separately.



### 60389 — Capacity issues occur when Isilon fails to delete snapshots for incremental backups

When you enable snapshot-based incremental backups for one or more directories on an Isilon system, OneFS does not delete the snapshots after incremental backups occur. Snapshot-based incremental backups are also known as the Faster Incrementals feature. The accumulation of snapshots can result in capacity issues on the Isilon system. This is a known issue in OneFS that will be fixed in an upcoming release.

To work around this issue, perform the steps in the *EMC Isilon OneFS Backup and Recovery Guide* to view and delete snapshots for snapshot-based incremental backups.

## Novell NetWare client known problems and limitations

The following list describes known problems for the Avamar Client for NetWare.

### 30603 — Pre-6.1 client incompatibilities with 6.1 and later servers

Beginning with version 6.1, Avamar servers use a strengthened FIPS 140-2 compliant SSL/TLS protocol that is incompatible with earlier versions of the Avamar Client for NetWare. In most cases, if an earlier version client attempts to connect to an Avamar 6.1 or 7.0 server, then the connection is rejected by the server.

This situation can be remedied by any of the following actions:

- Upgrade the Avamar Client for NetWare software to release 6.1.
- Use unencrypted connections to communicate with the server.
- Use encrypted connections but disable FIPS mode on the server.

### 19822 — Stunnel limitation

There is a known issue with `STunnel.NLM` in which 656 bytes of memory is allocated but not released. The NetWare operating system reclaims this memory when `STunnel` unloads.

### 12641 — Maximum backup size and number of files

For optimal performance, limit backups with the Avamar Client for NetWare to a maximum total size of 500 GB and less than 1 million files.

Furthermore, for best results, limit the maximum hash cache size to 10 MB. This behavior is controlled by the **Maximum client hash cache size (MBs)** plug-in option.

## Oracle database plug-in known problems and limitations

The following list describes known problems for this release of the Avamar Plug-in for Oracle.

### 52700 — Point-in-time recovery of a pluggable database (PDB) fails

A point-in-time recovery of a PDB, which uses a manual channel, fails with the following errors:

```

RMAN-00571:
=====
RMAN-00569: ===== ERROR MESSAGE STACK FOLLOWS
=====
RMAN-00571:
=====

```

```
RMAN-03002: failure of recover command at 07/05/2013
01:00:29
RMAN-03015: error occurred in stored script Memory Script
RMAN-06034: at least 1 channel must be allocated to execute
this command
```

This issue is a known bug in Oracle 12C: Bug 17080042 : RMAN-6034 POINT IN TIME PDB OR TABLE RECOVERY ERRORS WITH RMAN MANUAL CHANNELS.

To work around this problem, use automatic channels for a point-in-time recovery of a PDB.

## Replication known problems and limitations

The following list describes known problems and limitations with replication for this Avamar release.

### **192169 — Incorrect statistics appear for replication of Avamar backup data on a Data Domain system**

When you replicate Avamar backup data from one Data Domain system to another Data Domain system, incorrect statistics appear for the file total in the `avtar` log file and for progress bytes in the Activity Monitor in Avamar Administrator.

### **207299 — Replicate button on the Policy Management tab of the Policy window is dimmed for clients**

The **Replicate** button on the **Policy Management** tab of the **Policy** window is dimmed for clients.

To work around this issue and initiate an on-demand replication of a client in the **Policy** window, right-click the client and select **Replicate Client Now**.

## SAP with Oracle plug-in known problems and limitations

The following list describes known problems for this release of the Avamar Plug-in for SAP with Oracle.

### **51870 — Oracle Optimized Deduplication option not supported with Data Domain**

When backing up a SAP with Oracle database to a Data Domain system, the `Oracle Optimized Deduplication` option is not supported.

## Sybase ASE plug-in known problems and limitations

There are no significant known problems for this release of the Avamar Plug-in for Sybase ASE.

## Upgrade known problems and limitations

The following list describes known problems and limitations for upgrading to this release of Avamar.

### **58586 — NDMP accelerator backup fails to complete if a push upgrade starts while the backup is in progress**

If an NDMP accelerator backup is in progress when a push upgrade starts, then the upgrade may complete with errors but will be retried. However, the backup fails to complete. If this issue occurs, retry the backup after the upgrade completes.

To work around this issue, perform a push upgrade to an NDMP accelerator only when backups are not in progress.

#### **202146 — `snmpwalk` command for the Avamar SNMP sub-agent fails to display results after upgrade**

If you issue an `snmpwalk` command for the Avamar SNMP sub-agent (AVAMAR-MCS-MIB) after you upgrade the Avamar server software, the command returns no results.

To resolve this issue:

1. Rerun the `avsetup_snmp` command line utility to configure the Net-SNMP agent to communicate with the Avamar server by using the Avamar SNMP sub-agent. The *EMC Avamar Administration Guide* provides instructions.
2. Start the Avamar SNMP sub-agent by typing `mcsnmp start`.

## **VMware known problems and limitations**

The following list describes known problems for this release of Avamar.

#### **247783 — Restore of Virtual Machine to vVol datastore results in the operating system not being able to load.**

When restoring the backup of a virtual machine to a vVol datastore, the restore is successful but the operating system for the restored virtual machine does not load.

Avamar hot fix 247783 is available to resolve this issue. Contact EMC Customer Support to obtain this hot fix. See <http://support.emc.com/kb/211127> for more information.

#### **190128 — 7.0 proxy compatibility with upgraded 7.1 servers**

Each 7.0 proxy hosts eight separate `avagent` plug-ins, each of which can process one backup or restore job. Each 7.0 proxy can therefore process as many as eight simultaneous backup or restore jobs.

Each 7.1 proxy hosts a single `avagent` plug-in, but that single `avagent` plug-in can perform up to eight simultaneous backup or restore jobs. The maximum simultaneous job limitation is still eight.

In order to precisely control the maximum number of simultaneous jobs allowed for each proxy, Avamar 7.1 introduced a new setting in `mcserver.xml`: `max_jobs_per_proxy`. The default setting is 8.

You cannot use both 7.0 and 7.1 proxies with the same Avamar server. This is because the Avamar server `max_jobs_per_proxy` setting is global. It applies to every proxy in the environment. Therefore, in a heterogeneous environment comprising both 7.0 and 7.1 proxies, a `max_jobs_per_proxy=8` setting would work fine for 7.1 proxies, but might result in 7.0 proxies attempting to process as many as 64 simultaneous backup or restore jobs (that is, eight jobs for each of the eight `avagent` processes). This might cause degraded performance. Similarly, a `max_jobs_per_proxy=1` setting would work fine for 7.0 proxies, but would limit 7.1 proxies to performing only one backup or restore job at a time. This would drastically underutilize each 7.1 proxy.

These proxy compatibility issues only affect customers who upgrade their Avamar 7.0 servers to 7.1. Customers deploying new 7.1 servers in their environments will deploy new 7.1 proxies. Customers using existing 7.0 servers will already have 7.0 proxies in their environment, and can deploy additional 7.0 proxies to support that server.

EMC suggests the following solutions for these proxy compatibility issues:

- If 7.1 proxies will be deployed, the preferred solution is to upgrade all existing 7.0 proxies to 7.1.
- If new 7.1 proxies will never be simultaneously deployed with the existing 7.0 proxies, change the `mcserver.xml max_jobs_per_proxy` setting to 1.

#### **227552 — Deployment Manager does not recommend proxy for local storage even when 'Protect virtual machines on local storage' is checked**

Deployment Manager currently has problems recommending VMs that are on local storage when hosts are clustered together. Avoid this scenario.

## **Supportability package known problems and limitations**

The following list describes known problems for this release of Avamar supportability packages.

#### **33892 — Unnecessary Upgrade Client Downloads package option**

The Upgrade Client Downloads package presents a **Show advanced settings** option on the installation page called **skip upgrading client download rpms**.

If you select the **Values** checkbox and click **Continue**, then client downloads are not upgraded on the system and the package no longer appears in Avamar Installation Manager.

If you clear the **Values** checkbox and click **Continue**, then the client downloads upgrade works as designed.

To avoid the problem, do not select **Show advanced settings** on the installation page.

## **Avamar Plug-in for vSphere Web Client configuration application known problems and limitations**

The following list describes known problems for this release of the Avamar vSphere Client configuration application.

#### **246942 — Outgoing mail server option does not accept IPv6 address**

During email configuration, the Outgoing mail server option only accepts the fully qualified domain name of the mail server. It does not accept the IPv6 address.

#### **246459 — Email Summary Report contains incorrect information**

The Email Summary Report refers to the incorrect product name for this product and also incorrectly lists the number of successful and failed backups as 0.

#### **239457 — Incorrect information displayed for Next Run Time for scheduled backups set to On Demand**

For scheduled backups set to On Demand, the Next Run Time column on the Select Backup tab lists "01/01/1970" as the next run time for the backup. This should display "Never" instead.

#### **245712 — With Microsoft Edge browser, Restore button may not available for File Level Recovery when selecting the restore destination**

When using the Microsoft Edge browser to select a restore destination for a File Level Recovery, the Restore button may incorrectly scale outside of the available window space if the destination has a large number of folders listed.

To work around this issue, select the file or folders to be restored, then return to the previous page using the back arrow. After this you can return to the Restore selected files page and select the destination.

#### 247843 — Avamar Plug-in for vSphere Web Client failing to filter retired clients in the restore tab of plugin

Retired virtual machines and their backups continue to be displayed on the restore tab of the Avamar Plug-in for vSphere Web Client.

#### 246371 — After upgrade, FLR GUI login fails

After upgrading from Avamar 7.1 to Avamar 7.2 Service Pack 1, logging into the File Lever Restore GUI will fail.

To workaroud this issue, you must disable and re-initialize the Avamar vSphere Client:

1. Disable the Avamar vSphere Client:

```
ebrserver.pl --disable
```

2. Re-initialize the Avamar vSphere Client:

```
ebrserver.pl --init
```

---

#### Note

If you have made changes to the ebrserver.xml and vcenter-sso-info.cfg files, these changes will be overwritten when `ebrserver.pl --init` is run. You should make copies of these files before re-initializing the client.

---

#### 239552 — [EBR config UI]: Unable to download EBR logs, client logs, Config and external proxy logs with Chrome browser

On the **Log Collector** tab of the EBR configuration application, attempting to download EBRlogs, client logs, config and external proxy logs might fail if you are doing so in a Chrome browser. Workaround: Upgrade to the latest version of Chrome with the latest version of Flash Player.

## International language support

These sections provide important information about international language support in Avamar 7.2.

### International language support in Windows environments

Supported languages for Windows environments include:

- Arabic
- Bulgarian
- Chinese (Simplified and Traditional)
- Croatian
- Czech
- Danish
- Japanese
- Korean
- Latvian
- Lithuanian
- Norwegian
- Polish

- Dutch
- Estonian
- Finnish
- French
- German
- Greek
- Hebrew
- Hungarian
- Italian
- Portuguese (Brazilian)
- Romanian
- Russian
- Slovak
- Slovenian
- Spanish (Iberian and Latin American)
- Swedish
- Turkish

The following table describes additional international language support details in Windows environments.

**Table 4** Windows environment international language support

Windows data type	International language support details
Windows files and folders	You can back up and restore individual files and folders with file and folder names in local languages.  File and folders names appear in the local language in Avamar Administrator and Avamar Web Restore.
Microsoft Exchange databases	You can back up and restore databases with the database name in supported local languages.
Microsoft Exchange folders and messages	You can back up and restore individual folders and messages with the folder or message name in supported local languages.
Microsoft SQL Server databases	You can back up and restore databases with the database name in supported local languages.

## International language support in UNIX/Linux environments

Supported languages for UNIX and Linux environments include:

- Arabic
- Bulgarian
- Chinese (Simplified and Traditional)
- Croatian
- Czech
- Danish
- Dutch
- Estonian
- Finnish
- French
- German
- Japanese
- Korean
- Latvian
- Lithuanian
- Norwegian
- Polish
- Portuguese (Brazilian)
- Romanian
- Russian
- Slovak
- Slovenian

- Greek
- Hebrew
- Hungarian
- Italian
- Spanish (Iberian and Latin American)
- Swedish
- Turkish

The following table describes additional international language support details in UNIX and Linux environments.

**Table 5** Windows environment international language support

Encoding	International language support details
EUC-JP	<p>You can back up and recover EUC-JP encoded files and directories with names in the Japanese language on Solaris.</p> <hr/> <p><b>Note</b></p> <p>EUC-JP encoded file and directory names do not render correctly in either Avamar Administrator or Avamar Web Restore. This issue does not apply to the client web UI available through Avamar Desktop/Laptop.</p> <hr/>
UTF	<p>You can back up and restore individual UTF-encoded files and directories with file and directory names in supported local languages.</p> <p>File and directory names appear in the local language in Avamar Administrator and Avamar Web Restore.</p>

## Known limitations of local language support

Keep in mind the following known limitations of local language support:

- Cross-platform redirected restore of files and directories with international character set names is not supported.
- Client machine hostnames must consist entirely of ASCII characters.
- The client software installation path must consist entirely of ASCII characters.
- Policy objects (such as, users, groups, datasets, schedules, retention policies, notification profiles, and so forth) must consist entirely of ASCII characters.
- Log files do not correctly render non-ASCII characters.
- Error, warning, and informational messages incorrectly render non-ASCII characters, both to the screen and to log files.
- Log files based on user-defined names (for example, database names) do not work correctly.
- You cannot use non-ASCII characters in options and flags. If a flag or option takes a file, folder, or identifier (for example, a database name) then that option is only assured to work for ASCII names.
- Sorting is not localized. Sorting is strictly by byte-ordinal value.
- You cannot enter local language characters in the Avamar user interface using a keyboard.
- The Avamar Management Console Command Line Interface (MCCLI) and `avtar` support only ASCII arguments on the command line.

## Restore of international characters with Avamar Web Restore

The Avamar Web Restore feature restores directories or multiple files in the form of a Zip file. When you unzip the Zip file, file and directory names with international characters might not restore properly due to inherent limitations in some Zip utilities.

To correctly restore files with international characters by using the Avamar Web Restore feature, use a Zip utility that fully supports international characters. Examples of Zip utilities that have been confirmed to work properly include:

- Winrar 3.80 or later
- Winzip 12.0 or later
- 7zip 4.65 or later

Also, do not use Microsoft Windows compressed folders with the Avamar Web Restore feature, as it is known that these compressed folders do not reliably handle international characters.

## Support for non-UTF8 locales in the Management Console

Avamar includes support for browsing non-UTF8 file systems from the Management Console. The following Java character sets are supported:

Big5	Big5-HKSCS	COMPOUND_TEXT
EUC-JP	EUC-KR	GB18030
GB2312	GBK	IBM-Thai
IBM00858	IBM01140	IBM01141
IBM01142	IBM01143	IBM01144
IBM01145	IBM01146	IBM01147
IBM01148	IBM01149	IBM037
IBM1026	IBM1047	IBM273
IBM277	IBM278	IBM280
IBM284	IBM285	IBM297
IBM420	IBM424	IBM437
IBM500	IBM775	IBM850
IBM852	IBM855	IBM857
IBM860	IBM861	IBM862
IBM863	IBM864	IBM865
IBM866	IBM868	IBM869
IBM870	IBM871	IBM918
ISO-2022-CN	ISO-2022-JP	ISO-2022-JP-2
ISO-2022-KR	ISO-8859-1	ISO-8859-13
ISO-8859-15	ISO-8859-2	ISO-8859-3
ISO-8859-4	ISO-8859-5	ISO-8859-6
ISO-8859-7	ISO-8859-8	ISO-8859-9



JIS_X0201	JIS_X0212-1990	KOI8-R
KOI8-U	Shift_JIS	TIS-620
US-ASCII	UTF-16	UTF-16BE
UTF-16LE	UTF-32	UTF-32BE
UTF-32LE	UTF-8	windows-1250
windows-1251	windows-1252	windows-1253
windows-1254	windows-1255	windows-1256
windows-1257	windows-1258	windows-31j
x-Big5-Solaris	x-euc-jp-linux	x-EUC-TW
x-eucJP-Open	x-IBM1006	x-IBM1025
x-IBM1046	x-IBM1097	x-IBM1098
x-IBM1112	x-IBM1122	x-IBM1123
x-IBM1124	x-IBM1381	x-IBM1383
x-IBM33722	x-IBM737	x-IBM834
x-IBM856	x-IBM874	x-IBM875
x-IBM921	x-IBM922	x-IBM930
x-IBM933	x-IBM935	x-IBM937
x-IBM939	x-IBM942	x-IBM942C
x-IBM943	x-IBM943C	x-IBM948
x-IBM949	x-IBM949C	x-IBM950
x-IBM964	x-IBM970	x-ISCII91
x-ISO-2022-CN-CNS	x-ISO-2022-CN-GB	x-iso-8859-11
x-JIS0208	x-JISAutoDetect	x-Johab
x-MacArabic	x-MacCentralEurope	x-MacCroatian
x-MacCyrillic	x-MacDingbat	x-MacGreek
x-MacHebrew	x-MacIceland	x-MacRoman
x-MacRomania	x-MacSymbol	x-MacThai
x-MacTurkish	x-MacUkraine	x-MS932_0213
x-MS950-HKSCS	x-mswin-936	x-PCK
x-SJIS_0213	x-UTF-16LE-BOM	X-UTF-32BE-BOM
X-UTF-32LE-BOM	x-windows-50220	x-windows-50221
x-windows-874	x-windows-949	x-windows-950
x-windows-iso2022jp		

## Technical notes

This section describes important notes and tips for using Avamar 7.2.

### Avamar server technical notes

The following technical notes apply to the Avamar server.

#### **Remove test data**

Before starting the server or starting a new node for the first time, ensure that all test data has been removed from `/data*/partitions`. In particular, if you ran disk tests before startup, you might need to delete directories named `QA`.

#### **Do not use the `avmgr` command**

Improper use of the `avmgr` command line utility can destroy all access to data in the Avamar system. Use this command only at the explicit direction of EMC Customer Service.

#### **Vulnerability scanning**

As part of every Avamar release, the product is scanned for vulnerabilities using at least two common vulnerability assessments tools. This release was scanned with Foundstone and Nessus. The Avamar solution has also been scanned by various customers by using tools such as eEye Retina without issue. However, it is possible that the usage of other port/vulnerability scanners might cause disruption to normal operation of the Avamar server. Therefore, it might be necessary to disable scanning of the Avamar server if problems occur.

#### **Maximum number of concurrent connections for each storage node**

The maximum number of concurrent connections for each storage node on the Avamar server depends on the Avamar Data Store version. For Gen4 and Gen4s storage nodes, the maximum is 72. For Gen3 storage nodes and Avamar Virtual Edition systems, the maximum is 27.

#### **Avamar 7.2 scalability limits for virtualization support**

The scalability limits of each Avamar 7.2/Data Domain integrated solution are approximately:

- 5000 virtual machine clients
- 180TB provisioned virtual machine storage
- 72 concurrent backup proxy client stream instances (not proxy virtual machines)

These limits are applicable only when the backup data is sent to the Data Domain system and assume that the Data Domain is properly specified to support the backup, restore, and, if applicable, replication activities. These limits may be impacted if additional client types are backed up to the Avamar/Data Domain solution. These limits may be further limited by the overall performance of the VMware environment, including the performance of the Avamar Virtual Edition server, if applicable.

EMC recommends that customers who plan to operate near these limits validate their deployments with their EMC account representative.

#### **VMware image proxies are not available for backups when they are in sleep mode and you restart the MCS**

If you stop the MCS and do not restart the MCS within five minutes, then VMware image proxies go into a sleep mode for 40 minutes. When you restart the MCS, it might take some time until all proxies reconnect to the MCS and are available for backups. This issue can occur when performing backups after a rollback.

To ensure that all proxies are available, open the `avagent.log` file on each proxy, and ensure that the following messages appear at the bottom of the log:

```
yyyy-mm-dd hh:mm:ss avagent Info <5964>: Requesting work from
10.2.345.678
yyyy-mm-dd hh:mm:ss avagent Info <5264>: Workorder received:
sleep
yyyy-mm-dd hh:mm:ss avagent Info <5996>: Sleeping 15 seconds
```

The messages indicate that the proxy can connect to the MCS. The `avagent.log` file is available in the `/usr/local/avamarclient/var` directory.

### **AMS replication after an IP address change in a dual-stack network environment**

If you change the IP address that you use for replication by switching from IPv4 to IPv6 or from IPv6 to IPv4 in a dual-stack network environment with Avamar and one or more Data Domain systems, then the first replication after the change uses Automated Multistreaming (AMS) replication. AMS is also known as ninja chopping replication (NCR) or ninja slicing replication. Subsequent replications use Virtual Synthetic Replication (VSR).

### **Original Bytes are displayed as twice the original size**

The **Original Bytes** value appears as twice the original size when you execute the Data Domain `filesys show` compression command in the Avamar namespace on the Data Domain system.

## **Avamar Data Store Gen4x performance expectations**

In certain circumstances, an Avamar multi-node server must rebuild the data on one or more storage nodes (for instance, when increasing total server capacity or replacing a defective node).

In those cases, the following information lists performance expectations:

- For servers running Avamar 7.0.x software, the rebuild will take a maximum of 28 hours at an average rate of 202 GB/hr (56 MB/s).
- For servers running Avamar 6.1.1 software, the rebuild will take a maximum of 52 hours at an average rate of 107 GB/hr (30 MB/s).

This performance data is based on a 1x10 Avamar Data Store Gen4x multi-node server with 7.8TB or M2400 nodes filled to 50% capacity and a standard Allied Telesis switch with the latest firmware and not configured as Round Robin. For Avamar servers with 3.6TB or M1200 nodes, the average rates would remain the same but the maximum rebuild in hours would be halved.

## **Avamar Administrator technical notes**

The following technical notes apply to Avamar Administrator.

### **Avamar Administrator directory browsing limitation**

When browsing a client file system with Avamar Administrator, directories with very large numbers of files can cause Avamar Administrator to run out of memory. For this reason, Avamar Administrator is configured by default to only retrieve the first 50,000 files in each directory. You can change this limitation by editing the `max_browse_entries` settings in `mcserver.xml` and `mcclient.xml`. However, doing so could cause unpredictable application behavior.

### **Jobs do not appear in the Activity Monitor after server restart**

If you stop and then restart the administrator server, then jobs that started before the administrator server stop do not appear in the Activity Monitor.

**Schedule start times and end times**

If you select a different start time in the schedule, you must reselect the desired end time.

**Client name change impacts license quota**

If you rename a client, the old name of the client remains for activities reporting data for the client. Avamar treats new activities for the same client as if they were for a new client, leading to double counting the number of bytes protected for licensing purposes. If a client name change is required, consult EMC Customer Service to ensure that the database is correctly updated.

**Additional “cold start” messages from netsnmp**

To resolve an issue where SNMP stops responding, Avamar must frequently restart the `netsnmp` agent. Because the `netsnmp` agent generates a “cold start” message on each restart, additional “cold start” messages appear that are not related to actual restarts of the Avamar system or incorrect operation of the system. Unfortunately, there is currently no way to distinguish between a real “cold start” message that is triggered by an Avamar system restart and a “cold start” message generated as the result of `netsnmp` agent restarts.

**Software conflicts with Black Ice and Timbuktu**

The Avamar Administrator software is known to have conflicts with software packages such as Black Ice and Timbuktu.

## Avamar Desktop/Laptop technical notes

The following technical notes apply to Avamar Desktop/Laptop.

**Client-level Avamar accounts cannot log in to Avamar Desktop/Laptop**

To provide the same level of security that exists in Avamar Administrator, Avamar Desktop/Laptop blocks Avamar's default client-level accounts. This means that Avamar Desktop/Laptop does not accept the credentials for the following default accounts:

- backuponly
- restoreonly
- backuprestore
- replonly

## Avamar Web Restore technical notes

The following technical notes apply to Avamar Web Restore.

**Enabling the full display on the Avamar login screen**

Avamar Web Restore displays an empty **Domain** field and an empty **Client** field on the Avamar login screen to prevent the display of domain information during a non-domain login. When using Avamar Web Restore only in a secure domain, change this default setting to enable the full display on this screen.

When the full display is enabled, a list of Avamar domains appears in the **Domain** field and a list of clients appears in the **Client** field.

---

**Note**

This change does not affect the Avamar Web Restore LDAP login screen.

To enable the full display on the Avamar log in screen:

1. Open a command shell and log in:
  - For a single-node server, log in to the server as root.

- For a multi-node server, log in to the utility node as root.
2. Switch user to root by typing the following command:
 

```
su -
```
  3. Change the current working directory by typing the following command:
 

```
cd /usr/local/avamar/etc
```
  4. Open the Avamar Desktop/Laptop properties file, `dtlt.properties`, in a plain text editor.
  5. Add the `showWRClientList` key with the value of `true`:
 

```
showWRClientList=true
```

If the key already exists, set the value to `true`.
  6. Save and close the file.

### Special characters in file name replaced during restore

Restoring a file with special characters in the file name results in replacement of the characters in the restored file name. This occurs when the `LANG` variable on the Avamar server is set to a locale that does not support the characters. To work around this issue, either rename the file after it is restored or change the `LANG` variable on the Avamar server to the correct locale.

### Restore of files with special characters in file name when Avamar server `LANG` variable is not set

When the `LANG` variable is not set on an Avamar server, using Avamar Web Restore to restore a file with special characters in the file name fails. To fix this issue, set the `LANG` variable in `/etc/locale.conf` and reboot the Avamar server.

### Proper UI rendering on Internet Explorer 11 browser

High Security setting in Internet Explorer 11 prevents rendering of JavaScript commands in the Avamar Web Restore pages. To work around this issue add the Avamar Web Restore server to the trusted sites list in Internet Explorer.

### Restore of large number of files

Users cannot restore a large number of files through Avamar Web Restore. Limit each restore task to less than 200 files.

## Backup client technical notes

The following technical notes apply to backup clients.

### Linux client installation binaries

Because various Linux operating systems are compatible, not all supported Linux operating systems have natively built installation binaries. As a result, the names of installation binaries do not always match the name of the operating system. For example, client installation binaries for Red Hat Enterprise Linux 6 are built on SUSE Enterprise Server 11 and therefore refer to SLES 11 in the name of the installation binaries. Nonetheless these installation binaries are appropriate for installation on Red Hat Enterprise Linux 6.

### IPv6 not supported on HP-UX PA-RISC

Avamar support for IPv6 is not available for the HP-UX PA-RISC platform.

### Log files are time/date stamped in UTC time

Some client log and other files created in the `VARDIR` are time/date stamped in Universal Time Code (UTC) time (Greenwich Mean Time), and not the local time. This can cause confusion when you look for a particular log file.

**Firewall software must be configured to allow communication with the Avamar server**

Firewall software inherently interferes with communication between the Avamar server and Avamar clients by disabling inward connections to most data ports. Therefore, if you use firewall software on a client computer (for example, ZoneAlarm, Norton, McAfee, and so forth) or if you upgrade a Windows client to Windows XP Service Pack 2 (which includes a new integrated firewall), then you must configure the firewall application to allow bidirectional communication between the Avamar client and the Avamar server. This is normally accomplished by adding the EMC Client Agent to an “allowed” or “exceptions” list. The exact procedure for doing this depends on the firewall application. The documentation for the firewall should provide additional information.

**Avamar icon disappears from Mac system menu bar**

On irregular and rare occasions, the Avamar icon disappears from the Mac system menu bar. To restore the icon, restart the Avamar client using the Avamar Client application launcher in the Applications folder.

**Standby, sleep, and hibernate states interfere with backups**

Issues may occur when computers go into standby/sleep (ACPI state G1-S3), hibernate (ACPI state G1-S4), or hybrid sleep (Windows Vista) modes during a backup.

Upon returning to a working state (ACPI state G0-S0), the network connection between the client and the Avamar server may be lost and yet appear, from the server side, to still be established. Canceling the backup from the client side has no effect.

To drop the backup connection, cancel the backup from the server side. This occurs automatically when the connection is inactive for more than one hour.

To help minimize this problem, be sure the BIOS and drivers on all supported computers are up-to-date.

**Browse of shared storage fails after failover in dual-stacked cluster environments**

You cannot browse shared storage in a cluster by using the Avamar cluster client after a failover in a dual-stacked cluster environment. To enable browsing, rerun the Cluster Configuration Tool on the active node to remove and then reconfigure the Avamar cluster client.

**Backup cannot proceed when mandatory locks are encountered**

Avamar client software honors all mandatory locks in the target file system on Solaris and HP-UX operating systems. However, this can cause backup operations to hang indefinitely if a mandatory lock is held by another application on files that Avamar is backing up. To work around this issue, specifically exclude all files and directories with mandatory locks from the backup dataset, and then perform another backup.

**Solaris path length limitation**

Solaris imposes a maximum path length limit of 1,023 characters. Therefore, you cannot specify paths greater than 1,023 characters at any time.

**Retention must expire before February 7, 2106 for 32-bit Windows and Linux clients**

For backups of 32-bit Windows or 32-bit Linux client computers, do not assign a retention period for a date after February 7, 2106. If you assign an extended retention period to a 32-bit Windows client, the backup completes with exceptions. For 32-bit Linux clients, the backups complete but do not appear in Avamar Administrator.

**Issues when running multiple CLI backup or restore operations at a time for a client**

Stability issues occur when you run multiple command line interface (CLI) backup or restore operations at a time for a client. To work around this issue, perform only one CLI operation at a time for each client.

## Password best practices

This following technical notes provide best practices for creating and protecting passwords.

### Best practices for creating passwords

The following table provides best practices for creating passwords.

**Table 6** Best practices for creating passwords

Best practice	Details
Do not use Personal Identifiable Information (PII).	Do not use PII in your password, such as: <ul style="list-style-type: none"> <li>• Your name</li> <li>• Your username</li> <li>• Your birthday</li> <li>• Names of pets</li> <li>• Names of your children</li> <li>• Name of your alma mater</li> <li>• Keywords associated with your hobbies</li> </ul>
Do not use words from the dictionary.	Do not use any word that can be found in the dictionary as your full password.
Use strong passwords.	Always use strong passwords when creating passwords. Strong passwords include: <ul style="list-style-type: none"> <li>• At least eight characters</li> <li>• Special characters such as a percent sign (%) or ampersand (&amp;)</li> <li>• Non-alphabetic characters</li> <li>• Both uppercase and lowercase characters</li> </ul>
Use different passwords for user accounts	Always use a different password for each user account.
Change your password regularly	<ul style="list-style-type: none"> <li>• Change your most critical passwords on a regular basis.</li> <li>• Change your passwords at least every 6 months.</li> <li>• When you change your password, avoid using variations of a previous password.</li> <li>• Immediately change your password if you expect another person has access to your account, or knows your password.</li> <li>• Always change your password as soon as you receive an account.</li> </ul>

### Password protection best practices

You should always create a password that you can remember without needing to store it. However, if the password must be stored, follow these recommendations:

- Use a password vault application to protect and help manage your passwords.
- If passwords must be written down on a piece of paper, store the paper in a secure place and destroy it when it is no longer needed.

- Do not put your username and password on a post-it note under your keyboard.
- Do not write down your username and password in the same place.
- Use caution regarding where passwords are saved on computers. Some dialog boxes, such as those for remote access and other telephone connections, present an option to save or remember a password. Selecting this option poses a potential security threat.
- Never share your passwords with anyone and do not give your password to anyone over the phone.

## Documentation

This section describes the documentation and information products that are available with this release of Avamar.

### Avamar product documentation

This section describes the product documentation that is available with Avamar 7.2.

#### **EMC Avamar Administration Guide**

This document describes how to configure, administer, monitor, and maintain the Avamar system.

#### **EMC Avamar Operational Best Practices**

This document provides best practices for designing, configuring, managing, and tuning the performance of the Avamar system.

#### **EMC Avamar and EMC Data Domain System Integration Guide**

This document provides best practices for designing, configuring, managing, and tuning the performance of the Avamar system.

#### **EMC Avamar Product Security Guide**

This document discusses Avamar security considerations, including user authentication and authorization, client/server access and authentication, data security and integrity, system monitoring, server hardening, port usage, and firewall requirements.

#### **EMC Avamar Reports Guide**

This document describes how to create, manage, and interpret the information in Avamar reports.

#### **EMC Avamar Management Console Command Line Interface (MCCLI) Programmer Guide**

This document describes how to install, configure, and use the Avamar Management Console Command Line Interface (MCCLI), which is a Java software application that provides command line access to Avamar Administrator features.

#### **EMC Avamar Release Notes**

This document contains information on new features and changes, fixed problems, known limitations, and environment and system requirements for the latest Avamar release.

#### **EMC Avamar Backup Clients User Guide**

This document describes how to install and activate Avamar backup clients on all platforms. It also describes how to use the Avamar backup client to back up and restore data.

#### **EMC Avamar for VMware User Guide**

This document describes how to install, configure, and use Avamar to back up and restore virtual machines in a VMware environment.



**EMC Avamar for Windows Server User Guide**

This document describes how to install the Avamar client for Microsoft Windows, and how to back up and restore data on a Windows server.

**EMC Avamar for Hyper-V VSS Guide**

This document describes how to install Avamar in a Microsoft Hyper-V environment, and how to back up and restore virtual machines using Avamar with Microsoft Volume Shadow Copy Service (VSS) technology.

**EMC Avamar for Exchange VSS User Guide**

This document describes how to install Avamar in a Microsoft Exchange Server environment, and how to back up and restore data using Avamar with Microsoft Volume Shadow Copy Service (VSS) technology.

**EMC Avamar for SharePoint VSS User Guide**

This document describes how to install Avamar in a SharePoint environment, and how to back up and restore data using Avamar with Microsoft Volume Shadow Copy Service (VSS) technology.

**EMC Avamar for SQL Server User Guide**

This document describes how to install Avamar in a Microsoft SQL Server environment, and how to back up and restore SQL Server databases.

**EMC Avamar for Lotus Domino User Guide**

This document describes how to install Avamar in a Lotus Domino environment, and how to back up and restore data.

**EMC Avamar for Oracle User Guide**

This document describes how to install Avamar in an Oracle database environment, and how to back up and restore Oracle databases.

**EMC Avamar NDMP Accelerator User Guide**

This document describes how to install and configure the Avamar NDMP Accelerator, and how to back up and restore data on supported EMC VNX and EMC storage systems and NetApp filers.

**EMC Avamar for SAP with Oracle User Guide**

This document describes how to install Avamar in an SAP environment with Oracle, and how to back up and restore SAP servers with Oracle databases.

**EMC Avamar for Sybase ASE User Guide**

This document describes how to install Avamar in a Sybase environment, and how to back up and restore Sybase Adaptive Server Enterprise (ASE) databases.

**EMC Avamar for IBM DB2 User Guide**

This document describes how to install Avamar in an IBM DB2 environment and how to back up and restore DB2 databases.

**EMC Avamar Plug-in for vCenter Administration Guide**

This document describes how to install, configure, administer, and use the EMC Backup and Recovery plug-in for vCenter to back up and restore VMware image backups on an Avamar server.

**Avamar related documentation**

For more information about Avamar 7.2, refer to this related documentation:

### EMC Avamar Compatibility and Interoperability Matrix

This document provides server, client, and platform compatibility and interoperability information. The document is available on EMC Online Support at <https://support.EMC.com>.

### Technical notes and white papers

Avamar technical notes provide technical details on specific product features, including step-by-step tasks, where necessary. White papers provide an in-depth technical perspective of a product or products as applied to critical business issues or requirements. Both technical notes and white papers are available on EMC Online Support at <https://support.EMC.com>.

## Documentation errata

This section provides corrections for Avamar 7.2 documentation errors that are discovered after a publication is finalized.

### EMC Avamar Administration Guide

When you use Avamar replication to replicate backup data from a source Data Domain system to a destination Data Domain system, **Avamar** appears in the **Server** column in the Activity Monitor for the replication activity even though the backup data is on a Data Domain system.

Some Mac and Linux users cannot restore an entire directory structure to the original location. Restore fails when all of the following are true:

- A user logs in to a Mac or Linux computer with a user account that does not have administrative privileges on that computer.
- The user logs in to the Avamar Desktop/Laptop web UI using Avamar authentication.
- On the Browse page, the user selects the entire directory structure for restore.
- The user does not select a new restore location.

To work around this problem, do either of the following:

- Restore to a new location.
- Restore less than all of the directory structure. For example, in the restore set, clear one file from the lowest directory.

### Requirements to recover backups when LDAP is used

When backups have been performed using LDAP user authentication, only the user corresponding to the username that was used during client activation can browse the backups for recovery using the Web restore interface. If another users attempts to log into the Web restore interface, they will not see the backups performed using the original username. The following information should be included in the Directory service authentication section of the Administration Guide:

**Table 7** Requirements to recover backups when using LDAP authentication

Category	Requirement
Operating system	<ul style="list-style-type: none"> <li>• Windows operating system</li> <li>• Mac operating system</li> </ul>
Account type	Domain
Profile	Client computers have a local profile for the user's domain account.

**Table 7** Requirements to recover backups when using LDAP authentication (continued)

Category	Requirement
	<p><b>Note</b></p> <p>A local profile for a domain account is created automatically at a user's first login on the computer.</p>
Avamar client	Version 7.0 or later is installed on both source and target.
Avamar server	Both source and target are activated with the same Avamar server and the server is running Avamar 7.0 or later.
Backup	<p>There is at least one qualifying backup. A qualifying backup is one completed successfully after both:</p> <ul style="list-style-type: none"> <li>• Avamar 7.0 or later is installed on the client computer.</li> <li>• A local profile for the user's domain account is created on the client computer.</li> </ul>

#### Incorrect directory name for Desktop/Laptop tomcat server files

In the section Rebranding the web UI in the Avamar Desktop/Laptop chapter of the Administration Guide, the location of the tomcat server is incorrectly listed as `/usr/local/avamar-dtlt-tomcat/webapps/dtlt/images/banner`. This should be `/usr/local/avamar-dtlt-tomcat-7.0.59/webapps/dtlt/images/banner`. A similar error appears in the Overview of the Avamar Client Manager section in the Avamar Client Manager chapter.

#### EMC Avamar Backup Clients User Guide

The section "Preinstallation checks" in Chapter 9, Avamar Client for Windows, was inadvertently included and should be removed.

#### EMC Avamar Product Security Guide

The *Avamar Product Security Guide* version released as part of the service pack 1 release of Avamar 7.1 contains a section entitled: "Unencrypted data-in-flight on new installs of Avamar 7.1 and newer". That section contains a task entitled: "Permitting unencrypted data-in-flight on new installs of Avamar 7.1 and newer". The task neglects to mention as a final step that the Avamar firewall must be restarted on all nodes. After completing the steps contained in that task, complete the following additional step:

On a single node system, type: `service avfirewall restart`

On a multi-node system, type: `mapall --noerror --all+ --user=root 'service avfirewall restart'`

The *Avamar Product Security Guide* version released as part of the service pack 1 release of Avamar 7.1 contains a section entitled: "Installing level-2 security hardening features". That section contains a task entitled: "Configuring the firewall to support Avamar Client Manager". The task should be limited to pre-7.1 Avamar systems. The task addresses an issue that can occur when Avamar Client Manager running on Avamar server version 7.1 and later is used to manage Avamar systems running Avamar server versions earlier than 7.1.

The firewall on pre-7.1 version systems blocks port 5555. Avamar Client Manager requires access to port 5555 on the Avamar systems that it manages. The firewall on Avamar version 7.1 and later does not block this port.

Also, that section should include the instruction that the text that is inserted into `/etc/firewall.base` must be inserted after the **##### BEGIN UTILITY NODE SPECIFIC RULES #####** comment line and before the **##### END UTILITY NODE SPECIFIC RULES #####** comment line.

#### Using legacy certificate authentication with Data Domain requires command line flags

When performing a backup to Data Domain using the `--encrypt=tls-sa` command line flag to indicate legacy certificate authentication, metadata backups to the Avamar server will succeed but backups to the Data Domain will fail. For successful backup, you must specify the following flags:

```
--ddr-auth-enabled=false
--ddr-auth-mode=3
```

This will force certificate authentication for metadata backups to the Avamar server while allowing backups to the Data Domain to succeed.

#### New port required for Installation Manager

The port number has changed required for the Avamar Installation Manager to port 7543 from port 8543, which was used in prior versions of the Installation Manager.

#### EMC Avamar for Exchange VSS User Guide

Additional steps are required when configuring backups of Exchange 2013 DAG databases. In addition to the steps provided, you must also edit the `avexvcc.cmd` file to include the fully-qualified domain name and IP addresses of all Exchange servers. For example:

```
--clusternode=EXCH2013-1.yourdomain.com(192.168.1.141)
--clusternode=EXCH2013-2.yourdomain.com(192.168.1.142)
```

#### EMC Avamar NDMP Accelerator for EMC NAS Systems User Guide

The Top-Level Directories (TLDs) for multi-streaming on Isilon systems is not available in the Avamar 7.1 release. Ignore all content related to this feature, including the **Enable automated TLD generation for multistreaming** plug-in option.

#### EMC Avamar NDMP Accelerator for NetApp Filers User Guide

The following additions and changes are necessary to support NetApp Cluster filers:

- To enable NDMP services on a NetApp Cluster:
  1. Open a command shell, and then log in to the NetApp Cluster.
  2. Type **services ndmp on -vserver vservname**, where *vservname* is the hostname or IP address of the NetApp virtual storage system.
- The following text replaces the explanatory text before the procedure in the "Verifying filer privileges" topic of the "Installation and Configuration" chapter:
 

Avamar supports node-scoped, Vserver-aware, and cluster-aware NDMP modes. In node-scoped NDMP mode, the root user account always has sufficient privileges. However, for security reasons you might want to use another user account. Backups might fail to start or complete if the alternate user account has insufficient privileges.

In Vserver-aware and cluster-aware NDMP modes, user authentication is integrated with the role-based access control mechanism. New user accounts must have sufficient privileges to access the Vserver. In Vserver-aware NDMP mode, the NDMP user must belong to either the vsadmin or vsadmin\_backup role. In cluster-aware NDMP mode, the NDMP user must belong to either the admin or backup role.
- When adding a NetApp Cluster to the accelerator, type the Vserver credentials when prompted for the filer username and password by `avsetupndmp`.

- Redirected restore to a different volume is not supported in a cluster-aware filer configuration.

### EMC Avamar for Sybase ASE User Guide

1. To perform backup/restore using Avamar Cluster Client for Solaris on VCS, Avamar Client & Avamar Sybase plugin packages should be installed before doing cluster configurations. If they are not, Solaris Sybase ASE plugin will not be visible in the Avamar Administrator backup window.
2. In the **Restore and Recovery** chapter of the document, the following should be noted: If you select all the check boxes in the bottom left pane under **Contents of Backup** in the previous window, the Restore Options dialog box displays **Entire contents of backup** under **Items Marked for Restore**. The operation works if the restore is to the same destination. The restore operation fails with an error if you attempt to perform a relocated recovery to another destination.
3. With a Sybase ASE release earlier than 15.0.2, a Sybase plug-in restore with a parallelism value greater than 1 might fail with the following error: Error from server *server\_name*: Msg 937, Level 14, State 1 Database '*database\_name*' is unavailable. It is undergoing LOAD DATABASE. This issue is due to a Sybase ASE defect (CR 467447) that is fixed in Sybase ASE release 15.0.2 ESD 1 and later. To work around this issue, perform one of the following tasks:
  - Ensure that the parallelism value is set to 1 during a Sybase restore.
  - Upgrade the Sybase ASE server to release 15.0.2 ESD 1 or later.

### EMC Avamar Technical Addendum

A new flag has been added to the avmaint config command to prevent data crunch during garbage collection. The usage is:

```
avmaint config crunchduringgc=1 --ava
```

### EMC Avamar for VMware User Guide

During upgrades from Avamar 7.0.3 to 7.2, the eight existing proxies are not deleted after the 9th proxy is registered. The user must manually delete them.

#### System requirements for VMware proxies

The following should be added to the EMC Avamar for VMware User Guide:

The system requirements for VMware proxies are:

- Four CPUs
- Four GB of memory
- 21 GB of available disk space

#### FLR browse for non-LVM granular disk backup without partition table is not supported

File Level Restore browsing of non-LVM granular disk backups of disks without partition tables is not supported. You must either have one disk partition configured with a partition table, or you should do a full image backup of all disks in the VM.

#### On non-Windows node clusters, avtar password encoding behavior has changed (multiple guides affected)

Beginning with Avamar 7.2, EMC strengthened system security by changing the behavior of the **avtar --encodepassword** command on non-Windows nodes. This command now creates a password that may only be decoded by **avtar** on the same node. On a non-Windows node that is part of a cluster, an additional flag (**--portable-encoding**) must be used to encode a password that is decodable on all nodes of the cluster.

This change does not apply to Windows clusters because **avtar** still automatically detects when it is running on a clustered node and performs encoding that is decodable on all nodes of the cluster.

In summary, for Avamar 7.2:

- For all nodes not part of a cluster, the **avtar --encodepassword** command uses an attribute specific to the node to create a password usable only on that node.
- For nodes in a Windows cluster, the **avtar --encodepassword** command detects the cluster and creates a password that is decodable on all nodes of the cluster.
- For nodes in a non-Windows cluster, the **avtar --encodepassword --portable-encoding** command must be used to create a password that is decodable on all nodes of the cluster.

#### EMC Avamar Plug-in for vSphere Web Client Administration Guide

The *Avamar Plug-in for vSphere Web Client Administration Guide* currently lists the location of the `vcenter-sso-info.cfg` file as `/usr/local/avamar/lib/abr/vcenter-sso-info.cfg`. This is incorrect. The location should be `/usr/local/avamar/var/abr/server_data/pref/vcenter-sso-info.cfg`.

## Your comments

Your suggestions will help us continue to improve the accuracy, organization, and overall quality of the user publications. Send your opinions of this document to [DPAD.Doc.Feedback@emc.com](mailto:DPAD.Doc.Feedback@emc.com).

Please include the following information:

- Product name and version
- Document name, part number, and revision (for example, 01)
- Page numbers
- Other details that will help us address the documentation issue

## Installation

The following sections provide information about installation and upgrade in an Avamar 7.2 environment.

### Avamar server installation and upgrade

An EMC technical representative must install the Avamar server.

Avamar server upgrades are scheduled and performed by the Avamar Support Upgrade Team. To request an upgrade, go to EMC Online Support, <https://support.EMC.com>, and open an upgrade Service Request. A technical representative then contacts you to gather information about the Avamar environment and to schedule a resource for the upgrade.

Downgrading the Avamar server software to an earlier version is not supported under any circumstances.

The client downloads, which provide the ability to download the current client versions from the server's Documents and Downloads web interface will be installed along with the server upgrade provided by the Avamar Server Upgrade team unless you specifically request that the team refrain from installing them. The upgrade team, however, does not install the Avamar Upgrade installers, which provides the client kits for the Avamar Client Manager's automated update feature. This is an optional customer-upgradeable kit which can be obtained from the upgrade information provided by the EMC Avamar Server

Upgrade team at the time of your server upgrade scheduling. For instructions on application of the client installers, refer to the *EMC Avamar Client-Only System Upgrades Technical Note* available on the EMC online support website.

## Avamar client installation and upgrade

Client installation and upgrade procedures are provided in each client or plug-in user guide, such as the *EMC Avamar for Oracle User Guide*, *EMC Avamar for Windows Server User Guide*, or *EMC Avamar for SQL Server User Guide*. A full list of Avamar documentation is available in [Documentation on page 32](#).

## Installation and upgrade of other Avamar components

The following table provides the location for installation and upgrade procedures for additional Avamar components.

**Table 8** Installation and upgrade of other Avamar components

Component	Location for installation and upgrade procedures
Avamar Administrator	<i>EMC Avamar Administration Guide</i>
Avamar Management Console Command Line Interface (MCCLI)	<i>EMC Avamar Management Console Command Line Interface (MCCLI) Programmer Guide</i>

## Upgrade requirements for Avamar 7.2

Review the requirements in the following sections before you upgrade to Avamar 7.2. Also note the addition of the Deprecated features section which describes several high level features no longer available in Avamar and recommended remediation.

### Avamar Data Store Gen1, Gen2, and Gen3 hardware are no longer supported

Avamar software running on Avamar Data Store Gen1, Avamar Data Store Gen2, Avamar Data Store Gen3, or any customer provided Dell hardware is not supported with Avamar 7.2. The minimum hardware requirement that support Avamar 7.2 is Avamar Data Store Gen4.

### Upgrade requirements in a VMware environment

Ensure that the VMware environment meets the following requirements when you upgrade to 7.2:

- You cannot upgrade proxies for the Avamar Plug-in for VMware. To use version 7.2 or later functionality, you must manually remove any 7.1 or earlier proxy virtual machines and then deploy new 7.2 proxies using the new Proxy Deployment Manager on the VMware tab of the Avamar Administration Console.
- You must reboot proxy virtual machines after you upgrade the Avamar server.

### Upgrade requirements for Avamar Tape Out

To use Avamar Tape Out (ATO) with an Avamar 7.2 server, you must install ATO release 3.1.c.

### Upgrade requirements for Avamar Extended Retention

If you are upgrading from Avamar release 6.1.x to Avamar release 7.2, you must upgrade the Avamar Extended Retention software to 2.7. All of the external Avamar servers registered to an AER server must be upgraded to 7.2.0 while the AER software is shut down. Only after all external Avamar servers are upgraded to 7.2.0 can the AER server be upgraded to 7.2.0/2.7.

### Upgrade requirements for Avamar with a Data Domain system

You must use DD OS 5.5.0.9 or later on a Data Domain system with an Avamar 7.2 server. Before you upgrade to Avamar 7.2, you must upgrade clients that back up to a Data Domain system to Avamar 7.1.x or later. Customers running Avamar 7.0.x with DD OS 5.4.x.x or earlier wishing to upgrade to Avamar 7.2 must NOT upgrade DD OS to version 5.5.0.9 while still running Avamar 7.0.x. The two versions are not compatible. Contact the Remote Proactive Upgrade team to determine the proper sequence of actions to upgrade your Avamar server and DD OS. Do not attempt to upgrade your DD OS unless you are absolutely certain that the DD OS version you are upgrading to is compatible with your current running Avamar server. Upgrading to a DD OS version that is not compatible can cause one or more Avamar maintenance activities to fail, making the upgrade process considerably more difficult.

### Microsoft update requirements for Avamar with Hyper-V on CSV

Backups fail in a Hyper-V environment with CSV unless you follow best practices and apply Microsoft hotfixes in the correct order. The *EMC Best Practices for Hyper-V over CSV Cluster Data Protection Using EMC Avamar and EMC NetWorker Technical Note* on EMC Online Support provides details.

### VMWare VSphere/ESX/vCenter environment required for management of a multi-Avamar server environment

In Avamar 7.2, the Enterprise Manager services are no longer present. They have been replaced with the free EMC product called “Backup & Recovery Manager” (BRM). Version 1.3 of BRM is required which in turn must be run on a VMware ESX 5.0 virtual machine, either standalone, or in a vSphere or vCenter environment. If no virtual environment is available, then Avamar server management can only be done on a one-by-one basis using the Avamar Management Console for each Avamar server.

## Deprecated features

Some features in previous Avamar releases have been removed from the Avamar 7.2 release.

### Deprecated features in Avamar 7.2

Dropped Capabilities	Recommended Remediation
Avamar Data Transport 1.0 SP3 with Avamar 7.2 will not support exports of new tapes. Recoveries of existing tapes to Avamar Data Transport 1.0 SP3 will still be supported. <b>ADT will be officially retired/ EOSL (all versions) on Jan 31, 2017.</b>	Discuss the EOSL of ADT with your sales rep. Discuss the following long-term retention options to replace ADT with your sales rep: <ol style="list-style-type: none"> <li>1. Data Domain Extended Retention</li> <li>2. Avamar Data Migration Enabler</li> <li>3. Avamar Extended Retention</li> <li>4. Avamar or NetWorker with CloudBoost</li> <li>5. NetWorker Tape Modules</li> </ol>
Enterprise Manager will be removed in Avamar 7.2.	Deploy Backup and Recovery Manager 1.3. This requires a VMware vSphere/ESX/vCenter version 5.0 or higher enterprise in your operating environment before we upgrade the server to 7.2. If you do not have an existing VMware virtual environment, then you can still manage individual Avamar servers from each server's Avamar Administrator console. Before upgrading an Avamar server to 7.2, the upgrade team will ask for verbal confirmation that you have a virtual environment in which you can install and configure the free BRM product. If you



Dropped Capabilities	Recommended Remediation
	do not, written consent will be required that you understand there is no Enterprise Manager in 7.2 and that BRM requires a VMware virtual environment. Then, the upgrade team will upgrade your server to 7.2 without a virtual environment.  More details will be made available at the GA launch.
SCO OpenServer and UnixWare clients will be dropped for Avamar 7.2.x clients.	Download the Avamar 7.1.x or older clients that support SCO based clients.
ADS Gen3 Platform will not be upgradeable to Avamar 7.2.x.	Discuss the following with your sales rep: <ul style="list-style-type: none"> <li>• Tech refresh to ADS Gen4S.</li> <li>• Tech refresh to Avamar and Data Domain (with Gen4S for the metadata head).</li> </ul>

## Troubleshooting and getting help

The Avamar support page provides access to licensing information, product documentation, advisories, and downloads, as well as how-to and troubleshooting information. This information may enable you to resolve a product issue before you contact EMC Customer Support.

To access the Avamar support page:

1. Go to <https://support.EMC.com/products>.
2. Type a product name in the **Find a Product** box.
3. Select the product from the list that appears.
4. Click the arrow next to the **Find a Product** box.
5. (Optional) Add the product to the **My Products** list by clicking **Add to my products** in the top right corner of the **Support by Product** page.

### Knowledgebase

The EMC Knowledgebase contains applicable solutions that you can search for either by solution number (for example, esgxxxxxx) or by keyword.

To search the EMC Knowledgebase:

1. Click the **Search** link at the top of the page.
2. Type either the solution number or keywords in the search box.
3. (Optional) Limit the search to specific products by typing a product name in the **Scope by product** box and then selecting the product from the list that appears.
4. Select **Knowledgebase** from the **Scope by resource** list.
5. (Optional) Specify advanced options by clicking **Advanced options** and specifying values in the available fields.
6. Click the search button.

### Online communities

Visit EMC Community Network at <http://community.EMC.com> for peer contacts, conversations, and content on product support and solutions. Interactively engage online with customers, partners and certified professionals for all EMC products.

### Live chat

To engage EMC Customer Support by using live interactive chat, click **Join Live Chat** on the **Service Center** panel of the Avamar support page.

### Service Requests

For in-depth help from EMC Customer Support, submit a service request by clicking **Create Service Requests** on the **Service Center** panel of the Avamar support page.

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### Note

To open a service request, you must have a valid support agreement. Contact your EMC sales representative for details about obtaining a valid support agreement or with questions about your account.

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To review an open service request, click the **Service Center** link on the **Service Center** panel, and then click **View and manage service requests**.

### Facilitating support

EMC recommends that you enable ConnectEMC and Email Home on all Avamar systems:

- ConnectEMC automatically generates service requests for high priority events.
- Email Home emails configuration, capacity, and general system information to EMC Customer Support.

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For the most up-to-date regulatory document for your product line, go to EMC Online Support (<https://support.emc.com>).