

# HP StorageWorks

## All-in-One Storage System

### release notes

These release notes cover HP StorageWorks All-in-One Storage Systems running editions of Microsoft® Windows Storage Server 2003 R2.



## Description

These release notes cover HP StorageWorks All-in-One Storage Systems running editions of Microsoft® Windows Storage Server 2003 R2.

[Update recommendation](#) Routine

## Product models

- HP StorageWorks 400 All-in-One Storage System
- HP StorageWorks 400t All-in-One Storage System
- HP StorageWorks 400r All-in-One Storage System
- HP StorageWorks 600 All-in-One Storage System
- HP StorageWorks 1200 All-in-One Storage System
- HP StorageWorks 1200r All-in-One Storage System
- HP StorageWorks All-in-One SB600c Storage Blade

## Operating systems

Microsoft Windows Storage Server 2003 R2

## Languages

When the Microsoft Multilingual User Interface (MUI) is installed on the HP StorageWorks Storage Systems, the following languages are available:

- Chinese- Simplified
- Chinese- Traditional
- French
- German
- Italian
- Japanese
- Korean
- Spanish



### NOTE:

Online help files for German, Spanish, French, Italian, Japanese, Korean, Simplified Chinese, and Traditional Chinese will be available from the All-in-One product support pages shortly after the release of All-in-One version 1.4.2. Download and install the appropriate update package to add support for the localized online help.

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## Enhancements for version 1.4.2

- All-in-One Storage Manager (ASM) wizards best practice and advanced dialog improvements
- File Share creation wizard for NFS shares with storage allocation and directory quota management
- Integration with HP StorageWorks Storage Mirroring software to accommodate asynchronous replication of file and block data to another system

- ASM agents now support domain controllers (including Microsoft Small Business Server and Microsoft Essential Business Server 2008) as application host machines
- ASM agents are now supported on Windows Server 2008 as application host machines
- Ability to specify a dedicated, primary storage network plus a secondary subnet for iSCSI traffic
- Disaster recovery tools work in concert with backup applications to preserve storage subsystem settings in case they need to be restored after a system rebuild
- Expose LUNs as mount points as an alternative to drive letters
- Ability to expose backup services to Data Protector
- HP StorageWorks Storage Mirroring Software update

An evaluation version of the HP StorageWorks Storage Mirroring Software version 5.0.2 is available on all the latest HP StorageWorks All-in-One Storage Systems. You can also install the 5.0.2 version from the HP Web site (<http://www.hp.com/>) for your evaluation. If you have already licensed a previous version, the license includes 1 year of free upgrades. When prompted, enter the key **evaluation** to begin the evaluation period.

The link to HP StorageWorks Storage Mirroring Software in the HP StorageWorks All-in-One Storage Manager (ASM) will install version 5.0.2 if Storage Mirroring is not currently installed. If Storage Mirroring is installed, the link will launch the HP StorageWorks Storage Mirroring Management console.

## Fixes

- All-in-One Storage Manager (ASM) agents are now fully supported on dual-home servers.
- ASM now supports multiple file volumes on iSCSI LUNs. ASM does not provision storage in this manner, but if storage is manually provisioned in this manner, ASM will discover and manage it.

## Issues and workarounds

Issues and their workarounds have been identified and placed into categories. These categories are:

- [Installation of All-in-One Version 1.4.0](#), page 4
- [System administration](#), page 5
- [All-in-One Storage Manager](#), page 5
- [Data Protector Express](#), page 8
- [HP StorageWorks Storage Mirroring](#), page 12

## Installation of All-in-One Version 1.4.2

This section describes issues related to upgrading to All-in-One Version 1.4.2.

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## Installation of All-in-One Version 1.4.2

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**Issue:** Some settings may be lost when upgrading to All-in-One version 1.4.2

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**Description** The following settings may be lost while upgrading to All-in-One version 1.4.2 if the All-in-One Storage Manager is unable to communicate with all of its agents when **Finalize Installation** is clicked:

- Snapshot schedules get set to *None*
- Lists of snapshots are deleted
- User defined application names change to the volume name on the application server
- Shares no longer have a size limit

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**Workaround**

1. Make sure all All-in-One Storage Manager Agents have been updated to the same version of the All-in-One Storage Manager Agent as the version of All-in-One Storage Manager that is on the All-in-One Storage System.
2. Make sure that All-in-One Storage Manager has the necessary credentials for each application on each application server:
  - a. In the All-in-One Storage Manager Actions pane, select **Application Credentials**.
  - b. If any applications do not have correct credentials, update the credentials by clicking the **Update Credentials** button.
3. Run the following command from a Command Prompt: "C:\Program Files\HP\HP All-in-One Storage Manager\hpkaccli.exe" force upgrade

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## System Administration

This section describes issues related to system administration of the All-in-One Storage Systems.

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### System Administration

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**Issue:** Virtual tapes may be lost when connecting to the All-in-One Storage Server

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**Description** Connecting the All-in-One Storage Server to a VLS1000i tape device using the Microsoft iSCSI initiator may result in the virtual tapes disappearing from the system every hour.

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**Workaround** Install a hardware initiator on the All-in-One Storage Server and configure the VLS1000i virtual tape device to use the hardware initiator. Refer to the installation instructions included in the hardware initiator.

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## All-in-One Storage Manager

This section describes issues related to HP StorageWorks All-in-One Storage Manager (ASM) running on All-in-One Storage Systems.

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### All-in-One Storage Manager

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**Issue:** Exchange, SQL Server, and user-defined application data restored to an alternate location cannot be deleted

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**Description** The data cannot be deleted due to insufficient privileges. All iSCSI LUNs created by All-in-One Storage Manager on a Windows server as part of hosting Exchange, SQL Server, and user-defined application storage, contain *System Volume Information*, a hidden system folder. This folder is by default only accessible to the SYSTEM user, and not to the Administrators group. There may also be other similar folders, such as *SIS Common Store*, if **Single Instance Storage** is enabled on the volume.

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## All-in-One Storage Manager

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Change the privileges as follows:

- Workaround**
1. Navigate to the **System Volume Information** folder in the restored data.
  2. Right-click the folder and select **Properties**.
  3. On the **Security** tab, add the Administrators group and select **Full Control** for its permissions.

The folder can now be deleted by an administrator. Repeat this process for any other folders that are inaccessible by administrators.

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**Issue:** Exchange Server 2007 logs an error (Event ID 9782 ) in event log when a snapshot is taken from All-in-One Storage Manager.

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**Description** When a snapshot of an Exchange 2007 storage group is taken by All-in-One Storage Manager, the snapshot succeeds but Exchange logs an error in the application event log on the Exchange server. This error is expected, and occurs because All-in-One Storage Manager intentionally does not mark the VSS snapshot as successful. When a VSS snapshot is reported as successful, Exchange truncates its log files for the storage group. This may not be desirable in the case of a snapshot which does not typically provide the same data protection as a backup done using a backup application such as the integrated Data Protector Express.

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**Workaround** The error may be ignored. The successful snapshot will appear in the list of snapshots in the **Data Protection** tab of All-in-One Storage Manager.

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**Issue:** Backup and/or Restore operations in ASM may fail if there is more than one File Volume configured on an iSCSI-Based LUN.

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**Description** The Backup and/or Restore operations in ASM may fail if there is more than one File Volume (partition) configured on an iSCSI-Based LUN (disk).

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**Workaround** Do not perform backup or restore operations in ASM on storage where more than one File Volume is hosted on a single iSCSI LUN. ASM never provisions more than one volume on iSCSI LUNs, and this situation will not be encountered for storage provisioned by ASM.

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**Issue:** Migrating storage using All-in-One Storage Manager may cause an error during volume creation

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**Description** When migrating storage using the All-in-One Storage Manager, the **Create Volume** task may fail in the following wizards:

- Host an Exchange Storage Group Wizard
- Create a Share Folder Wizard
- Host a SQL Server Database Wizard
- Host a User-Defined Application Wizard

This is due to an error in Microsoft Virtual Disk Service (VDS).

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**Workaround** Restart the specific wizard to launch the task again.  
In some cases, the **Create Volume** task will fail after storage has already been provisioned and an iSCSI LUN has been created on the AiO. If this occurs, running the wizard again will result in another iSCSI LUN (vhd file) being created on the AiO and the initial iSCSI LUN will take up extra space without being utilized. For information about how to properly delete the unused iSCSI LUN, see the AiO white paper *Reclaiming storage on the HP StorageWorks All-in-One Storage System* at <http://h71028.www7.hp.com/ERC/downloads/4AA1-1026ENW.pdf>.

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**Issue:** HP All-in-One Storage Manager Agent fails to install

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## All-in-One Storage Manager

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**Description**

On Windows Server 2008 systems, the installation of the HP All-in-One Storage Manager Agent may fail with an `Install failed` error message. Support for the ASM Agent on a Windows Server 2008 system requires Microsoft .NET Framework 3.0. If Microsoft .NET Framework 3.0 is not installed, the ASM Agent installation will fail.

**Workaround**

To install Microsoft .NET Framework 3.0 on Windows Server 2008:

1. If the **Initial Configuration Tasks** window is not open on the Windows Server 2008 system, open it by entering the `oobe` command at the **Run** prompt.
2. Click **Add a Role**.  
The **Add Roles Wizard** opens.
3. Click **Next**.
4. On the **Server Roles** page, check the **Application Server** box and then click **Next**.
5. Complete the wizard.

Microsoft .NET Framework 3.0 is installed. The ASM Agent can now be installed.

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**Issue: Data protection settings are not modified for storage areas that are promoted by ASM**

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**Description**

If data protection settings (replication, snapshots, and backup) are applied to a remote user-defined storage area, and then a SQL Server database or Exchange database is manually migrated to this storage area, ASM automatically promotes the application to a SQL or Exchange Storage area during the discovery process. ASM does not, however, adjust the data protection settings that were originally applied to the area. This may lead to failures when taking snapshots, running backups, or running replication.

**Workaround**

When SQL Server or Exchange databases that are part of user-defined storage areas are promoted to SQL or Exchange storage areas in ASM, disable and delete all data protection settings for those areas (replication, snapshots, and backup) and reset them using ASM.

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**Issue: Replicating a storage component whose application data exists in a single iSCSI LUN results in extra space utilization on the replication target**

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**Description**

When a single iSCSI LUN is presented to a SQL or Exchange server, the database file and database transaction log file are both created on the volume contained in the iSCSI LUN. If the iSCSI LUN was created on the AiO as a user-defined application, ASM will discover that the database files are now in the volume and it will promote the user-defined application to a SQL Server or Exchange application instance. If the SQL Server or Exchange application instance is replicated to another system, the iSCSI LUN is replicated to the target system twice: once for the database file and again for the log file.

In general, the amount of space used on the replication target is equal to the size of each iSCSI LUN that contains multiple components multiplied by the number of components in that iSCSI LUN. If multiple components exist in multiple iSCSI LUNs, the sum of the product of the sizes is the total consumed space. Snapshot space usage is similar.

For example, a single iSCSI LUN of 200MB that contains a volume that has both the database file and the log file would consume 400 MB of space on the replication target (200MB x 2 = 400MB). Likewise, an Exchange server with one storage group of three mail stores on one iSCSI LUN of 500MB and the log and public store on a separate iSCSI LUN of 250 MB would consume 2000MB of space on the replication target (500MB x 3 + 250MB x 2).

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## All-in-One Storage Manager

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**Workaround**

As a best practice, when configuring storage for SQL Server and Exchange databases, create the database files on one iSCSI LUN and create the associated log and system files on a separate iSCSI LUN. This way, when storage areas are replicated, there will be one component per iSCSI LUN and space will be utilized on the replication target more efficiently.

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**Issue:** **Data volumes are not remounted after Quick Restore**

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**Description**

Mounted data volumes are not remounted after performing an AiO Quick Restore. These data volumes are not damaged or destroyed but they are not visible in the ASM user interface after a Quick Restore operation.

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**Workaround**

In order to restore the mount points to their original locations, you must record them prior to running Quick Restore.

1. Using Windows Disk Manager, record the mount points of the volumes within the root directory of each volume.
  2. After running Quick Restore, scan the system to find data volumes that are not assigned drive letters.
  3. Temporarily mount the volumes that are not assigned drive letters.
  4. Locate the recorded list of mount points and remount the temporarily mounted volumes to the correct locations according to the record.
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**Issue:** **All-in-One Storage Manager does not recognize a change of disk type between SAS and SATA**

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**Description**

On AiO systems that allow a mix of SAS and SATA drives on the same storage controller, a user may replace an unallocated disk with a disk of a different bus type. For example an unallocated SAS disk could be replaced with a SATA disk. ASM will discover any size difference in the disks, but it does not detect the difference in bus type. This may result in incorrect best practice decisions made by ASM on the **Storage Allocation** page of its wizards. For example, if a disk replacement resulted in only 2 remaining SAS disks, the wizard may still propose a RAID 5 logical drive. The attempt to create the logical drive would then fail.

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**Workaround**

1. Stop the **HP All-in-One Storage Manager Server** Windows service.
  2. Delete or rename the file `C:\Program Files\HP\HP All-in-One Storage Manager\hpkas-sandbox.bin`.
  3. Restart the **HP All-in-One Storage Manager Server** Windows service.
- ASM will now have a correct accounting of the SAS and SATA drives present.
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## Data Protector Express

This section describes issues related to HP StorageWorks Data Protector Express running on All-in-One Storage Systems.



**NOTE:**

Changes made using Data Protector Express are not always reflected in All-in-One Storage Manager.

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### Data Protector Express

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**Issue:**

**Changes made to a backup using Data Protector Express are not always reflected in All-in-One Storage Manager**

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**Description**

If you use Data Protector Express to change the rotation type associated with a backup to **Custom rotation**, the change is not reflected in All-in-One Storage Manager.

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## Data Protector Express

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**Workaround** Data Protector Express can be used to change the rotation type of a backup to **Custom rotation**, however, this change will not be reflected in All-in-One Storage Manager. If you need to use a custom rotation, HP recommends that you continue to use Data Protector Express to make any further changes to the backup.

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**Issue:** **Reinstalling Data Protector Express requires additional manual configuration steps**

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**Description** If Data Protector Express is reinstalled on an All-in-One Storage System, there are additional manual configuration steps that must be performed. This is not necessary for a Data Protector Express upgrade. It is required for installation.

**NOTE:**

The Data Protector Express installer provided on the AiO system includes a bundled license key, so you will not be asked to provide a key. This license key (MAOAGHSE-CS54E4MW-EKN6ZHME) will only work on AiO systems.

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Use the following procedure to reinstall Data Protector Express and create an ASMbackup user account. Install Data Protector Express as follows:

- Workaround**
1. Double-click the file **C:\hpnas\Components\DPX\BB116-10550-DPX-V3.50-SP2-34497-ALL-ALL-WEB.EXE**.
  2. When the Data Protector Express installation program opens, click the **Install** icon.
  3. When prompted, accept the default installation location of **C:\Program Files\HP**.
  4. When prompted, select **Create a new Data Protector Express domain**.
  5. Click **Next**.
  6. Enter the name of the domain. You may keep the default or use any name you like.
  7. After the installation completes, run the batch file at **C:\hpnas\components\DPX\Addasmbackupuser.cmd** to create the Data Protector Express user ASMbackup. This user is required for integration of Data Protector Express with All-in-One Storage Manager.
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**Issue:** **Data Protector Express may fail to start with "Service not found" error**

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When attempting to start Data Protector Express, the following error may be displayed:

Code: 59 (0x3b)

**Description** Message: Service not found

Description: The desired service was not found. Either the service is no longer active, or the machine providing the service is unavailable at this time.

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## Data Protector Express

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Check the dpconfig.ini file at C:\Program Files\HP\Data Protector Express\config. In particular, the isDatabaseServer setting should be **Yes**. Other entries may vary depending on your configuration.

The file should have a [configuration] section similar to the following:

```
[configuration]
```

```
lastUser=ASMbackup
```

**Workaround** nodeGuid={00001001-44BF7770-0010D9E7-0018CAB0}

```
nodeName=STORAGEWORKSAIO
```

```
databaseServerAddress=localhost
```

```
isDatabaseServer=Yes
```

```
databaseServerName=Data Protector Express Storage Domain
```

```
disableNetwork=Yes
```

```
remoteAdmin=No
```

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**Issue:** The Restore Wizard does not allow the "Overwrite Restore" option when restoring data backed up prior to upgrading to AiO 1.3 or later.

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**Description** Due to object model changes in AiO 1.3 and later, it is not possible to perform an overwrite restore when restoring data that was backed up prior to AiO 1.3. The data may be restored to an alternate location and then manually moved to the original location.

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**Workaround** Use the **Different Location Restore** option to restore the data to an alternate location of your choice. The data can then be moved manually, overwriting the existing files.

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**Issue:** Backup job fails for Exchange storage groups that were manually migrated to AiO.

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It is possible to manually create a virtual hard disk on AiO using the Microsoft Software iSCSI Target snap-in. This disk may then be assigned to a target, allowing an iSCSI initiator on the Exchange server to access the disk as a local volume.

If the logs and database(s) of an Exchange storage group are then moved to this iSCSI volume, All-in-One Storage Manager (ASM) will discover the Exchange Storage Group, and present it as an application in the ASM user interface. This will allow you to configure data protection for the application and schedule a DPX backup; however, when the backup job runs, it fails.

**Description** The job status in DPX will be **operator canceled**, and the following error is written to the Windows application event log on the AiO system:

```
Stopping backup job '<job name>' due to checksum verification failure.
```

The error occurs because ASM performs checksum verifications using the eseutil.exe utility on Exchange databases and logs before backing up the files. Databases and logs are expected to be found in separate volumes as a best practice method employed by ASM when a wizard is used to migrate an Exchange storage group to AiO. When the logs are not found, the checksum fails and ASM cancels the backup job and notifies Exchange that the backup did not complete successfully.

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## Data Protector Express

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Manually create another iSCSI virtual hard disk and make it accessible to the Exchange server:

- Workaround**
1. Use the Exchange Management Console to move the storage group path for the log files and system files to the new volume, leaving the database at the original iSCSI volume.
  2. After modifying the paths in Exchange, click **Refresh** in the ASM user interface to force a discovery.
  3. The application area for log files will now show an alert. Right click on this area and select **Remove from view**.
  4. Another discovery will be performed and ASM will restore the log file area into the user interface with corrected properties, such as the new location on the Exchange server.

For backup jobs from ASM to work properly, each database and the log files/system files must be on a separate iSCSI volume. For example, if a storage group contains one mail store and one public folder store, three iSCSI volumes should be used, one for each database, and one for the log and system files.

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**Issue:** Performing a “Remove from View” on a Virtual Library causes the library to appear as a User-Defined application.

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**Description** If a virtual library is deleted from Data Protector Express, and then the **Remove from View** option is used on the virtual library in All-in-One Storage Manager, the virtual library is removed from the **Data Protection view**, but appears in the **User Defined view**.

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## Data Protector Express

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- Workaround**
1. Use Data Protector Express to stop and then delete the Virtual Library Device.
    - a. In Data Protector Express, select the **Devices** icon from the **Favorites** pane on the left.
    - b. In the right pane, navigate until the desired device is displayed.
    - c. Right-click the **Virtual Library device** and select **Stop**.
    - d. After the device has been stopped, right-click again and select **Delete**.
  2. Delete the storage folder used by Data Protector Express to store the backup data. The storage folder path can be found by right-clicking on the virtual library in All-in-One Storage Manager, selecting **Properties**, and then selecting the **Storage** tab.
  3. Right-click on the virtual library in All-in-One Storage Manager and select **Remove from view**.
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### Issue: Data Protector Express may encounter issues after upgrading to AiO 1.4.2

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- Description**
- A Data Express configuration file, `dpconfig.ini`, may become corrupted during the upgrade to AiO 1.4.2. To protect against this potential problem, a backup of the configuration file is created prior to the upgrade. Possible issues may include:
- Data Protector Express may fail to start
  - All-in-One Storage Manager may fail to discover previously existing backup jobs or may fail to create new jobs.
  - Data Protector Express may have no base license installed.
- The backup of the configuration file is named `dpconfig.ini.bak` and is located in the same directory. It may be used as a reference when making any necessary changes to the configuration file.
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To reset the `dpconfig.ini` file:

1. Navigate to `C:\Program Files\HP\Data Protector Express\config\dpconfig.ini`.
2. Open the file with a text editor. In the `[configuration]` section, make sure that `disableNetwork` is set to `No`. Example: `disableNetwork=No`.

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#### NOTE:

- Workaround**
-  The `dpconfig.ini` file contains an `[international]` section with information about the month, day and year. The order of the day, month and year will vary, depending on the language in which Data Protector Express is installed. The `dateFixed` field is required for integration with All-in-One Storage Manager and will result in errors if not present.
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3. If Data Protector Express displays an alert that states **No base license is installed**, please add the following license key: `MA0AGHSE-CS54E4MW-EKN6ZHME`. To add the license key, select **Help > Licenses**, right click in the window and select **New**. Add the key in the **New Licensedialog** box.

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#### NOTE:

-  This key will only work on AiO systems.
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## HP StorageWorks Storage Mirroring

This section describes issues related to HP StorageWorks Storage Mirroring, a service required to run replication on HP All-in-One Storage Systems.

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## HP StorageWorks Storage Mirroring

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**Issue:** A warning message appears during the installation of HP StorageWorks Storage Mirroring (AiO600 and AiO1200r only)

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**Description** During the installation of HP StorageWorks Storage Mirroring on the HP StorageWorks 600 All-in-One Storage System, a warning message appears. The warning message begins with the text The Installation process has detected that the SystemPages parameter is non-zero.

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**Workaround** Click **Cancel** to dismiss the warning message and continue with SWSM installation.

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## Supersedes history

1.0, 1.0.1, 1.1, 1.2, 1.3

## Effective date

September 15th, 2008