Plasmon Archive Appliance Express

Product Release Notes

Release Details

Release Name:	UDO Archive Appliance Express
Release Note Number:	Rnote150
Release Version:	4.08.21
Release Date:	26th November 2007
Release Type:	Full
Supported Platforms:	Plasmon UDO Archive Appliance Express
Archive Controller Version:	Supermicro rack-mount, Supermicro tower
UDO Drive Firmware Version:	UDO2: W04a
Library Firmware Versions:	N/a
Documentation Versions:	Quick Start Guide (810-102720-01 Rev A) Administrator's Guide (810-102721-01 Rev A) Operator's Guide (810-102722-01 Rev A)
Installation Notes:	Users can upgrade the Archive Appliance Express to v4.08 from these earlier releases: • 4.06.19 • 4.06.19 PL1 • 4.06.19 PL2 • 4.06.19 PL3 • 4.06.19 PL4 • 4.06.19 PL5 Note: Users must run the software upgrade while booted in Maintenance mode.

Product Enhancements

This section of the Release Notes document new features and enhancements applied to the product since the last major release of v4.06.19.

New Feature/Enhancement:	Description/Benefit:
Additional RAID support in the Archive Appliance Express	In addition to the 2 SATA drives RAID1 configuration, the AAE now supports: • 2 SATA drives RAID1 plus a hot spare. • 4 SATA drives configured in RAID5. Field upgrades to either configuration are supported (contact Plasmon Technical Support for more information).

New Feature/Enhancement:	Description/Benefit:
System backup and recovery for the Archive Appliance Express	Users can now back up the Archive Appliance Express system configuration and management data to RW UDO media. Refer to the 'UDO Archive Appliance Express Operator's Guide' for more information on how to back up the system. Refer to the 'UDO Archive Appliance Express Administrator's Guide for information on how to use the backup to recover all or part of the system.
Unmanaged Volumes	Users can now create unmanaged volumes to an Archive Appliance Express. (An unmanaged volume contains data on the RAID cache only – it is not migrated to UDO media.)
Tower configuration	The Archive Appliance Express can now be purchased in a tower configuration that is suitable for use in offices that do not have specialised equipment racks.
Replication	Users can now replicate data on archives and unmanaged volumes. A once-daily replication job ensures that all files and directories created or changed on one volume will be copied to a second volume. The source and target volumes can be co-located on a single Appliance, or distributed across two separate Appliances. Refer to the UDO Archive Appliance (or Archive Appliance Express) Administrator's Guide for more information on the use of this feature.
UDO and Library Logs	The Appliance GUI can now collect logs from the UDO drives and library.
Archive Initialisation Policy	A new archive will not be initialized until at least one file has been written to the archive and has been included in a migration job (note: directories do not count as files in this context). Until this occurs, no UDO media will be assigned to the archive's data pool or pools. This enhancement allows users to experiment with creating and deleting an archive without having to commit any UDO media to it.

Product Bug Fixes

This section of the Release Notes document bug fixes applied to the product since the last major release of v4.06.19.

Alerts and Notifications

Area of Bug Fix:	Details:
Alert 304 (dirty media) mentions library keypad (Bug ID 10470)	**Issue:** The email alert sent for dirty media has instructions to eject media for cleaning using the library keypad. There is no keypad on the AAE. **Resolution:** Eject media directly from the UDO drive.

Data Migration and Recall

Area of Bug Fix:	Details:
FSC Consistency Check (Bug ID 12054/11893)	**Issue:** FSC consistency check does not detect invalid dlcType. **Resolution:** This bug has been addressed in releases v4.08 and higher.
Large-scale recall operations (Bug ID 12029)	**Issue:** On an Archive Appliance Express, recalling hundreds of files from offline media causes the 'Inventory' job to go idle. The result is that once the requested media has been added, it will become locked in the UDO drive. **Resolution:** The Inventory job no longer goes idle under this circumstance. The issue has been resolved in releases v4.08 and higher.
Migrating parent directories (Bug ID 12182)	**Issue:** The Archive Appliance Express sometimes migrates files or directories before their parent directory. If recovery from media is subsequently run, these items will be placed in the root directory of the archive. **Resolution:** The migration process has added logic to ensure that parent directories are migrated with their children files and folders. This fix has been applied in releases v4.08 and higher.

Device Management

Area of Bug Fix:	Details:
Drive discovery during reboot (Bug ID 12185)	**Issue:** The Archive Appliance Express can sometimes fail to discover all physical disks during system reboot, resulting in a degraded RAID. **Resolution:** A retry procedure has bee added to the boot sequence to ensure that all functioning drives are discovered during bootup.

File Systems

Area of Bug Fix:	Details:
XFS File System (Bug ID 12037)	**Issue:** Writing to an archive under heavy load - i.e., during a sustained write of more than 10,000 files at > 7 files/second - can cause file corruption. **Resolution:** The issue has been resolved in 4.06.19 PL5 and higher by patching the XFS file system module.

Media Management

Area of Bug Fix:	Details:
Dirty UDO Media (Bug ID 11392/11828)	**Issue:** The Archive Appliance Express does not accurately determine when UDO media are dirty. **Resolution:** This issue has been fixed in v4.06.19 PL5 and all higher releases. Now, media will be marked dirty under two conditions: a) When for a statistically significant sample size, the write relocation rate is higher than 5%, Or b) When for a statistically significant sample size, the read retry rate is higher than 20%.

RAID and Volume Management

Area of Bug Fix:	Details:
Storage volume management (Bug ID 11950)	**Issue:** The Archive Appliance Express does not allow users to create unmanaged volumes that are smaller than 20GB. **Resolution:** With releases v4.08.xx and higher, the minimum size for an unmanaged volume has been changed to 1GB (1024 MB).

System Management

Area of Bug Fix:	Details:
Reset System (Bug ID 11426)	**Issue:** Running reset_system will not delete the link /etc/samba/smbpasswd, if one exists. Subsequent software upgrades will fail if run in 'no force' mode and if the 'samba' rpm is part of the upgrade. **Resolution:** The link is now deleted. Fixed in releases v4.08 and higher.

Time and Date

Area of Bug Fix:	Details:
Time and Date Configuration (Bug ID 11696)	**Issue:** Certain Archive Appliance Express GUI pages do not consistently update time, date, and timezone changes applied to the system, even after reboot. **Resolution:** The issue was introduced with Year 2007 changes to Daylight Savings Time in the U.S.A., and has been resolved in v4.08 and higher.
Time Synchronization (Bug ID 11750)	**Issue:** The Archive Appliance Express Express does not synchronize its system clock with a Domain Controller (DC) if the time difference is less than 5 minutes. **Resolution:** The Appiance now synchronizes with the DC when it joins the domain.

User and Group Management

Area of Bug Fix:	Details:
Active Directory Discovery (Bug ID 11751)	**Issue:** The Archive Appliance Express will report an incorrect connection status to an Active Directory domain when a large number of domain controllers exist. **Resolution:** The DNS query buffer has been expanded to accommodate large numbers of domain controllers.
User Authentication for shares access (Bug ID 12222)	**Issue:** Users who belong to more than 32 groups are denied access to shares on the Archive Appliance Express. The root cause is a kernel limitation wherein all group information is discarded when more than 32 groups has been found during user authentication. Since no group information is available, then the Appliance cannot confirm the user's group-level permissions on file system objects. **Resolution:** The system now saves the first 32 groups discovered during user authentication. Plasmon support can also customize, if necessary, the set of 32 groups used for access authorization. Users should contact Plasmon support if they believe that this will be an issue in their environments.

Known Issues and Product Notes

Alerts and Notifications

Issue:	Details and Workaround:
SNMP Configuration (Bug ID 11618)	**Issue:** The Test action for SNMP configuration always succeeds, even when the trap receiver is not accessible over the network. **Workaround:** This behaviour is by design b/c SNMP runs over UDP. Users should always check the test results at trap receiver.

Backup and Recovery

Issue:	Details and Workaround:
Restore doesn't restart network and NTP services (Bug ID 9421)	**Issue:** Following a restore the network and NTP configurations are restored, but the services are not restarted. **Workaround:** Start services manually.
No file system recovery during power failure (Bug ID 9440)	**Issue:** Following a power failure during a file system recovery, the file system is not recovered but successful file system recovery is reported. **Workaround:** Restart recovery in the GUI after deleting: /var/opt/ssm/tmp/.<archivename>_ssmfs_recover

Issue:	Details and Workaround:
Recovery – Failure to Create Archive Volume (Bug ID 9825)	**Issue:** Recovery can fail during volume creation phase. This is a race condition that can happen when the user navigates from the 'Recovery' page in the GUI to the Storage - RAIDs page while a recovery is in progress. **Workaround:** Do not navigate the GUI while running a recovery operation.
Power failure during full recovery from backup (Bug ID 11365)	**Issue:** If power fails on an Archive Appliance Express during the resynch stage of a full recovery from backup, then after reboot, the system will not be able to continue the recovery. **Workaround:** Follow these steps to workaround the issue: ssm stop rm -f /var/opt/ssm/lock/* rm -f /opt/jakarta-tomcat/webapps/ROOT/recoverySession /etc/init.d/jsp_init stop /etc/init.d/jsp_init start Then run full recovery from backup.
GUI: Data Protection -> Backup Page (Bug ID 11515)	**Issue:** The Data Protection -> Backup page shows that a backup has completed even though it failed due to media errors. However, correct information is sent to user via the Appliance's notification services. **Workaround:** none.
Backup Scheduling (Bug ID 11603)	**Issue:** After a user changes the time zone or the system time, the backup jobs will continue to run at the previous time setting until the 'crond' daemon has been restarted. **Workaround:** For users who do not have access to CLI utilities on the Archive Appliance Express, restarting the crond daemon requires a system reboot.
Recovery from backup and from media fail if backup disk is added (Bug ID 11614/11990)	**Issue:** Recovery from backup and recovery from media operations fail if a backup disk is loaded into the UDO Drive during the file system recovery phase. **Workaround:** When in a recovery operation, only add a backup disk when prompted to do so by the GUI.
Recovery from Backup (Bug ID 11632)	**Issue:** Recovery from backup fails if network connection on Archive Appliance Express is disrupted. **Workaround:** restore the network connection and re-try the recovery.
Data Protection – Backup page (Bug ID 11927)	**Issue:** The 'Data Protection - Backup' page reports failed jobs as 'Complete'. **Workaround:** Users should check 'Last Successful Backup' times to verify that backups are occurring as scheduled.
Full 'ssmvar' volume during recovery from media (Bug ID 12217)	**Issue:** During full system recovery from media, the /var/opt/ssm/ volume can become full. This causes longer recovery times and can result in UDO media being marked as 'DIRTY' or 'UNRELIABLE' **Workaround:** After recovery has completed, remove the media from the library as if to clean them and then re-insert them.
Replication service is not restarted after successful recovery from backup (Bug ID 12245)	**Issue:** The Replication service is not restarted automatically after a recovery from backup operation. **Workaround:** Restart the replication service in the System - Services page.

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Data Migration and Recall

Issue:	Details and Workaround:
File Release Latency (Bug ID 10460)	**Issue:** Archive Appliance Express exhibits high file release latency during periods of high CPU usage by SSM processes. Intensive writes to the user archives during data migration could result in file release delays. Possible impact: migrations and recalls will be suspended until the files are released. **Workaround:** reduce utilization to a safe margin (under 75%) by expanding the archive or by reducing both the high and low 'watermarks' for cache utilization.
GUI status page timeout. (Bug ID 10467)	**Issue:** The System -> Status page GUI can display a timeout error while writing large files (approx. 1GB) if the system is very busy. **Workaround:** Refresh the GUI page.
Migration can stop if ssmlog volume reaches 100%. (Bug ID 10725)	**Issue:** If the ssmlog volume becomes full it is possible that migrations may stop. There is a background process that deletes old logs files when the volume fills up so this situation should never occur. In the development of the software this condition was observed when debug was left running. Debug logs are not deleted by the background log process. **Workaround:** Delete the file(s) causing the volume full condition and restart ssm or reboot the system.
Deleting Parent Directory During Recall Causes SSM Service Failure (Bug ID 11336)	**Issue:** HSM fails if a user deletes a file's parent directory after initiating a recall for that file. **Workaround:** Restart the SSM service in the System - Services page in the GUI.

Device Management

Issue:	Details and Workaround:
UDO Log Collection (Bug ID 12115)	**Issue:** Users cannot collect UDO logs from a drive that is offline, disabled, or in an error state. The GUI will instead return the error 'Invalid arguments (240002)'. **Workaround:** Attempt to recover the drive either by enabling it in the 'Diagnostics - UDO Drives' page or by rebooting the system. The device logs will not be over-written during this recovery.

File Systems

Issue:	Details and Workaround:
Viewing File Properties (Bug ID 2969)	**Issue:** Viewing the properties of a file with filename less than 8 characters via Windows Explorer or My Computer results in the recall of that file. **Workaround:** None
Files can be deleted from a WORM file system (Bug ID 9098)	**Issue:** After file system recovery, any file can be deleted from a WORM file system during the timeout period. **Workaround:** Wait for timeout period to expire before bringing file system online.

Issue:	Details and Workaround:
Archives Shared over NFS or FTP might not mount properly. (Bug ID 11442)	**Issue:** Archives shared over NFS or FTP do not mount automatically after this sequence: 1. Create NFS or FTP SSM shares. 2. Stop NFS and FTP services. 3. Stop SSM. 4. Start NFS and FTP services. 5. Now start SSM, and you will see SSM shares will not be mounted automatically. **Workaround:** Stop NFS and FTP services, start SSM, and then start NFS and FTP services.
CIFS/SMB Scalability (Bug ID 12062)	**Issue:** The Archive Appliance Express does not allow users to create or copy file names longer than 99 characters in the unicode character set on file systems shared over CIFS/SMB. **Workaround:** None.
Editing NFS shares (Bug ID 12085)	**Issue:** Saving edits to an NFS share in the Network - Shares page causes the GUI to hang when a host to which the Appliance cannot connect is listed in the 'allow hosts' field. **Workaround:** The root cause is a reload of NFS parameters that does not return a status to the GUI due to the non-existent host connection. Wait 5 minutes, close the GUI's browser, and re-login to the GUI.

Media Management

Issue:	Details and Workaround:
Media Management for Damaged UDO Disks (Bug IDs 6535, 10415)	**Issue:** The product does not post informative status information to the Web UI's System – Status page, nor does it send email notifications in the event that it cannot read a damaged UDO disk. **Workaround:** None
No write failure on GUI for write protected media (Bug ID 10468)	**Issue:** If a migration fails due to a write protected media there is no indication on the GUI that a failure has occurred. **Workaround:** None
GUI – Storage -> Media Request page (Bug ID 10507)	**Issue:** The Storage -> Media Request web page will display media requests for recall jobs that have been aborted. **Workaround:** none. This behaviour is by design so that users can see the history of unfulfilled media requests (recall jobs abort automatically if not completed within 24 hours)
Media open and closed times are not adjusted for time zone or date changes. (Bug ID 10517, 10710, 10815)	**Issue:** The start and end time of the media is not updated to reflect changes to the time zone. If the time zone is changed during operation the start and end times of some media may appear to be incorrect. Some discrepancies may exist on other GUI pages (e.g.: drive errors) if the time zone is changed. **Workaround:** No workaround if the time zone is changed. Set the time zone correctly on installation.
Media end-dates are not always correct (Bug ID 10841)	**Issue:** The Storage - Offline Media page shows an end date for open UDO media in the case where one volume on the disk has been closed while the second volume is blank or open. **Workaround:** None.
Spare media count in the System – Status page (Bug ID 11557)	**Issue:** The System - Status page displays count of Spare media + Free media in the Spare Media field, when it should show only Spare media counts. **Workaround:** The correct counts are shown in the Storage - Online Media page.

Issue:	Details and Workaround:
Mismatched media stalls data migration (Bug ID 11951)	**Issue:** Loading a 'Compliant WORM' UDO disk into an Archive Appliance Express that is configured with a WORM archive causes migrations to hang in 'Waiting for resources' state. **Workaround:** Call Plasmon Technical Support and have them remove the disk from the RMDB.

Network Configuration

Issue:	Details and Workaround:
Network - IP Configuration (Bug ID 11944)	**Issue:** After changing an Appliance's IP address through the 'Network - Configuration' page, notifications continue to print the old address. **Workaround:** Change the Appliance's host name, save, and return to previous host name.

RAID and Volume Management

Issue:	Details and Workaround:
Appliance Suspends Core Operations when 'ssmpart' volume is full. (Bug ID 11193)	**Issue:** The Archive Appliance Express will suspend migrations, recalls, or backups when the /var/opt/ssm/part volume becomes 95% full. Users will receive a notification in this event. **Workaround:** On A12 systems, the user can expand the 'ssmpart' volume. On A2 systems, this is an indication that the Appliance has reached operating capacity. Contact Plasmon Technical Support should this event occur.
Storage – Volume Properties (Bug ID 11783)	**Issue:** The Storage - Volumes - Volume Update - Archive page displays Available Cache Space as 1PB when the RAID volume is 100% full and there is not enough UDO media to migrate files. **Workaround:** Add enough UDO media to the Appliance to allow migrations to continue.
Storage – Volume Creation (Bug ID 11824)	**Issue:** GUI displays cryptic error when user attempts to create a storage volume with illegal characters in the name: "CORBA::INV_OBJREF#IDL:omg.org/CORBA/INV_OBJREF:1.0 " **Workaround:** Use only supported characters in the volume name: '0-9', 'a-z', and 'A-Z'
Deleting archive volumes (Bug ID 12225)	**Issue:** The Archive Appliance Express allows users to delete archives when the Storage Services are not running. Doing so will leave configuration information about the archive in the sytsem. **Workaround:** Storage services must be running before a user deletes an archive.

Replication

Issue:	Details and Workaround:
Replication Logging (Bug ID 11829)	**Issue:** The replication log /var/log/_rep_<ArchiveName> reports transfer size and rate for compressed data. The log therefore does not reflect the true size or speed of a data replication job. **Workaround:** None. This information is provided for user reference.

Software Installation and Upgrade

Issue:	Details and Workaround:
Installation/Upgrade (Bug ID 10797)	**Issue:** When installing or upgrading software on an Archive Appliance Express v4.06 or later, an 'rpm' process occasionally hangs. End users will see this in the GUI as a 'stalled' install where the status bar stops showing progress. **Workaround:** These occurrences are uncommon. Reboot the system and re-try the software installation or upgrade.
Firmware upgrades overwrite 'Patch' versions. (Bug ID 11875)	**Issue:** Installing drive firmware via the System - Update page resets the 'Patch Version' field to 0001 in the Diagnostics - System Information page. **Workaround:** None.

Time and Date

Issue:	Details and Workaround:
GUI Time and Date Display (Bug 10372)	**Issue:** Due to a known issue in IE6, the menu drop down in the System – Time & Date page will temporarily obscure elements on the page. **Workaround:** Close drop down menu when finished with required task.
Time zone change not shown in keypad (Bug ID 11201)	**Issue:** Time displayed in the Appliance keypad is not updated when the user changes the time zone for the system. **Workaround:** Restart the Keypad service through the 'System - Services' page in the GUI.

User and Group Management

Issue:	Details and Workaround:
Incorrect LDAP server password causes drop in performance for network share and admin tool access. (Bug ID 10927)	**Issue:** Setting an incorrect password for the LDAP server can cause a drop in performance for share access. **Workaround:** Correct the LDAP password.
Authentication (Bug ID 11471)	**Issue:** Users who are not 'admin' but who have full administrative permissions cannot login to the GUI when the Archive Appliance Express is running in MAINTENANCE mode. **Workaround:** login as the 'admin' user.
Authentication (Bug ID 11474)	**Issue:** Changing a user's password in the Network – Users-Update page (NORMAL mode) will cause unpredictable authentication issues when running in MAINTENANCE mode. This issue has been observed in Mozilla Firefox browsers only. **Workarounds:** 1. Remove any saved passwords for the system: 'Edit -> Preferences -> Security -> Passwords -> Show Passwords'. 2. If solution 1 does not work, clear the cache: 'Edit -> Preferences -> Advanced -> Network -> Cache -> Clear Now'.

Issue:	Details and Workaround:
Authentication (Bug ID 11539)	**Issue:** Users with 'Web Administration - View Only' permissions cannot access some information through the GUI that should be available. These include the System - Status page, the System - Services page, the Diagnostics - Systems Job page, and the Storage - Media Requests page. **Workaround:** Login as a user with full administrative rights when viewing these pages.
Display scalability of Network – Users page (Bug ID 11769)	**Issue:** The 'Refresh' button in the Network - Users page does not always retrieve all users from large Active Directory or LDAP databases. This can happen on networks with high latency or if the winbind connection is not available. **Workaround:** Retry the 'Refresh' operation. This issue does not affect the ability of users to connect to the Archive Appliance Express.

Web API

Issue:	Details and Workaround:
WebService API Reports Dirty Media as Good (Bug ID 11414)	**Issue:** Media status queries through the Web API service reports that 'Dirty' media is 'good'. **Workaround:** Check for dirty or failed media in the library keypad or the GUI.
Web API Service (Bug ID 11508)	**Issue:** File names with chinese/hindi characters on AA shares cause the Filestatus API call to fail. **Workaround:** none.

Web UI

Issue:	Details and Workaround:
Browser caching causes failure to log into maintenance mode GUI after rebooting from normal mode. (Bug ID 10845)	**Issue:** When logging into the normal mode GUI the following URL is used to open the status page – http://<hostname>/Login.do. In maintenance mode the URL is http://<hostname>. Under some circumstances (as yet not understood) when logging into maintenance mode the browser will cache the Login.do address (which doesn't exist in maintenance mode) and fail to open the page. **Workaround:** The workaround is to specify a specific maintenance mode page in the URL. For software upgrade use – http://<hostname>/software.
GUI – Storage – Media pages (Bug ID 11278)	**Issue:** Storage - Media pages in the GUI will not paint correctly if the user clicks on the 'refresh' button continuously without waiting for the GUI to respond. **Workaround:** none.
GUI: Storage -> Online Media Page (Bug ID 11496)	**Issue:** The GUI displays an ivd-error if the Storage -> Online Media page is refreshed immediately after adding a Data Disk through the Archive Appliance Express's mailslot. **Workaround:** Allow a minute for the Appliance to update its resource management records before refreshing the GUI page.
GUI: Storage -> Offline Media Page (Bug ID 11511)	**Issue:** Refreshing Offline Media page results in Struts exception when Storage services are not running. **Workaround:** Start Storage services in the System – Services page.

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Product Notes

Product Note:	Details:
Port 8080 is still accessible through the GUI when the port number has been changed. (Change ID 10933)	If the port number of the GUI is updated through the personality, port 8080 is still accessible.
Archive settings can be altered during a recovery. (Change ID 10928)	During a recovery it is inadvisable to change any of the archive settings; however the GUI will allow this.
Backups are not forewards compatible (Change ID 11498)	Backups taken on a given version of the Archive Appliance Express cannot be used to recover later versions of the system. Since system backup is a new feature in the Archive Appliance express, this will only become an issue when upgrading from v4.08.