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AWS 95: Software Product Enhancements - Jan 1994 Release (1/94)

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TOPIC -----

This article describes software enhancements to the Apple Workgroup Server (AWS) 95 with the January, 1994 product announcement.

DISCUSSION -----

1) Improved AppleShare Performance

Apple has tuned A/UX software with AppleShare Pro to provide better system throughput. Preliminary benchmarks indicate file sharing operations are about 40% faster. Sequential reads improved an average of 12%, while sequential writes improved 70%. Enumerate performance, browsing through files and directories on the server, experienced the largest gain with a 123% increase in speed.

2) Pre-install TCP/IP and NFS

Each AWS 95 will include TCP/IP and NFS pre-installed on the hard drive. UNIX customers asked that Apple make this software easier to setup, so we are loading it on the hard drive and allowing customers to select TCP/IP and NFS as an option.

3) Software Enhancements and Fixes

Apple has tuned AWS 95 system software and made critical fixes. The key enhancements are listed below. These software improvements will be available to the installed based through a charge for software upgrade, check the Apple Price List for prices. Users who purchase an AWS 95 in December 1993, January 1994, or February 1994 will receive a software upgrade free of charge. Users will be required to prove that they purchased the AWS 95 in December, January, or February with an invoice.

Performance Improvements

- The file server now caches the packed data returned in enumerate calls, which improves browsing performance on the server.
- The file server no longer flushes the entire 68040 cache for local I/O.
- Rewrote the UNIX Ethernet driver and AppleTalk stacks to increase performance, primarily writes.
- Removed bottlenecks from the A/UX File Manager to speed up Finder copies.

Other Enhancements

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- Support added for "dynamic" use of removable hard drives, such as Syquest drives.
 - Added support for new Apple Twisted-Pair Ethernet card.
 - Installed StyleWriter II print driver and new version of the Chooser.
 - Installed new version of LaserWriter driver for LaserWriter NTR.
 - Support for UNIX filesystems up to 4 GB (AppleShare still limited to 2 GB).

AppleShare Pro Fixes

- "Shortname" for CD-ROMs that have a ';' in the volume or path name will now be correct.
- The file server no longer returns fnfError when parsing a shortname path when the shortname not yet derived.
- Corrected a timing condition during startup which caused the stack to remain uninitialized and AppleShare to crash.
- Clients now derive the correct sub-folder count when they don't have full privileges on the parent folder.
- Improved error checking for GetIcon, AddIcon and GetAPPL calls.
- Fixed a hang in the parsing code when parsing shortnames and a btree call completed asynchronously.
- You should now be able to umount(1m) a UNIX filesystem after unsharing via Admin.
- Enumerates are now counted as file server activity; previously, this was not done and could cause a client to be logged out when opening up a folder containing many items.

A/UX Kernel Fixes

In the Protocol Stacks and Network Interfaces

- Infrequently, AppleShare Pro servers would not show up in the Chooser on some clients; this has been corrected.
- NFS clients with more than eight active supplementary groups could cause an AWS 95 to crash; the system no longer crashes, but will recognize only the first eight group IDs.
- ifconfig ae6 down no longer causes the system to crash.
- Previously, when using A/UX as a NFS client, you couldn't interrupt an NFS server, even if the remote filesystem was mounted with the intr option. This has been fixed.
- The AWS 95 no longer complains about duplicate IP addresses when IP is disabled.

In the UNIX Filesystem

- Fixed several problems where heavy UNIX filesystem use could cause system or process deadlock/panics.
- The buffer cache code could hold locks too long and cause interrupts to be lost and therefore, the system tick count could drift. This has been fixed.

Other A/UX Kernel Fixes

- The MTIOCGET ioctl now returns EINVAL for non-tape devices.

A/UX Macintosh Environment Fixes

In the A/UX File Manager

- Previously, the .fs_cache file size was limited to 32MB, causing loss of Finder info with filesystems containing more than about 160,000 items. This problem was documented in the AWS Tech Note #17. It has been fixed.
- The toolbox now detects the death of catsearchd; previously, this condition could cause the entire Mac environment to hang.
- Fixed a problem in the File Manager which prevented changing the case of a filename which contained a slash ('/').
- Files with both CR and LF are now considered DOS TEXT files; previously these were interpreted as UNIX binaries.
- Previously, the Finder would frequently terminate after rebuilding the desktop. This has been fixed.
- Aliases to UNIX symbolic links now resolve to the target, not the sym-link.
- You can now subscribe to a publisher with '/', slash, in its filename.
- PB(H)Rename now correctly renames a locked file on an UFS volume.
- Previously, PBOpen did not always set the ioRefNum properly; this has been fixed.
- The A/UX Toolbox now supports the FlushCacheRange trap.
- HRename now works properly.

Related to Retrospect

- Loss of communication with a Retrospect Remote client no longer causes the Macintosh environment to freeze or hang.
- The Time low-memory global will no longer be corrupted (this fixes the Retrospect 2016 date error).
- Files with an empty resource fork are now restored correctly by Retrospect.

Related to Compatibility with Other Applications

- Think C now runs under A/UX.
- An application may now set the serial port baud rate directly via Control.
- Previously, Photoshop would crash with a disk error when creating files bigger than the available free space on the volume. Calls to SetEOF now properly check for free space.
- If the Finder restarts with files in the "Temporary Items" folder, it will now properly move them to "Recovered Items". Previously, this would not occur and creation of a new "Temporary Items" folder could fail, causing some programs, such as AppleSearch, to start up improperly.
- In the A/UX MacTCP glue, the UDP interfaces were fixed so that UDP Chat now works.

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