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MAE 2.0.x: Frequently Asked Questions (6/96)

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TOPIC -----

This article is the MAE Product Frequently Asked Questions (FAQ), for users of Macintosh Application Environment (MAE) 2.0.

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OS Versions Used To Validate MAE V2.0.2

Question: What versions and patch levels were used to validate MAE v2.0.2?

Answer: MAE was tested against the OS versions and patch levels as listed below for both environments (Solaris and HP-UX):

- Solaris v2.3 with the following patches:
101306-10
101318-75 (replaces recommended patch 101318-59)
- Solaris v2.4 with the following patches:
101907-09 (replaces required patch 102077)
- HP-UX 9.0.3

HP-UX 9.0.5 with patch bundle PB_04_700_0905 ("HP-UX 9.05 release 04")
HP-UX 9.0.7

with the following patches:

PHKL_6050 (replaces required patch PHKL_4605)
PHNE_6227 (replaces required patch PHNE_3939)
PHSS_4341
PHSS_4485 (not required for HP-UX 9.0.7)

- HP-UX 10.01 with no additional patches.

Please note that the STREAMS package is not required for MAE to function with HP-UX 10.01.

Included are the most recent versions (at the time of publication) of the patches required by MAE v2.0; please note that these patches may have been updated and/or superseded. Check with your vendor's support services for further information. You can also read the section titled "INSTALLING THE REQUIRED VENDOR PATCHES IN YOUR WORKSTATION SOFTWARE," found in the file README as part of the CD-ROM distribution for more information.

Installation of any other OS patches (beyond those required for MAE to function properly) is at the sole discretion of the customer. Apple Computer, Inc. makes no recommendations regarding the administration and maintenance of workstations on which the MAE product is installed.

File Systems

Question: How do I show files and directories whose names begin with "." in MAE Finder windows?

Answer: You can show/hide these files and directories by setting the appropriate check box in the Views control panel.

Question: How do I manipulate files and directories under UNIX whose names contain spaces (for example, 'System Folder')?

Answer: You can do this in either of two ways:

- 1) Use a backslash before each space. Example: if you want to list the contents of the System Folder, you can issue the command:

```
ls -l System\ Folder
```

- 2) Enclose the entire name in quotes. Either single or double quotes can be used as long as they are consistent. Example, if you want to list the contents of the System Folder, you can issue the command:

```
ls -l "System Folder"
```

Question: Why are file sizes different in MAE and UNIX?

Answer: Using MAE to copy files from a CD-ROM disc or from network-based volumes can result in source and destination files of different sizes, as viewed by the UNIX file system. This is due to MAE's default of storing files in AppleSingle format. Since Mac OS files have both resource and data forks, MAE handles these files differently on a UNIX File system, in a format called "AppleSingle". For more details, refer to "AppleSingle and AppleDouble File Formats" in MAE Tech Note #1.

Question: Why won't my UNIX applications recognize files from MAE applications?

Answer: This is related to the previous question. By default, UNIX files are written by MAE in AppleSingle format. Since UNIX and its applications know nothing about the Macintosh "resource headers" tacked onto the beginning of files in their AppleSingle representation, UNIX applications may see these files as corrupted. For more details, refer to "AppleSingle and AppleDouble File Formats" in MAE Tech Note #1.

This "corruption" can occur in a number of different ways. For example, under FileShare, if a UNIX file is dragged from a Macintosh to MAE, the file will be written by MAE in AppleSingle format, which may make it unusable. This occurs because the Macintosh doesn't know anything about UNIX files, so when it sends one to MAE, MAE thinks it's a Macintosh file and writes it to disk accordingly.

This situation does not occur between two MAE sessions that are sharing files, since MAE recognizes UNIX files for what they are and does not store "resource" information about them. When dragging a UNIX file between two MAE sessions, MAE correctly treats the file as a UNIX file.

Using ftp utilities such as Fetch from MAE can also be problematic. When "getting" a file, Fetch will pass the file to MAE to be written to disk. This works fine for Macintosh files since they will be written as AppleSingle files. However, when "getting" a UNIX file, MAE will likewise write this file as an AppleSingle file, which can make it unusable by UNIX applications.

Text files are handled differently by MAE. Text files are always written by MAE in AppleDouble format to facilitate reading and writing by both Macintosh and UNIX applications (newline characters are automatically translated by MAE; they are stored on disk as UNIX newlines). So in the examples above, when dragging a text file from a Macintosh to MAE or when Fetch gets a file using ftp "Text" mode (that is, ASCII mode), MAE will write the file in AppleDouble format.

As a rule of thumb, it's best to use UNIX to work with UNIX files and MAE to work with Macintosh files. If your environment requires the same (non-text) files to be regularly handled by both MAE and UNIX, then you're probably a candidate for running MAE in AppleDouble mode, by launching it with the -filedouble option.

NOTE: Fetch 3.0 and higher will not work with MAE 2.0.2, use version 2.x.x.

Question: Can I run UNIX commands located on Macintosh floppy disks?

Answer: MAE does not support execution of UNIX commands from Macintosh floppy disks.

Question: Why does the Finder report negative file sizes on volumes larger than 2GB? I have a large volume that I want to use for application installation.

Answer: The erroneous value is a known limitation of the File System for 7.1 (upon which MAE 2.0 is based). To circumvent this problem, you can either use volumes smaller than 2GB or use the TIV (Temporary Installer Volume) to perform the installation.

Question: Is it possible to rename the root directory disk ("/") that appears on the MAE Desktop?

Answer: While it is technically possible to change the name of the disk as it appears on the MAE Desktop, you cannot circumvent the UNIX convention of the root file system disk having the name "/". We suggest that you leave the name as is to minimize confusion.

Networking

Question: I like to have the Chooser open and available throughout my MAE session. Does this generate unnecessary network traffic?

Answer: The Chooser generates significant traffic only when it is the foreground application and a Chooser device (such as AppleShare) is selected. It generates minimal traffic when it is the foreground application and no Chooser devices are selected. It generates no traffic when it is in the background. Keeping the Chooser open when using other applications should not generate network traffic or impact network performance.

Question: I just launched MAE. I see the message "Unable to open the file '/dev/appletalk/lap/ethertalk0/control, please be sure the file exists'" in the UNIX window from which I launched MAE. What does this mean?

Answer: AppleTalk is not installed properly. AppleTalk installation must be done as root on each system on which you want to run MAE. You cannot simply copy your MAE binaries from machine to machine. The AppleTalk installation correctly configures your kernel and creates device files used by AppleTalk. In addition, you may see this error if you have just installed MAE but have not yet rebooted your workstation.

Question: Whenever I use Find File to search a folder exported via FileSharing from a workstation running MAE 2.0, both the client and the server appear to hang. Is this a bug?

Answer: This is a file system problem. FindFile uses PBCatSearch to search the entire volume anytime a search is done. For large volumes with nested mountpoints, PBCatSearch can take a very long time. It is best not to use FindFile to search remote volumes.

Question: I have two Ethernet cards installed on my workstation; can I select either card for my MacTCP interface?

Answer: No. The MacTCP driver will use the first interface detected by the ifconfig command. If more than one Ethernet card is installed, MacTCP will be configured for the first card.

Question: Which network interface cards can be used by MAE?

Answer: Beginning with v2.0.2, MAE can utilize Ethernet, FDDI, and Token Ring interface cards that provide DLPI support at the driver level. ATM is not supported. As with the previous question: if more than one interface card is installed, MacTCP will be configured for the first card detected by the 'ifconfig' command. With AppleTalk, you can select which interface to use with the Network Control Panel (this feature is new for MAE v2.0.2). In order to be eligible for use with AppleTalk, the interface must be marked 'UP' by 'ifconfig' prior to starting MAE.

Question: Can I use the MacTCP control panel to set my MacTCP IP address?

Answer: No. When you run MacTCP on MAE, it uses the host and IP configuration of the UNIX workstation on which you are running MAE. This control panel is for information only. As a user, you cannot reset your workstation's IP/host information using MacTCP.

Question: We use File Sharing to share files between Macintosh computers and workstations running MAE 2.0. We have experienced problems when accessing files exported from an MAE workstation while performing server maintenance chores on that workstation. In particular, changing access permissions or ownership seems to adversely affect clients accessing the file server. Is there any way we can prevent this?

Answer: It is best not to attempt to alter the sharing status of a folder while it is being used by a remote client. If you want to alter the status of a shared folder (by changing its access permissions, changing its owner, or unsharing it) you should check the "File Sharing Monitor" to see that no one is using the folder before changing its sharing status.

Floppy Disks and CD-ROM Discs

Question: I'm having difficulty mounting CD-ROM discs on Solaris 2.4.

Answer: MAE may be unable to mount CD-ROM discs under Solaris 2.4, even though the file `macdisks.Solaris` is unchanged from Solaris 2.3, where CD-ROM discs can be mounted without difficulty.

For mounting CD-ROM discs in MAE while running Solaris 2.4, follow these steps:

- 1) Verify that Volume Manager patch 101907-05 has been loaded.
(`/etc/showrev -p` will list all installed patches.)
- 2) Under Solaris 2.4, modify the `macdisks.Solaris` file in this manner
(`scsi6` should be replaced with the correct SCSI ID# of the CD-ROM Drive):

```
scsi6:removable:ro:/vol/dev/aliases/cdrom0
```

NOTE: After inserting the CD-ROM, wait 5 seconds before attempting to mount it in MAE. The Volume Manager first must create an entry in aliases for 'cdrom0' before MAE will be able to read the alias directory.

This will properly allow MAE to mount CD-ROMs without modifying the `/etc/vold.conf` directory, thereby allowing the user to mount UNIX CD-ROMs with the Volume Manager.

Question: Is there any way of accessing a Macintosh-formatted hard disk from MAE if I connect it to the SCSI bus on my workstation?

Answer: No. MAE does NOT support HFS format hard disks (only CD-ROM discs and floppies). You may potentially damage your workstation or Macintosh disk if you try to connect the two.

Question: What kinds of removable media are compatible with MAE?

Answer: The current release of MAE only supports Macintosh formatted CD-ROM discs and Macintosh formatted 1.4 MB floppy disks.

Question: Are ISO 9660 format CD-ROM discs compatible with MAE?

Answer: No. Do not add the "ISO 9660 File Access" extension (or any of the other Macintosh CD-ROM extensions) to your System Folder.

If ISO 9660 CD-ROM discs are mounted under UNIX (Solaris 2.3 does this automatically), the mounted directory should be accessible to MAE. (It does not appear as an icon on the desktop.)

Question: How do I use a SCSI floppy drive with MAE under HP-UX?

Answer: MAE can use a SCSI floppy drive with HP-UX as follows:

- 1) Verify that HP-UX utilizes the drive as SCSI floppy and not generic SCSI. You

can verify this with the 'ioscan -bf' command. Your output should look similar to:

```
disk 2.0.1.1.0 scsifloppy ok(0x800101) ok TEAC FC-1 HF 00
```

The SCSI drive must scan as 'scsifloppy' for the SCSI address utilized by that drive. If it does not, verify that the scsifloppy driver has been installed into the kernel and that you have the required patches for your level of HP-UX. In addition, the chosen SCSI address cannot conflict with any other devices.

Also, ensure that you are using the proper device files with the drive. As an example, the following entries were created in /dev/floppy and /dev/rfloppy respectively using 'mknod':

```
brw-rw-rw- 1 root sys 23 0x201100 Jun 27 18:03 c201d1s0
crw-rw-rw- 1 bin bin 106 0x201100 Jun 28 10:28 c201d1s0
```

Note that read and write permission is granted to all users.

2) In the file 'macdisks.HPUX' (located in the Preferences folder for each user), add an entry similar to the following prior to starting MAE (or reboot after changing it if MAE is running):

```
floppy0:rw:/dev/rfloppy/c201d1s0
```

The exact entry will depend upon the SCSI address utilized by the drive. In all the examples above, SCSI address = 1 is shown. Do NOT put an entry into the SCSI section of this file -- it must be entered as a floppy drive. If you already have a floppy drive as 'floppy0', you can put the SCSI floppy as 'floppy1' instead.

Note: we tested with an ISA 1015S that required an upgrade from the vendor before it would be recognized by HP-UX as 'scsifloppy.' MAE will NOT be able to use the drive until HP-UX recognizes the unit as a SCSI floppy drive. We also discovered that our unit did not work if SCSI address = 0 was utilized.

Question: I'm having difficulty mounting disks using the 'default' convention in 'macdisks.HPUX' on my newly-upgraded HP-UX 10.01 system.

Answer: HP changed the names (and thus, the absolute paths) of the device files for HP-UX 10.01. Therefore, you will need to explicitly code the names in for each device that you wish to use with MAE. Usage of the 'default' convention will fail as it expects the files to be in the old (that is, HP-UX 9.x) locations.

Performance

Question: Can MAE be run as an X Application over the network?

Answer: Yes. However, MAE was optimized to run as a local application and be displayed on the local workstation console. While MAE is certainly an X

application and can be run remotely, it is graphics intensive and may run significantly slower over the network. MAE performance is highly dependent upon the X server, X client, and network bandwidth and traffic.

Question: Can I increase the performance of MAE when using a remote X-Client over the network?

Answer: Yes. Changing the Monitors Control Panel to "Black and White" will reduce the amount data sent over the network to the X-Client. This can make a significant difference when running remotely, especially with graphics intensive applications.

Question: Will performance be affected if my home directory is located on a remote volume?

Answer: Yes. The "System Folder", which contains the Mac OS system files, is built in your home directory when you start MAE for the first time. Performance will be affected since the code in this folder must be executed to run MAE and it will run more slowly when the System Folder is located on a remote volume.

Question: Can I run MAE with my home directory physically located on a machine running SunOS 4.1.x and NFS mounted to a Solaris 2.x workstation running MAE?

Answer: Yes, but be careful with your permissions. Performance may also be significantly affected.

Keyboard and Display

Question: Why does the cursor sometimes disappear from the screen, when I'm using MAE with a black and white monitor?

Answer: The MAE cursor can "disappear" when it enters an area of the MAE screen that is the same color as the cursor. This is most prevalent when running MAE in monochrome mode and you move an all black cursor (for example, the I-beam cursor) over an all black region of the screen. If your X Server supports color cursors, you can control the foreground and background colors of the MAE cursor by setting the TBFGCURSORCOLOR and TBBGCURSORCOLOR environment variables, as in the following c-shell example:

```
setenv TBFGCURSORCOLOR red
setenv TBBGCURSORCOLOR blue
```

Question: When I try to abort an MAE application by pressing Command-Option-Escape, MAE hangs. What's the problem?

Answer: This feature is not implemented in MAE 2.0. Avoid trying to abort applications with Command-Option-Escape on both Sun and HP workstations.

Question: How can I kill MAE without focusing on a separate X session and issuing a shell-level command?

Answer: Use Shift-Control-E to kill MAE (and its window) if other means of quitting MAE are not effective. This action should be performed only under unusual circumstances, as it does not permit MAE to perform its normal activities at shutdown (for example, you may need to remove the file '.SMlock' prior to starting MAE again).

Printers and PostScript

Question: I'm having trouble getting my PostScript printer to print reliably under MAE. What should I do?

Answer: While developing MAE, we could not test on all possible PostScript printers -- there are just too many. Also, many older PostScript printers have very little memory (for example, the original Apple LaserWriter only had 1 MB of RAM), making it difficult to print complicated documents on them. A Macintosh computer, by communicating directly with the printer, can circumvent this memory limitation by optimizing the feeding of PostScript to the printer. MAE's LprWriter, however, uses the underlying UNIX print spooler, and does not communicate directly with the printer. It is therefore possible for a printer to be unable to print a complex document from MAE that it can print successfully from a Macintosh computer.

Other tips:

- 1) The LprWriter driver generates Level 1 PostScript, which should print on any real PostScript printer that has enough memory. (Some companies did not license a PostScript interpreter from Adobe but wrote their own; these often have problems.)
- 2) Verify that there are no preset memory limitations with your print spooler or device description files.
- 3) It is very important to specify the correct PPD file for the printer. The PPD file contains information about resident fonts, memory size, page sizes, and so on. An incorrect PPD specification can create many problems.
- 4) If the PPD file for a printer is not shipped with MAE, you can try to get it directly from the printer manufacturer, or from Adobe. Adobe, the creator of PostScript, maintains archives of PPD files, and technical papers about PostScript. These are available on the Internet, at Adobe's FTP server, ftp.adobe.com (130.248.1.4). The login is "anonymous" (without the quotes), and you should use your email address as the password. PPD files are in the directory :
/pub/adobe/PPDfiles/MAC

NOTE: All spaces in PPD filenames have been replaced with tildes (~), to make it easier to retrieve the files. After downloading a PPD from

this directory, change all tildes in the filename to spaces.

You can also send mail to their email server:

ps-file-server@adobe.com

Send an email message with just the word "help" in the subject for instructions on how to use the email server.

Other

Question: Why will my Solaris 2.4 workstaton not successfully run MAE unless it is connected to a network? Without a network, MAE hangs after the "Welcome to Macintosh" screen, and I must kill MAE from a UNIX shell. If the same machine is added to a network, MAE starts up fine.

Answer: Solaris 2.4 workstations without a network connection require Sun's patch 101945-34 (or its equivalent). This "megapatch" is newer than the patches recommended in the MAE 2.0 README. This patch can be found found at sunsolvel.sun.com. After installing the patch, remove the file /tmp/at if it exists.

Question: Why will MAE 2.0 not produce sound on my my HP Workstation?

Answer: See ISSUES RELATED TO SOUND in the README file delivered with MAE 2.0.

Final check: be sure the AUDIO environment variable is set to the target audio server.

Question: Using Aldus Persuasion 3.0 with MAE, I can open documents but I cannot save them. What's the problem?

Answer: You will have to save your Persuasion 3.0 documents using a name different from the original name. This workaround is necessary because of an incompatibility between MAE and Persuasion 3.0 which causes Persuasion to think the original document is locked; it therefore opens a copy, with a generic 'untitled' name. Because Persuasion thinks the original document is locked, you cannot save the modifications under the original name.

Question: Can I use Apple's PC Exchange to read DOS disks in MAE?

Answer: PC Exchange is not supported. The current release of MAE supports only Macintoshformatted CD-ROM discs and 1.4 MB floppy disks.

Question: How do I install MAE on a diskless or dataless workstation?

Answer: In order to successfully install MAE for diskless or dataless workstations, write access to /usr, /kernel (Sun), /devices (Sun), and

/etc/devlink.tab (Sun) is required. If you are installing as root, this should not present a problem; if you are installing as other than root, you may need to temporarily have write access to the necessary filesystems and directories.

Question: My workstation went down while I was running MAE. Now, when I try to start MAE, I get a message about the file '.SMlock' in my System Folder. How should I proceed?

Answer: Each time MAE is launched, it looks for the file '.SMlock' in the System Folder. If the file exists, MAE refuses to start; if the file does not exist, MAE creates it. This prevents multiple instances of MAE from using the same System Folder concurrently. Normally, the file is deleted when MAE is stopped (via 'Shut Down' from the Finder). If you are sure that no other instance of MAE is using that System Folder, you may safely delete .SMlock. Once it is removed, MAE will start normally.

Question: Can you provide me with some general troubleshooting tips for MAE? I am not sure if the problem I am experiencing is MAE-specific or related to the Macintosh application(s) that I am using.

Answer: Many of the troubleshooting tips that apply to isolating issues in the native Macintosh environment can be used successfully with MAE as well. An example of this would be to start MAE with the '-noextensions' option. Actions that are MAE-specific would include creating a new System Folder (use '-sysfol' and create the new folder in /tmp), resetting the virtual PRAM settings (start MAE with '-zappram'), increase the amount of RAM given to MAE at startup ('-memory'), and removal of the file system cache entry (.fs_cache in the System Folder). For more information, please reference your MAE documents.

Question: I have updated my HP-UX system from 9.x to 10.01 and applied the patch for MAE v2.0.2. A co-worker who executes MAE on his 9.x workstation using my Apple directory (appldir) is now experiencing errors. What's wrong?

Answer: The binaries for HP-UX 9.x and 10.01 are not interchangeable. When the patch for MAE v2.0.2 is installed on a 10.x system, it modifies the contents of the appldir to support that version of HP-UX. These modifications are not compatible with workstations running 9.x of HP-UX. To correct the problem, reinstall MAE from the CD-ROM on the 9.x system and rerun the patch for MAE 2.0.2.

Question: I've just purchased MAE v2.0. How do I install the necessary updates to MAE (that is, MAE 2.0.1 and MAE 2.0.2)? How do I remove MAE from a particular workstation?

Answer: The following is true for all platforms EXCEPT HP-UX 10.01 and later:

- For a new installation of MAE, first install MAE v2.0 as distributed on the CD-ROM. Then proceed with installation of the patch for MAE v2.0.2.
- If you are upgrading from MAE v2.0 or v2.0.1, executing ./PATCH.SH as

distributed from MAE 2.0.2 will make the necessary changes. Note that as the patches are cumulative, you do not need to install MAE 2.0.1 prior to MAE 2.0.2.

- If you are upgrading from MAE v1.0 and would like to preserve the System Folder contents you added (Extensions, Fonts, Preferences, and so on), first install MAE v2.0 as distributed on the CD-ROM, then run it once to update each MAE v1.0 System Folder on your disk (note that the MAE 2.0.2 updater will only recognize MAE v2.0 and v2.0.1 System Folders). Then proceed with installation of MAE 2.0.2.
- To remove MAE, use the Remove feature of the installer supplied with the MAE v2.0 CD-ROM and/or the 2.0.2 patch distribution. Note that the 2.0.1 patch does not have any removal capabilities and that the 2.0.2 patch will ONLY remove previously-installed 2.0.2 components.

FOR HP-UX 10.01 USERS ONLY:

- For a new installation of MAE for HP-UX 10.01, first install MAE v2.0 as distributed on the CD-ROM but do not install AppleTalk (you can do this by performing a custom installation (as detailed in the 'MAE User's Guide')). After you have installed MAE 2.0 from the CD-ROM, you can apply the MAE 2.0.2 patch by executing ./PATCH.SH as distributed with the patch. Note that the STREAMS package is not required for HP-UX 10.01.
- HP-UX 10.01 was not supported in versions 2.0 and 2.0.1. As a result, upgrade instructions are not included here.
- If you are upgrading from MAE v1.0, first rename any existing MAE v1.0 (or MAE v1.0a) System Folders. Next, install MAE v2.0 as distributed on the CD-ROM but do not install AppleTalk (you can do this by performing a custom installation as detailed in the 'MAE User's Guide'). This will create a new System Folder to which you can manually drag/copy any resources (Extensions, Fonts, Preferences, and so on) from your old MAE v1.0 System Folder. You can now safely apply the MAE 2.0.2 patch by executing ./PATCH.SH as distributed with the patch.
- To remove MAE except for the AppleTalk components, use the Remove feature of the installer supplied with the MAE v2.0 CD-ROM and/or the 2.0.2 patch distribution. Note that the 2.0.1 patch does not have any removal capabilities and that the 2.0.2 patch will ONLY remove previously-installed 2.0.2 components. Then remove the AppleTalk components utilizing the Remove feature of MAE 2.0.2.

Question: Are there other sources of information that can help me to support usage of Macintosh applications under MAE?

Answer: Yes! The MAE Engineering Team has created a mailing list for just this purpose. 'mae-users' an unmoderated list that allows users to discuss the Macintosh Application Environment product in an informal atmosphere. 'mae-users' permits our customers to assist each other and distribute hints and other information about the product.

In addition, you can also reference the online documentation supplied with the MAE CD-ROM. There are two documents which utilize the Macintosh application 'DocViewer' (supplied): 'MAE System Admin Guide', and 'MAE User's Guide'. Both

of these documents contain helpful information on getting the most out of MAE.

Article Change History:

25 Jun 1996 - Updated Fetch information.

05 Feb 1996 - Updated for MAE 2.0.x.

05 Jul 1995 - Made correction for clarity.

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