ChainMail v2.1
Mail Management for File Servers

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Mail Systems: Who needs them?

ChainMail is a simple but convenient utility designed to facilitate communication between Macintoshes connected to a network. Currently, most netmail systems for the Mac require a dedicated or background "mail server" program to run at all times on some node on the network (the notorious "Message Center" to which InBox™ connects, for instance). Often, these systems' costs, in dollars, hardware, and processing overhead, place them beyond the reach of users of small to mid-size networks. **ChainMail** doesn't require a mail server application to constantly run; instead it uses the directory structure of a shared file server volume to communicate files, programs, and documents between nodes. Of course, all this implies that if you have no network, or if your network doesn't have a file server on it, you'll get nothing out of **ChainMail**.

ChainMail does *not* provide an editing environment; it may only be used to transmit existing files between nodes. If you wish to send a memo or note, instead of a program or existing document, you'll have to compose this note in a word processor and save it as a text file. The disadvantages of a non-integrated system, if any, are balanced by the compact size which **ChainMail** can maintain *sans* editor, by its lack of distinction concerning (and preference for) mail "of a certain type"and by the freedom you gain to use the editor of your choice, rather than a new, single-purpose bundled editor. I personally favor **MockWrite**.

ChainMail v2.1 is a revised and extended update to **Poste Restante v2.0**. The name change was motivated by legal threats from some corporate behemoth which has applied for a trademark on the name OutPoste. Neither **ChainMail** nor its **Poste Restante** predecessors have any relation to, affiliation with, or sanction by the unnamed producers of OutPoste. Features added to version 2.1 include use of the Notification Manager for better treatment of the "you have mail" signal; conditional and unconditional installation at start-up time (to accomodate users who mount their mail volumes *after* start-up); improved internal management and error-tracking; and so forth.

Configuring the Server

In order to set up **ChainMail**, every possible mail recipient should have a dedicated mail folder on the server.   These are ordinary HFS folders, created in the Finder. People who wish to send you mail will simply drag or copy the desired mail files into your folder. You, running **ChainMail** at your workstation, will be notified almost instantly of the arrival of new mail in that folder.   To ensure that your mail is kept confidential, you may wish to make your mail folder a "drop folder." Drop folders grant WRITE- but no READ-privileges to other users of the server. Consequently, people can deposit mail in your folder, but can never open your folder to read others' mail to you. For convenience and standardization, you may want to set up a top-level folder called simply "• Mail •" and keep individuals' mail folders inside it. (The bullets in "• Mail •" cause it to appear first in the file- and folder- list most applications present upon "Open…".) Once you have named and configured your personal mail folder, you're ready to use **ChainMail**.

Note: The above explanation should suffice for Appleshare™ and generic file servers. If you run TOPS™, you'll want the top-level "• Mail •" folder to be auto-published, and TOPS on mail-readers' workstations should be set to auto-mount it. A second (untested) method would be to have each individual's machine set up to auto-publish his or her own mail folder. Mail is then sent by mounting the recipient's folder and copying the appropriate files. This method has the disadvantage that you have to manually mount the folders, and you can't send to someone's machine if it's not up; but you're not tied into a particular central machine being up or down (one of TOPS' best features!). Thanks to Frank Manola for the hints on TOPS.

Installing ChainMail

Drop **ChainMail** into your System Folder, and then enter the Control Panel desk accessory. Scroll down the list of control panel devices until you see the **ChainMail** icon, which you should select by clicking. Several options appear on the screen:

Set the "HFS Mailbox Folder" to the full pathname of your mail folder. HFS pathnames are explained in your Macintosh Owner's Manual, and consist of the volume name and every sub-directory name in the path from the "top" of the volume down to your particular folder, with individual directory names separated by colons. For instance, my file server is named "VeeGeePee", and so my mail folder pathname is "VeeGeePee:•Mail•:Nick".   My colleague Annie has one named "VeeGeePee:•Mail•:Annie," etc.

```
◉ On
○ If mailbox exists at startup
○ Off
```

Choose whether you want **ChainMail** to be installed always (<u>On</u>), conditionally (<u>If Mailbox Exists At Startup</u>), or never (<u>Off</u>). The mail-detection portion of **ChainMail** is installed at start-up time.   Some file servers, like Appleshare, allow you to connect to your server volume at start-up too (before **ChainMail**). Others require you to connect to your server *after* start-up. The <u>On</u> option is for this second group, whose mailboxes "don't exist" at start-up because their Macs are not yet connected to their servers. The <u>If Mailbox Exists At Startup</u> option is useful for people who normally connect at startup. If they've voluntarily overridden connection, presumably they won't want to use up system memory and processing time with a mailbox-less **ChainMail**.

Note: If you connect at start-up time, you should make sure that your connection program has a name alphabetically prior to **ChainMail**'s, because startup-documents are executed alphabetically and you want to connect before installing **ChainMail**. Feel free to rename either of the documents to ensure this condition.

```
⊠ Blink when mail exists
⊠ Beep when mail arrives
```

Set the two remaining options by clicking their checkboxes. At some later point, you may wish to disable one of them, but initially, you should try both options. <u>Beep when Mail arrives</u> gives you a three-tone notification whenever someone on the network deposits mail in your mail folder. <u>Blink when Mail exists</u> notifies you repeatedly for as long as you have mail in your folder. If you're running System Software version 6.0 or later, this notification will cause a small icon (with a picture of an envelope and the word MAIL) to flash regularly over the apple symbol in the upper-left corner of the menu bar. If you're using earlier System Software, the entire menu bar will blink at five-second intervals. After reading your mail, you should either discard it or move it to some more permanent folder. The notification will cease blinking when the folder is empty again.

Note: In the Finder, notification will persist if you move your mail from your mailbox into the trash. This is because the trash is an illusion provided only for the benefit of the user—it has no underlying equivalent in the file system which **ChainMail** uses to check for mail. Once you *empty* the trash, notification will stop. When you move mail from your mailbox to some other genuine HFS folder, notification will stop with no further action on your part.

Note: If you turn off both of the above options, the Control Panel will beep at you and turn **ChainMail** off. There's little point in running a mute mail detector. You can turn it back on manually to see for yourself.

Warning: It is vital that you configure **ChainMail** by entering the Control Panel at least once before installing it, even if —for some unlikely reason—you don't care about any of the settings. This is because the Control Panel makes certain modifications to the startup-routine to adapt it to your particular System Software. If you received **ChainMail** from someone running more recent System Software than you are, it will be configured to take advantages of features not present on your machine. When it attempts to use these features, your Macintosh may behave unpredictably. Thus you should always give the Control Panel a chance to customize your copy before using it for the first time. (**ChainMail** cannot customize itself at start-up time because System Software information is not available to programs at that early stage of the process.)

That's all it takes to use **ChainMail**. Click the "Save" button to save your configuration changes; and then restart your Macintosh to let the changes take effect.

While the Mac is starting up, you can confirm **ChainMail**'s presence by the icon it draws on your desk-top:

ChainMail is successfully installed.

ChainMail is successfully installed, and mail currently exists in your mailbox.

ChainMail is installed, but you have not yet connected to your mailbox.

ChainMail is not installed, for one of the following reasons:
• You've turned it off.
• You've turned it on If Mailbox Exists at Startup, and your mailbox doesn't exist yet.
• You're holding down the SHIFT key. Use this feature to temporarily defeat **ChainMail**.
• You don't have the access rights required to see your own mailbox! You can check this by trying to open the mail folder's window from the Finder. If you get an access violation, go back—with your network administrator, if need be—and set the access rights so that others can write to it, and so that you can read *and* write to it.

ChainMail isn't installed because it's a defective copy. Replace it with a fresh one. You may also get this icon if there's insufficient memory to install, a circumstance which—at startup—indicates a serious hardware problem with your machine.

Theory of Operation / Tech Talk

ChainMail's coded as an INIT and a cdev. The cdev builds a PRst resource, private format, containing the configuration data. The INIT merges this resource with its watchdog, in order to minimize the system heap space requirements. (One heap-block instead of two; plus dynamically-allocated string length, instead of the [typically gross overestimate] 256 byte maximum.) Before terminating, the INIT patches GetNextEvent() to point to the watchdog in the heap. The dog's purpose is to wait five or six seconds, and then calculate the valence of the HFS mail folder. If the valence's changed since the last read, there's been activity, so it starts notifying. There's no way to kill the dog after it gets loose in the heap. I chose to patch GNE() instead of something more regular in periodicity (like a Vertical Retrace task) because application-intensive processing (i. e. GNE timeouts) should take precedence over **ChainMail**. The cdev code was developed using THINK Pascal™; the INIT and watchdog were done in assembly. The boot-icon drawing routine is a customized version of Paul Mercer's legendary ShowINIT, of course.

Shareware

I like programming; sometimes I do something I think could be useful to people outside my immediate lab. The shareware fee I'm requesting shall never make me a millionaire, it's meant to justify some of the hours I spend taking a program from the point where it works to my and my co-workers' satisfaction to the point where it is extensively debugged, well documented, and rigorously tested for commercial release. If you have any use for **ChainMail**, you must run a medium- to large-sized Mac setup. You can afford to pay your shareware fees. Please do.

At any rate, the noble request of the hungry author: if you send me two or three bucks for each node on your network that stands to have its life infinitely improved by **ChainMail**, I'll be sure to keep you up to date with any bug fixes and future versions I release. Also, if you're going to pay for it, be sure to tell me what you'd like to *see* in these future versions. I'm considering send and receive options, to avoid so much mucking about with Finder windows. Do write.

If you distribute **ChainMail**, whether you've paid for it or not, <u>please</u> enclose this documentation!

Patching

While **ChainMail**'s Control Panel interface allows general purpose customization, some users have expressed interest in rather abstruse modifications. The following patches, accomplishable with ResEdit, may be of use to you.

Note: If you patch your copy of **ChainMail**, please don't distribute it, as it won't work according to this documentation! Keep a pristine copy if you want to give one away.

• If you are running System 6.0 or later, and yet desire the more primitive form of mail notification (flashing menu bar for "you have mail," and supression of "ChainMail has gone/come-back off/on-line" alerts), you should configure it as desired through the Control Panel, and then enter ResEdit. Change the third word (digits 9 through 12) of the sole PRst resource from 0001 to 0000, close, save, and reboot. This patch will last only until you next enter the Control Panel, which will reconfigure **ChainMail** for more advanced operation.

• If you wish to keep some fixed number of files resident in your mailbox, such as the permanent log file required by Piecemail (Minnesota's extensions to CAP, for Unix->Mac mail), you'll be frustrated by the continual "You have mail" notification. With ResEdit, edit the sole INIT resource, and change the 0000 at location C4 to the maximum number of files you wish to tolerate before notification. Note that this patch only affects run-time (menu bar) "has mail" notification —the boot icon will still indicate you have mail in your folder if the valence is ≥0, and you will receive audible alerts (if Beep When Mail Arrives) for incoming files even if their addition to your mailbox doesn't bring its valence above your patch-specified tolerance.

• By default, the mailer daemon checks to see if you have mail every six seconds (or 360 ticks). Change the 0168 at location EA in the INIT to some other number of ticks to change the frequency at which mail is polled. Faster (lower) values will improve **ChainMail**'s response time, which can be noted as slow in the case where emptying your mailbox leaves the flashing-envelope notification on for the next 0-6 seconds (until it re-checks your mailbox and sees you have no mail). In that **ChainMail** is both rapid in execution and patched to a trap not invoked during periods of "peak processor activity," slowing it down (by raising the value at EA) won't really accomplish much other than to retard notification ever further.

• Editing the SICN resource (#128) will change the flashing notification icon, if the default envelope and "MAIL!" is unappropriate to your purposes. The process of changing the sound made on mail-arrival is too difficult to describe on the rest of this page. Sorry!

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