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AppleShare 4.2.x: File Server Memory & Cache Usage (4/96)

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TOPIC -------------------------------------------------------------


This article describes how AppleShare 4.2 and 4.2.1 deal with memory and cache.


DISCUSSION --------------------------------------------------------


About the File Server cache
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AppleShare 4.2 introduced a new method of caching that differed from previous
versions of AppleShare. Briefly, AppleShare 4.2 (and 4.2.1) provides a single
block cache that dynamically tunes itself for optimal performance. Once the
server is up and running, AppleShare gradually expands until it allocates all
available RAM to its cache. You can set aside a portion of RAM that can be used
for other applications (as described in "How Much Memory Should Be Reserved for
Other Applications?" later in this addendum); this portion is then unavailable
for AppleShare's cache expansion.


By caching items (files, folder contents, icons) in RAM, the File Server
provides faster access to those items than if they were retrieved from permanent
memory on the server's hard drive.


See "Setting Cache Preferences" in Chapter 3 of the AppleShare Administrator's
Guide for a general description of the cache and for the steps you need to take
to configure the cache. The purpose of this addendum section is to provide
additional useful information about the cache and about setting your cache
preferences.


Size of the File Server Extension partition and cache
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The File Server program (strictly speaking, the File Server Extension) requires
5.5 megabytes (MB) of memory when the program is first started. Of this amount,
approximately 1 MB is reserved for file, folder, and icon caching. The memory
that the File Server Extension uses is one component of the overall memory
required by system software. Thus, the minimum of 5.5 MB of RAM that the File
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Server Extension requires is part of the total memory displayed for "System
Software" when you view your server's memory allocation. To view your server's
memory allocation, choose "About This Macintosh" from the Apple menu while in
the Finder.

If free RAM (that is, RAM not being used by system software or any applications)
is available on your server, AppleShare uses it for its cache as needed. As the
AppleShare cache expands, the amount of memory allocated to "System Software" in
"About This Macintosh" grows accordingly.

How much memory should be reserved for other applications?

As explained in "Setting the Preferences" in Chapter 3 of the AppleShare
Administrator's Guide, you can adjust the amount of memory reserved for other
(non-File Server) applications in the File Server Cache Preferences window. When
the AppleShare cache expands (because it requires more memory to cache items),
it will not attempt to claim the amount of memory you've set aside for other
applications.

Here are a few things to keep in mind when considering the amount of memory you
plan to reserve for other applications:

• Apple recommends a minimum cache setting of 1 MB (the default setting); under
most circumstances, this should be an adequate amount of memory to reserve for
other applications.

• The Finder can perform poorly (or crash) if there is not any free memory for
it to use; the value for "Memory to be reserved for other applications" should
always be greater than zero.

• The AppleShare cache does not attempt to claim memory used by applications
that have been opened prior to starting the AppleShare program, or for those
applications that are running prior to AppleShare's cache expanding. So, if
there are applications that you plan on using often on the server, consider
starting them before you start the File Server program. For example, if you open
a database application that has a 4 MB memory partition before you open the
server (or before AppleShare tries to expand its cache), that 4 MB does not
count toward the amount of memory reserved for other applications. Other
applications that provide a network service, such as the Apple Remote Access
MultiPort Server, should be started before you start the File Server.

• If you think that the 1 MB of cache contained within the 5.5 File Server
Extension memory partition is sufficient for your file service needs, you can
reserve all available RAM for other applications. For instance, for a server
with 32 MB of RAM, you can set the value in the File Server Cache Preferences
window to 32 MB. AppleShare will not attempt to allocate additional cache
blocks.

Does AppleShare release RAM cache automatically?

Once AppleShare has claimed available memory for its cache, it does not
automatically release the memory so that it can be used by other applications.
However, you can flush the cache and free up RAM by choosing Reset Cache from

the Server menu and clicking OK.

NOTE: It may take up to two minutes for the cache to reset.

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