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"Out of Memory" Error Messages with Large Amounts of RAM Installed

Article ID: 253912 - View products that this article applies to.

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http://support.microsoft.com/default.aspx/w98?sid=460 (http://support.microsoft.com/?scid=http%3a%2f%2fsupport.microsoft.com%2fdefault.aspx%2fw98%3fsid%3d460)

⊖ SYMPTOMS

If a computer that is running any of the versions of Windows that are listed above contains more than 512 megabytes (for example, 768 megabytes) of physical memory (RAM), you may experience one or more of the following symptoms:

- You may be unable to open an MS-DOS session (or command prompt) while Windows is running. Attempts to do so may generate the following error message:

  There is not enough memory available to run this program.
  Quit one or more programs, and then try again.

- The computer may stop responding (hang) while Windows is starting, or halt and display the following error message:

  Insufficient memory to initialize windows. Quit one or more memory-resident programs or remove unnecessary utilities from your Config.sys and Autoexec.bat files, and restart your computer.

⊖ CAUSE

The Windows 32-bit protected-mode cache driver (Vcache) determines the maximum cache size based on the amount of RAM that is present when Windows starts. Vcache then reserves enough memory addresses to permit it to access a cache of the maximum size so that it can increase the cache to that size if needed. These addresses are allocated in a range of virtual addresses from 0xC0000000 through 0xFFFFFFFF (3 to 4 gigabytes) known as the system arena.

On computers with large amounts of RAM, the maximum cache size can be large enough that Vcache consumes all of the addresses in the system arena, leaving no virtual memory addresses available for other functions such as opening an MS-DOS prompt (creating a new virtual machine).

⊖ WORKAROUND

To work around this problem, use one of the following methods:

- Use the MaxFileCache setting in the System.ini file to reduce the maximum amount of memory that Vcache uses to 512 megabytes (524,288 KB) or less. For additional information about how to use the MaxFileCache setting, click the article number below to view the article in the Microsoft Knowledge Base:
  108079 (http://support.microsoft.com/kb/108079/EN-US/) 32-Bit File Access Maximum Cache Size

- Use the System Configuration utility to limit the amount of memory that Windows uses to 512 megabytes (MB) or less.For additional information about how to use the System Configuration utility, click the article number below to view the article in the Microsoft Knowledge Base:
  181966 (http://support.microsoft.com/kb/181966/EN-US/) System Configuration Utility Advanced Troubleshooting Settings

- Reduce the amount of memory that is installed in your computer to 512 MB or less.

⊖ STATUS

Microsoft has confirmed that this is a problem in the Microsoft products that are listed at the beginning of this article.

⊖ MORE INFORMATION

Vcache is limited internally to a maximum cache size of 800 MB.

This problem may occur more readily with Advanced Graphics Port (AGP) video adapters because the AGP aperture is also mapped to addresses in the system arena. For example, if Vcache is using a maximum cache size of 800 MB and an AGP video adapter has a 128-MB aperture mapped, there is very little address space remaining for the other system code and data that must occupy this range of virtual addresses.

Properties

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APPLIES TO

- Microsoft Windows Millennium Edition
- Microsoft Windows 98 Second Edition
- Microsoft Windows 98 Standard Edition
- Microsoft Windows 95

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