

FAQ

Some Computers May Hang or Present a Blue Screen of Death with Stop Code: MEMORY MANAGEMENT Error

You may experience a time where your Dell computer stops working or presents a Stop Code: MEMORY MANAGEMENT error **Figure 1**, (commonly called a Blue Screen Of Death or BSOD), this may be caused by DDR4 2666MHz memory modules installed in the computers listed in **Table 1**.

Dell recommends that the latest BIOS be installed. For more information refer to Dell Knowledge Base article [Dell BIOS Updates](#).

Note: To determine whether or not that the latest BIOS includes the the resolution for this issue, perform the following steps.

1. Once on the product page for your computer, select the BIOS file name to expand the section.
2. Touch or click **View full driver details**.
3. Look under Enhancements:.
4. When **Improved memory compatibility for DDR4 2666Mhz memory DIMMS** is listed, the BIOS has been updated to resolve the issue. When it does not, please refer to this site later, for an updated BIOS.

Dell also provides an application called SupportAssist, which provides automatic computer updates and proactive resolution features to help identify and prevent issues.

To run the SupportAssist application, perform the following steps.

1. In the Search Box on your computer, *type* SupportAssist.
2. Select SupportAssist in the search results to open the application.

Note: When SupportAssist is not listed in the search results, it means the application is not installed on your computer. For more information on how to download and install SupportAssist, see the [SupportAssist for PCs and tablets](#) page.

3. Touch or click Update Now under Get Drivers & Downloads, and then follow the prompts.

Alienware
Alienware 15 R4
Alienware 17 R5
Aurora R7

Alienware
Inspiron
Inspiron 24 5477 AIO
Inspiron 27 7777 AIO
Inspiron 3470
Inspiron 3670
Inspiron G3 3559
Inspiron G5 5587
Inspiron G3 3779
Inspiron G7 7588
Latitude
Latitude 5491
Latitude 5591
Precision
Precision 3530
Precision 5530
Precision 7530
Precision 7730
OptiPlex
OptiPlex 3060
OptiPlex 5060
OptiPlex 5260 AIO
OptiPlex 7060
OptiPlex 7460 AIO

Alienware
OptiPlex 7760 AIO
OptiPlex XE3
Vostro
Chengming 3980
Vostro 3070
Vostro 3470
Vostro 3670
Vostro 7580
XPS
XPS 8930
XPS 9570

Table 1: Computers That May Have the DDR4 2666MHz C-Die Memory Modules Installed

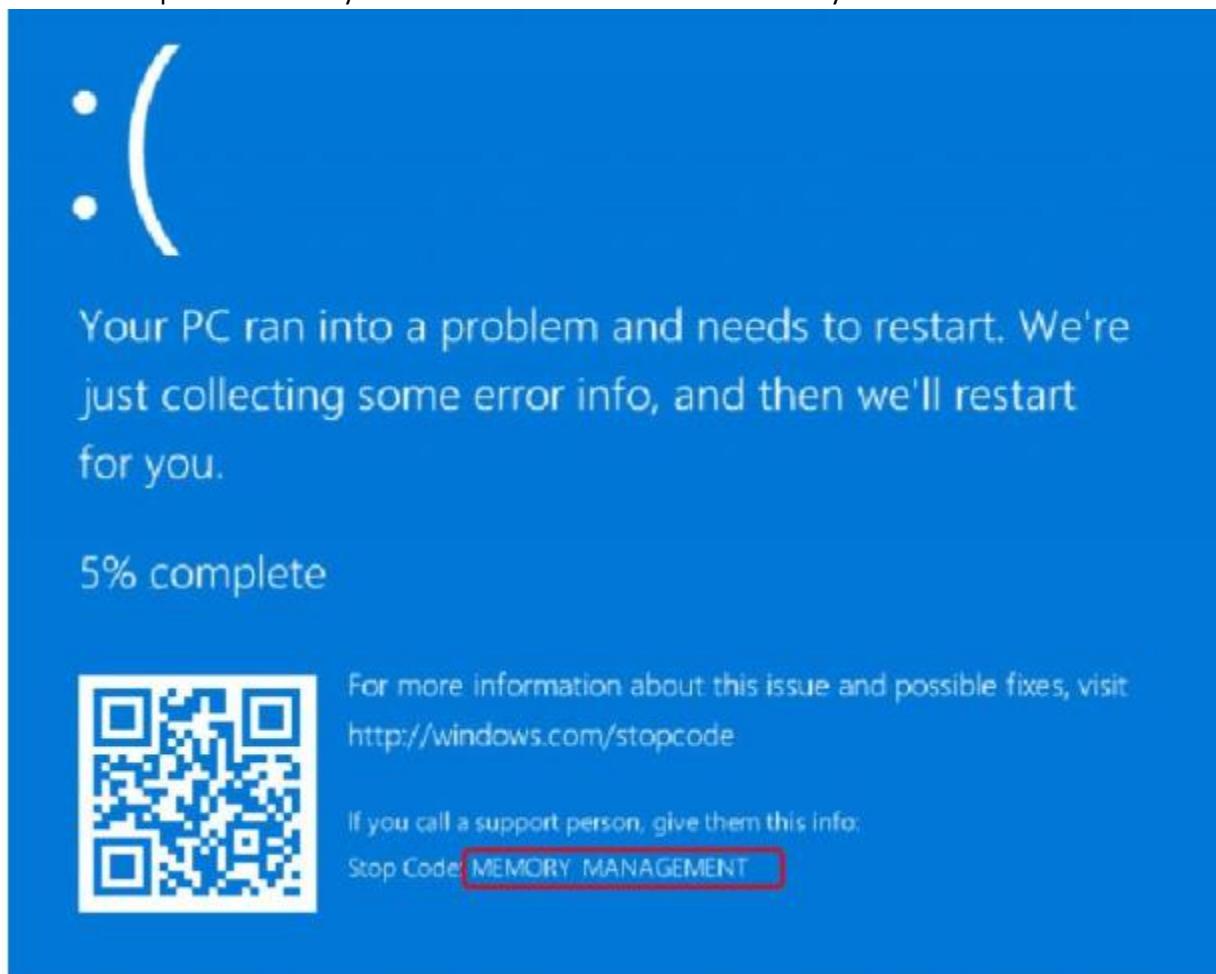


Figure 1: Memory Management Error

Mouse Usage and Troubleshooting Guide

When your Wired USB, Wireless USB or Bluetooth® mouse is not working as it should, refer to the expanding section below that best matches the issue you are having and follow the instructions.

Suggested Quick Fixes:

1. Reseat the USB cable or wireless USB receiver.
2. When you have a wireless USB or Bluetooth mouse, install new batteries.
3. Save any data, close any open program(s) and restart the computer.

Keyboard Usage and Troubleshooting Guide

When your Wired USB, Wireless USB or Bluetooth® keyboard is not working as it should, refer to the expanding section below that best matches the issue you are having and follow the instructions.

Suggested Quick Fixes:

1. Reseat the USB cable or wireless USB receiver.
2. When you have a wireless USB or Bluetooth mouse, install new batteries.
3. Save any data, close any open program(s) and restart the computer.

How to Download and Use the Dell OS Recovery Image in Microsoft Windows

- Do you need to reinstall Microsoft Windows or Linux on your Dell PC due to a system crash, hard drive replacement, etc.?
- The Dell OS Recovery Tool will help you download a customized Dell recovery image of Microsoft Windows or Linux that was preinstalled on your Dell PC.
- Follow the steps below to download the utility, create a USB recovery media and reinstall Microsoft Windows or Linux on your Dell PC.

What you will need

- Service Tag of the Dell PC on which you want to install Microsoft Windows or Linux
- Download and install [Dell OS Recovery Tool](#) (runs in Microsoft Windows only)
- Blank USB flash drive with at least 16GB of free space
- Microsoft .Net Framework 4.5.2 or higher
- Administrator user rights and at least 16GB of available storage space to download the Dell ISO recovery image

How to Troubleshoot and Resolve Memory issues with a Dell Notebook PC

This article provides information on what memory issues can be seen and how to troubleshoot them on a Dell notebook PC.

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Notebook Memory Troubleshooting

This guide deals with memory issues in notebook systems and how to troubleshoot and resolve memory issues. Memory troubleshooting typically breaks down into three sections.

- **Diagnostics**
- **Hardware**
- **Software**

The common types of memory issues you will see during use are.

- **No Post's with memory error codes.**

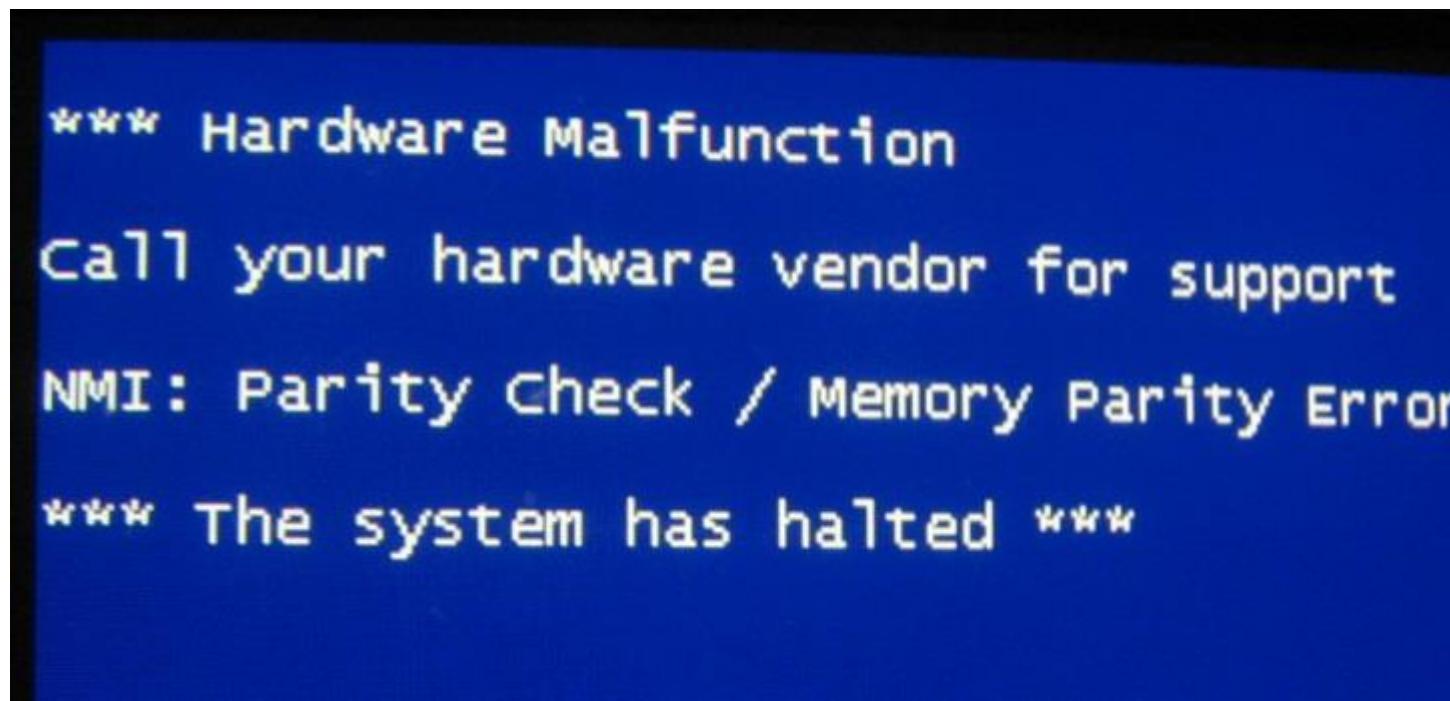


(Fig.1.1 Status LEDs)



(Fig.1.2 Status LEDs)

- **System slow, freezing or crashing, such as Blue Screen errors (BSOD's).**

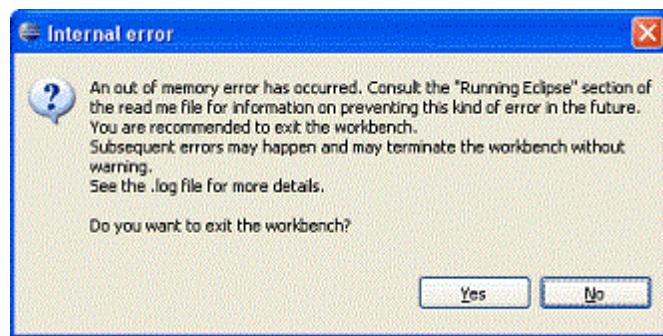


(Fig.2 BSOD NMI parity error)

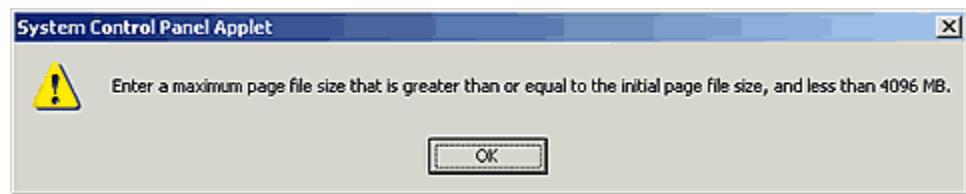
- **Onscreen error messaging about memory halts, overuns, size or read issues.**



(Fig.3.1 Application error)



(Fig.3.2 Internal error)



(Fig.3.3 Applet error)

- **Issues installing software or Operating Systems (OS).**

The vast majority of this troubleshooting will normally be done as part of a specific troubleshooting guide for a particular fault. This article is a General Overview that can go into a bit more detail than you would normally see.

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Diagnostics

This article takes you through the diagnostics LED's and codes for the various models.

- [Notebook Diag LED codes and Battery LED codes](#)

1. The first thing to do is to check if the Pre-Boot System Assessment (**PSA**) Diagnostics run.

With the system powered off, hold down the **Fn** key and the power button at the same time. Alternatively tap rapidly at the **F12** key as the system boots and select **Diagnostics** from the memory that appears. A **Diagnostic Boot Selected** message should appear in the top right hand side corner of the screen. **If you can get online you can also run the diagnostics from our support site.**

2. The system will run through about 15-20 mins worth of hardware self checks. When these complete it will ask if you want to run the further memory tests which can take another 30 mins+. If the PSAs pass then run the further memory tests.
 - i. If all tests pass then you will want to skip to the software troubleshooting.
 - ii. If they fail take a note of the error code and go to the next step.
3. If you have an error code then you will want to check the guide below to see if you can run the newer advanced diagnostics on your system as these diags will identify the fault to a memory DIMM or slot on your system.
 - i. If the diagnostics are possible and you've updated to them on your system, then contact your support with the results of the diagnostics to take this further.
 - ii. If the diagnostics are not possible for your system or you are unable to update to them, then you will want to go to the hard troubleshooting.
 - [How to identify if your Dell PC supports the Memory DIMM Isolation diagnostics and what benefits this brings you](#)

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Hardware Troubleshooting

The concept behind hardware troubleshooting memory is very simple. It comes down to part substitution and access to known good working parts.

All notebooks with removable memory will have access to the memory through the base of the unit. Either the bottom panel comes off or there will be a removable hatch cover. You will find the specific method for your system in the [Service Manuals and User Guides for your Dell System](#).

1. If you are experiencing a No Post situation, the first step is to remove the memory altogether from the system. does the fault change?
 - i. If yes then go to [step 2](#).
 - ii. If it doesn't then you will want to follow the No Post Guide below.
 - [How to Troubleshoot a No POST Issue on a Dell Notebook PC](#)
2. Do you have a known good similar system or known good working memory you could swap into this system?
 - i. Yes, then please swap the known good memory with the memory from this unit and see where the fault goes. contact your support and take this further with them.
 - ii. No, proceed to the next step.
3. Most notebooks systems currently ship with 1 or 2 memory modules. Most typically it's 2, because most memory is designed to work better in matched pairs. Regardless of how many modules you have, the next step is the same. Take 1 DIMM and test it in either memory socket. Note the results and do the same thing with the second DIMM if you have one. Does the issue change depending on which DIMM or which socket are in use?
 - i. Yes. If the fault follows a DIMM or stays with a particular slot on the motherboard, then you have identified the fault. The good news is you can run the machine with reduced memory until you've got in touch with your support to report the fault.
 - ii. No. If the fault is the same regardless of which DIMM or which slot the memory is fitted to, then either the fault isn't with the memory or both the memory and the slots are faulty. **This is why we suggest carrying out step 2.** I would recommend contacting your support at this point to take this further.

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Software Troubleshooting

Software troubleshooting steps for memory issues are pretty brief and mostly deal with virtual memory instead of physical memory.

1. You can run further memory diagnostics in windows. There are several well known tests to pick from such as Memtest. However we would most likely go on the results already

run in the PSA diagnostics. **Especially as the PSA's incorporate the Memtest diagnostics in it's own tests.** If you get an error from third party diagnostics then we would need to check they are compatible and that the key to the error codes is available. you would be better to skip this and move to the next step.

2. To rule out a virtual memory fault, I'd recommend checking a couple of quick things on your PC. The first is to confirm that windows is handling your virtual memory? **Go to control panel and performance in the hardware window and check your settings. Reset it if needed.** Confirm which partition the virtual memory is being allocated from? **The Computer assigns space on your Hard Drive to swap memory from your physical memory. The information will be located at the same place you confirm the PC is handling the memory.** Check that partition and ensure at least 6-10 GB is free on that partition. **Most paging files are only 2-4GB, but if the PC is handling this it can change the size as needed.** Once you set this test the system to see if the fault returns. If it does go to the next step.

Virtual Memory

If your computer lacks the random access memory (RAM) needed to run a program or operation, Windows uses virtual memory to compensate.

Virtual memory combines your physical RAM with temporary space on your hard disk. When RAM runs low, virtual memory moves data from RAM to a space called a paging file. Moving data to and from the paging file frees up RAM to complete its work.

The more RAM your computer has, the faster your programs will generally run. If a lack of RAM is slowing your computer, you might be tempted to increase virtual memory to compensate. However, your computer can read data from RAM much more quickly than from a hard disk, so adding RAM is a better solution.

3. You can monitor the memory usage through Task Manager and event log exceptions. This would let you track if there was a particular program, process or device that coincided with the errors. Alternatively is you memory usage high? If you can get into the windows environment to monitor these, then it cuts down on the number of issues you need to check. I've included a link below to a jump page with **how to** guides on these methods for each of the different OS's.
 - i. If Task Manager shows high memory usage, then you may simply need more memory installed to do all the work you want to do on your system. **Normally this would mean replacing the original memory with larger sized DIMMs that you've purchased.**
 - ii. If Task manager shows the issue is with the OS, a program or with a process, then you may want to run a free third party malware checker like Malwarebytes and if the problem continues restore or reinstall your version of the OS to resolve the issue.

