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How to troubleshoot hibernation and standby issues in Windows XP

INTRODUCTION

This article describes how to troubleshoot hibernation and standby issues in Windows XP. This article also explains how to determine whether a Windows XP-based computer supports Advanced Power Management (APM) features, such as hibernation or standby. This article is intended for intermediate to advanced users.

Hibernation and standby information

Hibernation and standby are very low power states in which all system content and data are stored in the computer's memory.

During hibernation and standby, most of the system's components are turned off. If you put the computer in hibernation or on standby, you can conserve significant power. The computer can quickly resume from hibernation or standby to its previous state, unless there is a problem.

If there is a problem when you enter or resume from hibernation or standby, you may have one or more of the following symptoms:

- You receive an error message that has the following format:

Unable to enter Standby mode.

- The system cannot resume from hibernation or from standby.
- After the system resumes from hibernation or from standby, the computer works abnormally. You may notice audio, mouse control, or video distortion problems.
- When a computer enters or resumes from hibernation or from standby, you receive a Stop error message that has the following format:

0x0000009F: DRIVER_POWER_STATE_FAILURE

If you experience abnormal behavior when a computer enters or resumes from hibernation or standby, this may occur for one or more of the following reasons:

Outdated or incompatible device drivers

- If the computer is running outdated device driver files, they may not support power management and they may cause incompatibility problems. This behavior prevents a computer from entering or resuming from hibernation and standby. Drivers are the primary causes of hibernation and standby issues.

Make sure that you install the latest updates for the operating system to all the devices, especially audio devices and video devices. If you are not sure which driver is causing the issue, go to the "If you have outdated driver files, run the Crash Analysis tool" section.

Note Audio devices must have drivers that use Windows Driver Model (WDM) architecture exclusively.

- If the system is using a basic graphics driver, such as a VGA video driver, it may not be compatible. Although VGA drivers support basic video, they do not support power management. If you have a VGA driver, visit the driver vendor's Web site to see whether an update is available.

Incompatible third-party software

If the computer is running incompatible third-party software, its installed components may interfere with power management or may not support power management. Contact the third-party software vendor for available updates.

Outdated peripheral firmware

If the peripheral firmware is out of date, problems may occur. Peripherals, such as SCSI adapters, modems, CD and DVD drives, or video cards, are typically packaged with diagnostic software that lets you verify the firmware version that is installed. If your firmware is outdated, visit the manufacturer's Web site to determine whether an update is available. If you find updates for several devices, install them one at a time to determine the effect of each update.

Outdated system firmware

If the system firmware (BIOS) is out of date and you do not upgrade the system firmware to the latest version, problems may occur, especially on ACPI-compliant systems. If you are not sure whether your system is using Advanced Configuration and Power Interface (ACPI) features, go to the "How to determine whether a computer is using ACPI features" section. To resolve this issue on an ACPI-compliant system, you can upgrade to the latest version. To do this, contact the system manufacturer for available upgrades.

For x86-based systems that are equipped with an APM-based (non-ACPI) BIOS, you can disable APM temporarily until you obtain a firmware update. This configuration may also eliminate startup problems, such as instability and Stop error messages.

Note If you disable APM, a computer cannot enter hibernation or standby. For more information about troubleshooting APM-related Stop errors, click the following article number to view the article in the Microsoft Knowledge Base:

[237673](http://support.microsoft.com/kb/237673/) (<http://support.microsoft.com/kb/237673/>) How to troubleshoot Stop error messages after enabling Advanced Power Management

Outdated computer hardware

If your computer hardware does not correctly support hibernation and standby, it may be outdated. If you are not sure whether your computer supports hibernation or standby, go to the "How to determine whether a computer supports hibernation and standby features" section. Older hardware may not be ACPI-compliant or may predate ACPI. If you are not sure whether your system is using ACPI features, go to the "How to determine whether a computer is using ACPI features" section.

If your computer hardware does not support hibernation or standby, unfortunately, this article cannot help you any longer.

How to troubleshoot hibernation and standby issues

If your computer cannot resume from hibernation or standby, use the information in this section to try to resolve the issue.

If you receive a message to delete restoration data, confirm it

When you put a computer in hibernation or on standby, Windows XP saves all system content to the *system drive*\Hiberfil.sys file before the system shuts down.

Note *system drive* is a placeholder for the drive where Windows is installed.

The Ntldr file examines the integrity of the Hiberfil.sys file. If the Hiberfil.sys file is damaged, you may receive an error message that has the following format:

Delete restoration data and proceed to system boot menu.

If you receive this error message, you are then prompted to delete the restoration data. Press ENTER to allow Windows XP to delete the Hiberfil.sys file and restart the computer.

If this action resolves the issue, you are finished.

If this action does not resolve the issue, go to the "Next Steps" section.

If you have devices plugged into the computer, unplug them

If you plugged in any devices, such as a USB device, into the computer after you put it in hibernation or on standby, make sure that you unplug them before you resume the computer from hibernation or from standby. Then, plug in the device after the computer has successfully resumed from hibernation or from standby.

If this action resolves the issue, you are finished.

If this action does not resolve the issue, go to the "Next Steps" section.

If your computer does not resume from hibernation or from standby, restart the computer

If you cannot resume your computer from hibernation or from standby, press and release the power button to restart it. By default, ACPI-compliant systems are configured to shut down when the power button is pressed and released. If you have an older system that has a reset button, press the reset button to restart. If the computer does not restart when you press the reset button, press the power button to turn off the computer. If you have an SCPI-compliant system and it does not shut down after a short time, press and hold the power button until the system turns off. The system usually turns off in about four seconds.

Note Incorrect shutdown or reset operations may cause unsaved data to be lost. Windows XP can detect whether an incorrect shutdown or reset has occurred. If Windows XP detects an incorrect shutdown or reset, it starts the Autochk.exe file to correct any file system problems during the startup process. This may resolve some problems that occur when you try to resume from hibernation or from standby. For more information about the Autochk.exe file and the Chkdsk.exe file, click the following article number to view the article in the Microsoft Knowledge Base:

[831426](http://support.microsoft.com/kb/831426/) (<http://support.microsoft.com/kb/831426/>) Chkdsk.exe or Autochk.exe starts when you try to shut down or restart your computer

If restarting your computer resolves the issue, you are finished. For more

information about how to prevent these issues from recurring, go to the "How to avoid hibernation and standby issues" section.

If restarting your computer does not resolve the issue, go to the "If you have outdated driver files, run the Crash Analysis tool" section, or go to the "Next Steps" section for information about how to contact Support.

If you have outdated driver files, run the Crash Analysis tool

After you restart the computer, you may want to run the Crash Analysis tool. This tool can help determine whether a driver is the cause of a problem. If a driver is the cause, this tool may also help identify the driver. For more information, click the following article number to view the article in the Microsoft Knowledge Base:

[310414](http://support.microsoft.com/kb/310414/) (<http://support.microsoft.com/kb/310414/>) How to configure and use error reporting in Windows XP

If this method identifies a driver as the cause of the issue, run Windows Update or Microsoft Update to download and install available updates. Or, contact the driver manufacturer for available updates. Visit the following Microsoft Web sites for more information:

- **Microsoft Online Crash Analysis**

<https://oca.microsoft.com/en/Welcome.aspx>

(<https://oca.microsoft.com/en/Welcome.aspx>)

- **Microsoft Update**

<http://update.microsoft.com/microsoftupdate/v6/default.aspx>

(<http://update.microsoft.com/microsoftupdate/v6/default.aspx>)

- **Windows Update**

<http://update.microsoft.com/windowsupdate/v6/default.aspx>

(<http://update.microsoft.com/windowsupdate/v6/default.aspx>)

If this method does not isolate and resolve the issue, go to the "Next Steps" section.

How to determine whether a computer is using ACPI features

Hibernation and standby require a system BIOS that supports ACPI or the former APM specification. To avoid problems, review the system documentation or see the manufacturer's Web site for information about how to determine whether the firmware is compliant and up to date. Updated firmware is especially important when you use the ACPI functionality.

To determine whether the computer is using ACPI features, follow these steps:

1. Click **Start**, click **Run**, type **devmgmt.msc**, and then click **OK**.
2. In the **Device Manager** window, expand **Computer**.
3. If the **Advanced Configuration and Power Interface (ACPI) PC** option is displayed, your computer is using ACPI features.

If the **Advanced Configuration and Power Interface (ACPI) PC** option is not displayed, your computer does not support ACPI features.

For more information or to contact Support, go to the "Next Steps" section.

How to determine whether a computer supports hibernation and standby features

Your computer must support hibernation and standby in order to use these features. To determine whether your computer supports hibernation and standby, follow these steps:

1. Click **Start**, click **Run**, type **powercfg.cpl**, and then click **OK**.
2. In the **Power Options Properties** dialog box, click the **Hibernate** tab.

Note If the **Hibernate** tab is not displayed, your computer does not support hibernation.

3. Click to select the **Enable hibernation** check box, and then click **Apply**.

Note If the **Hibernate** tab exists and you click to clear the **Enable hibernation** check box on the **Hibernate** tab, the **Hibernate** option will not appear in the drop-down list on the **Advanced** tab.

4. In the **Power buttons** section, verify that the **Standby** option and the **Hibernate** option appear in the drop-down list on the **Advanced** tab.
5. If the **Standby** and **Hibernate** options are not displayed, either the computer does not support these features or the power management features are disabled in the BIOS. Contact the system manufacturer for information about the BIOS settings.

MORE INFORMATION

This section includes information about how to avoid problems with hibernation and standby, and contains links to articles that provide more information about how to use the hibernation and standby features.

How to avoid hibernation and standby issues

To avoid hibernation and standby issues, follow these practices:

1. Do not make major changes to the computer's state after you put the computer in hibernation or on standby.

For example, if you put an undocked portable computer in hibernation or on standby, do not resume the computer when it is docked. Computers that are not ACPI-compliant may be more sensitive to this kind of state change.

2. Do not force hibernation or standby when you are running certain applications. Some applications such as CD and DVD burning software or system backup utilities may run incorrectly if hibernation or standby is forced. If you force hibernation or standby when these applications are running, CD and DVD media may become unusable, and backup data may become corrupted.

Make sure that your computer is not automatically set to enter standby when you perform these tasks. Always wait until these applications have finished data collection and media recording tasks before you put the computer in hibernation or on standby.

3. Do not plug in devices when the computer is in hibernation or on standby. For best results, resume the computer first, and then plug in peripherals,

such as USB devices.

For more information about how to use the standby and hibernate features, click the following article numbers to view the articles in the Microsoft Knowledge Base:

[308535](http://support.microsoft.com/kb/308535/) (http://support.microsoft.com/kb/308535/) Description of the different Advanced Power Management states

[302414](http://support.microsoft.com/kb/302414/) (http://support.microsoft.com/kb/302414/) Unable to use power management features

[815304](http://support.microsoft.com/kb/815304/) (http://support.microsoft.com/kb/815304/) The computer does not resume from hibernation or does not Wake-on-LAN from standby

[822827](http://support.microsoft.com/kb/822827/) (http://support.microsoft.com/kb/822827/) Computer stops responding after you put it into hibernation, and then resume it from hibernation many times

NEXT STEPS

If this article did not resolve the issue, you can also use the Microsoft Customer Support Services Web site to find other solutions. Some services that the Microsoft Customer Support Services Web site provides include the following:

- [Searchable Knowledge Base](http://support.microsoft.com/search/?adv=1) (http://support.microsoft.com/search/?adv=1) : Search technical support information and self-help tools for Microsoft products.
- [Solution Centers](http://support.microsoft.com/select/?target=hub) (http://support.microsoft.com/select/?target=hub) : View product-specific frequently asked questions and support highlights.
- [Microsoft Customer Support Newsgroups](http://www.microsoft.com/communities/newsgroups/default.msp) (http://www.microsoft.com/communities/newsgroups/default.msp) : Contact counter parts, peers, and Microsoft Most Valuable Professionals (MVPs).
- [Other Support Options](http://support.microsoft.com/default.aspx?pr=csshome) (http://support.microsoft.com/default.aspx?pr=csshome) : Use the Web to ask a question, contact Microsoft Customer Support Services, or provide feedback.

If you continue to have questions after you use these Microsoft Web sites or if you cannot find a solution on the Microsoft Support Services Web site, click the following link to contact Support.

<http://support.microsoft.com/contactus> (http://support.microsoft.com/contactus)

APPLIES TO

- Microsoft Windows XP Home Edition
- Microsoft Windows XP Professional

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