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A USB 2.0 hub may stop working when you disconnect a USB 2.0 printer from your Windows XP-based computer

SYMPTOMS

You disconnect a universal serial bus (USB) 2.0 printer from the USB port on your Microsoft Windows XP-based computer. In this scenario, an external USB 2.0 hub that is connected directly to another USB port on your computer may stop working.

Note This problem may also affect a port replicator that works as a USB 2.0 hub.

CAUSE

This problem may occur if either of the following conditions is true:

- You are running Windows XP with Service Pack 1 (SP1), and you have installed the update that is described in the following article:

  822603 (http://support.microsoft.com/kb/822603/) Availability of the Windows XP Service Pack 1 USB 1.1 and 2.0 Update
- You are running Windows XP with Service Pack 2 (SP2) or a later version.

WORKAROUND

Important This section, method, or task contains steps that tell you how to modify the registry. However, serious problems might occur if you modify the registry incorrectly. Therefore, make sure that you follow these steps carefully. For added protection, back up the registry before you modify it. Then, you can restore the registry if a problem occurs. For more information about how to back up and restore the registry, click the following article number to view the article in the Microsoft Knowledge Base: 322756 (http://support.microsoft.com/kb/322756/) How to back up and restore the registry in Windows

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

Method 1: Connect the USB 2.0 printer to the external USB 2.0 hub instead of to the USB port on your computer

Method 2: Disable power management of the USB 2.0 hub

Note This procedure may reduce the battery life on a portable computer.

1. Click **Start**, click **Run**, type **devmgmt.msc**, and then click **OK**.
2. On the **View** menu, click **Devices by connection**.
3. Expand the *PC* node.

   Note Because Microsoft Windows is installed on computers that use different types of processors, the *PC* node may be named differently on your computer. For example, the *PC* node might have any one of the following names:
     ACPI Multiprocessor PC
   ACPI Uniprocessor PC
   Advanced Configuration and Power Interface (ACPI) PC
   Standard PC
4. Expand the **PCI-Bus** node.

   Note If you do not see the **PCI-Bus** node, expand the current node, and then expand the **PCI-Bus** node.
5. Expand the *Manufacturer and Model* **Enhanced Host Controller** node.
6. Right-click the **USB Root Hub** node that is listed under the *Manufacturer and Model* **Enhanced Host Controller** node, and then click **Properties**.
7. Click the **Power Management** tab.
8. Click to clear the **Allow the computer to turn off this device to save power** check box, and then click **OK**.

Method 3: Edit the registry to disable selective suspend mode for all USB host controller drivers in the system

This procedure describes how to modify the following registry setting: HKEY_LOCAL_MACHINE\SYSTEM \CurrentControlSet\Services\USB
Entry: DisableSelectiveSuspend

Type: DWORD
Value: 1 disables selective suspend mode. 0 enables selective suspend mode.   **Note**

- This procedure may reduce the battery life on a portable computer.
- This setting affects all USB host controller drivers in the system. If the DisableSelectiveSuspend value is set to 1, selective suspend mode is turned off. Additionally, the **Allow the computer to turn off this device to save power** check box does not appear on the **Power Management** tab for the USB root hub.

1. Click **Start**, click **Run**, type **regedit**, and then click **OK**.
2. Locate and then click the following registry subkey: **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet \Services**
3. On the **Edit** menu, point to **New**, and then click **Key**.
4. Type **USB** for the name of the subkey, and then press ENTER.
5. Click the following registry subkey: **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\USB**
6. On the **Edit** menu, point to **New**, and then click **DWORD Value**.
7. Type **DisableSelectiveSuspend** for the name of the DWORD, and then press ENTER.
8. Right-click **DisableSelectiveSuspend**, and then click **Modify**.
9. In the **Value data** box, type **1**, and then click **OK**.
10. Quit Registry Editor.

STATUS

Microsoft has confirmed that this is a problem in the Microsoft products that are listed in the "Applies to" section.

MORE INFORMATION

In Windows XP, the USB core stack supports selective suspend mode. A driver can use this mode to turn off the USB device that the driver controls when the device becomes idle. This mode works even when the computer remains in a fully operational power state (S0). For example, a driver can make the following devices idle:

- The host controller.
- The USB hubs, including the root hub.
- The full range of USB devices that are supported by the operating system.

Selective suspend mode is primarily intended to conserve battery power in portable computers. Selective suspend mode helps reduce overall system power consumption by putting USB devices that are inactive in a low power state. This configuration increases battery life.

APPLIES TO

- Microsoft Windows XP Home Edition
- Microsoft Windows XP Professional
- Microsoft Windows XP Media Center Edition 2005
- Microsoft Windows XP Tablet PC Edition 2005

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