

Article ID: 948496 - Last Review: February 8, 2010 - Revision: 9.0

## An update to turn off default SNP features is available for Windows Server 2003-based and Small Business Server 2003-based computers

### System Tip ✕

This article applies to a different version of Windows than the one you are using. Content in this article may not be relevant to you. [Visit the Windows XP Solution Center](#)

### SYMPTOMS

After you install Windows Server 2003 Service Pack 2 (SP2) or Windows Server 2003 Scalable Networking Pack (SNP) on a computer that has a TCP/IP Offload-enabled network adapter, you may experience many network-related problems.

The following issues may occur when Windows Server 2003 SNP is turned on:

- When you try to connect to the server by using a VPN connection, you receive the following error message: Error 800: Unable to establish connection.
- You cannot create a Remote Desktop Protocol (RDP) connection to the server.
- You cannot connect to shares on the server from a computer on the local area network.
- You cannot join a client computer to the domain.
- You cannot connect to the Exchange server from a computer that is running Microsoft Outlook.
- Inactive Outlook connections to the Exchange server may not be cleaned up.
- You experience slow network performance.
- You may experience slow network performance when you communicate with a Windows Vista-based computer.
- You cannot create an outgoing FTP connection from the server.
- The Dynamic Host Configuration Protocol (DHCP) server service crashes.
- You experience slow performance when you log on to the domain.
- Network Address Translation (NAT) clients that are located behind Windows Small Business Server 2003 or Internet Security and Acceleration (ISA) Server experience intermittent connection failures.
- You experience intermittent RPC communications failures.
- The server stops responding.
- The server runs low on nonpaged pool memory

**Note** SNP features are currently not supported on Itanium-based systems.

### CAUSE


These issues occur because of several problems with the Windows Server 2003 SNP features that are enabled in Windows Server 2003 Service Pack 2. These features include Receive Side Scaling (RSS) and TCP/IP Offloading. Specifically, these problems include the following:

- RSS is incompatible with NAT or with Network Load Balancing (NLB).
- TCP/IP Offload has a problem with the Window Scaling feature. This problem typically occurs when you communicate with a Windows Vista-based computer. Windows Vista uses the Window Scaling feature.
- Some TCP/IP Offload-enabled network adapters do not send TCP keep-alive messages. However, Exchange servers use TCP keep-alive messages to clean up inactive client sessions.
- The TCP/IP Offload-enabled network adapter may consume lots of nonpaged pool memory. This may cause other problems in the operating system.
- In some cases, the TCP/IP Offload-enabled network adapter may request large blocks of contiguous memory. This makes the computer stop responding when it tries to free the memory.


### RESOLUTION

#### Update information

This update turns off default SNP features. After you install this hotfix, you can manually re-enable these features by modifying registry values. The following files are available for download from the Microsoft Download Center:

 [Download the update for Windows Server 2003, x86-based versions \(KB948496\) package now.](http://www.microsoft.com/downloads/details.aspx?FamilyId=062E954C-FDEC-45AF-A09C-5A05B8F010A5) (http://www.microsoft.com/downloads/details.aspx?FamilyId=062E954C-FDEC-45AF-A09C-5A05B8F010A5)

 [Download the update for Windows Server 2003, x64-based versions \(KB948496\) package now.](http://www.microsoft.com/downloads/details.aspx?FamilyId=38E66572-5D47-4219-82D7-DB0C57478950) (http://www.microsoft.com/downloads/details.aspx?FamilyId=38E66572-5D47-4219-82D7-DB0C57478950)

 [Download the update for Windows Server 2003, Itanium-based versions \(KB948496\) package now.](http://www.microsoft.com/downloads/details.aspx?displaylang=en&FamilyID=a4d3905c-dd7d-4b3b-96df-38b7256c26d2) (http://www.microsoft.com/downloads/details.aspx?displaylang=en&FamilyID=a4d3905c-dd7d-4b3b-96df-38b7256c26d2)

For more information about how to download Microsoft support files, click the following article number to view the article in the Microsoft Knowledge Base: [119591](http://support.microsoft.com/kb/119591/) (http://support.microsoft.com/kb/119591/) How to obtain Microsoft support files from online services Microsoft scanned this file for viruses. Microsoft used the most current virus-detection software that was available on the date that the file was posted. The file is stored on security-enhanced servers that help prevent any unauthorized changes to the file.

### Prerequisites

You must have Windows Server 2003 Service Pack 2 installed.

### Restart requirement

You have to restart the computer after you apply this update.

### Hotfix replacement information

This update does not replace any other previously released updates.

### File information

This update does not replace any files.

---

## WORKAROUND

To work around this problem, use any of the following methods. You must restart the computer after you try any of these methods.

### Method 1: Manually disable Receive Side Scaling and TCP Offload in the network adapter driver

To manually disable RSS and TCP Offload in the network adapter driver, follow these steps:

1. Click **Start**, click **Run**, type **ncpa.cpl**, and then click **OK**.
2. Right-click a network adapter object, and then click **Properties**.
3. Click **Configure**, and then click the **Advanced** tab.
4. In the **Property** list, click **Receive Side Scaling**, click **Disable** in the **Value** list, and then click **OK**.
5. In the **Property** list, click **TCP/IP Offload**, click **Disable** in the **Value** list, and then click **OK**.
6. Repeat steps 2 through 5 for each network adapter object.

### Method 2: Update the network adapter drivers

To determine whether an updated network adapter driver is available, contact the network adapter manufacturer or the original equipment manager (OEM) for the computer. The driver must meet Network Driver Interface Specification (NDIS) 5.2 or a later version of this specification.

For information about how to contact computer program manufacturers, visit the following Microsoft Web site:

<http://support.microsoft.com/gp/vendors> (http://support.microsoft.com/gp/vendors)

### Method 3: Manually disable RSS and TCP Offload in the registry

To have us do this for you, go to the "Fix it for me" section. If you would rather do this yourself, go to the "Let me fix it myself" section.

#### Fix it for me

To disable RSS and TCP Offload in the registry automatically, click the **Fix this problem** link. Then click **Run** in the **File Download** dialog box, and follow the steps in this wizard.

#### Fix this problem

Microsoft Fix it 50051

**Note** this wizard may be in English only; however, the automatic fix also works for other language versions of Windows.

**Note** If you are not on the computer that has the problem, you can save the automatic fix to a flash drive or to a CD, and then you can run it on the computer that has the problem.

Now go to the "Did this fix the problem?" section.

#### Let me fix it myself

**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/) (http://support.microsoft.com/kb/322756/) How to back up and restore the registry in Windows

To manually disable RSS and TCP Offload yourself, follow these steps:

1. Click **Start**, click **Run**, type **regedit**, and then click **OK**.
2. Locate the following registry subkey: HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters
3. Right-click **EnableTCPChimney**, and then click **Modify**.
4. In the **Value data** box, type **0**, and then click **OK**.
5. Right-click **EnableRSS**, and then click **Modify**.
6. In the **Value data** box, type **0**, and then click **OK**.
7. Right-click **EnableTCPA**, and then click **Modify**.
8. In the **Value data** box, type **0**, and then click **OK**.
9. Exit Registry Editor, and then restart the computer.

If you set the value of the EnableTCPChimney registry entry to 1, the TCP Chimney functionality is enabled. Similarly, if you set the values of the EnableRSS and EnableTCPA registry entries to 1, the RSS functionality and the TCPA functionality are enabled.

#### Did this fix the problem?

---

Check whether the problem is fixed. If it is fixed, you are finished with this article. If it is not fixed, you can contact support.

#### STATUS

---

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

#### MORE INFORMATION

---

For more information about software update terminology, click the following article number to view the article in the Microsoft Knowledge Base: [824684](http://support.microsoft.com/kb/824684/) (http://support.microsoft.com/kb/824684/) Description of the standard terminology that is used to describe Microsoft software updates

#### REFERENCES

---

For more information about SNP, click the following article number to view the article in the Microsoft Knowledge Base: [912222](http://support.microsoft.com/kb/912222/) (http://support.microsoft.com/kb/912222/) The Microsoft Windows Server 2003 Scalable Networking Pack release

In rare cases, the hotfix does not work. For example, when you use Network Interface Card (NIC) Teaming software on the computer, the changes to TCP Chimney and RSS settings are not picked up by the NIC Teaming software. This behavior causes a loss of network connectivity. After you apply this hotfix, you must verify the properties of the NIC Team to make sure that the TCP Chimney or TOE and RSS settings have also been disabled. If the hotfix cannot disable the TCP Chimney or TOE and RSS feature, you can manually disable RSS and TCP Chimney Offload by using one of the methods that is mentioned in the Workaround section.

The third-party products that this article discusses are manufactured by companies that are independent of Microsoft. Microsoft makes no warranty, implied or otherwise, about the performance or reliability of these products.

Microsoft provides third-party contact information to help you find technical support. This contact information may change without notice. Microsoft does not guarantee the accuracy of this third-party contact information.

---

#### APPLIES TO

- Microsoft Windows Server 2003 Service Pack 2, when used with:
  - Microsoft Windows Server 2003, Datacenter Edition (32-bit x86)
  - Microsoft Windows Server 2003, Datacenter x64 Edition
  - Microsoft Windows Server 2003, Enterprise x64 Edition
  - Microsoft Windows Server 2003, Enterprise Edition (32-bit x86)
  - Microsoft Windows Server 2003, Standard x64 Edition
  - Microsoft Windows Server 2003, Standard Edition (32-bit x86)
  - Microsoft Windows Small Business Server 2003 Premium Edition
  - Microsoft Windows Small Business Server 2003 Standard Edition
  - Microsoft Windows Server 2003, Enterprise Edition for Itanium-based Systems
  - Microsoft Windows Server 2003, Datacenter Edition for Itanium-Based Systems
- Microsoft Office SharePoint Portal Server 2003
- Microsoft Office SharePoint Server 2007
- Microsoft Windows SharePoint Services 3.0
- Microsoft Windows SharePoint Services 2.0
- Microsoft Exchange Server 2007 Enterprise Edition
- Microsoft Exchange Server 2007 Standard Edition
- Microsoft Exchange Server 2003 Standard Edition
- Microsoft Exchange Server 2003 Enterprise Edition

**Keywords:** kbmsifixme kbfixme atdownload kbfix kbexpertiseadvanced kbpubtypekc kbqfe KB948496



**Get Help Now**

Contact a support professional by E-mail, Online, or Phone

Microsoft Support

—

**Microsoft**

© 2010 Microsoft