

Article ID: 929826 - Last Review: April 2, 2010 - Revision: 4.0

## Error message when you try to activate Windows Vista Enterprise, Windows Vista Business, Windows 7, or Windows Server 2008: "Code 0x8007232b"

### SYMPTOMS

---

When you try to activate Windows Vista or Windows Server 2008, you may receive an error message that resembles the following:

Activation Error: Code 0x8007232b  
DNS Name does not exist

For Windows 7, your error may resemble the following:

Windows could not be activated.  
Key management services (KMS) host could not be located in domain name system (DNS), please have your system administrator verify that a KMS is published correctly in DNS.  
Error: 0x80092328  
Description:  
DNS name does not exist.

### CAUSE

---

This issue occurs if you are using Windows 7, Windows Vista Enterprise, Windows Vista Business, Windows Server 2008, or Windows Server 2008 R2 volume-licensed media and the activation wizard cannot connect to a Key Management Service (KMS) host computer. If you use MSDN, TechNet, or MAPs, you probably have volume-licensed media and were supplied a Multiple Activation Key (MAK).

### RESOLUTION

---

To resolve this issue, use one or more of the following methods, as appropriate for your situation.

#### Method 1

If KMS activation will not be used and there is no KMS server, then the product key should be changed to a MAK. For Microsoft Developer Network (MSDN), or for TechNet, the stock-keeping units (SKUs) that are listed below the media are usually volume licensed-media, and the product key supplied is a MAK key.

Change the product key to a Multiple Activation Key (MAK) by following these steps:

1. Click **Start**



- , click **All Programs**, click **Accessories**, and then right-click **Command Prompt**.
- Click **Run as administrator**.

If you are prompted for an administrator password or for confirmation, type the password or provide confirmation.

- At the command prompt, type the following command, and then press ENTER:

```
slmgr -ipk xxxxx-xxxxx-xxxxx-xxxxx-xxxxx
```

**Note** In this command, the xxxxx-xxxxx-xxxxx-xxxxx-xxxxx placeholder represents your MAK product key.

## Method 2

KMS activation requires a KMS host server to be configured for the clients to activate against. If there are no KMS hosts servers configured in your environment, install and activate a KMS host server by using an appropriate KMS host server key. After you configure a computer on the network to host the KMS software, publish the Domain Name System (DNS) settings. For more information about how to set up a KMS server and about how to publish the DNS settings, visit the following Microsoft Web sites:

How to install a KMS host server in Windows Server 2003, in Windows Vista, and in Windows Server 2008

[http://technet.microsoft.com/en-us/library/cc303280.aspx#\\_Install\\_KMS\\_Hosts](http://technet.microsoft.com/en-us/library/cc303280.aspx#_Install_KMS_Hosts) ([http://technet.microsoft.com/en-us/library/cc303280.aspx#\\_Install\\_KMS\\_Hosts](http://technet.microsoft.com/en-us/library/cc303280.aspx#_Install_KMS_Hosts))

Video on KMS Setup in Windows 7 and in Windows Server 2008 R2

<http://technet.microsoft.com/en-us/library/dd996588.aspx> (<http://technet.microsoft.com/en-us/library/dd996588.aspx>)

Download Volume Activation 2.0

<http://www.microsoft.com/downloads/details.aspx?FamilyId=9893F83E-C8A5-4475-B025-66C6B38B46E3&displaylang=en> (<http://www.microsoft.com/downloads/details.aspx?FamilyId=9893F83E-C8A5-4475-B025-66C6B38B46E3&displaylang=en>)

General information about Volume Activation

<http://technet.microsoft.com/en-us/library/bb871044.aspx> (<http://technet.microsoft.com/en-us/library/bb871044.aspx>)

## Method 3

If your network has a KMS host machine set up, and if the client cannot locate a KMS host on the network for activation, follow these steps:

- Do the following to verify that the computer that has the KMS host installed and that is activated by using a KMS key is registered in DNS:
  - From an elevated command prompt on the KMS host server execute the following command:
 

```
nslookup -type=all _vlmcs._tcp>kms.txt
```
  - Open the KMS.txt file that was generated from the previous command. This file should contain one or more entries that resemble the following entry:

```

_vlmcs._tcp.contoso.com                SRV
service location:
    priority      = 0
    weight        = 0
    port          = 1688
    svr hostname  = kms-server.contoso.com

```

- c. If these "\_vlmcs" entries are present, and if they contain the expected KMS host names, go to the "Method 4" section.
- By default, a KMS host server dynamically registers a DNS SRV record one time every 24 hours. If the following registry key is present with a value of 1, the KMS service does not register in DNS. If dynamic registration is acceptable, change the following registry key value to **0**:

Registry path: HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\SL  
 Setting: DisableDnsPublishing  
 Type: dword  
 Value: 0

**Note** By default, this registry key has an undefined value that results in the dynamic registration every 24 hours.

- If the DNS Server service does not support dynamic updates, or if dynamic updates are not occurring, the "VLMCS.\_TCP, SRV" record may be manually registered.

To manually create a KMS SRV record in a Microsoft DNS server, follow these steps:

- On the DNS server, open DNS Manager. To open DNS Manager, click **Start**, click **Administrative Tools**, and then click **DNS**.
- Click the DNS server where you have to create the SRV resource record.
- In the console tree, expand **Forward Lookup Zones**, right-click the domain, and then click **Other New Records**.
- Scroll down the list, click **Service Location (SRV)**, and then click **Create Record**.
- Type the following information:
  - Service: \_VLMCS
  - Protocol: \_TCP
  - Port number: 1688
  - Host offering the service: <FQDN\_of\_KMS\_Host>
- When you are finished, click **OK**, and then click **Done**.

To manually create SRV records in a BIND 9.x Compliant DNS Server include the following information when you create the record.

**Note** If your organization uses a non-Microsoft DNS server, you can create the needed SRV records as long as the DNS server is BIND 9.x compliant.

- Name=\_vlmcs.\_TCP
- Type=SRV
- Priority = 0
- Weight = 0

- Port = 1688
- Hostname = <FQDN or A-Name of the KMS host>

**Note** The **Priority** and **Weight** fields are not used by KMS and are ignored by the KMS client. However, they must be included in the zone file.

To configure a BIND 9.x DNS server to support KMS auto-publishing, configure the BIND server to enable resource record updates from KMS hosts. For example, add the following line to the zone definition in `Named.conf` or in `Named.conf.local`:

```
allow-update { any; };
```

#### Method 4

By default, the KMS clients use the automatic discovery feature and query DNS for a list of servers that have published the `_VLMCS` record within the membership zone of the client. DNS returns the list of KMS hosts in a random order. The client picks a KMS host and tries to establish a session on it. If this attempt works, the client caches the server and tries to use it for the next renewal attempt. If the session setup fails, the client picks another server randomly. We highly recommend that you use the automatic discovery feature. However, you can manually assign a KMS server. To do this, use the following commands from an elevated command prompt on the KMS client.

To assign a KMS host by using the FQDN of the host, type the following command:

```
cscript \windows\system32\slmgr.vbs -skms <KMS_FQDN>:<port>
```

To assign a KMS host by using the version 4 IP address of the host, type the following command:

```
cscript \windows\system32\slmgr.vbs -skms <IPv4Address><:port>
```

To assign a KMS host by using the version 6 IP address of the host, type the following command:

```
cscript \windows\system32\slmgr.vbs -skms <IPv6Address><:port>
```

To assign a KMS host by using the NETBIOS name of the host, type the following command:

```
cscript \windows\system32\slmgr.vbs -skms <NetbiosName><:port>
```

To revert to automatic discovery on a KMS client, type the following command:

```
cscript \windows\system32\slmgr.vbs -ckms
```

## Method 5

If the previous methods have not resolved the issue, the problem may lay in the ability of the client to resolve or connect to the KMS server. If the problem is the ability of the client to resolve the DNS name of the KMS server or to connect to the KMS server, follow these steps:

**Note** The following steps are to be performed on a KMS client that has encountered the error mentioned in the title unless otherwise stated:

1. At a command prompt, type the following command, and then press ENTER:  
**IPCONFIG /all**
2. Remember the assigned IP address, the DNS server address, and the default gateway address.
3. Verify basic IP connectivity to the DNS Server by using the **ping** command. To do this, run the following command.  
**ping <DNS Server IP address>**

**Note** If this command does not ping the server, this issue must be resolved first.

For more information about how to Troubleshooting TCP/IP problems, refer to the following TechNet Web site:

[Troubleshooting TCP/IP Problems](http://technet.microsoft.com/en-us/library/bb727023.aspx) (http://technet.microsoft.com/en-us/library/bb727023.aspx)

4. Verify that the search list of the primary DNS suffix contains the DNS domain suffix that the KMS host registered.

For the computers that have joined the domain, the DNS automatic discovery of KMS requires that the DNS zone contains the SRV resource record for the KMS host. This DNS zone is the DNS zone that corresponds to either the primary DNS suffix of the computer or to the domain of the Active Directory DNS.

For workgroup computers, the DNS automatic discovery of KMS requires that the DNS zone contains the SRV resource record for the KMS host. This DNS zone is the DNS zone that corresponds to either the primary DNS suffix of the computer or to the DNS domain name that is assigned by the Dynamic Host Configuration Protocol (DHCP). This domain name is defined by the option that has the code value of 15 as defined in Request for Comments (RFC) 2132.

5. Verify that the KMS host SRV records are registered in DNS. At an elevated command prompt , type the following command, and then press ENTER:  
**nslookup -type=all \_vlmcs.\_tcp>kms.txt**
6. Open the Kms.txt file that was generated by this command. This file should contain one or more entries that resemble the following:

```

_vlmcs._tcp.contoso.com                SRV service
location:
priority                                = 0
weight                                  = 0
port                                     = 1688
svr hostname                             = kms-server.contoso.com

```

Verify the IP address, host name, and port of the KMS host.

**Note** If the **nslookup** command finds the KMS host, it does not mean that the DNS client can find the KMS host. If the **nslookup** command finds the KMS host, and if you still cannot activate the KMS host server, check the other settings such as the primary DNS suffix and the search list of the DNS suffix.

**Note** The SRV records are registered in the DNS zone that corresponds to the KMS host domain membership. For example, assume that a KMS host joins the **contoso.com** domain. In this scenario, the KMS host registers its VLMCS.\_TCP SRV record under the **contoso.com** DNS zone. Therefore, the **VLMCS.\_TCP.CONTOSO.COM** record is created. If the clients are configured to use a different DNS zone, automatically publish KMS in multiple DNS domains. To do this, follow these steps:

- a. Log on to a KMS host.
- b. Open an elevated command prompt. To do this, click **Start**, click **All Programs**, click **Accessories**, right-click **Command Prompt**, and then click **Run as administrator**.



If you are prompted for an administrator password or for confirmation, type the password or provide confirmation.

- c. At the command prompt, type **Regedit.exe**, and then press **ENTER**.
- d. Locate the following registry key:
 

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows
NT\CurrentVersion\SL
```
- e. In the tree pane, click **SL**. Right-click a blank area in the details pane, point to **New**, and then click **Multi-String Value**.
- f. Type **DnsDomainPublishList** as the name for the new value, and then press **ENTER**.
- g. Right-click the new **DnsDomainPublishList** value, and then click **Modify**.
- h. In the **Edit Multi-String** dialog box, type each DNS domain suffix that is published by KMS on a separate line, and then click **OK**.

**Note** For Windows 7 and for Windows Server 2008 R2, the format for **DnsDomainPublishList** is different.

For more information, visit the following Microsoft Web site:

<http://technet.microsoft.com/en-us/library/ee355153.aspx>

(<http://technet.microsoft.com/en-us/library/ee355153.aspx>)

- i. Restart the Software Licensing service by using the **Service** administrative tool. This operation creates the SRV records.

7. Verify that the host name that is returned in the last step can be resolved by using a typical method on the KMS client. When the name is resolved, also verify that the IP address that is returned is accurate. If either of these verifications fails, investigate this DNS client resolver issue.
8. If we try to use the KMS automatic discovery feature, run the following command from an elevated command prompt to clear any previously cached KMS host names:

```
cscript C:\Windows\System32\slmgr.vbs -ckms
```

9. If you believe that you have an SRV record issue, you can troubleshoot the issue by using one of the commands that are documented in the "Method 4" section to statically specify a KMS host. The following commands can be used to determine whether this is a name resolution issue or a SRV record issue. If neither of these commands resolves the issue, you may be encountering a blocked port, or an inaccessible host that is discussed in the next step.

First run the following commands:

```
cscript \windows\system32\slmgr.vbs -skms  
<KMS_FQDN>:<port>
```

```
cscript \windows\system32\slmgr.vbs -ato
```

If these two commands resolve the issue, the issue is a SRV record issue and requires you to troubleshoot the SRV record.

If these two commands do not resolve the issue, run the following commands:

```
cscript \windows\system32\slmgr.vbs -skms <IP  
Address>:<port>
```

```
cscript \windows\system32\slmgr.vbs -ato
```

If these two commands resolve the issue, the issue is most likely a name resolution issue.

10. The 1688 TCP port is used for the activation communication between the KMS client and the KMS host. If the communication seems to be blocked, check the firewall configurations or anything else that may block the 1688 TCP port.

## MORE INFORMATION

---

When you use volume-licensed media to install Windows 7, Windows Vista Enterprise, Windows Vista Business, or Windows Server 2008, the installation process uses a generic product key. When you then try to activate Windows 7, Windows Vista, or Windows Server 2008, the activation wizard uses DNS to locate a Windows 7-based, Windows Vista-based, or Windows Server 2008-based computer that is running the KMS software. When the wizard queries DNS and does not find the DNS entry for the KMS host computer, the wizard reports the error message. If you have a KMS host computer setup, the correct DNS entries are not seen by the client computer. If you do not have a KMS host computer setup, you must either set up a KMS host computer or switch to a MAK product key method to activate your volume license installation.

Microsoft Developer Network (MSDN) and TechNet supply volume-licensed media

for Windows Server 2008 stock-keeping units (SKUs), for Windows Server 2008 R2 SKUs, for Windows Vista Enterprise SKUs, and for Windows 7 Enterprise SKUs. The volume-licensed media will not prompt for a product key during installation. If you do not change the product key to the MSDN key, you receive the error message when you try to activate the operating system. If you use MSDN media or TechNet media, you must change the product key to the MSDN product key. Use the "Method 1" section of the "Resolution" section to change the product key.

**Note** The MSDN product key or the TechNet product key for Windows Server 2008, for Windows Server 2008 R2, for Windows Vista Enterprise, or for Windows 7 Enterprise is the MAK product key.

## REFERENCES

---

For more information about Volume Activation for Windows Vista, click the following article number to view the article in the Microsoft Knowledge Base:

[929712](http://support.microsoft.com/kb/929712/) (<http://support.microsoft.com/kb/929712/>) Volume Activation information for Windows Vista

For more information about volume licensing, visit the following Microsoft Web site:

<http://www.microsoft.com/licensing/resources/vol/default.aspx>  
(<http://www.microsoft.com/licensing/resources/vol/default.aspx>)

For more information about how to activate copies of Windows Vista or Windows Server 2008 that were installed by using volume-licensed media, visit the following Microsoft TechNet Web site:

<http://www.microsoft.com/licensing/resources/vol/default.aspx>  
(<http://www.microsoft.com/licensing/resources/vol/default.aspx>)

---

### APPLIES TO

**Keywords:** kbsurveynew kbvolumelicensing kbactivation kbtshoot kberrmsg kbprb KB929826



**Get Help Now**

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