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Troubleshooting virtual machine network connection issues (1003893)

Symptoms

- Virtual machines fail to connect to the network.
- There is no network connectivity to or from a single virtual machine.
- You cannot connect to the Internet.
- A TCP/IP connection fails to and from a single virtual machine.
- You may see one or more of the following errors:
 - Destination Host Unreachable
 - Network error: Connection Refused
 - Network cable is unplugged
 - Ping request could not find host (IP address/hostname). Please check the name and try again.
 - Unable to resolve target system name (IP address/hostname).

Resolution

Validate that each troubleshooting step below is true for your environment. The steps provide instructions or a link to a document, for validating the step and taking corrective action as necessary. The steps are ordered in the most appropriate sequence to isolate the issue and identify the proper resolution. Do not skip a step.

1. Ensure that the Port Group name(s) associated with the virtual machine's network adapter(s) exists in your vSwitch or Virtual Distributed Switch and is spelled correctly. If not, correct it using **Edit Settings** on the virtual machine and ensure that the **Connected** checkbox is selected.
2. Ensure that the virtual machine has no underlying issues with storage or it is not in resource contention, as this might result in networking issues with the virtual machine. You can do this by logging into ESX/ESXi or Virtual Center/vCenter Server using the VI/vSphere Client and logging into the virtual machine console. For more information, see [Troubleshooting a virtual machine that has stopped responding \(1007819\)](#) (/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=1007819).

Note: If you are experiencing network connectivity issues with the ESX/ESXi host or with multiple virtual machines, see [ESX/ESXi hosts have intermittent or no network connectivity \(1004109\)](#) (/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=1004109).

3. Verify that the virtual network adapter is present and connected. For more information, see [Verifying virtual network adapter is present and connected to the virtual machine \(1003786\)](#) (/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=1003786).
4. Verify that the networking within the virtual machine's guest operating system is correct. For more information, see [Verifying the networking within a Windows based guest operating system \(1003899\)](#) (/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=1003899) for Windows and [Verifying the networking within a Linux based guest operating system \(2022022\)](#) (/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=2022022) for Linux.
5. Verify that the TCP/IP stack is functioning correctly. For more information, see [Troubleshooting virtual machine TCP/IP connection issues \(1007842\)](#) (/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=1007842).
6. If this virtual machine was converted from a physical system, verify that there are no hidden network adapters present. For more information, see [Networking Error: IP address already assigned to another adapter \(1179\)](#) (/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=1179).
7. Verify that the vSwitch has enough ports for the virtual machine. For more information, see [Network cable of a virtual machine appears unplugged \(1004883\)](#) (/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=1004883) and [No network connectivity if all ports are in use \(1009103\)](#) (/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=1009103).
8. Verify that the virtual machine's IPsec configuration is configured correctly and that it is not corrupted. For more information, see [IPsec error within a Windows virtual machine \(1000797\)](#) (/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=1000797).
9. Verify that the virtual machine is configured with two vNICs to eliminate a NIC or a physical configuration issue. To isolate a possible issue:
 - If the load balancing policy is set to **Default Virtual Port ID** at the vSwitch or vDS level:
 - Leave one vNIC connected with one uplink on the vSwitch or vDS, then try different vNIC and pNIC combinations until you determine which virtual machine is losing connectivity.
 - If the load balancing policy is set to **IP Hash**:
 - a. Ensure the physical switch ports are configured as port-channel. For more information on verifying the configuration on the physical switch, see [Sample configuration of EtherChannel / Link aggregation with ESX/ESXi and Cisco/HP switches \(1004048\)](#) (/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=1004048).
 - b. Shut down all but one of the physical ports the NICs are connected to, and toggle this between all the ports by keeping only one port connected at a time. Take note of the port/NIC combination where the virtual machines lose network connectivity.
 - You can also check `esxtop` output using the `n` option (for networking) to see which pNIC the virtual machine is using. Try shutting down the ports on the physical switch one at a time to determine where the virtual machine is losing network connectivity. This also rules out any misconfiguration on the physical switch port(s).

If the problem persists after you have completed these steps:

- Gather the VMware Support Script Data. For more information, see [Collecting diagnostic information for VMware products \(1008524\)](#) (/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=1008524).
- File a support request with VMware Technical Support and note this article ID (1003893) in the problem description. For more information, see [How to Submit a Support Request \(http://www.vmware.com/support/policies/howto.html\)](#).

Additional Information

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Tags

cannot-access-vm connect-vm manage-vm no-connectivity

See Also

- [IPSec error within a Windows virtual machine \(1000797\)](http://kb.vmware.com/kb/1000797) (http://kb.vmware.com/kb/1000797)
- [Verifying virtual network adapter is present and connected to the virtual machine \(1003786\)](http://kb.vmware.com/kb/1003786) (http://kb.vmware.com/kb/1003786)
- [Verifying the networking within a Windows based guest operating system \(1003899\)](http://kb.vmware.com/kb/1003899) (http://kb.vmware.com/kb/1003899)
- [Sample configuration of EtherChannel / Link Aggregation Control Protocol \(LACP\) with ESXi/ESX and Cisco/HP switches \(1004048\)](http://kb.vmware.com/kb/1004048) (http://kb.vmware.com/kb/1004048)
- [ESX/ESXi hosts have intermittent or no network connectivity \(1004109\)](http://kb.vmware.com/kb/1004109) (http://kb.vmware.com/kb/1004109)
- [Network cable of a virtual machine appears unplugged \(1004883\)](http://kb.vmware.com/kb/1004883) (http://kb.vmware.com/kb/1004883)
- [Troubleshooting a virtual machine that has stopped responding \(1007819\)](http://kb.vmware.com/kb/1007819) (http://kb.vmware.com/kb/1007819)
- [Troubleshooting virtual machine TCP/IP connection issues \(1007842\)](http://kb.vmware.com/kb/1007842) (http://kb.vmware.com/kb/1007842)
- [Collecting diagnostic information for VMware products \(1008524\)](http://kb.vmware.com/kb/1008524) (http://kb.vmware.com/kb/1008524)
- [No network connectivity if all ports are in use \(1009103\)](http://kb.vmware.com/kb/1009103) (http://kb.vmware.com/kb/1009103)
- [Networking Error: IP address already assigned to another adapter \(1179\)](http://kb.vmware.com/kb/1179) (http://kb.vmware.com/kb/1179)
- [Verifying the networking within a Linux based guest operating system \(2022022\)](http://kb.vmware.com/kb/2022022) (http://kb.vmware.com/kb/2022022)
- [仮想マシンのネットワーク接続に関する問題のトラブルシューティング \(2081098\)](http://kb.vmware.com/kb/2081098) (http://kb.vmware.com/kb/2081098)
- [对虚拟机网络连接问题进行故障排除 \(2086452\)](http://kb.vmware.com/kb/2086452) (http://kb.vmware.com/kb/2086452)

Update History

11/11/2013 - Added vCenter Server 5.5 to product versions.

06/25/2012 - Added link to 2022022 for Linux operating systems

06/19/2012 - Updated for 5.x. Added error messages.

12/09/2011 - Added step to ensure that the Port Group name(s) associated with the virtual machine's network adapter(s) exists in the vSwitch or vDS

03/13/2015 - Added ESXi 6.0 and vCenter Server 6.0 to Products.

Request a Product Feature

To request a new product feature or to provide feedback on a VMware product, please visit the [Request a Product Feature](http://www.vmware.com/contact/contactus.html?department=prod_request) (http://www.vmware.com/contact/contactus.html?department=prod_request) page.
Permalink to: [Troubleshooting virtual machine network connection issues](http://kb.vmware.com/kb/1003893) (http://kb.vmware.com/kb/1003893)

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Categories:

Troubleshooting

Languages:

English

Product(s):

VMware ESX

VMware ESXi

VMware VirtualCenter

VMware vCenter Server

Product Version(s):

VMware ESX 3.0.x

VMware ESX 3.5.x

VMware ESX 4.0.x

VMware ESX 4.1.x

VMware ESXi 3.5.x Embedded

VMware ESXi 3.5.x Installable

VMware ESXi 4.0.x Embedded

VMware ESXi 4.0.x Installable

VMware ESXi 4.1.x Embedded

VMware ESXi 4.1.x Installable

VMware ESXi 5.0.x

VMware ESXi 5.1.x

VMware ESXi 5.5.x

VMware ESXi 6.0.x

VMware VirtualCenter 2.0.x

VMware VirtualCenter 2.5.x

VMware vCenter Server 4.0.x

VMware vCenter Server 4.1.x
VMware vCenter Server 5.0.x
VMware vCenter Server 5.1.x
VMware vCenter Server 5.5.x
VMware vCenter Server 6.0.x