**Troubleshooting**

“”System State Failure Basic Troubleshooting

These are the troubleshooting steps that are used to try and resolve the system state issues that reside on the server itself:

* The VSS writers are part of the Windows environment and must be operational to perform a backup.
* Use the steps below to troubleshoot some common errors.
* If this does not resolve the issue, investigate Application and System Event logs from the device for further insight, and contact Microsoft for further support
* Multiple troubleshooting steps are presented here.
* Perform each step in the order listed.
* Not all steps may be necessary.
* Run this command in an elevated command prompt to verify writer status:
* vssadmin list writers
* Check the list for errors and ensure none of the following are missing:
* System Writer
* ASR Writer
* WMI Writer
* If any of the listed writers are missing, follow these steps:

1. Restart services:

* Cryptographic Services—should be set to **Automatic**startup.
* Volume Shadow Copy—should be set to **Manual**startup.
* Backup Service Controller—should be set to **Automatic**startup.

1. If the System Writer is not visible you can check the following [Microsoft article](https://support.microsoft.com/en-us/kb/2009272) for some steps.
2. If the above Microsoft article doesn't help then try re-registering the VSS writers using one of the two below scripts:

Restart the system after re-registering writers before checking writer status.

* [Re-register VSS Writers for Server 2008/2008 R2](https://documentation.n-able.com/backup/troubleshooting/Content/kb/Re-register-VSS-Writers-for-Server-2008-2008-R2.htm)
* [Re-register VSS Writers for Server 2012-2016](https://documentation.n-able.com/backup/troubleshooting/Content/kb/Re-register-VSS-Writers-for-Server-2012-2016.htm)

1. If the System Writer shows in the vssadmin list writers list, but the error still shows in Backup Manager, do this:

* Open services.msc .
* Right-click **Backup Service Controller**> **Properties** > **Log On** tab
* Choose This user and enter an administrator user's credentials.
* Click **OK**
* Restart service
* Right-click **Backup Service Controller** > **Restart**

1. Ensure there is enough shadow copy space on the device (lack of shadow copy space can cause a writer to fail to run or load correctly)

* Run these commands in an elevated command prompt:
* vssadmin delete shadows /all /quiet vssadmin resize shadowstorage /for=?: /on=?: /maxsize=25%
* Where ? is drive letter of drive on system where shadowstorage space needs to be added
* Microsoft recommends 25%, but at least 10% of the drive is needed
* Other values can be set in terms of MB (minimum 300), GB, TB or UNBOUNDED to allow full space
* If you receive an error when running resize command, you can try adding space instead:
* vssadmin add shadowstorage /for=?: /on=?: /maxsize=25%
* Restart services
* Cryptographic Services
* Volume Shadow Copy
* Backup Service Controller

1. Ensure writer system permissions are correct:

* Run commands to grant permissions to writer:
* takeown /f C:\WINDOWS\winsxs\ /a /r icacls C:\WINDOWS\winsxs\ /grant "NT AUTHORITY\SYSTEM:(RX)" /t /c icacls C:\WINDOWS\winsxs\ /grant "NT Service\trustedinstaller:(F)" /t /c icacls C:\WINDOWS\winsxs\ /grant BUILTIN\Users:(RX) /t /c
* Open regedit
* **Start** > type **regedit** > **Enter**
* Navigate to HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\VSS\VssAccessControl key
* Change value of NT AUTHORITY\NETWORK SERVICE (REG\_DWORD) to 1
* Restart services
* Cryptographic Services
* Volume Shadow Copy
* Backup Service Controller

1. Check temporary ASP.NET files

* Standard location is C:\Windows\Microsoft.NET
* Relocate temporary ASP.NET files to new location
* Restart services
* Cryptographic Services
* Volume Shadow Copy
* Backup Service Controller

1. There is also a known issue that Microsoft has fixed via the following [Microsoft hotfix](https://support.microsoft.com/en-us/help/2807849/you-cannot-back-up-the-system-state-on-a-computer-that-is-running-wind)
2. (Server 2008 only) Uninstall Windows update KB4019276, reboot and see if System Writer has appeared.

1. Modify COM Security config

* **Start** > type **dcomcnfg** > **Enter**
* On the left pane navigate to **Component Services** > **Computer** > **My Computer**
* Right-click **My Computer** > **Properties**
* Select **COM Security** tab > **Access Permissions** > **Edit Default**
* Select **Add...** button > Add **Network Service** account to permission list
* Verify that only **Local Access** box is checked > **OK**
* Close **Component Services**
* Reboot device

1. Check to see if there are too many sub-directories in folders like the following:
2. C:\Windows\Microsoft.NET\Framework\v2.0.50727\Temporary ASP.NET Files\   
   C:\Windows\Microsoft.NET\Framework\v4.0.30319\Temporary ASP.NET Files\   
   C:\Windows\Microsoft.NET\Framework64\v2.0.50727\Temporary ASP.NET Files\   
   C:\Windows\Microsoft.NET\Framework64\v4.0.30319\Temporary ASP.NET Files\
3. System Writer absences can be caused by an excessive number of sub-folders in the *C:\Windows\Microsoft.NET\* directory. The system writers internal implementation can only support enumerating 1000 sub-folders in order to build the file list for the metadata XML file of a given system directory.
4. Other things to try would be running the following in an elevated command prompt:
5. sfc /scannow
6. Check the system event logs to see if there are errors.
7. Make sure that all of the latest Microsoft updates are installed.

MS SQL State Failure Basic Troubleshooting

1. Restart SQL Server VSS Writer:

* Through GUI:
* **services.msc** > right-click **SQL Server VSS Writer** > **Restart**
* Through administrative Command Prompt:
* net start SQLWriter
* net stop SQLWriter

1. List writers again:

* Run command in Command Prompt:
* vssadmin list writers
* Check list for **SqlServerWriter**

1. If SqlServerWriter is still not present in list, check following:

* System state misconfiguration:
* The error ((HRESULT)0x800423F4L) (SetCurrentFailure) is tracked in EventViewer log.
* This error entry is generated because the SQL writer has issues with the SharePoint VSS writer.
* This error entry is tracked in registry if there is an issue with the file SQLVDI.dll on the system.
* Microsoft outlines how to resolve this in their KB: <https://support.microsoft.com/en-us/kb/830575>.
* Remove the GUID entry from the following registry key: HKEY\_LOCAL\_MACHINE\SOFTWARE\MICROSOFT\MICROSOFT SQL SERVER\SHAREPOINT\SQLSERVERAGENT.
* SQL database name contains spaces:
* Open MS SQL Management Studio and select master database.
* Run query:
* select '#' + name +'#' from sys.databases
* If you notice any space in database names e.g. #test #, remove space from database name
* SQL Server VSS Writer is running under a user with insufficient privileges, or the SQL writer user does not have sufficient privileges to access the database:
* Add permissions for service logon NT AUTHORITY/SYSTEM and any user which you have mentioned as service logon.
* Check SQL server security attributes for the user selected as service logon for SQL writer and add sysadmin privileges.
* Where applicable ensure that the SQL writer service is running under domain administrator rights.

1. Check Application event logs for errors with source SQL, SQLVDI and VSS

* Compare error code listed to list [here](https://www.sqlbackuprestore.com/vdierrors.htm) and resolve error.
* Root cause is a result of errors within Windows backup subsystems (typically involving VSS writers on device)
* Information on VSS writers can be located within Application event logs (**Event Viewer** > **Windows Logs** > **Application**)

1. Select **Filter current log** on right-hand side
2. Check **Critical**, **Warning**, and **Error** under **Event level**
3. Select **Event sources** dropdown, scroll down to **VSS**, and check it
4. Click outside dropdown > **OK**

* If errors are not obviously present, run Windows Backup to replicate issue
* Windows Backup does not involve our software and will indicate issues within Windows that our software is not responsible for
* Resolve errors present
* May require reaching out to Microsoft support for additional assistance
* Another reason could be that there is a service which has a registry entry with an invalid image path (e.g. the filepath is listed as a network path, or the file no longer exists.)
* System State backups should be backing up local paths only, so it will fail if it finds a network path (even if the network path refers back to this device.)
* To search for these paths:

1. Press **Windows Key + R**
2. Type msinfo32.exe and click **OK**
3. Navigate to **Software Environment** then **Services**
4. Sort by Path column a few times and confirm all paths are to a local drive, and that the file still exists
5. A network entry might look like: [\\ComputerName\SoftwareName\Executable.exe](file://ComputerName/SoftwareName/Executable.exe) (instead of C:\Program Files\SoftwareName\Executable.exe)
6. If so, find the local path to that executable in file explorer
7. Once found, edit the registry to replace the network path with the local path (or delete the key if the file no longer exists):
8. Press **Windows Key + R**
9. Type regedit and click **OK**
10. Backup up the registry via **File** menu (by exporting it to a safe location)

* Note: Editing the registry incorrectly can lead to further system issues; please ensure that keys and entries are backed up before making any changes.

1. Press **CTRL + F** and search for the faulty path
2. Once found, replace it with the local path e.g.  D:\SoftwareName\Executable.exe, or delete the registry key entirely (e.g. the folder that contains that imagepath) if the file no longer exists
3. Search through the whole registry again to confirm no more instances appear by pressing **F3**
4. Run the backup again.

## 0x8004230c: Shadow copying of the specified volume is not supported

https://docs.druva.com/Knowledge\_Base/inSync/Troubleshooting/Troubleshooting\_VSS\_(Volume\_Shadow\_Service)\_errors#0x8004230c:\_Shadow\_copying\_of\_the\_specified\_volume\_is\_not\_supported