

Aspen Properties Repeatedly Fails to Restore on a Windows 11 OS

Products:

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Versions:

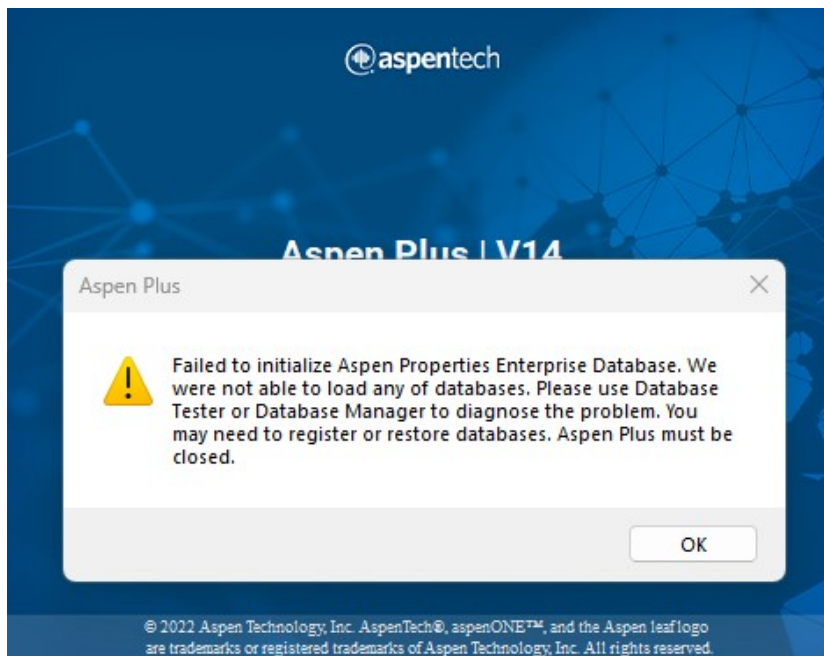
Article ID: 000101301

Primary Subject:

Problem Statement

After installing the Aspen Engineering Suite on a Windows 11 operating system, when attempting to open Aspen Plus/HYSYS, during the restore process of the Aspen Properties Databases, it fails. In attempt to troubleshoot, no matter what solutions are tried, Aspen Properties repeatedly fails.

Please note that the root cause is not AspenTech Software related.



Solution

This issue is possibly caused when you install any version of SQL Server on a Windows 10 device. Then, you upgrade the OS on the device to Windows 11. When you try to start SQL Server on a Windows 11 device, the service fails to start and in the SQL Server error log, you notice entries similar to:

2021-11-05 23:42:47.14 spid9s There have been 256 misaligned log IOs which required falling back to synchronous IO. The current IO is on file C:\Program Files\Microsoft SQL Server\MSSQL15.MSSQLSERVER\MSSQL\DATA\master.mdf.

Before applying this solution, check the SQLLocalDB error logs in the location below for a similar error as mentioned.

C:\Users\'Username'\AppData\Local\Microsoft\Microsoft SQL Server Local

If the error message matches, follow the steps below.

NOTE: This section contains steps that tell you how to modify the Windows 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. You will require Administrative privileges when making changes to the Registry.

1. Check Disk Sector Size

1. Open a Command Prompt with Administrator privileges.
2. Run the command "fsutil fsinfo ntfsinfo C:\"
3. Note the Bytes Per Physical Sector Size. (In this example, it is shown as 4096)

```
C:\Windows\system32>fsutil fsinfo ntfsinfo g:
NTFS Volume Serial Number : 0x7e42b84042b7fb4b
Version : 3.1
Number Sectors : 0x00000000745b67ff
Total Clusters : 0x000000000e8b6cff
Free Clusters : 0x000000000e8aa030
Total Reserved : 0x0000000000000000
Bytes Per Sector : 512
Bytes Per Physical Sector : 4096
Bytes Per Cluster : 4096
Bytes Per FileRecord Segment : 1024
Clusters Per FileRecord Segment : 0
Mft Valid Data Length : 0x00000000000040000
Mft Start Lcn : 0x000000000000c0000
Mft2 Start Lcn : 0x00000000000000002
Mft Zone Start : 0x000000000000c0000
Mft Zone End : 0x000000000000cc820
Resource Manager Identifier : 3FD4AE41-C783-11E0-807A-BC305BD634D3
```

2. Add ForcedPhysicalSectorSizeInBytes value.

1. Launch command prompt with **admin**. And run the command below:
2. REG ADD "HKLM\SYSTEM\CurrentControlSet\Services\stornvme\Parameters\Device" /v "ForcedPhysicalSectorSizeInBytes" /t REG_MULTI_SZ /d "* 4096" /f
- 3.
4. Run command below to confirm the key is added:
5. REG QUERY "HKLM\SYSTEM\CurrentControlSet\Services\stornvme\Parameters\Device" /v "ForcedPhysicalSectorSizeInBytes"

```
Administrator: Command Prompt
C:\Users\Administrator>REG ADD "HKLM\SYSTEM\CurrentControlSet\Services\stornvme\Parameters\Device" /v "ForcedPhysicalSectorSizeInBytes" /t REG_MULTI_SZ /d "* 4096" /f
The operation completed successfully.

C:\Users\Administrator>REG QUERY "HKLM\SYSTEM\CurrentControlSet\Services\stornvme\Parameters\Device" /v "ForcedPhysicalSectorSizeInBytes"

HKLM\SYSTEM\CurrentControlSet\Services\stornvme\Parameters\Device
    ForcedPhysicalSectorSizeInBytes    REG_MULTI_SZ    * 4096

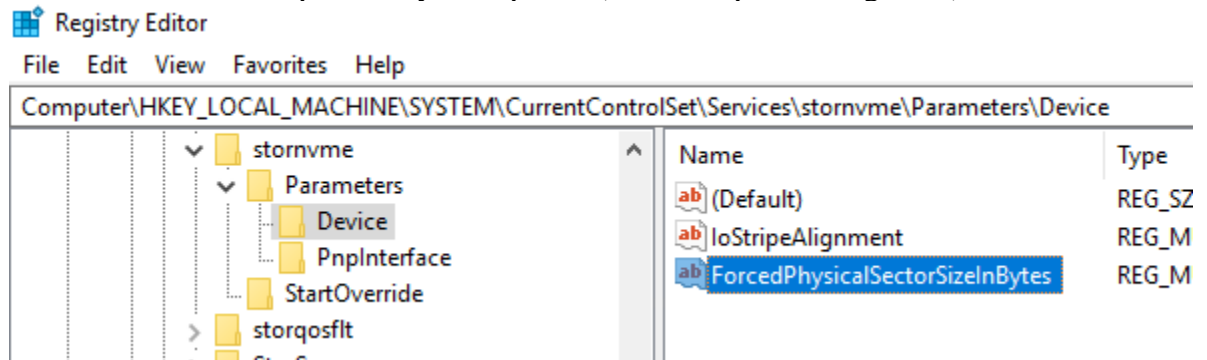
C:\Users\Administrator>
```

6. Reboot machine.

3. Step 2 can be done in Registry Editor as well. Open the Registry Editor with Administrator privileges.

1. Navigate to Computer\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\stornvme\Parameters
2. On the **Edit** menu, point to **New**, and then select **Multi-String value**. Name it ForcedPhysicalSectorSizeInBytes .
3. Modify the new value, type in * 4096 . Select OK and close the Registry Editor.
 1. NOTE: There is a space in between the asterisk and the number.

2. Use the number noted previously in step one. (The example is using 4096)



4. Reboot machine.

4. Step 2 can be changed to using command prompt.

1. Launch command prompt with admin. And run the command below:
2. REG ADD "HKLM\SYSTEM\CurrentControlSet\Services\stornvme\Parameters\Device" /v "ForcedPhysicalSectorSizeInBytes" /t REG_MULTI_SZ /d "*" 4096" /f
3. Run command below to confirm the key is added:
4. REG QUERY "HKLM\SYSTEM\CurrentControlSet\Services\stornvme\Parameters\Device" /v "ForcedPhysicalSectorSizeInBytes"

5. execute below command using admin privileges:

fsutil fsinfo sectorinfo c:

6. Check the **PhysicalBytesPerSectorForAtomicity** and **PhysicalBytesPerSectorForPerformance** values should be 4096 after the fix. If it's not 4096, then set ForcedPhysicalSectorSizeInBytes value to * 4095 and try again.
7. Go through the Restore Process for Aspen Properties via the Database Tester or launching Aspen Plus. Aspen Properties Database should restore successfully allowing Aspen Plus/HYSYS to launch and work.

1. Reference this KB article for further details:

https://esupport.aspentech.com/S_Article?id=000086758

For additional details on the issue, see Microsoft's Knowledge Based Documentation here:

[Troubleshooting operating system disk sector size greater than 4 KB - SQL Server | Microsoft Learn](#)

Keywords

256 misaligned log IOs

Aspen Properties

Failed to initialize

SQLLocalDB