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Error: **Segmentation Violation**

Article Number	15322
Software	**ArcView GIS** 3.0, 3.0a, 3.0b, 3.1, 3.2
Platforms	N/A
Last Modified	12/23/2002

Error Message

Segmentation Violations occur under various circumstances and can be caused by various factors.

Cause

According to ArcView online Help:

"Segmentation Violations are caused by attempts in the low-level ArcView code to access a memo

Because similar memory mistransactions may occur under different circumstances, the initial caus

Solution

The solutions offered in this article refer to resolving segmentation violations after they occur. However, the most effective strategy against these errors is prevention. See the Related Information section.

- o You start ArcView with a blank project.

    1. System resources may be running low. Close all applications and reboot the computer. If

Summary
Tips for running ArcView more effectively on Windows mach
Procedure

- o Ensure your system's virtual memory setting is adequ
  Change your system's Virtual Memory settings

  The amount of virtual memory needed depends on th
  large. Try increasing the Virtual Memory setting to 20

  If you configure Windows 98/95 to let Windows ma
  memory, your system will always have enough virtua
  there is enough free space on the C:\ drive.

- o Make sure your system's disk drives have ample free
  Check the amount of free space on a disk drive

The amount of free space is important if the drive sto
[Get a list of environment variables](#)

If a disk is low on free space, use Windows Explorer t

Extremely large TEMP and/or HOME directories (1(
cause problems when editing data files such as theme
HOME or TEMP directories and/or inadequate disk spa
during the editing process, or can cause your data to

2. Bad customizations in your default.apr file. The default.apr for the logged-in user resides
directory to default.old to keep ArcView from using it. **-show me-**

Summary

ArcView uses your system's HOME environment variable as

An environment variable points to some kind of value. In th

HOME = C:\temp

ArcView searches the TEMP, CWD, and AVHOME environme

Procedure

Use one of the methods below to create or change the HOM

- o Set the HOME environment variable through the oper
  [Edit an environment variable](#)

- o Set the HOME Environment variable through ArcView'

  1. Start WordPad (click Start > Accessories > WordPa
  2. Click Open.
  3. Navigate to the location of the ESRI/AV_GIS30/Arc
  4. Set File of type to All Documents.
  5. Select the Startup file (the one without an extensic
  6. Scroll to the bottom of the file and place click at th
  7. Press Enter a couple of times.
  8. Copy this text:

```
'-------------------------------
' Set System Environment Variable
'-------------------------------
  System.SetEnvVar("HOME", "c:\GIS_Wo
```

  9. Change the second variable to the path you design
  10. Click the Save button. If prompted for a file type,

  ⚠ Never define your HOME directory within the ESRI
  you ever need to re-install ArcView, the HOME directc
  and with it your work.

📒 You can check your system's environment variables by typing SET at Command Prompt window.

o You open an existing project.

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2. Bad customizations in your default.apr file **-show me-**

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and with it your work.

3. Corrupt .apr file, check its structure **-show me-**

Summary

An .apr file is an Object Database stored in ASCII text form

Procedure

⚠ Make a copy of your .apr file under a different name. Yo
revert to this backup copy in the event your edits corrupt th
any way.

1. Check the structure of the object.

Each object is bound by a set of parenthesis. The firs
contains the close parenthesis. The lines in between s

```
(IDType.UniqueIndexNumber
ElementType: Value
)
```

This is a File Name object similar to an object that mi

```
(FN.234
Path: "c:/windows/temp"
```

)

2. Edit objects.

    To remove elements in an object, just remark them o

    ```
    (FN.234
    REM Path: "c:/windows/temp"
    )
    ```

    Lines beginning with REM in an APR are ignored wher

    ⚠ Never comment out (insert REM) or delete objects
    other objects in the database may reference them and
    segmentation violation.

4. Bad data in:

    Shapefiles **-show me-**

    Summary
    A project file may get corrupted by system crashes, or by o
    situations are varied and are beyond the scope of this docu
    Procedure

    Given that the extent of the damage to the project file is ur

    o Before attempting the recovery process:

       ⚠ Make a copy of the damaged .apr file under a diffe
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       do not work.

       Keep in mind that an .apr file is a type of ODB file (ob
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       If the basic recovery process does not work, it may be
       How to determine if project file has corrupt data or w
    o Document oriented project repair:
       If after removing all the data sets from the project it
       process of elimination.
       How to determine if you have a bad reference in your
    o Miscellaneous recommendations:

       You can keep the .apr file open in the text editor while
       sequences:

       ```
       Ctrl+Z will Undo your last edit
       ```

```
Ctrl+F is the shortcut to Find (except
Ctrl+H is the shortcut to Find and Rep
Esc    will dismiss a window
```

After recovering your project, whether completely or
the eventuality the main file becomes corrupt again.

o Segmentation Violation
  Segmentation Violations occur under various circumstan

```
Images  -show me-
```

Error Message
When opening a project, ArcView returns the error:

"Segmentation Violation"

The CADRG and/or the CIB extensions are turned on and so
Cause
The CADRG and CIB extensions cause a segmentation viola
Solution

You need to remove the offending extensions from the proj

1. Open the Project in WordPad

   ⚠ Make a copy of the damaged .apr file under a diffe
   backup copy may be needed to revert to if some of th

2. Use the Find option to search for the text "CADRG". Y

   ```
   Dependencies:
         "$AVEXT/adrg.avx\n$AVEXT/cadrg.
   \n$AVEXT/arcpress.avx\n$AVEXT/spatial.
   ```

   and one in a path object.

   ```
   (FN.9060
         Path:  "$AVEXT/cadrg.avx"
   )
   ```

3. Write down the number of the path object (i.e. 9060)

   📝 In the following steps you will uses the find tool to
   references to this object.

4. Delete the extension object from the dependency list

   Before:

   ```
              Dependencies:        9058
   ```

```
                                Dependencies:9059
                                Dependencies:9060
                                Dependencies:9061
                                Dependencies:9062
                                Dependencies:9063
                                Dependencies:9064
```

After:

```
            Dependencies:          9058
            Dependencies:9059
            Dependencies:9061
            Dependencies:9062
            Dependencies:9063
            Dependencies:9064
```

5. Delete the Extension path object

    Before:

    ```
    (FN.9059
          Path:   "$AVEXT/adrg.avx"
    )

    (FN.9060
          Path:   "$AVEXT/cadrg.avx"
    )

    (FN.9061
          Path:   "$AVEXT/stmap.avx"
    )
    ```

    After:

    ```
    (FN.9059
          Path:   "$AVEXT/adrg.avx"
    )

    (FN.9061
          Path:   "$AVEXT/stmap.avx"
    )
    ```

6. Remove the extension from the Dependencies list

    Before:

    ```
    Dependencies:
          "$AVEXT/adrg.avx\n$AVEXT/cadrg.
    $AVEXT/arcpress.avx\n$AVEXT/spatial.a
    ```

After:

```
Dependencies:
        "$AVEXT/adrg.avx\n$AVEXT/smap.a
$AVEXT/spatial.avx\n"
```

7. Save the file in Wordpad
8. Open ArcView
9. Make sure the CIB and CADRG extension are turned o
10. Open the project

Follow the same steps above to remove the CIB ex
Project file. Search for "CIB" instead of "CADRG".

E. Conflicts with other extensions **-show me-**

Description
The first attempt to add a DGN file as a theme returns a Se
Cause
The DGN file contains tag elements that don't have a value

Use Microstation 95 to define a value type for the tag, as in
Solution
1. Click Tags under the Element menu, then Define.
2. On the Tag Set dialog box, select a tag under the Tag
3. If the Type drop down list is blank, specify either Cha
4. Repeat steps one to three for each tag and save the f

The ArcView Help, under the 'CAD Drawings and A
classes,' states that tag elements are not supported.

5. System conflicts **-show me-**

Description
This article contains a series of steps to determine where sy
Cause
System conflicts on the machine can cause segmentation vi
Solution

⚠ Some of the following instructions may cause serious pr
system if not followed correctly. Before implementing any o
instructions, it is recommend you make a complete backup
system, including the OS, the registry, applications, local pr
data. Revert to the backup if some of the recovery options
See your systems administrator for assistance before proce

not responsible for problems that result from incorrect impl
these instructions. Your OS and service packs may effect th
instructions. These instructions are subject to change witho

1. Check Video Cards, Network Cards, Sound Cards:

    a. Reboot in Safe Mode.
    ¤ Windows 95: hold down the F5 key upon startup.
    ¤ Windows 98: hold down the F8 key upon startup.
    ¤ Windows NT: Choose VGA mode from startup menu

    You should see 'safemode' in all four corners of your :
    cards, and sound cards. Safemode makes no perman

    b. Start ArcView and open your project. If you do not
    offending devices. You may find them at the device m

2. Disable Transient Stay Resident (TSR) programs:

    Turn off or disable all TSR programs, such as virus ch
    determine the source of the conflict.

3. Disable external devices:

    A Zip/Jazz drive, Intellimouse, or any other accessori
    any segmentation violation errors, try enabling one d

    o [Segmentation Violation](#)
      Segmentation Violations occur under various circumsta

o You add data.

1. System resources may be running low. **-show me-**

   Summary
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   Procedure

   o Ensure your system's virtual memory setting is adequ
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o You run a script.

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3. Faulty Avenue code

Detecting and fixing faulty Avenue code can be quite complex. If this seems to be the case, please contact Technical Support.

o You load an extension.

1. Conflicts with other extensions **-show me-**

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2. Faulty Avenue code

o You print or export a map.

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Related Information

o [Beat Segmentation Violations before they happen](#)
Segmentation Violations may occur during using ArcView under a variety of circumstances. Us
o [Salvage a damaged ArcView project file](#)
A project file may get corrupted by system crashes, or by operations that yield one of these er

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