



In Memory of Tom Allensworth
Founder of AVSIM
September 8, 1950 – April 4, 2015

AVSIM Crash to Desktop Guide

For FSX/FSX-SE/P3D Users

This guide provides investigative techniques you can try when you get one of those dreaded crashes while loading your simulator to your setup screen, during the loading to the flight, or during the flight. It also provides tips on preventing crashes, probable causes, and some actual fixes that might get you back up and enjoying your flight simulator again.

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NOTICE: Throughout this guide, links/hyperlinks to websites and internal bookmarks have been provided. Just click on the underlined hyperlink. Of course, you will need an active Internet connection when clicking on a link to the Internet. Please report any invalid or broken links to AVSIM.



AVSIM FSX|FSX-SE|P3D Crash-to-Desktop Guide

Version 3.0.0 – Release Date: May 2016

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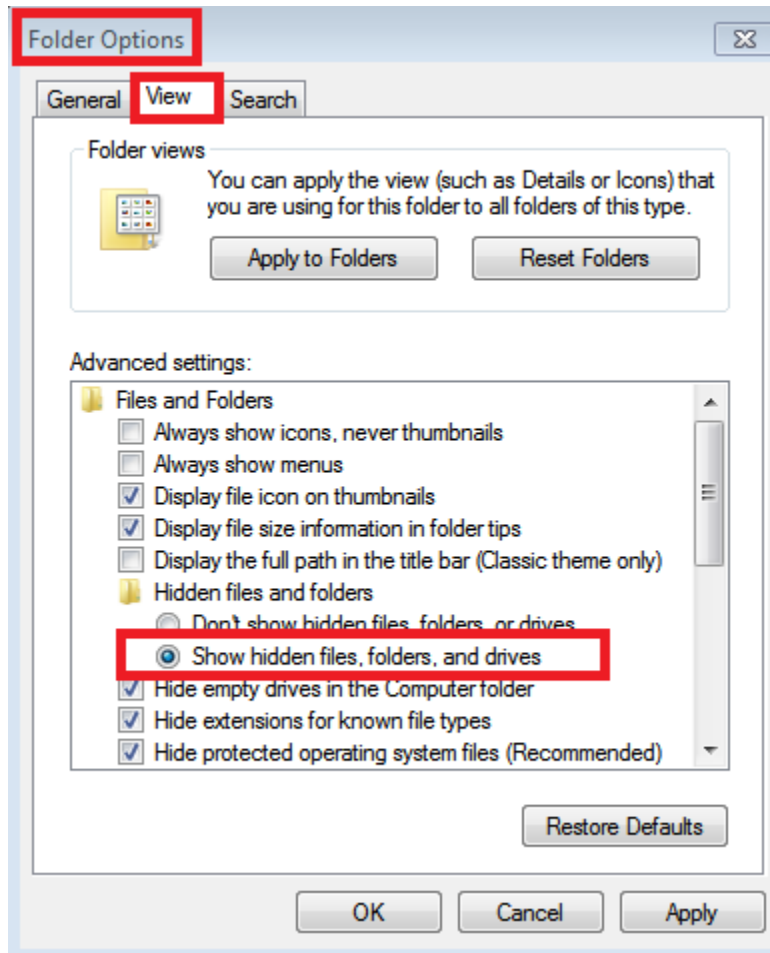
Introduction -

This AVSIM Crash-to-Desktop (CTD) guide provides investigative techniques you can try when you get one of those dreaded crashes while loading the sim to your setup screen, during the loading to the flight, or during the flight. Most importantly, the guide includes tips on preventing crashes, probable causes, and you may see some actual fixes we found while searching the Internet and scanning forums throughout the flight simulation community. For the purposes of this guide, a CTD includes incidents where the simulation crashes, freezes up during a flight or you receive the nasty Blue Screen of Death (BSOD). Except for some rare known causes of crashes, each CTD must go through an investigative process and this guide will provide you with some tools to assist you in finding the cause and taking corrective actions. We have found some simple procedures you can take that fixes a majority of CTD's but, if they do not work, we provide some procedures you can take to investigate the crash. You must be aware, what "fix" works for many, does not work for all as the crash could have been caused by an anomaly on YOUR computer system. We hope this guide will be sufficient and prevents you from the task of uninstalling/reinstalling your simulator, your add-ons, and/or your operating system.

AVSIM Tip: FS9 and X-Plane users can usually find causes to their crashes/freezes too by following some of the guidance here.

Administrative Information -

Hidden System Folders - Some actions below require opening/moving hidden files located in **hidden system folders**. Not to worry, this is not all that complicated. To learn how to show hidden files in your operating system, go to your Windows Search feature and type in '**Show Hidden Files**', then look up in the menu and click on Show Hidden Files and Folders (this works with all Operating Systems) Once you have "Folder Options" open, click on the "View" tab and you will see the following:



Simply click on 'Show hidden files, folders, and drives' and click OK

Now that you can see hidden files and folders, here are the locations of the files you will need to view:

For the FSX | FSX-SE | P3D Configurations; dll-xml and exe-xml (installed by vendors) -

- C:\Users\YourUserName\AppData\Roaming\Microsoft\FSX or FSX-SE
- C:\Users\YourUserName\AppData\Roaming\Lockheed Martin\Prepar3D

For the Scenery.cfg -

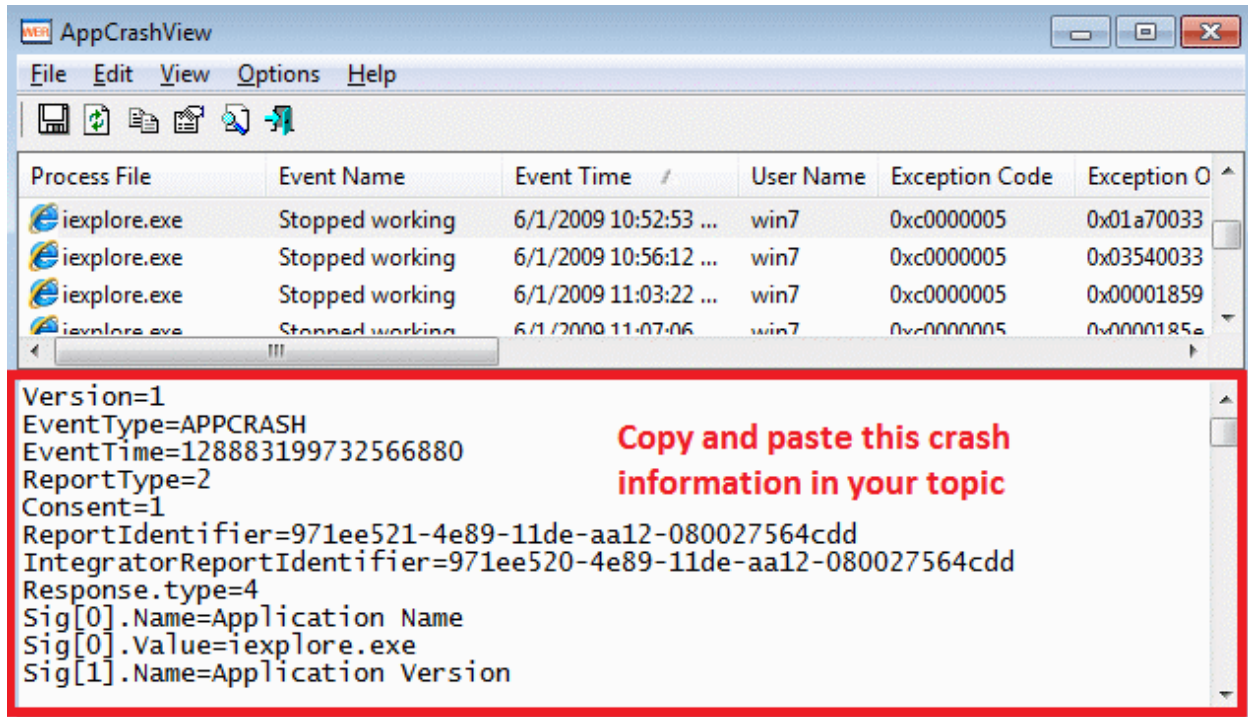
- C:\ProgramData\Microsoft\FSX or FSX-SE
- C:\ProgramData\Lockheed Martin\Prepar3D

Actions to take if you decide to post a CTD in the AVSIM CTD Forum -

- Provide an AppCrashView report and copy and paste it in your topic or post
- Check Windows Event Viewer (if AppCrashView does not show any crash)
- Describe in detail what happened (when, where, how)
- Provide your system specs if not already shown in your signature

Actions to take after a crash is encountered –

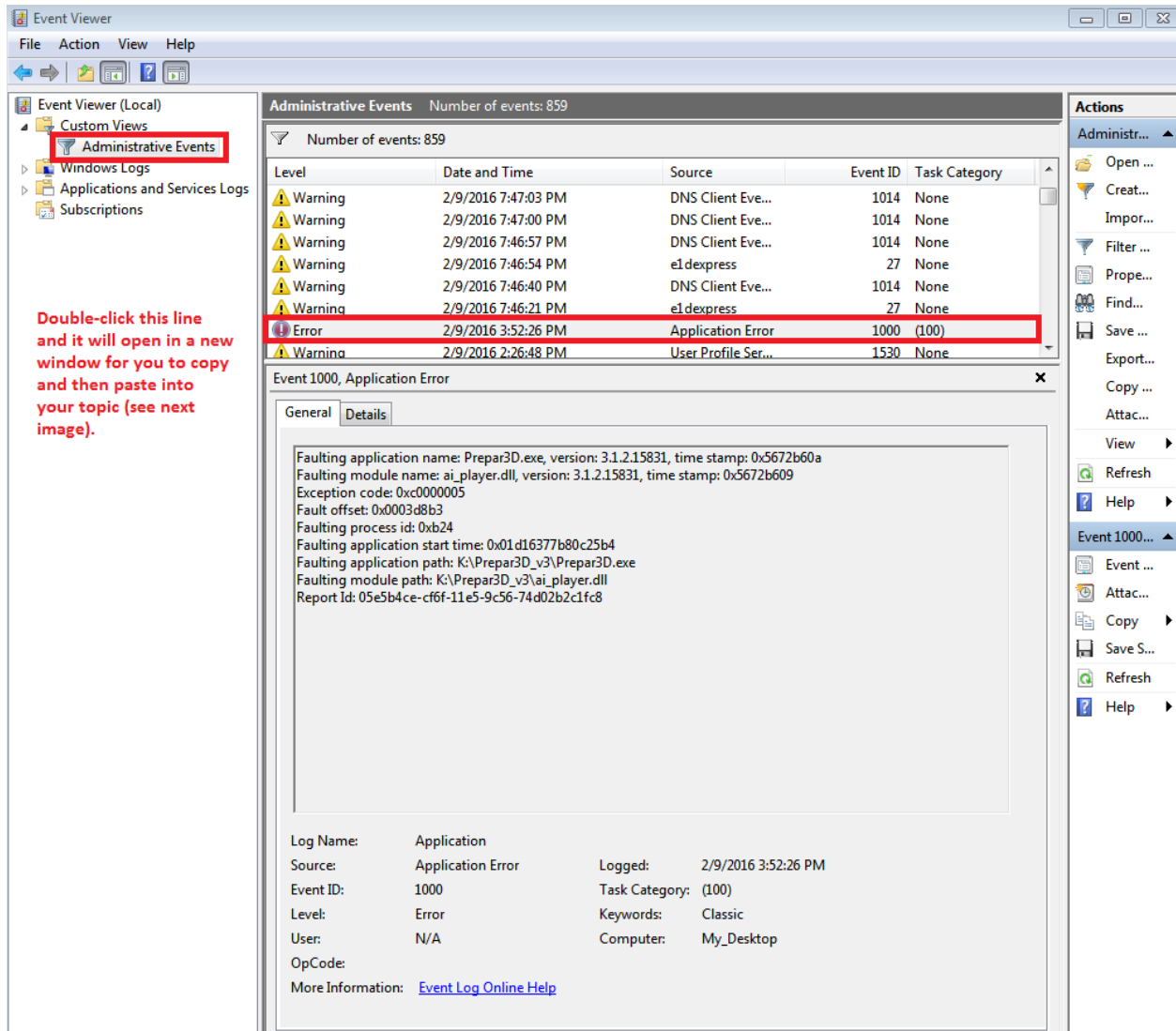
Download and run AppCrashView - when you get a CTD, a Windows Error Report (WER) is generated by Windows. This report is not very detailed and Microsoft did not make it easy for you to find or interpret the report. AppCrashView interprets the Microsoft WER reports and provides more details. If you post a CTD in the AVSIM CTD Forum, you should copy and paste the latest crash report in your topic or post as follows:



Along with this, include your system specifications (if not already included in your signature) (i.e., i7 4770K, GTX780, one 34" monitor, etc.).

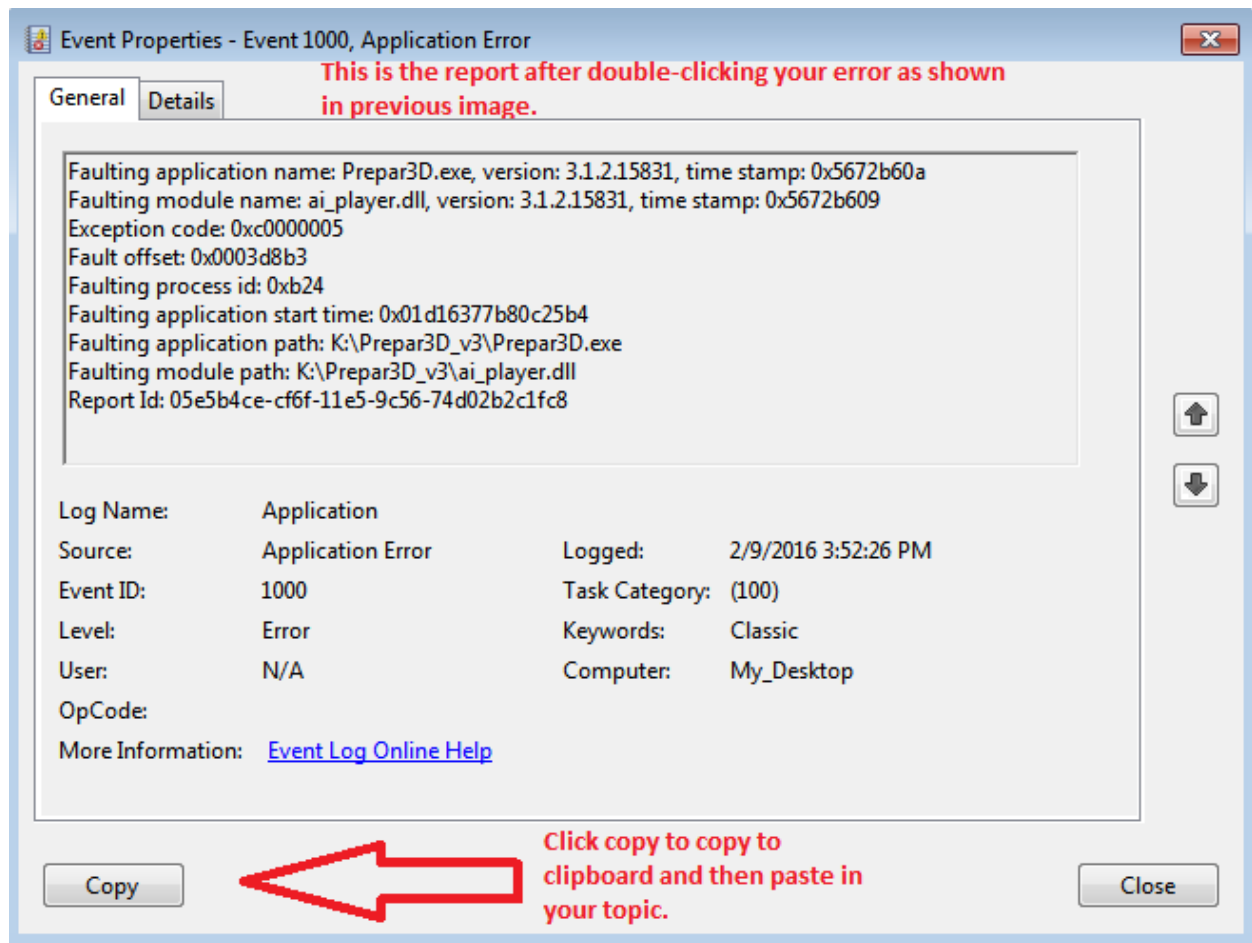
Check the Windows Event Viewer – The Windows Event Viewer can provide a wealth of information regarding your CTD or information about your crash that may not have been recorded in a Windows Error Report. Plus there could be other problems being reported that need to be fixed that could be causing your application crashes. You can get to your Windows Event Viewer by going to the Windows Search Box, type '**Event**' and then look up in the Menu and click on **Event Viewer**. Once open, click on Custom Views > Administrative Events. The **Summary of Administrative Events** will show you the various types of "Events". Critical (which should be fixed as soon as possible), Error, and sometimes Warning Events are what you should be interested in. Administrative Events will show you everything that happened to your computer each time you turned it on and while it was running from the day you installed your Windows OS.

Once a related error is found, **double-click** the error and you will see the report plus the ability to copy the information to paste in your topic. See the following examples:



AVSIM Tip: Very important! Once the event viewer is open, click on **Custom Views** and then **Administrative Events** (this provides all events from all Sources).

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You are done with the Event Viewer. Go back to your topic and post this report plus details of the crash and system specifications (i.e., i7 4770K, GTX780, one 34" monitor, etc.) as recommended above.

Blue Screen of Death (BSOD) – if you receive a BSOD, this is more serious and requires immediate action on your part. Download and run the **BlueScreenView** program. You can post a picture of the report using the **Windows Snipping Tool** (if you are not familiar with using the Windows Snipping Tool, click on the highlighted words and it will take you to the Internet for more information) and upload it to your post, using AVSIM's instructions for posting images or provide the Bug Check String and the Bug Check Code as follows:

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REPORT THIS INFORMATION IN YOUR POST

Dump File	Crash Time	Bug Check String	Bug Check Code	Parameter 1	Parameter 2
Mini072409-01.dmp	24/07/2009 17:0...	DRIVER_IRQL_NOT_L...	0x100000d1	0x0000000c	0x00000000
Mini071509-01.dmp	15/07/2009 00:2...	DRIVER_IRQL_NOT_L...	0x100000d1	0x000000ec	0x00000000
Mini071409-02.dmp	14/07/2009 23:4...	DRIVER_IRQL_NOT_L...	0x100000d1	0x000000ec	0x00000000

Filename	Address In ...	From Address	To Address	Size	Time Stamp	Time String
hal.dll	hal.dll+2830	0x80a0b000	0x80a2bd00	0x00020d00	0x41107b2d	04/08/2004 07:59
ntoskrnl.exe	ntoskrnl.exe+27...	0x80800000	0x80a0b000	0x0020b000	0x41107b0d	04/08/2004 07:58
tcpip.sys	tcpip.sys+389de	0xaa465000	0xaa4bca80	0x00057a80	0x41107ecf	04/08/2004 08:14
kdcom.dll		0xf7ac6000	0xf7ac7b80	0x00001b80	0x3b7d8346	17/08/2001 22:49
BOOTVID.dll		0xf79d6000	0xf79d9000	0x00003000	0x3b7d8345	17/08/2001 22:49

The areas in pink above are important too as the app shows what Windows driver was involved in the crash. You can include that information too as it could be important in figuring out what caused your crash.

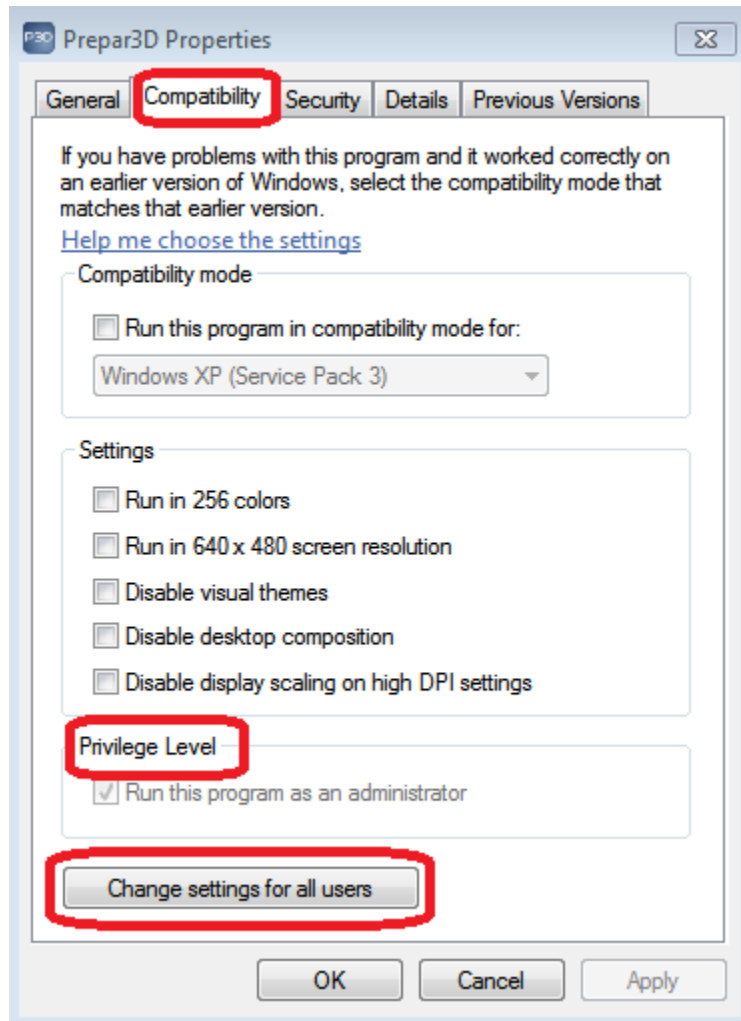
How to fix Most Freezes/Crashes –

Return to your default configuration –

- Move your simulator's config to a temporary folder or delete the configuration.
- Move your scenery.cfg to a temporary folder.
- Move your dll.xml and exe.xml to a temporary folder (they are found in the same folder as the folder where your simulator's config is located as these files are not installed by default) (see also [Move/Disable modules in your dll.xml](#)).
- Restart your simulator. The appropriate sim config and scenery.cfg will be rebuilt. You are now basically in the default configuration of your simulator.
- If this fixes the problem, **FSX users only** should make sure they have entered the following parameter in the Graphic Section of the configuration: **highmemfix=1**.
- If simulator is now working and no crashes, move the dll.xml and exe.xml, if applicable, in the temporary folder back. Restart your simulator and make sure there are no crashes.
- If simulator is still working, move the scenery.cfg from the temporary folder and return it to the scenery.cfg folder and overwrite the default scenery.cfg. Restart your simulator and make sure there are no crashes.

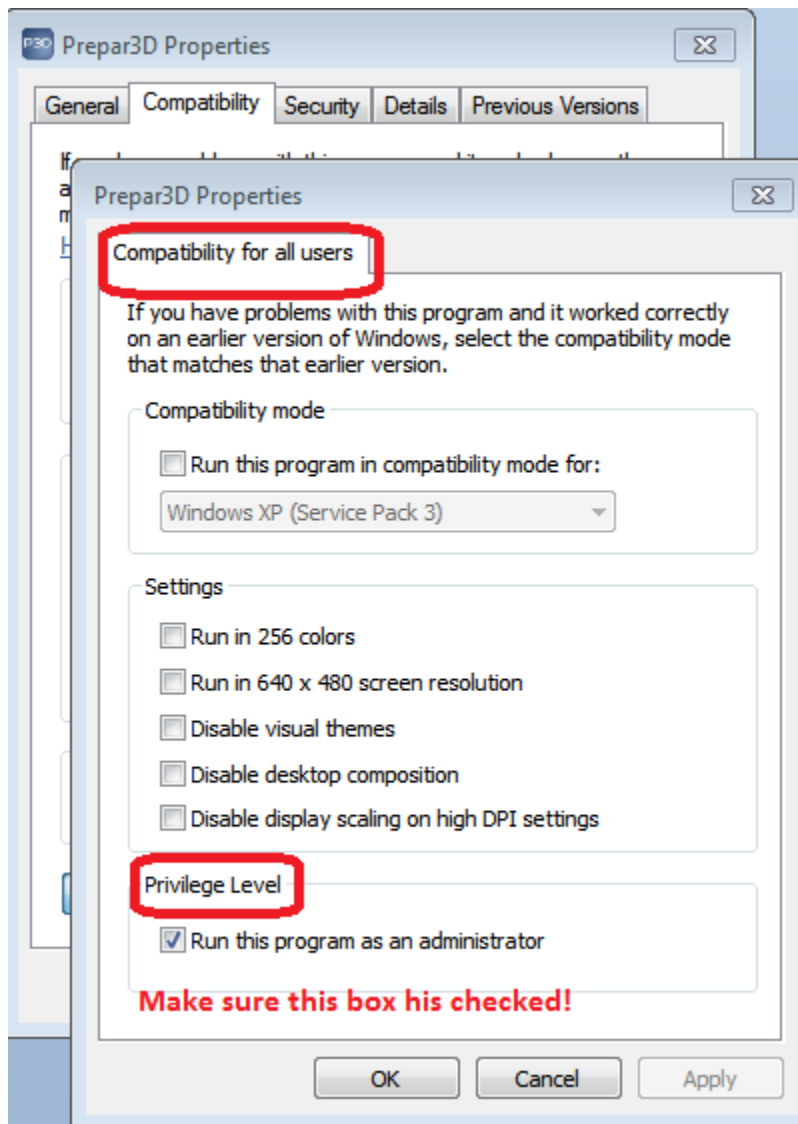
This procedure will fix most crashes with any simulator. High settings, a bad parameter in your sim config, or a problem with scenery are the causes of most crashes.

Run in Administrative Mode – Right click on the FSX, FSX-SE, or P3D icon on your desktop and select 'Properties'. You will then see the following screen –



Click on the Compatibility Tab as above, then look all the way down at the Privilege Level and make sure "Run this program as an administrator" is checked. Also click on "Change settings for all users" and the following screen will appear -

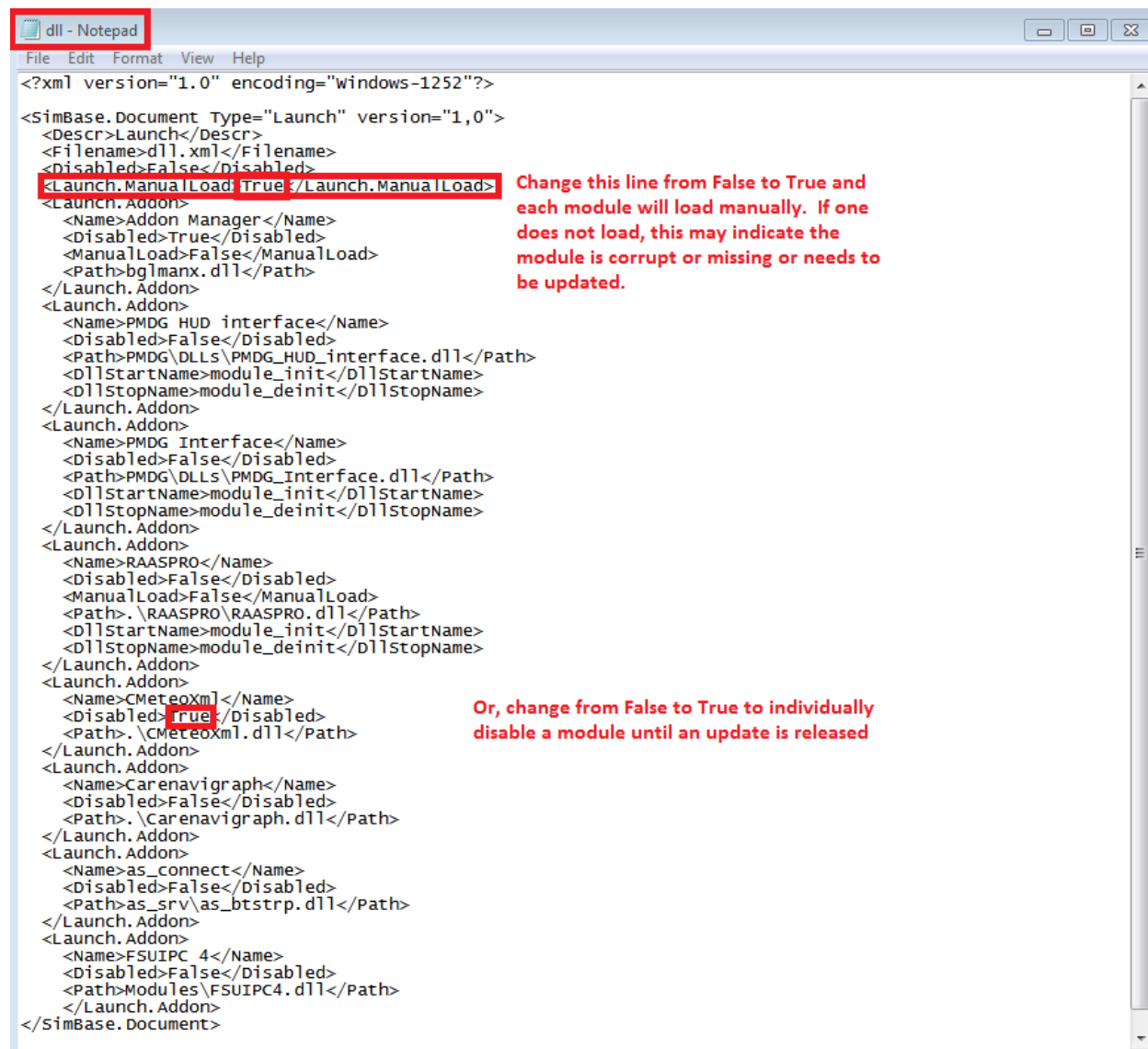
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Look all the way down and make sure the Privilege Level indicates "Run this program as an Administrator". This will make sure **All Users** on your computer (i.e., "Your User Name" and "Default" and any other users on YOUR computer) will have permissions. If you have several users on your computer, Windows sometimes gets confused when installing new software on your computer.

Move/Disable modules in dll.xml – If you are getting a crash **before** getting to the simulators startup/setup screen, it is most likely an issue with an entry inside the dll.xml. To quickly determine if an entry in your dll.xml is the issue, move the dll.xml to a temporary folder and restart your simulator. If you are able to get to the startup/setup screen, then your dll.xml has a parameter that links to a corrupted or missing module. Go to the next step below.

Suspect the latest add-on you installed. Open up your dll.xml (located in the same hidden folder as your FSX, FSX-SE, or P3D.cfg) by double-clicking the file. This will open it up in Notepad. Look for the first entry (**loading the dll.xml**) and change 'False' in the line `<Disabled>False</Disabled>` to **true** as shown below.



```
<?xml version="1.0" encoding="windows-1252"?>
<SimBase.Document Type="Launch" version="1,0">
  <Descr>Launch</Descr>
  <Filename>dll.xml</Filename>
  <Disabled>False</Disabled>
  <Launch.ManualLoad True /><Launch.ManualLoad>
    <Launch.Addon>
      <Name>Addon Manager</Name>
      <Disabled>True</Disabled>
      <ManualLoad>False</ManualLoad>
      <Path>bglmanx.dll</Path>
    </Launch.Addon>
    <Launch.Addon>
      <Name>PMDG HUD interface</Name>
      <Disabled>False</Disabled>
      <Path>PMDG\DLLs\PMDG_HUD_interface.dll</Path>
      <DllStartName>module_init</DllStartName>
      <DllStopName>module_deinit</DllStopName>
    </Launch.Addon>
    <Launch.Addon>
      <Name>PMDG Interface</Name>
      <Disabled>False</Disabled>
      <Path>PMDG\DLLs\PMDG_Interface.dll</Path>
      <DllStartName>module_init</DllStartName>
      <DllStopName>module_deinit</DllStopName>
    </Launch.Addon>
    <Launch.Addon>
      <Name>RAASPRO</Name>
      <Disabled>False</Disabled>
      <ManualLoad>False</ManualLoad>
      <Path>.\RAASPRO\RAASPRO.dll</Path>
      <DllStartName>module_init</DllStartName>
      <DllStopName>module_deinit</DllStopName>
    </Launch.Addon>
    <Launch.Addon>
      <Name>CMeteoXML</Name>
      <Disabled>True</Disabled>
      <Path>.\CMeteoXML.dll</Path>
    </Launch.Addon>
    <Launch.Addon>
      <Name>Carenavigraph</Name>
      <Disabled>False</Disabled>
      <Path>.\Carenavigraph.dll</Path>
    </Launch.Addon>
    <Launch.Addon>
      <Name>as_connect</Name>
      <Disabled>False</Disabled>
      <Path>as_srv\as_btstrp.dll</Path>
    </Launch.Addon>
    <Launch.Addon>
      <Name>FSUIPC 4</Name>
      <Disabled>False</Disabled>
      <Path>Modules\FsuiPC4.dll</Path>
    </Launch.Addon>
  </SimBase.Document>
```

Save and restart your simulator. If the dll.xml is set to 'True' to load manually, each module in the dll.xml will load one at a time asking you if you want to load the module or not. Click yes to load the module and, if the simulator crashes, the module loading is most likely the culprit. You should open up the dll.xml and set the module that was causing a crash from 'False' to 'True' and this module will not load again until you find a fix for why it is crashing.

Once the module is found to be the cause of the crash, look for the module (usually ends with the .dll extension in your simulators main directory or in the modules own directory, such as the fsuipc.dll which is located in the Modules folder) and make sure it has been

installed and is not missing. If it is installed, it is probably corrupted or a wrong version and you will have to contact the developer for assistance (or discuss it in the AVSIM Forums!!).

Disable/Remove Products Installed with Estonia Migration Tool (EMT) – This is also known as the FSX to Prepar3D Migration Tool. Many products are not compatible with a simulator or installed properly using the Migration Tool. When you install a product that is not compatible with a simulator, or improperly installed, your sim will crash even though utilities, like EMT, indicate the installation was successful. For instance, the EMT was not developed to legally install several commercial products, such as products developed by PMDG, FSDT, FlightBeam, ASN, and many products developed by Aerosoft and FlightOne. When you do install some of these products into a simulator without using the developer's official installer, you might, repeat might, be violating their license agreement and the AVSIM Terms of Service. Furthermore, your simulator will most likely crash.

Reinstall the latest Standalone Add-on Manager from FS Dreamteam - Sometimes things get out of sync as you modify and tweak your simulator. If you own any of the FS Dreamteam or FlightBeam sceneries, reinstall the Add-on Manager. This fixes a lot of crashes, especially when the crashes are unknown.

Use the System File Checker to look for corrupt/missing files (AKA - SFC \scannow) - If you are unfamiliar with the procedures to scan your system, please go to the following link for procedures depending on your Windows version. Basically, you will use the Windows Search and search for 'Run', look up in the menu and open up your 'Run' command in elevated mode (right click and open with Administrator Rights). You then enter **SFC \scannow** and then press the enter key. This program will then scan your system for corrupted or missing files and replace them if any are found.

Disable Tweaks – If you did not rebuild your simulator's configuration as above, disable tweaks that might be causing a problem by opening up the appropriate configuration with Notepad (double-click the configuration file) and comment out the line items you do not want to have loaded. To comment out items, simply place two slashes (//) in front of the item(s) you want to disable. For instance:

```
//[Bufferpools]  
//Poolsize=0
```

(Note the two slashes before the entry ((parameter))?) This will prevent the item from loading)

Whenever you are having issues, suspect the cause to be a bad tweak **if you have one installed**. Older systems prior to the Sandy Bridge Chipset might require tweaks to boost performance or stability but systems built after Sandy Bridge are mostly considered unnecessary and may cause problems if not properly employed.

AVSIM Tip: See the AVSIM FSX Configuration Guide for more information about tweaks. There is no magic tweak that will eliminate the 'blurries', 'stuttering' or 'long pauses'. Tweaks, when properly employed by a professional computer expert, will reduce some of these issues but not totally eliminate them.

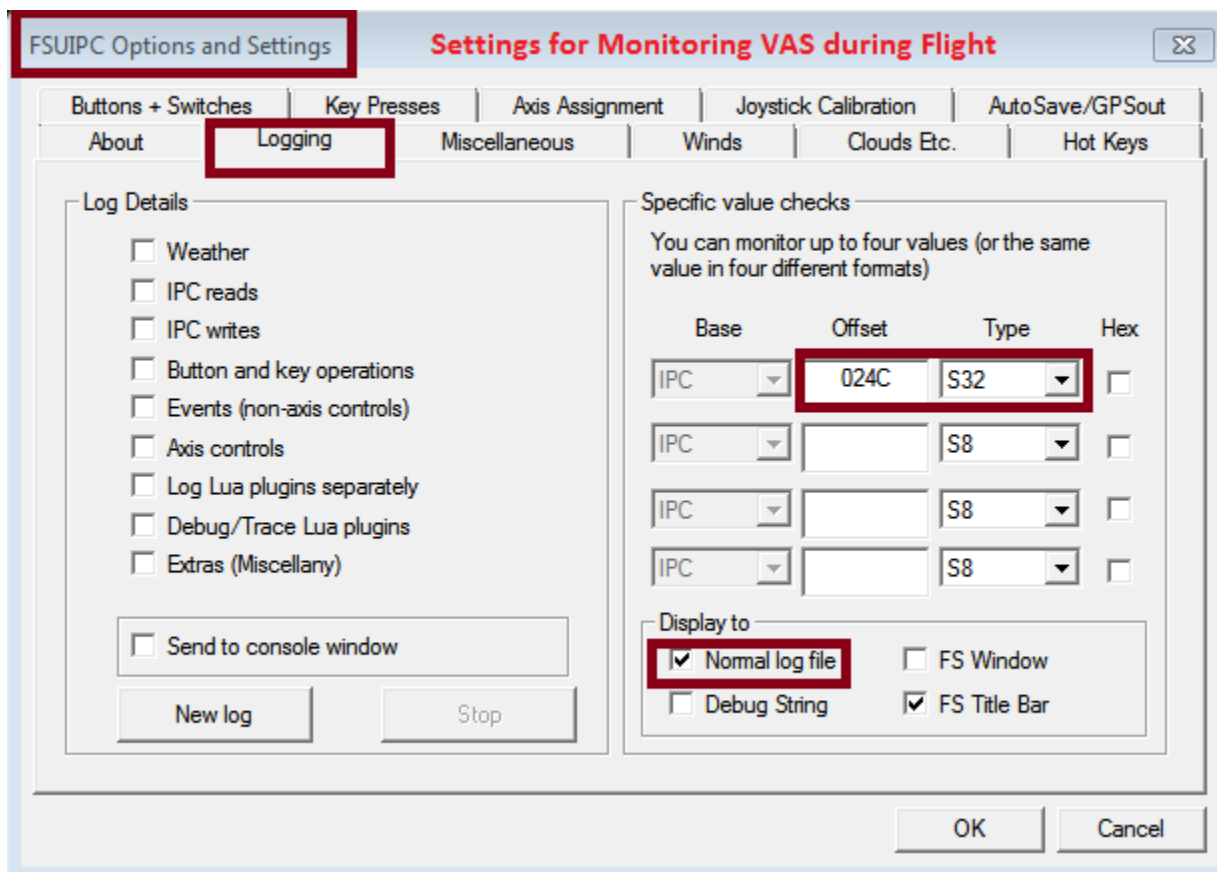
Update Hardware Drivers – This is really **important for those who installed Windows 10** as new and updated device drivers are developed by hardware manufacturers because of bugs or incompatibility issues. Microsoft does an excellent job providing updates for Windows and some drivers, such as for your keyboard, mouse, and video card. But they do not find updates for hardware drivers required for computer system stability. You can download and run a program that will scan your computer for updated hardware drivers. These drivers will be updates for your CPU, your motherboard, USB ports (which affect your controllers), SSD's, HDD's, printers, etc. There are several commercial developers who have programs that will scan your system for updates. Just use the Internet search engines (Google or Bing) for **Drivers** or **Driver Updates** and you will get a list of programs you can download and run. Driver Booster is an excellent freeware program and recommended. The software products that will update your hardware are usually freeware but, when drivers are found to be out-of-date, they will ask you to pay a small registration/license fee to download and install the updates for you. You can either pay or you can get the name of the out-of-date driver(s) from the list provided by the driver scanner program and then go to Google/Bing and search for the updated driver and install the driver(s) yourself.

Lower your overclock - If you system is overclocked, to say, 4.5GHz, lower it to 4.2GHz. If that still causes crashes, then lower to 4.0GHz. If that does not work, then you will have to think about returning your overclock back to the default settings (see next topic). Lowering the overclock has been known to fix **NTDLL.dll** and **StackHash** errors.

Remove overclocking – This should be a “if all else fails, do this” recommendation. Many crashes are known to be caused by the instability of overclocking (the ntdll.dll or a StackHash will usually be shown as the offending module). If you did not overclock or using “Turbo Mode”, skip this suggestion. Too high or too low CPU voltages are usually the cause of instability. Many members have been known to have run several stability testing after overclocking only to find that their simulator still crashed and it was later determined the overclock was not stable. Do not always trust those stability tests! Computer systems always run into spikes or other anomalies to throw your overclock out of whack. To ensure the crash was not caused by a bad overclock setting, return the BIOS back to default or optimal default settings, or, if are knowledgeable of overclocking, you can try to lower or increase your CPU voltages. Before you do this, most modern BIOS will allow you to ‘Print’ the various pages as an image to a memory stick or to your HDD/SSD. This is invaluable to help you return to the settings you had before going back to the default.

Monitor Virtual Address Space (VAS) – Getting frequent **Out of Memory (OOM)** errors? You need to monitor the VAS during your flight. The **freeware or registered** versions of the FSUIPC utility will allow you to monitor the amount of VAS remaining during a flight session. If your simulator is freezing or crashing during a long flight (usually longer than two hours), it is probably because you are running out of VAS. This usually happens near the end of the flight as you are descending to your destination.

Startup your flight simulator and select the Add-on Menu and select FSUIPC. Once FSUIPC is open, **click on the Logging Tab and enter 024C under Offset and select S32 under Type (see image below)**. Select where you would like to have the usage displayed. The FS Window is for Full Screen sessions. The FS Title Bar is for Windowed Mode. AVSIM recommends you also check the Normal log file as this provides you information on how much VAS you had to start out with and then logs usage throughout your flight.



VAS usage is displayed in Kilobytes (KB's). The value represents the amount of VAS left so, the lower the value, the more VAS being depleted. The max amount of VAS allowed in computers with 64 bit Operating Systems is 4GB's if running 32 bit applications like FSX, FSX-SE, FS9, or P3D. For 32 bit Operating Systems, the max amount of VAS allowed is 2GB's but this can be expanded to a max of 3GB's with a switch like the /3GB switch. (NOTE: For more information regarding the /3GB switches for various Windows 32 bit systems, please do a search with a search engine like Google or Bing as most members have upgraded to 64 bit Operating Systems).

AVSIM TIP: AVSIM recommends everyone install the 64 bit version of your Windows Operating System.

To convert the KB's to the amount of GB's, you should use one of the Byte converters on the Internet like the following: **Byte Converter**. You will never see 4194304 KB's displayed as this equals 4GB's. You might see around 3GB's (3145728) remaining when you first start up your simulator but that too would be unusual. **Do not be concerned with the amount of VAS remaining when you first start up.** It fluctuates during a flight session depending on your settings and what add-ons you loaded.

Run Process Monitor – An investigative tool used to pin down a situation where your application **freezes, crashes, or stutters/pauses** during a flight is to run a utility called **Process Monitor** (Ctrl+Click on Process Monitor to download the latest app). During your

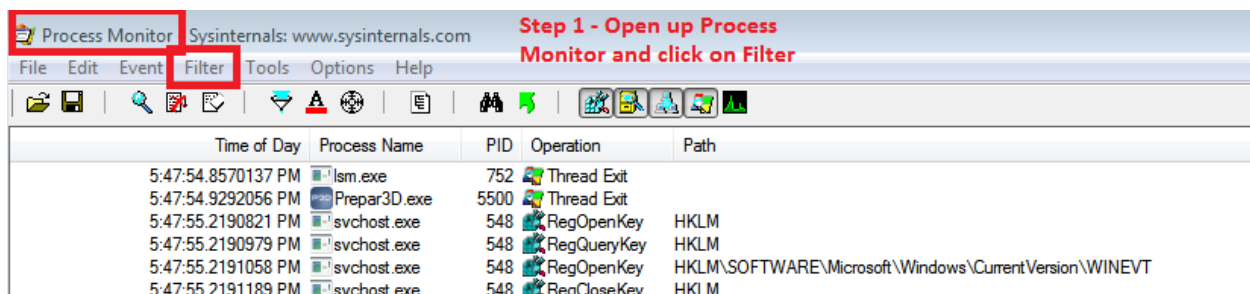
flight, this utility monitors activity such as calling textures, AI aircraft schedules, ATC, weather updates, and scenery loading. When your simulator stutters or frames per second (FPS) drop dramatically you simply write down the time it occurred. This is important as thousands of entries are made every minute, every second. Continue doing this throughout the flight. Of course, if it freezes, you will know what was going on before the application froze. This utility will not show you a definitive cause of your issue but it will show you what add-ons were being loaded about when you received the stutter, the long pause(s), or the freeze/crash and you can further investigate by disabling that scenery, that aircraft, or whatever might have caused the event.

AVSIM Tips: Use a second monitor and you can monitor the Process Monitor during the flight and see what is happening in real time. You can also resize the screens to have your flight simulator running on the left and the Process Monitor on the right.

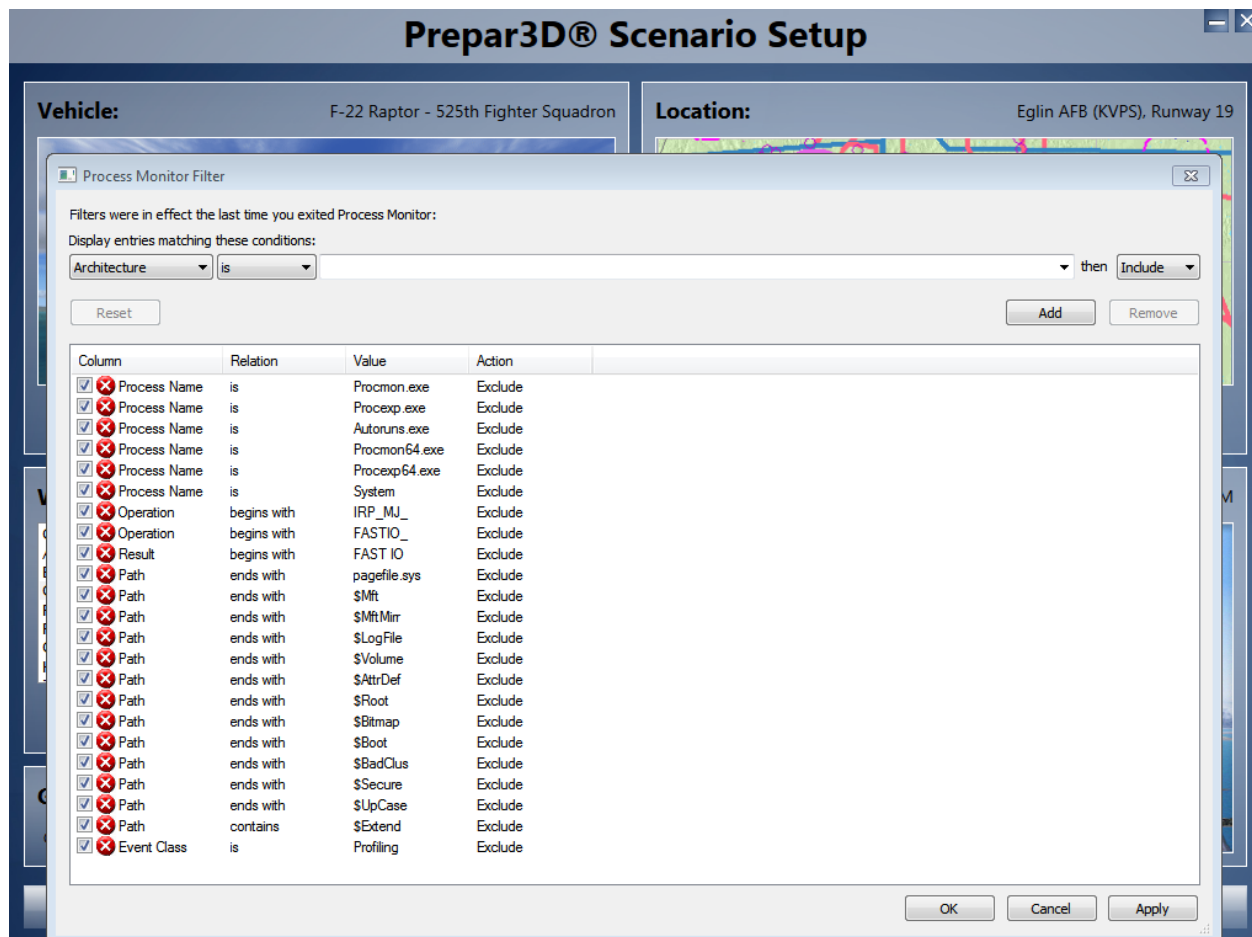
AVSIM recommends you **do not run a flight any longer than 60 minutes** as the Process Monitor log becomes quite large (hopefully your application will freeze or crash by then!). For a 60 minutes flight, expect the file to be at least as large as 8GB's or tens of millions of captured events. Make sure you delete the log or move it to another drive after you have finished your testing to free up HDD space. Another recommended tip is to make sure you use system time to mark the time of each event and do not use an external clock unless they are synchronized. Going through one minute of a process is a massive amount of data needed to be reviewed (it goes fast as thousands of entries just show a scenery being loaded).

To run this utility properly, you need to capture only your specific simulator's events. It would be nearly impossible to find a possible glitch or issue if Windows events or other system activities were being logged too. AVSIM recommends opening of the Process Monitor when you are on the active runway and preparing to takeoff to save space on your HDD:

First of all, start up your simulator to the startup screen and then open Process Monitor.

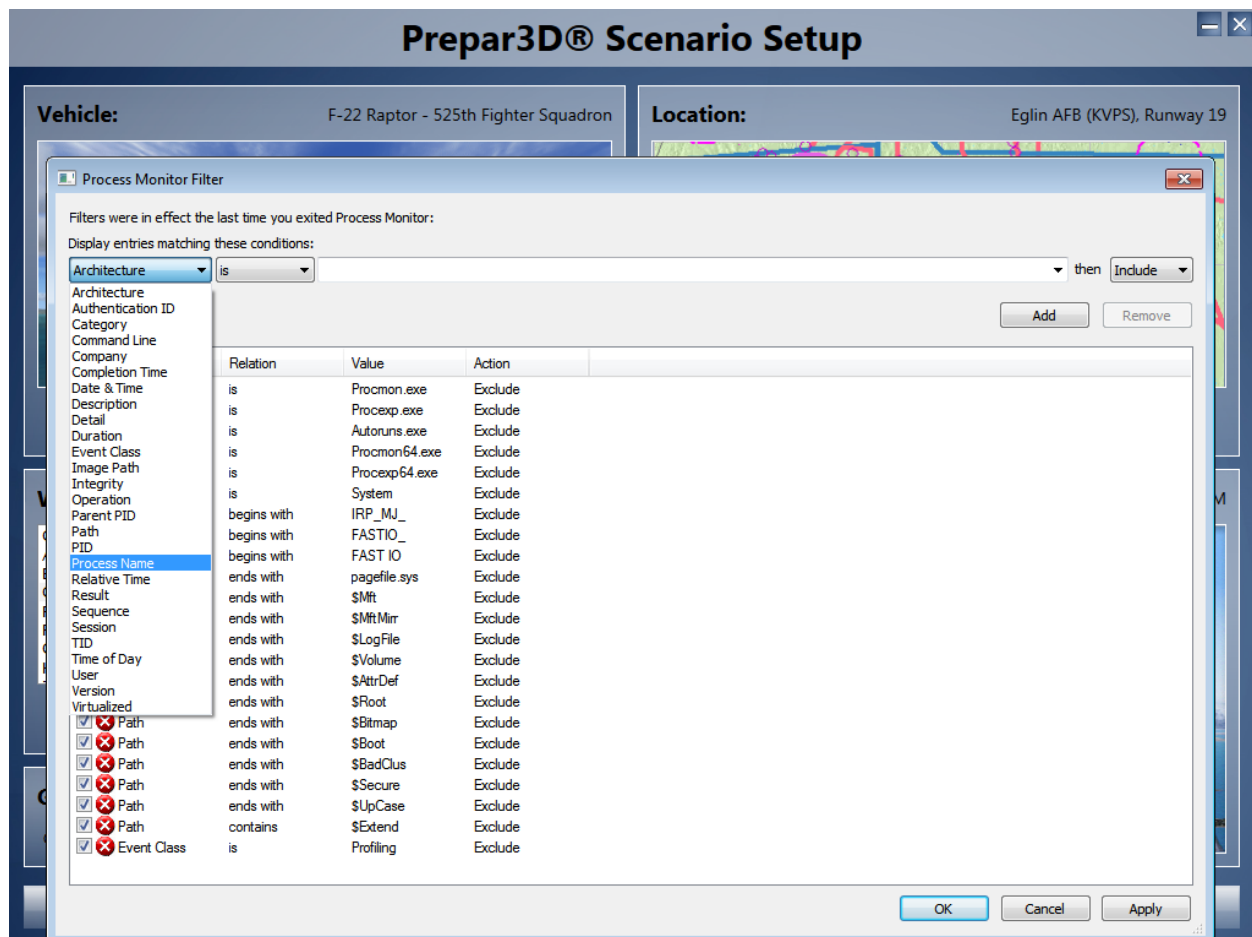


Process Monitor Filter will look like the following image. Note the P3D Simulator is opened in the background. This is important as the Process Monitor must 'see' your simulator process (i.e., Prepar3D.exe, FSX.exe, etc.).



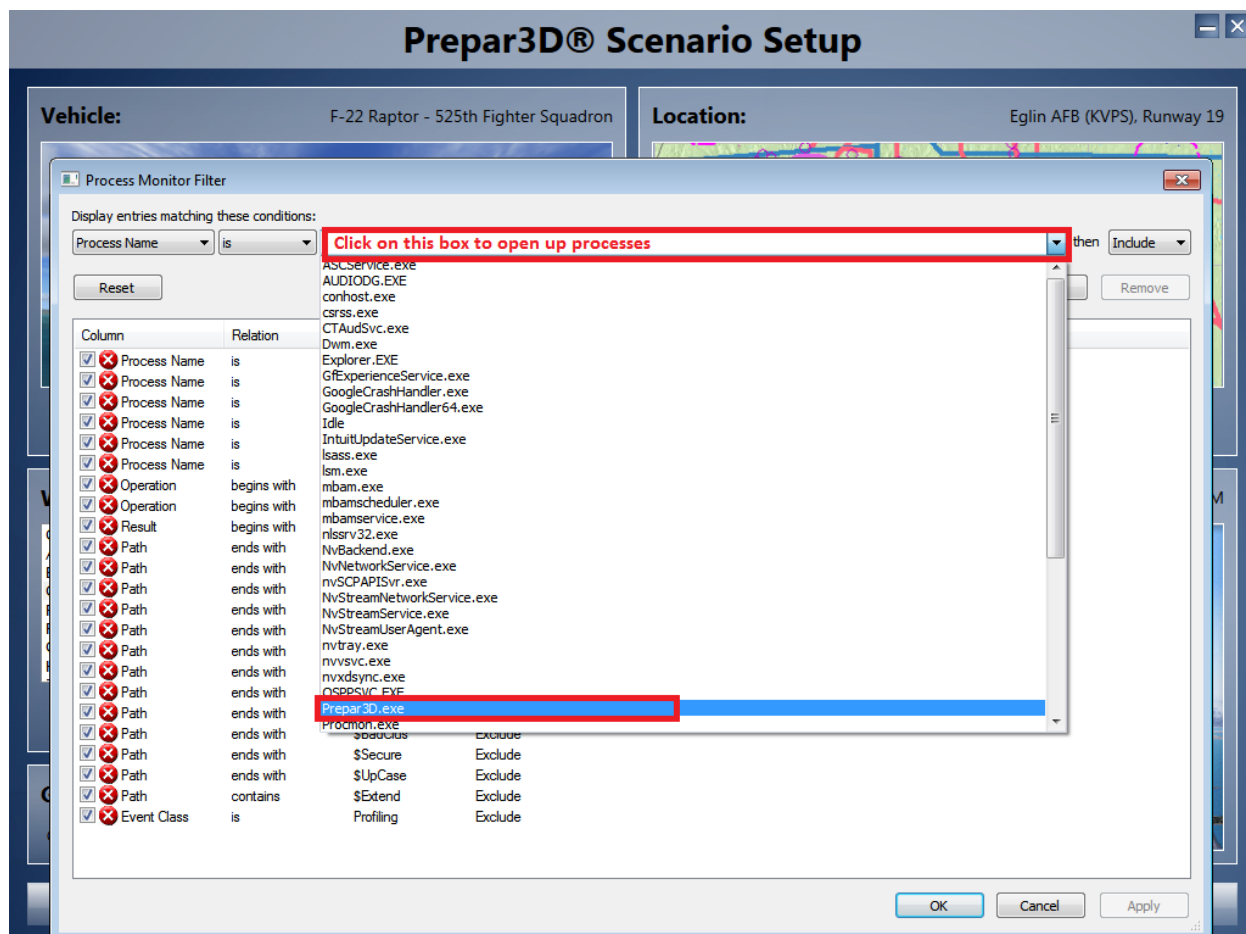
Process Monitor Filter page after clicking on "Filter" in the Main Process Monitor Page

This space intentionally left blank



Click on Architecture and scroll down to **Process Name**

This space intentionally left blank



Click on the blank/empty box and select your simulator from the selections that will appear below. Click OK or Apply. You have successfully set up the Process Monitor to monitor what is loading while your simulator is loading and during the flight!

AVSIM Tip: AVSIM recommends you click on the filter tab again and then select 'Save filter...' and name your Filter – FSX or P3D or FSX-SE, as appropriate). Then, in the future, you can startup Process Monitor before opening your simulator and watch what is loading as your application loads to the Startup/Setup Screen.

You can use the utility while in Full Screen mode or Windowed Mode. In Windowed Mode you can monitor what is happening instantly.

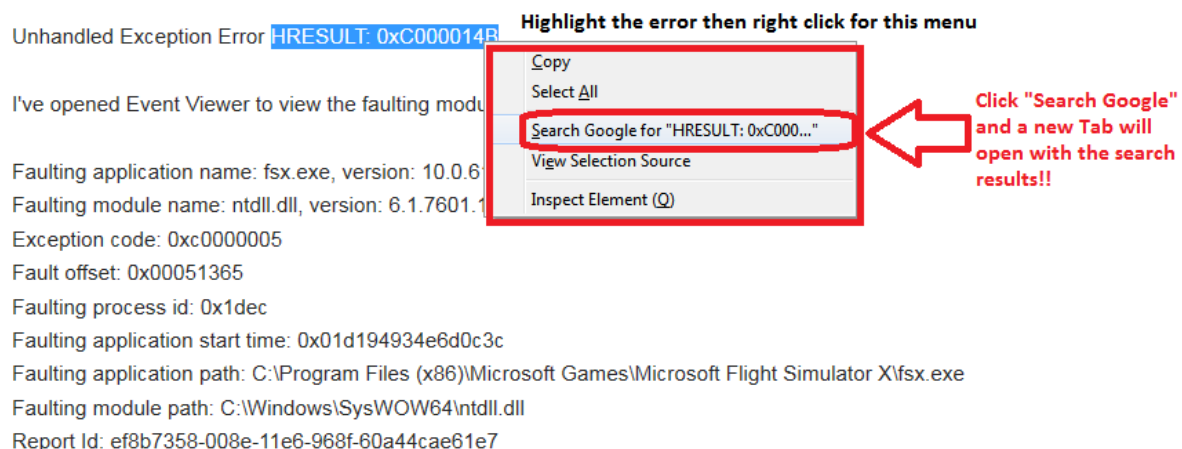
When the flight is finished (or there is a crash/freeze), immediately click anywhere on the Process Monitor application to bring it into focus, and hit Ctrl+E on your keyboard. This will stop the logging. Shutdown/close your simulator and begin investigating! You can also save the log for future investigations but remember the file could be 8GBs or more and using valuable disk space depending on how long the session. The log will be in the same folder where the Process Monitor.exe is located.

Check for corrupted user profile – One possible solution for any crash or freeze is to fix a **corrupted user profile**. Many FSX/P3D crashes have been fixed by replacing a possible corrupted user profile and it is a lot easier to do this than reinstall Windows, your sim and all of your add-ons. The kernelbase.dll error is usually associated with a corrupted user profile.

Check Memory Simms/Modules (your system RAM) – Some problems have been fixed by going to the motherboard and removing the memory modules and moving them around in by putting a memory simm in one slot and moving it to another slot. Of course, if they are not properly seated, this will cause problems too. You can download and run a program called **CPUID CPU-Z** and that will provide you with details about your installed memory.

Use Google or Bing Search Engines [for beginners and power users] - one of the best ways to fix a crash or freeze is to 'Google' or 'Bing'. These are very powerful Internet and forum search engines. Every Internet browser provides a "search bar" at the top. Start a new Tab in your browser and then go to the search bar and conduct a search. Your crash report will probably indicate a faulting module, such as ai_player.dll, ntdll.dll, StackHash, etc. You can type this in the search bar plus enter FSX, FSX-SE, or P3D, and then click enter and you will see hundreds of search results where discussions were made about this module. If you see an error message, you can type the whole error message in the search box and click enter. You can also ask a question just as if you were talking to a computer technician such as, "I was loading FSX and the screen went dark and FSX crashed" or "I was loading a flight from the P3D setup screen and it stopped loading at 27%" or "I just got a StackHash crash while using the PMDG 777 in FSX and I was also using Active Sky and photo scenery. What did I do wrong?" You will be surprised as to what you will find in the search results as thousands have had the same problem. You just need to sort through the responses for the best solution. Many of the results will direct you to the Crash to Desktop Forum at AVSIM! Want to uninstall P3D or FSX? Just ask Google "How do I uninstall FSX?"

Another quick way to search is to highlight the error in a topic or post and then right click the error and a menu will show up as follows –



Click on the search menu and a new tab will show up in your menu with the search results! The menu may show another search engine such as 'Bing'. It depends on what you set as the default search engine to be used when searching on the Internet. If you selected none, then all of the available search engines will be shown.

Actions to take to prevent crashes –

FSX/FSX-SE/P3D Installation - Install FSX/FSX-SE/P3D in a non-default folder such as C:\FSX or C:\P3D.

AVSIM Tip: *AVSIM recommends using the following excellent guidance from PMDG for uninstalling or reinstalling FSX - **How to Uninstall/Reinstall FSX**. The general guidance in this guide will work for FSX-SE too. For P3D users, there is a guide to uninstall P3D in the **AVSIM P3D Forum**.*

Use AVSIM FSX Basic Configuration Guide – for FSX users, use the guidance in the AVSIM FSX Basic Configuration Guide as it provides the best configuration settings that work for many FSX users. There are other guides that provide expert guidance too such as “The FSX Computer System: The Bible.”

Read the Manual/Requirements for Installing a Product on YOUR Computer – For instance, some older product add-ons require another version of Microsoft.net installed or Microsoft Visual. Read the requirements and look for things like, requires Microsoft.net 2.0 or 3.5, etc. Make sure those requirements are installed or on your system (look in C:\Windows\Microsoft.net\Framework for versions installed. You can also use the dotnet verification tool as discussed in the Microsoft.net section of this guide). Some product manuals provide valuable advice on installing their product and the optimum settings. Some products provide a method to add a tweak to your config but be very careful when doing this. It may provide better performance for that product but not necessarily for other add-ons you might have installed causing anomalies, crashes, or freezes.

AVSIM Tip: *AVSIM does not recommend adding tweaks (such as BufferPool, AffinityMask) to any simulator configuration. CPU's and graphics cards have dramatically improved since FSX was first developed (P3D and FSX-SE use the same basic engine as FSX) and tweaks might have improved the simulators several years ago, but can create issues if not properly employed today.*

Use the developer's product installer – Manually installing a product without using the installer made for the product is dangerous and not recommended as this causes many CTD's and freezes, many unexplained. There are products which supposedly install software into FSX, FSX-SE, and various versions of P3D without using an official installer made for the product. Doing so may violate a developer's product license (for example, PMDG, FSDT, ASN, and many Aerosoft products). If you have to use an external installer to install a product into your simulator, suspect this as the cause for any CTD, freeze, or other anomaly.

Defragment your mechanical hard disk drives (HDD's). When FSX, FSX-SE, or P3D are installed, files are thrown all over your HDD and fragmented. If you do not install FSX, FSX-SE or P3D to a Solid-State Drive (SSD), then you must defragment. **You cannot defragment a SSD.** Windows has a disk defragmenter. Use your Windows Search bar and enter “Defragment”; then look up in the menu for Disk Defragmenter. There are also commercial products you can purchase that are heralded to defragment your hard drives

faster and better. Your choice but you should at least use the Windows defragmenter at least every six months.

Set Page File – If you receive warnings that your virtual memory is low (this is NOT Virtual Address Space (VAS)) you might want to increase the minimum size of your paging file. Your Windows OS sets the initial minimum size of the paging file equal to the amount of random access memory (RAM) installed on your computer and the maximum size equal to three times the amount of RAM installed on your computer.

AVSIM Tip: *AVSIM recommends the Page File be set to 'System Managed Size' (default for Windows Operating Systems). This works best for most users. If you are a computer expert, you can set your own minimum/maximum settings but be aware that many crashes are known to have been caused by incorrect settings. Use your Windows search feature and search for "Page File". Look in menu and click on "How to Change Size of Virtual Memory".*

Disable startup programs – Many developers install programs that are intended to start up whenever you turn on your computer. These programs are used by the developer to schedule updates or run unnecessary processes in the background. They are not needed for the proper function of the application or Windows and they can all be disabled (even for anti-virus or anti-malware programs as these programs will continue to run properly). In the Windows Search box, type 'msconfig', then click OK or enter. Once open, click on the "Start" tab. Disable all startup programs. Reboot your system. Take control of your computer!

Run the DirectX Diagnostic Tool – This tool will check your DirectX, Video Card, and Sound Card installation and look for errors. Go to the Start button, **type dxdiag** in the search bar and then click enter. Review each tab for errors. Fix any errors found.

Delete/Rebuild Facilities/Scenery Indexes and Shader Folders – These are temporary folders and should be deleted periodically (**they will be rebuilt** when you restart your simulator). Shader folders are located in:

C:\Users\your username\AppData\Local\Microsoft\FSX or

C:\Users\your username\AppData\Local\Lockheed Martin\Prepar3D

NOTE: The Shaders10 folder is created when you enable DX10 Preview in FSX or FSX-SE. The Shaders folder for DX9 will be created if you turn off DX10 Preview or whenever FSX or FSX-SE is first installed. For P3D users, there is only a Shaders folder.

Facilities/Scenery Indexes are located in the same folder as your scenery.cfg (hidden).

Disable unneeded photoscenery – all photoscenery enabled in the Scenery Library/Scenery.cfg will load. Disable any photoscenery you will not be using during a flight otherwise, the unneeded photoscenery will load taking up valuable resources.

Clean your system registry and Windows – If you are seeing signs of stability problems, such as freezes, crashes, or application errors, periodically use a Registry Cleaner such as

CCleaner to keep your Windows System Registry clean and efficient. This could restore smooth and stable operations. Most of these Registry Cleaner packages offer additional tools to clean your temporary folders, remove malware/spyware, clean junk files, and remove files relating to your privacy like cookies, Internet browser history, and Internet browser cache. Some will also optimize your Internet connection, fix shortcuts, scan your disks for errors, and provide system and disk optimizations. For the computer novice, these programs are a real plus to keeping your computer up and running.

AVSIM Tip: *AVSIM recommends CCleaner, a freeware program or Advanced System Care, a freeware program to try and payware program if you decide to buy. These programs do an excellent job keeping your system clean and stable. They will also sometimes find problems that might require your immediate attention.*

One area that is **not usually cleaned by these programs or Windows is a hidden temporary folder located in C:\Users\Your Name\AppData\Local\Temp**. All of these files and folders can be deleted and the ones required for your Windows session will be rebuilt when needed.

AVSIM Tip: *Remove any temporary, junk files, Internet cache files before cleaning your Registry!!*

Disable User Access Controls (UAC) –It is strongly suggested by many to disable UAC prior to installing any application or add-on. AVSIM recommends keeping UAC disabled while using your simulator too unless you have your simulator installed in the non-default location (i.e., C:\Program Files (x86)). An application like your simulator may not work properly with UAC enabled as there are security controls to prevent some users from access to a file.

Go to Windows Search and type in 'User Access Controls' then look up and click on "Change User Access Controls Settings". When open, pull the slider to the bottom.

Disable Anti-Virus/Malware Program – When you install a program, your anti-virus and/or anti-malware program may scan the files being installed to prevent a file being installed that might contain a virus or malware. If these programs are enabled, they will warn you of a file that contains a virus and place it into quarantine. These are "false-positives" as your simulator programs and add-ons **do not** contain viruses. If you know the Source is from a Flight Simulator Store, like Aerosoft, FlightOne, FSPilotShop, PMDG, SimMarket, The FlightSimStore, etc., you can be sure the products do not contain viruses as they are scanned for viruses before they are placed on the shelf. The same applies with files from the AVSIM Library. They have been scanned and are virus-free.

Anti-virus and malware programs normally have a method where you can exclude scanning during installation of your product if the product is being installed in a certain folder (like FSX, P3D, etc.).

Another reason to disable your anti-virus/malware program is the fact they may not post the proper parameters into your system registry and this could cause lots of problems such as your program simply not running.

Update Your Motherboard BIOS – Make sure the Motherboard BIOS is up-to-date. The latest can usually be found on the Motherboard developer's website, like ASUS, Gigabyte,

Intel, Dell, or Hewlett Packard. Do not automatically update the BIOS. Look at what the update will provide. If it says it increases system stability, you should probably install it. Updates fix problems/bugs found after the Motherboard was built and the BIOS created.

Update Microsoft Visuals – This recommendation is **mainly for those who use FSX only**. FSX-SE and P3D programs use up-to-date Microsoft Visuals but FSX is a very old program and requires the older versions. Make sure your Microsoft Visuals are installed properly and up-to-date. Microsoft Visuals are used by developers to make sure their software is installed properly and as intended - <http://support.microsoft.com/kb/2019667>. The latest list of installed Microsoft Visuals is shown below (FSX and P3Dv3.2) but may change due to frequent updates.

 Microsoft Visual C++ 2005 Redistributable	Microsoft Corporation	2/10/2015	300 KB	8.0.61001
 Microsoft Visual C++ 2005 Redistributable	Microsoft Corporation	2/10/2015	2.69 MB	8.0.56336
 Microsoft Visual C++ 2008 Redistributable - x64 9.0.3...	Microsoft Corporation	6/4/2015	252 KB	9.0.30729
 Microsoft Visual C++ 2008 Redistributable - x64 9.0.3...	Microsoft Corporation	2/11/2015	780 KB	9.0.30729.4148
 Microsoft Visual C++ 2008 Redistributable - x64 9.0.3...	Microsoft Corporation	2/24/2015	788 KB	9.0.30729.6161
 Microsoft Visual C++ 2008 Redistributable - x86 9.0.3...	Microsoft Corporation	4/3/2016	240 KB	9.0.30729
 Microsoft Visual C++ 2008 Redistributable - x86 9.0.3...	Microsoft Corporation	2/11/2015	224 KB	9.0.30729.4148
 Microsoft Visual C++ 2008 Redistributable - x86 9.0.3...	Microsoft Corporation	2/10/2015	600 KB	9.0.30729.6161
 Microsoft Visual C++ 2010 x64 Redistributable - 10.0....	Microsoft Corporation	8/2/2015	13.8 MB	10.0.40219
 Microsoft Visual C++ 2010 x86 Redistributable - 10.0....	Microsoft Corporation	12/22/2015	13.7 MB	10.0.40219
 Microsoft Visual C++ 2013 Redistributable (x86) - 12.0...	Microsoft Corporation	12/21/2015	17.1 MB	12.0.30501.0

This is a list of installed MSV's as shown in the Add/Remove Programs

Your simulator program and most commercial add-ons will install the appropriate version when you first install the product if it is not already found on your system. For FSX/Acceleration, you will need to have the latest Microsoft Visual 2005 with SP1. SP1 was to be included with Acceleration but did not make it before the product was released. You want the Microsoft Visual C++ Redistributable for 2005 and 2008 and the links to those files are in the link provided above.

For commercial add-ons you will need the latest version of Microsoft Visual 2008 and Microsoft Visual 2010 as there are some add-ons that were developed for FSX and individuals are now installing them into FSX-SE and P3D.

It is important to note that Microsoft Visuals are not, for the most part, backward compatible. Only the 32-bit version is required as FSX, FSX-SE, and P3D **are 32 bit applications**. Microsoft Update may install the 64-bit versions but they will not be used by your simulators as long as they are 32 bit applications. It is not known why Microsoft Update also installs the 64 bit versions of Microsoft Visuals 2005 and 2008. There is no known program that could possibly use them.

AVSIM Tip: *FS9 users will have the latest Microsoft Visual runtime version installed when FS9 was first installed. However, FS9 add-ons may require later versions so we recommend you install the above Microsoft Visuals to ensure compatibility.*

AVSIM Tip: *It does not harm your computer system to install all of the Microsoft Visuals as your system and applications will use the ones required to run those programs.*

Install required Microsoft.net Framework Packages - The appropriate Microsoft.net Framework packages are normally installed when you first install your application and

commercial add-on programs if the appropriate package is not found. **You will need versions 2.0 through the latest.** FSX is a very old program and will require 1.1 and/or 2.0 at a minimum. You can see what versions are installed by going to your Windows Explorer and look for Windows/Microsoft.net/ Framework/ (then the versions installed). Once the packages are installed, Windows Update will periodically update the packages. You can verify whether your versions are properly installed and up-to-date by using the **.Net Framework Setup Verification Tool User's Guide**. Microsoft.net packages are used by developers to make sure the program runs in the way they intended, including memory management. The packages are, for the most part, not backward compatible.

Microsoft.net Repair Tool – Whenever you get a Microsoft.net error or Microsoft Visual C++ error (faulting module), run the Microsoft.net repair tool.

Install previous version of UIAutomationcore.dll (FSX users only) - This module, placed in your main FSX directory, will sometimes fix FSX from freezing up after hitting the FSX menu and also right clicking the menu repeatedly (20 or more hits). The Vista version of this module will stop FSX from freezing up when you hit the FSX menu or do a lot of right clicking inside of FSX several times during a flight session. Some AVSIM members have tried to duplicate this crash by repeatedly hitting the FSX menu and have been unsuccessful so the validity of this fix is questionable as the crash cannot be duplicated. The UIAutomationcore.dll is part of the Microsoft.net package, released for various versions of Windows. We advise members as follows:

- **This “fix” only fixes menu and right clicking crashes and will not prevent any other type of FSX crash.**
- Use only if you have Windows 7, **64 bit** installed. **Not for 32 bit Windows OS systems.** Based on an Internet search, it was found that many individuals have been wrongly advised to install the 64-bit version since they have the 64 bit version of Windows installed. This is wrong as FSX is a 32-bit application and doing so will have no effect on fixing the FSX menu issue.
- Windows 8 and 10, 64 bit users can try this fix for menu freezes but at your own risk. We believe it is incompatible. Some members who use Windows 8.1 have fixed an FSX crash by removing the module from their main FSX folder.
- Do not automatically place this module in your main FSX folder. Wait until a problem as described above occurs. There have been several incidents where this module has been found incompatible and has actually caused other types of crashes. When the individual removes the module, the crashes/freezes stop.
- It has been proven beyond any doubt that the module will not fix any other type of FSX crashes. Any AVSIM member can see this by looking at AppCrashView reports in the AVSIM CTD Forum where it will show the UIAutomationcore.dll was in the main FSX folder and it loaded properly but there was still a crash caused by another module.

If FSX freezes up while going back and forth from the FSX menu or right-clicking your mouse during a flight, try placing one of the following 32 bit UIAutomationcore.dll modules into your main FSX folder:

Version: 6.05840.16386 - This 32 bit version was the Vista and pre-FSX SP1 version which seems to work the best for the majority of members. We recommend this version be installed. Having Microsoft.net 2.0 installed may be the reason why so many FSX users do

not have this crash or require the uiautomationcore.dll to be installed in the main FSX folder.

Version: 6.0.6001.18000 - This version is the version used with Vista and FSX SP1. It is recommended by many computer experts throughout the flight simulator community but has caused problems for several as attested in our CTD Forum. This version is not readily available on the Internet except at a few commercial websites (i.e., Flight1 SimForums or PMDG) that believe this version is the proper one to install. If you find that the 16386 version did not prevent FSX menu freezes, you can try installing the 18000 version. More information and discussions about the proper version can be found at the following link - <http://forum.avsim.net/topic/421820-wrong-version-of-uiautomationcoredll/>.

Use the appropriate interface utility to enable/disable scenery – for add-on programs such as Orbx/FTX, UTX, GEX, GEP3D, go to the appropriate interface and enable/disable the add-on scenery or return to the default textures. **Do not** use the Scenery Library or a utility like the Scenery Config Editor to enable or disable these sceneries.

Install Scenery Configuration Editor – Download and install the **Scenery Config Editor** tool (Ctrl+Click to go to the website and download). You can use this tool to install or remove your add-on scenery. It will look for any errors in your scenery.cfg and fix them. You can rearrange the order of the scenery instead of moving scenery up or down in the Scenery Library. Most importantly, you can use this tool to disable all of your add-on scenery and enable only the scenery you will be using during a flight plan. This will reduce your chances of running out of memory because you ran out of Virtual Address Space (VAS).

Keep FSUIPC Utility Up-to-Date – Make sure you have the latest version of the **FSUIPC Utility** installed, freeware or payware (required for some add-ons; traps some FSX crashes like the G3D.dll CTD; provides VAS usage; and more).

AVSIM Tip: *AVSIM suggests making a link to your desktop to the FSUIPC.log. This will allow easy access to the file after completion of a flight check VAS usage (if you enabled it) and FPS during a flight. It will also show you any warnings if you are running low on memory (VAS).*

AVSIM Tip: *The FSUIPC Utility is not required to run any of your simulators. The freeware version will fix most G3D.dll errors in FSX, monitors VAS usage, and provides a log of your flight simulator session which could be valuable tools to prevent or diagnose crashes.*

Take Ownership - You can also download and run a program called **Take Ownership** (click to go to the link for more information and a link to the program). When this utility is installed, it will provide you another option when you right click a folder. Instead of clicking on Properties, click on Take Ownership. Allow the program to run until it has fully completed the tasks. Sometimes it will appear the program has stalled or stopped. It is just thinking....

Known/Probable Fixes for CTD's and Freezes –

NOTICE: Throughout this guide, links/hyperlinks to websites and internal bookmarks have been provided. Just click on the underlined hyperlink. Of course, you will need an active Internet connection when clicking on a link to the Internet. Please report any invalid or broken links to AVSIM.

Before you begin - A known cause for a crash or freeze is rare. As stated in the introduction to this Guide, almost **all crashes have to be investigated** using techniques in the "**How to Fix Most Crashes**" section.

The following known or probable fixes to many of the most common errors were gleaned from the AVSIM Crash to Desktop Forum and other forums/blogs in flight simulation communities worldwide. We try to provide some information about the module that most likely caused the crash or freeze as that information can give you a clue as to the add-on or software that might be causing the problem.

AContain.dll - related to AI objects. This module removes AI aircraft/objects around your aircraft, ship or boats as you are flying.

- Make sure you have the latest version of FSUIPC installed as it somehow works with this module.
- Reduce your AI settings - not above 40%.
- What AI program is installed? Is the default AI program still running? If you are still having problems, suggest uninstalling any add-on AI program.
- Ships and boats are also controlled by the acontain.dll so make sure those settings are not too high.
- Individuals who have had crashes as a result of this module have been advised to completely uninstall your simulator, run a freeware system cleaner such as CCleaner, then temporarily disable any anti-virus program and disable UAC, then reinstall.
- AVSIM recommends returning your configuration to the default (see "How to Fix Most Crashes above) instead of reinstalling.

AI_Player.dll – related to AI and the module that controls your AI (a commercial AI program or the default).

- Could be something wrong with an AI model or object. If you have MyTrafficX or 6, you can disable AI in the Scenery Library to see if this fixes the problem. If so, then this is the problem (a simple investigative technique). If you have another AI program installed, then disable that program to see if the program is causing your crashes.
- Problem has been seen occasionally in the Seattle area with FTX/Orbx Pacific Northwest. This was fixed and you should check the FTX/Orbx forums and search for AI_Player.
- Caused by freeware airports in the area that has static aircraft or their own AI aircraft and flight plans. Disable the add-on airport and see if problem is gone. **If you have any FSDT, Flight Beam airports, do not disable them. They are not the problem.**

- Some have fixed the problem around UK2000 EGKK by modifying the AFCAD option from "Airline Specific" to "Generic" but it results in airlines not parking at the correct terminals.

API.dll – Indicates you are close to running out of memory (OOM).

- Lower LOD_Radius (if above 4.5) and/or Texture_Max_Load (if above 1024). This is a temporary fix just to investigate the cause.
- Check Buffer Pools parameter in config and disable (fix for many). AVSIM does not recommend this parameter for P3D.
- AffinityMask tweak has wrong parameters for your computer.
- Return to default configurations as recommended in **How to Fix Most Crashes** above.

Application Hang – See freezes below.

Application will not start or cannot get to application setup screen.

- A module or modules in the dll.xml is not loading properly. This is the most common cause. Move your dll.xml to a temporary folder and restart your simulator. If this fixes the problem, go to the "**How to Fix Most Crashes**" section above regarding troubleshooting the dll.xml.
- If you have FS Dream Team, Flight Beam, or Blue Print scenery, the Add-on Manager is probably corrupted. Reinstall the latest Add-on Manager.
- For FSX - Make sure Microsoft Visual C++ 2005 with SP1, 32 bit version, is installed. If you remove this Microsoft Visual, FSX will definitely not start.
- For FSX-SE/P3D – Make sure Microsoft Visual C++ 2010 with SP1, 32 bit version, is installed.
- Remove, rename or repair the Logbook.bin in your Documents/Flight Simulator X Files folder (for FSX). For P3D, the logbook is in the same folder as the P3D.cfg.
- See also Freezes When Loading Flight below.
- Return simulator to default configurations as recommended in **How to Fix Most Crashes** section.

ATC.dll – Three possible solutions –

- It occurs on a change of frequency (TWR to GND for example) and is associated with other frequencies used in your plan. Try entering removeatc=yes in the General section of FSUIPC.INI.
- There are minor issues where the file atc.dll, responsible for containing the viewing graphics display during game play, encounters errors in displaying multiple image streams, especially when it renders multiple overlays. If you have multiple displays and/or multiple Windows open, there is probably a conflict or problem with the configuration. Troubleshoot.
- Make sure your memory modules in your BIOS are properly configured (i.e., match timings and voltages as some BIOS have been known to not manage these settings properly). See CPU-Z, SPD Tab and make sure settings are the same in the BIOS.

Atiumdag.dll – ATI Video Card driver.

- Roll the driver back to an earlier version
- Lower display driver settings.

BEX (Buffer Exception Overrun) – For more information click on the following link - **Buffer Exception Overrun or Buffer Overrun**. See also StackHash and NTDLL.dll discussions.

Bglmanx.dll – module used by FS Dreamteam/FlightBeam.

- Download and run the latest Standalone Add-on Manager.
- See also the following link at the FS Dream Team website - <http://www.fsdreamteam.com/forum/index.php/topic,11862.0.html> .

CTD's After Long Flights – especially flights over 2 hours and usually during the descent or landing phases

- High config and display driver settings
- Ran out of Virtual Address Space (VAS) (see OOM, NTDLL.dll, and StackHash)
- Deleting your temporary Shader, Facilities and Scenery Index folders. See **Delete/Rebuild your Facilities/Scenery Indexes and Shader Folders** discussed in previous section.

Control.dll – Delete or rename the config, restart sim and let the configuration rebuild.

D3D9.dll – This is most likely caused by installation of SweetFX or the ENBSeries Modules. Remove the D3D9.dll modules (there are several) from your main FSX folder. These two hacks of DirectX files have been popular to many users but found to be the source of several CTD's. Most likely the module is not configured properly for your computer system and you should conduct some searches on AVSIM (the AVSIM SweetFX Forum) and elsewhere for the best configurations. Several members have been successful in getting these modules to work properly.

The following ENBSeries files are installed in the main FSX directory and should be moved to a temporary directory if you are seeing crashes or graphics anomalies: D3d9.dll, D3dx9_40.dll, D3dx9_26.dll, and ENBSeries.ini.

SweetFX installs the following files that should be moved to a temporary directory if problems occur: D3d9.dll, D3d9.fx, Dxgi.dll, Shader.fx, and the injector.ini.

D3D11.dll –

- Remove Windows Update KB2670838 (be wary removing this KB if you are using IE10 or IE11 as it will uninstall those programs and go back to IE8. If you reinstall IE10 or IE11, the KB will also be reinstalled by Windows Update.
- Occurs with SweetFX installed (see D3D9.dll above).

DINPUT | DINPUT8.dll – indicates a DirectX problem and/or video card issue.

- If you have a video card overclocking program like Gigabyte OC Guru, remove or disable it.
- Check for problem with video card overclock, if applicable.

- Run DXDIAG. Click on your Windows Search and type in dxdiag, and then enter. Check each tab for errors.
- Make sure you have WHQL drivers installed (this will show up in dxdiag).
- Check keyboard/mouse/joystick connections to any USB port. Move connections to another USB port if available. Make sure drivers to USB ports and keyboards, joysticks, and mouse are up-to-date.

FE.dll – indicates you have a texture problem on an aircraft repaint or an AI aircraft.

Freezes While Loading Flight – Many times the simulator might appear to freeze at startup. If the program closes with a message from Microsoft and then restarts, then, there is a legitimate problem.

- Check the [AppCrashView](#) or [Event Viewer](#) for information.
- Check exactly where the event occurred while loading (i.e., at 10%, 27%, 82%, etc.). This will identify what was being loaded when the program quit and then restarted as this could be a clue as to what went wrong. If it happened while loading terrain, it could be a corrupted installation of an add-on or missing textures.
- If the program freezes at say 27% for two or three minutes, then, most likely a Windows program is running in the background and using all the resources to load your flight. You can go into the Task Manager (Ctrl+Alt+Del), look under the processes tab, and close programs that appear to be using excessive amounts of resources. Once you do this, your flight plan should load immediately.
- [Disable photoscenery](#) not needed for a flight session.

Freezes During Flight – Freezes are most commonly caused by –

- High application/display driver settings. Check.
- High settings within commercial weather programs like REX, ASN, and OPUS. Check. Some raise settings to the highest texture settings (4096 HD) within weather programs and/or texture programs like REX or FEX. This coupled with high application LOD_Radius and Texture_Max_Load settings may take up too many resources and the application will freeze.
- Complications with weather server updates. Application may try to update the weather and the weather server is down or cannot comply with a request (less common).
- Running out of Virtual Address Space (VAS) especially on one hour or longer flights (see VAS/OOM discussions) (most common). Hyper-Threading turned off will not eliminate OOM's but it will increase the amount of available VAS significantly.
- Bad tweaks (most common). BufferPools and or Affinity Mask are most often attributed to freezes. Move or delete your simulator configuration, restart the simulator and let it rebuild the configuration to see if this fixes the problem or disable the tweaks.
- ENBSeries or SweetFX Module – DirectX hacks for better visuals. See the AVSIM SweetFX Forum for possible solutions.

FSX/FSX-SE or P3D will not start.

- Move the [dll.xml](#) to a temporary folder. The dll.xml loads modules at startup and most likely the cause.

- Reinstall the FSDT Add-on Manager.

G2D.dll - This module handles plain text messages, like the frame rate counter and those other plain text messages you see periodically while running any simulator and the plain text words in the respective Menu, like the words Options, View, etc. There may be something corrupted in your dll.xml which loads menu items. Possible fixes –

- Rebuild the sim's config, as appropriate (moving or renaming the config and then restarting the application).
- Uninstall/reinstall video card drivers or go back to previous version. Make sure drivers are not 'beta'.
- Do not disable ORBX/FTX, GEX, and/or UTX entries via the scenery.cfg. Use the appropriate interface utility to enable/disable features in these programs.
- Move the dll.xml to a temporary folder and see if this fixes the problem. If so, there is a module in the dll.xml that is causing the problem.

G3D.dll – mainly a FSX issue but has occurred in other simulators too.

- Install the most recent version of the **FSUIPC Utility**. The freeware or payware version will fix most of these CTD's in FSX and P3Dv1.4 (but not 2.0 or higher). You can see how many errors were trapped by looking at the FSUIPC.log located in the FSX or P3D/Modules folder.
- Possibly caused by scenery, aircraft, gauge textures used in prior versions such as products made in FS9 or earlier. Products installed using the Estonia Migration Tool (EMT) might be a cause too. Unfortunately, this crash must be investigated in P3Dv2 or v3 users and FSX-SE.
- As in G2D.dll above, make sure Orbx/FTX, GEX, and/or UTX scenery has been enabled/disabled via the utility that comes with these products and you did not enable or disable the product(s) via the Scenery Library/Scenery Config Editor.

Garbled Menu – Your dll.xml is corrupted. Usually does not result in a CTD but your application is unusable until this is fixed.

Kernelbase.dll – No known fix but some have solved this problem by -

- Updating or reinstalling their video card drivers.
- Scanning your system for **corrupt/missing files**.
- Disable startup programs by typing **msconfig** in the Windows search box. When open, look at the Startup tab and disable all startups (they are all not needed for operation of your computer).
- User Profile Corrupted – last resort, fix possible **corrupted user profile**.

Kernel32.dll - The kernel32.dll belongs to system memory management.

- Consider it like an out-of-memory (OOM) crash.
- Reduce your settings.
- For FSX, uninstall/reinstall SP2 or Acceleration.

Menu Freeze – If FSX freezes while using the FSX Menu, install the UIAutomationcore.dll.

Menu Garbled - Your dll.xml is corrupted. Usually does not result in a CTD but your application is unusable until this is fixed.

MSVCR80.dll, MSVCR90.dll, MSVCR100, MSVCR120 - belongs to Microsoft Visual Redistributable C++ 2005, 2008, 2010, or 2013/Visual Studio 2013 respectfully. The Visual C++ Redistributable Packages install run-time components that are required to run C++ applications that are built by using Visual Studio. The install program for your application, say P3D, will install the proper Visual if not already found on your system but sometimes these are modified by other application installations or the user deletes the Visual or the user used a backup program to install an P3D or FSX to a new Windows installation.

- Run the **Microsoft.net Repair Tool** - Whenever you get a Microsoft.net error or Microsoft Visual C++ error (faulting module), run the Microsoft.net repair tool.
- Uninstall FSX SP2 if installed, uninstall it via the Windows Add/Remove program (it will not remove FSX, just SP2). Restart your system. Reinstall FSX SP2. Restart your system.
- Uninstall FSX Acceleration if installed, do the same procedure as for SP2 except remove Acceleration, Restart, install Acceleration, Restart. These actions will not remove your configuration files like FSX.cfg, scenery.cfg, dll.xml, exe.xml but if you want to be safe, back them up first.
- If the above does not work, uninstall Microsoft Visual 2005, 2008, 2010, or VS 2013, as appropriate, using your Add/Remove Programs. Go to the website (see section above regarding Microsoft Visuals), download and reinstall.

NTDLL.dll - The following is a quote from Microsoft Techs - "Heap metadata can become corrupted and it has been identified by Microsoft as one of the most common causes of application failures. When an application crash shows the **faulting module as ntdll.dll** along with the **Memory Access Violation (0xc0000005)**, then Windows places the application on a watch list and, if the application crashes at least four times or more in an hour, the fault tolerant heap service will configure the application to use the fault tolerant heap service in the future" (Source - Chapter 10, Memory Management, Windows Internals, Part 2: Covering Windows Server 2008 R2 and Windows 7 by Mark E. Russinovich, David A Solomon, and Alex Ionescu). The service is part of the Security Center service so you need to make sure this service is turned on. If the ntdll.dll is placed on the watch list, this information will be shown in the Event Viewer (Admin Events). See also Increase **Heap Limitation** in the **Actions to Take to Prevent Crashes** section of this guide.

Several possibilities for the NTDLL.dll error are as follows:

- Most likely cause is outdated or corrupted hardware drivers. Run a driver update program as discussed in previous section.
- Use the **System File Checker** (SFC /scannow) to look for corrupt or missing system files. See previous section for details on running this program.
- Recently update video card drivers? Reinstall or install the previous version.
- System overheating. Check (not common but it can cause this crash).
- Wrong timings/voltages set for your installed RAM. Use the utility, CPU-Z, to check or look inside the BIOS (NOTE: With newer Mother Boards and Memory Simms, this issue is not as common as it was with earlier systems but it can still happen).
- CPU voltage too high or too low (only if you manually adjusted this in the BIOS). You might be able to fix by returning your BIOS to Optimized Defaults or lowering your overclock by one point from say, 4.4GHz to 4.3GHz.

- Remove the **UIAutomationcore.dll** from the main FSX folder, **if installed** (applies to FSX users only). A known fix (could be the wrong version placed in the FSX folder).
- Check your dll.xml for duplicate entries or entries where the software was removed but the entry in the dll.xml still exists. Fix.
- Disable User Access Controls (UAC) (see the section above for more information).
- Update hardware drivers for your computer (especially on new computer systems or if the Windows OS has been reinstalled or upgraded) (see Driver Update information in this guide).
- Disable **MyTrafficX, v5.4c** or **MyTraffic6a** in the Scenery Library to see if this program is the cause of the ntdll.dll error. It is believed to be caused by an AI scheduling programming error. For MyTrafficX go back to the 5.4b version or make sure no external AI program schedule is activated (i.e., the 2012 or 2013 Schedules on the developers website). The default schedule appears to be okay for most. Check the developers support forums for updated information and possible bug fixes. For MyTraffic6, some have fixed it by renaming the MyTrafficmil.bgl to MyTrafficmil.orig.
- Some have seen this error when changing to payware aircraft after using another payware or default aircraft.

Nvlddmkm.dll – Belongs to NVIDIA Video Cards only. This can be caused by changing video card's Base Clock Offset or Memory Clock Offset.

Out-of-Memory (OOM) – The following **points apply** in regards to Virtual Address Space (VAS) -

- FSX, FSX-SE, and P3D are currently 32-bit applications.
- 64-bit operating system, running 32-bit applications is limited to 4GB of VAS no matter how much RAM (system memory) is installed.
- 32-bit operating system is limited to 2GB of VAS with a "switch" to provide up to 3GB's. Most users have upgraded their operating system from 32-bit to 64-bit so this does not apply to most.
- OOM's relate to VAS, not physical memory.
- VAS is not the same thing as the virtual memory (page swap file) that you can adjust in your system settings. A large page file or virtual memory swap file does not protect anyone from the 4GB VAS limit.
- VAS is effectively a pre-allocation of everything your 32-bit application (such as FSX or P3D) can potentially access during a flight. It will fluctuate over the course of a flight and over different areas.
- Microsoft.net Framework packages reserve a chunk of the VAS and then commit memory from that chunk. For this reason, it is important you have the proper versions of .net installed and they are up-to-date.
- Hyper-Threading turned off will not eliminate OOM's but it will increase the amount of available VAS significantly.
- See also API.dll errors above.

Some common causes of OOM's:

- Running out of **VAS**. Happens mostly during flight sessions longer than two hours in commercial add-on aircraft and over commercial add-on scenery and airports with a lot of eye-candy. Common during descent or on final approach.

- LOD_Radius 4.5 and/or Texture_Max_Load above 1024. AVSIM recommends a LOD_Radius no higher than 6.5 and a Texture_Max_Load setting above 2048. This includes add-on applications that increase texture resolutions above their default or texture compressions to 32 bit (i.e., from the default of DXT5 or DXT1).
- BufferPool Tweak.
- Lots of photo scenery used for a flight session. Add-on's, such as FTX/ORBX, may contain some photo scenery. If enabled, photo scenery will load even if you are not flying in that part of the world.
- High settings in weather programs. Going beyond the defaults set by the developers.
- Click on following link for more information about **VAS Management and Stopping OOM's** for additional discussions and recommended solutions.

Panels.dll – Usually fixed by loading the default aircraft first and then the aircraft you want to fly. This has been fixed by simply restarting the sim.

Sim1.dll CTD – This crash is caused by a corrupted or incompatible aircraft texture, most likely the latter.

- Look at recent aircraft installations, especially from previous versions of flight simulator.
- Make sure your simulator is set to "Run as Administrator".

SimConnect – SimConnect is used by programmers to write add-on components for FSX, FSX-SE, and P3D. It is normally installed by the program requiring SimConnect and no action is required by the User. However, if you have networked computers you will need to make sure the program is installed on all computers so that the program can "talk" or connect with the other computers in the network.

AVSIM Tip: AVSIM has an excellent forum for SimConnect issues. Please check this forum and post your problem there.

Simprop.dll – **Seen mainly with FSX.**

- Most likely a problem with the installation of Acceleration. Try uninstalling Acceleration (go to Add/Remove Programs; look for FSX and click on uninstall. It will only uninstall Acceleration. FSX will still be there). Run FSX once and see if this fixed the program. If so, reinstall Acceleration with Admin privileges. Run FSX again to make sure the problem is fixed.

If problem still not fixed -

- Move, delete, or rename your FSX.cfg and let the configuration rebuild.
- If this does not fix the problem, rename your logbook.bin in the My Documents/Flight Simulator X Files folder and try running FSX again. If that works, then you might want to download from the AVSIM Library a program called **FSX Logbook Recovery 1.1** (must be logged into the AVSIM Library for hyperlink to work) and try to repair the one you renamed.

StackHash – See also BEX and NTDLL.dll above. Also, the following link on AVSIM provides some valuable information - <http://www.avsim.com/topic/385571-stackhash-ctd-possible-fix/>. There is no module on your computer system named StackHash so no need to look for it. If the StackHash is shown as the faulting module, it will have four characters next to it like StackHash_0a9e. That represents the memory address of where the fault occurred. Do not try to look for it. You will not find it.

Think hard as to what you recently did to your simulator (like installed or removed an add-on), your Operating System (did you just install a Windows Update?) or computer system (did you just update the BIOS or change a parameter in the BIOS? Install new hardware? Update video card drivers?).

There is no known solution to BEX/StackHash errors other than reinstalling Windows and your simulator but some have accidentally fixed their problem as follows -

- Lower display driver settings
- Rebuild the simulator's configuration. This will lower settings and eliminate tweaks that might not be working properly
- Change voltages/overclocking settings in the BIOS
- Disable all scenery add-ons in the Scenery Library. Or, move your scenery.cfg to a temporary folder and let the config rebuilt with the default configuration. If error goes away, you will have to investigate which scenery was the cause.
- Shut down/start up the simulator only in Windowed Mode but never in Full Screen.
- For FSX/FSX-SE, turn off DX10 Preview to see if this fixes the problem. If so, delete the Shader10 folder.

Terrain.dll - Usually indicates high scenery/terrain settings, especially Autogen. Restart sim to see if the error reoccurs. Most of the time, the error occurs on a whim.

Visualfx.dll – The visualfx.dll is used to display an effect in your simulator. An effect needed for an aircraft or scenery may not be located in the Effects folder and, when the effect is called by the program, it cannot be found and the sim crashes. The CTD occurs mostly with aircraft not properly installed and/or the default flight (shown in the [Userinterface] Situation= line in your config) may be corrupted when a new default flight is set up.

- Rename, delete, or move your sim's config, restart your sim, let the config rebuild.
- Returning the default textures into the main texture folder. This can be done through a backup or conducting a repair installation.

VMCX_AP.dll – This has been a problem with AES, VistaMare (a security program for AES) and SimConnect.

- Removing the VistaMare folder in the sim's directory and then launching AES help. This will rebuild the VistaMare files needed for AES.
- May not be compatible, especially with P3D. Disable the ViMaCoreX.dll in the dll.xml. Check with developer for a compatible update.

Weather.dll –

- Delete wxstationlist.bin (in sim's main folder in the Weather folder and in the same hidden folder where the sim's config) and default .wx (in the Documents\your flight simulator files folder) associated with your default flight (usually 'Previous Flight.wx'). They will be rebuilt.
- Crash can be caused by high settings or a bad tweak (the BufferPool tweak mentioned most often).

If you have a commercial weather program that has cloud textures or a program that furnishes cloud textures such as REX, FEX:

- Try lowering settings in REX/FEX and DX5 compression and lower textures to 512 or 1024. This coupled with high settings in your respective simulator's settings may produce this crash.
- If you have texture programs like REX/FEX, try reinstalling the theme or textures you selected.

Window.dll - The window.dll in the main simulator folder is used to take advantage of the capabilities of DirectX9. When using DirectX9, the simulator calls on the window.dll functions to automatically minimize, maximize or restore the simulator's window. For instance, the function 'WindowInit' is called to whether the window is currently minimized or maximized. The 'WindowFree' function can set the focus on the window and check whether the window has current focus. The dll has many more functions.

This error has also been fixed by reinstalling video card drivers (WHQL – no BETA).

xuipc.dll – Ensure Microsoft Visual C++ 2005 with SP1 and 2008 with SP1 are installed (see discussions regarding updating **Microsoft Visuals**).

What AVSIM Members Can Do To Help –

There are many reasons and variables that cause BSOD's/CTD's and it would be impossible to list every situation in this guide. However, if you are aware of an actual fix for a FSX, FSX-SE, or P3D, please PM Jim Young with your suggestion(s) and, if accepted, we will include the fix in the next update of this guide. If you find dead links or bookmarks, please let us know so we can fix it for the next update.