

CPR for FSX Fatal Errors

Additional Information on Why FSX Crashes

Background

This document was originally produced as part of the [June 2012 Logan Informer](#) (BVA's community newsletter). The document discusses known information about fatal errors that occur in FSX and what users can do to help prevent them.

Issues with Aircraft Substitutions

When you fly in multiplayer, other traffic appears on your computer as aircraft from your library. Every other user's aircraft is spawned in "AI mode" into your game as one of the planes you have (whereas the plane you're flying is not in AI mode, you're controlling it). For example, let's say you only had one aircraft in your virtual hangar, a Cessna 172. No matter what type of aircraft everyone else was flying, they would appear in your simulation as a Cessna 172 in AI mode. All you would see is Cessna 172's, even if other users were flying Boeing 747's.

Now let's say that the Cessna 172's AI mode doesn't work for some reason. Maybe the aircraft.cfg file has a problem, some of the files have become corrupted, or the aircraft just isn't designed to function in AI mode. You would still be able to fly the aircraft just fine in both single player and multiplayer. However, when someone else spawned in any aircraft—which would be substituted by the Cessna 172 in AI mode—that AI mode problem would cause FSX to crash. This exact situation is the cause of most fatal errors, even when it may seem to be a particular scenery or location. For example, you may often see fatal errors when approaching Boston and think the issue is related to BVA's scenery update. But in fact you get fatal errors when you approach Boston because that's the busiest airport on our server and is therefore the most likely place for FSX to substitute an aircraft that will cause your simulation to crash.

Of course, if you had only one aircraft in your hangar, then it would be easy to determine the problem aircraft and fix or remove it. But with many aircraft, finding and destroying the target becomes more challenging.

Now let's say you have three aircraft in your library; a jumbo jet (i.e. Boeing 747), a medium-size jet (i.e. Airbus 321), and the same corrupted Cessna 172 that will cause a fatal error whenever it is substituted as an AI aircraft (but is fine when you fly it). You join a session with one other player who is flying a jumbo jet like a Boeing 747. No problem; the Boeing 747 appears in your simulator and you keep flying. Now another player joins in a small aircraft like the default Baron. This Baron gets substituted by the Cessna 172 and your FSX crashes. The crash can happen right away (when the aircraft loads in) or can be more subtle; sometimes,

crashes occur only when the aircraft is visible from your aircraft, or even when you are very close to the other aircraft so that that aircraft's virtual cockpit becomes visible.

The best thing to do when flying multiplayer is to have a library of aircraft that you know are safe and to only add to that library little by little (that way, you know each new aircraft is also safe). The difficulty with a large aircraft library is that problem aircraft might only get substituted once every 30 flights and so it could be difficult to tell which one is causing the problem. This is why you may seem to get more fatal errors flying on BVA than on other multiplayer servers. Because BVA tends to be busier than other multiplayer servers, there are more aircraft types, and therefore a greater chance that whatever aircraft causes the fatal errors will be substituted into your game and cause a crash.

We know of a few add-on aircraft that cause FSX to crash. Any add-on from manufacturers "Project Airbus" and "Thomas Ruth" will cause FSX to crash if they are spawned in AI mode. So if you have aircraft from those developers, remove them before flying in multiplayer. All of the add-ons from BVA's website, as well as most payware products, are safe. If you find yourself plagued by fatal errors, start by reducing the size of your virtual library; get rid of anything from Project Airbus and Thomas Ruth and also aircraft that you don't fly regularly. If that hasn't solved the problem, you can try to remove other aircraft and see whether the issue persists with just the default FSX aircraft.

By the way, your virtual hangar is located in the SimObjects folder of your FSX Directory (SimObjects/Airplanes contains most of them); moving an aircraft's folder to any other location on your computer will remove that aircraft from your library. To re-install it, just move the aircraft's folder back to its original location.

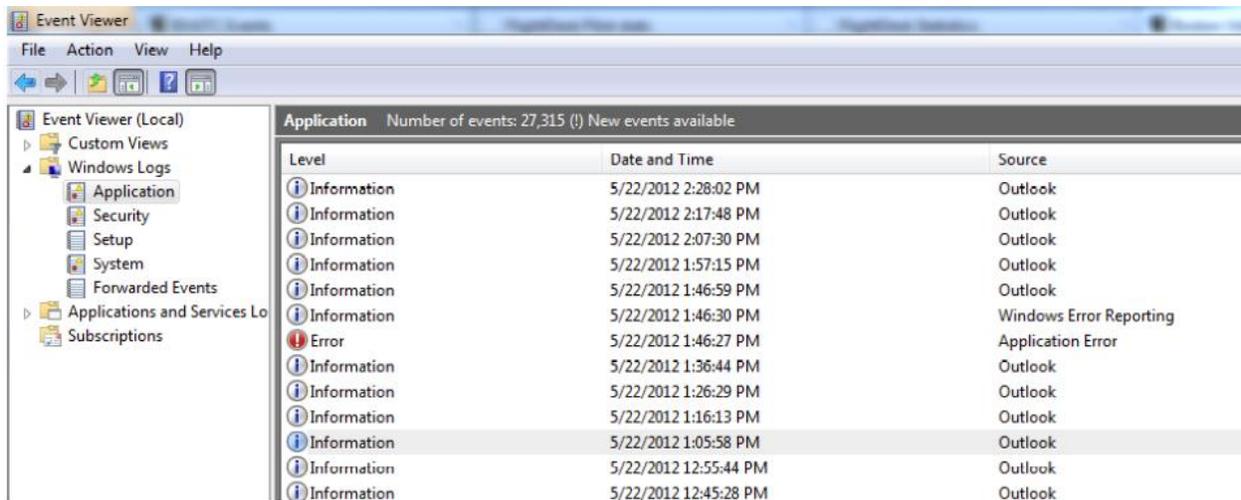
Another tip: fatal errors tend to occur when it's busy because a greater variety of aircraft is in the session. If you get a fatal error and you think it was caused by an aircraft in the session, you'll want to remove some aircraft and get back in right away. If FSX doesn't crash, it could be because you've found the aircraft, but it could also be because the person flying the aircraft type that caused the problem has signed out.

Issues with Default or Add-on FSX Files

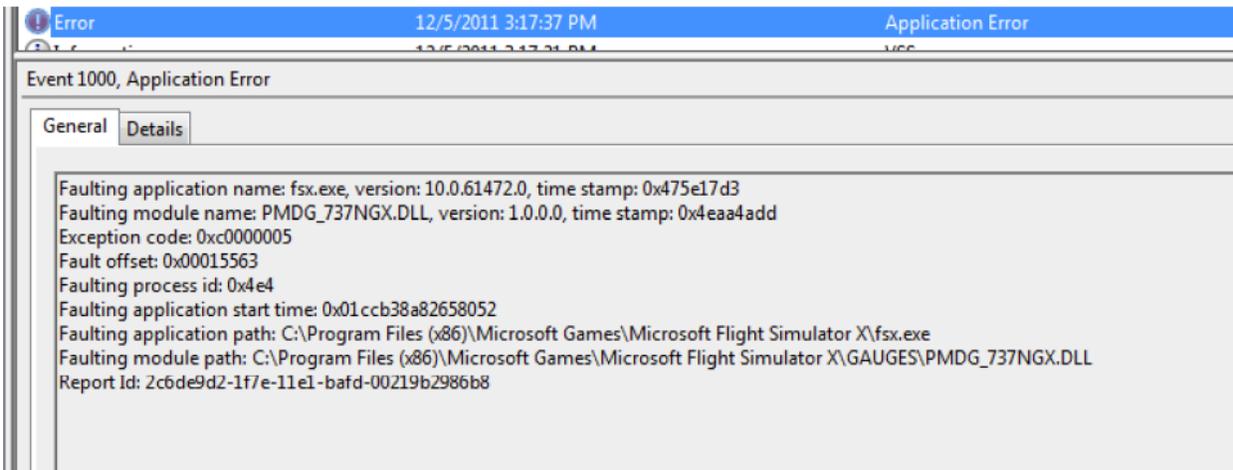
Fatal errors can also be caused by issues other than multiplayer aircraft substitutions. If an aircraft substitution is causing the issue, you will normally see fatal errors happen consistently. Maybe you normally get a fatal error in a busy session, when flying into an airport with a lot of aircraft on the ground, after another player spawns in, etc. But there are other causes of fatal errors that can be specific to a bug with the airplane you are flying, your scenery, or the default FSX installation files.

If you don't think an add-on aircraft substitution is to blame, then you can try to find more information about the error. Immediately after getting a fatal error in FSX, search for the error log in Windows Event Viewer. On Windows Vista or Windows 7, open the Start Menu and search for "Event Viewer". Once it opens, choose "Windows Logs" from the menu on the left and then click "Application".

You'll see a list of events that looks like this:



In this list look for any entry related to FSX. It may show up as an Error (red) or just Information. Either way, if you can find something that looks like it's related to FSX, click on it so you can view the details in the pane below. Here, look for a line that says "Faulting Module" or any other helpful information that explains what caused the error.



If you know the faulting module, you might be able to figure out more information about the cause of the fatal error. For example, from the image above, you can see that a module called `PMDG_737NGX.DLL` caused the fatal error. This implies that the PMDG 737 NGX, a payware aircraft, was responsible in one way or another for the crash. Perhaps the crash occurred during a particular sequence of steps with the FMC that might indicate a bug in the aircraft's coding, or perhaps a file for that aircraft is missing. If this aircraft was responsible for crashing your simulator frequently, you would need to contact that company's support to try to solve the problem. You might also see something that doesn't seem to be linked to a payware aircraft. For example, "g3d.dll" is a common faulting module that is not aircraft-related. If this situation occurs, your best bet is Google; search for something like "FSX fatal error g3d.dll". You'd be surprised how many other people have also experienced this error, and by doing some research, you might also be able to find a fix.

The Faulting Module line won't always be visible, and if the issue is with an aircraft substitution (rather than an issue with the aircraft you were flying), you might not be able to find any information by looking in Event Viewer. But if you can find an error report entry, it can provide you with a good amount of help in troubleshooting the error.

Life Support

FSX is an incredibly complicated program, probably one of the most advanced that exists for consumers. It's effectively its own operating system. A lot can go wrong, so doing a full FSX re-install every year or so isn't a bad idea. But fatal errors are a problem of their own which often can't be solved by re-installing the program.

Also keep in mind that you have the community of BVA ready to help solve any technical issues you have. If you are stumped, feel free to post your findings (like the faulting module) on our forums. Chances are there's someone here that can help!