

What Is File Fragmentation?



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The process of file fragmentation refers to the way files are saved or written to memory storage devices such as hard drives as well as external storage devices such as USB flash drives and USB external hard drives.

To be fragmented means to be broken up into little pieces. This is exactly what happens to files when they become fragmented. They are broken down into small individual pieces and stored in random locations in your hard-drive. This causes less than optimal processing times because it takes longer to read through and find all of the different locations of the file, instead of being able to look in just one location. A good way to explain this with a real life example would be to compare it to a file cabinet. A file folder filled with client files is very easy to find when all of the files are in one folder - correct? If you put those same files in multiple places throughout the filing cabinet, do you think you're going to be able to find the client files as quickly? My guess is probably not.

Fragmentation is an Invisible Threat

File fragmentation is a part of everyday computer use and is very tough to avoid. Data fragmentation is an **invisible threat** to your PC that erodes the performance of your PC. Over time, it can slow your PC and shorten its lifespan. As fragmentation issues get worse, your PC has to **work harder and harder** to find the files it is searching for. You can see how this could slow down the processing speed of your PC, especially if you're dealing with large amounts of data. It will gradually take longer and longer for your PC to perform simple functions that you perform every day, and you will start to see a gradual decline in the performance capabilities of your computer. Simple tasks such as Windows start up, internet browsing, file searching, or file saving which should take hardly any time at all will start to take longer and longer to complete.

How Do Files Become Fragmented?

Saving files to memory is a part of everyday computer use so when you create a new file such as a text file or a picture, you will most likely want to save it to memory so you can access later. When you do save it, it is stored in the first available memory location, which is the efficient way of doing things. When you save new files they are saved to the next spot in line in your PC's memory which is fine, until you have to delete a file or move it to a new folder location. These types of actions will cause the file to be relocated in your PC's memory, which will subsequently leave a blank spot where the file used to be. This can happen time and time again and you will begin to collect more and more blank spots throughout the available memory.

Large files also need to be saved to memory, but if there is an insufficient amount of free space in one open spot, then the large file has to be split up so it can be stored in other free spaces as well. This is what fragmentation is all about. Subsequently when you have to save other large files, the same process may have to take place in order to save them to memory, so you begin to experience more and more fragmentation.

Issues You Could Experience If Your Disks Are Fragmented

Your computer could have fragmentation issues if you start to notice that it is running slower than normal or simple file functions are taking longer to complete. This is a very common issue that occurs in PC's once they have been in operation for a year or so and can be even more of a problem if you're working with lots of data every day.

File processing is very easy and takes little time at all if the file being searched for is located in one spot in your hard-disc, but when the file is fragmented your PC's hard-disc must scan the entire storage location in order to find all of the little sections of the file. This greatly reduces the processing speed and slows down your PC. Your computer will start to run more and more inefficiently because it will be doing more work than it needs to in order to find the files it is searching for. This will in turn cause wear and tear on the components of your hard-drive and may decrease the usable life of the computer all together.

The unfortunate truth is that there really is no way to avoid fragmentation, and that you simply have to deal with it once it does occur. Fragmentation is a part of daily PC use and the only real way to fight it is by completing the defragmentation process as often as possible.

How do you know if your computer has fragmentation issues?

If your computer has fragmentation issues, then you will begin to see an overall decrease in the performance of every day functions such as Windows start-up and file opening and closing. You will also start to see an overall slowdown in the performance of your PC which will create a less efficient computing experience.

What Is The Process Of Defragmentation?

The process of defragmentation is the process of locating all of the file fragments of one file and rearranging them so that they are stored in a more efficient fashion, preferably all in one contiguous location. By doing so you are increasing performance rates, and decreasing the

amount of time it takes to locate a file. In order to tell if a file needs to be defragmented, you have to find out if it is fragmented. Your defragmentation tool will be able to provide detailed information about the files including file size, location, file type, and give estimates of how much free space there is to work with. If you want your PC to perform well, you have to address the issue of fragmentation to eliminate inefficient file storage. In order to place the fragmented file in the best possible location, you have to be able to determine how much free space is available and the best location for the file when you have that information.

Once you have determined where all of the pieces of a fragmented file will go, then they can be arranged in the most logical order in order to provide a more efficient processing opportunity. When you defragment the files on your PC you are creating a more efficient processing environment and your system will be able to work faster and more efficiently.

Also, after you have completed the defragmentation process you will find that subsequent instances of this process will run more effortlessly because the memory on your PC will already be organized in the most logical manner. This means that only the new data which makes its way onto your PC could become fragmented, so there will be less opportunity for inefficient data storage.

Defragmenting your computer can create a more efficient processing environment and can help increase the rate of speed at which your PC operates. If you would like to continue to increase performance levels, or increase your PC performance even more, then you should think about running the defragmentation process regularly. When you run the defragmentation process a large amount of free space is first created by compressing the existing data on your hard drive. Once that is complete, the next step is to determine which files are fragmented and centralize them to one specific available storage space. This eliminates the need to store the file in multiple storage spaces and creates a more efficient computing environment.



Data loss can be prevented

Your hard-drive is your PC's **weakest link** and can show many symptoms that a problem exists. If left untreated, it can lead to a physical computer crash and data loss.

Disk Booster is an fast defrag tool that works silently in the background **safeguarding** your hard drive from trouble, and **optimizing your file system** for maximum PC performance



Why Disk Booster Over Windows Defrag?

Defragmentation software is available in on all Windows operating systems so you can use this tool to perform the defragmenting process on your PC. Sometimes, however, this utility doesn't run as efficiently as possible and can take quite some time to complete.

Its functionality is severely limited. Disk Booster provides outstanding performance to ensure your PC's hard disc space is optimized around your unique usage patterns and reclaim free space. Windows defrag tools lacks the ability to organize your hard-disc and optimize its content to prevent fragmentation before it happens like Disk Booster.

With Disk Booster's Fragshield, Windows boot files can be moved in one continuous block allowing faster boot-up of your PC. If you are in a hurry, Optimize Free Space, can move your free space into one continuous block, allowing fast read and write for demanding applications such as video editing, computer aided design, accounting and gaming.

Windows Defrag and Disk Booster Compared

Features	Disk Booster	Windows Defrag
Defrag hard-drives, SSDs (Solid-state drives), SD cards	✓	✓
Defrag when idle	✓	
Automatic background defrag	✓	
Optimize Boot files	✓	
Optimize free space	✓	
Map View to see content of each block	✓	
Secure erase Recycle bin	✓	
File Shredder (Evidence Terminator)	✓	
Scheduler	✓	✓
Smart Scheduler	✓	