

Each physical hard disk contains a "partition table" – which is represented by the little 4 line grid in Figure 6. Each partition corresponds to one line in the grid. We also have a "flag" in the hard disk to tell us what the particular partition is. For example, the flag might be set to indicate that the first partition is an MS-DOS partition, while the second partition might be flagged to say it is a Windows XP partition.

The four partitions above are the "primary partitions". Each physical hard disk in the market can only accommodate four primary partitions. We will later look at the concept of extended partitions which allow you to extend this structure to an unlimited number of partitions.

1.3 Why Use Partitions?

Why set up partitions at all? Well, there are specific reasons why folks might want to set up partitions in a computer. Let's look at some of them now.

1.3.1 Organize Your Data



Firstly, setting up partitions allows you to better organize your data. Take an example. If I set Partition 1 as my "system" partition, I can then install Windows onto that partition, but save all my user files (e.g. Word documents) into a second partition.

The advantage of this is that if anything happens to my Windows installation, I can just reformat and re-install my Windows operating system into the first partition. All my user data is still intact in the second partition.

Had I put everything in one partition, I'd have to manually copy out all my user files before wiping out the partition and re-installing Windows.

The other use of having multiple partitions in your hard disk is to help archive your data. Imagine you have a set of "working" documents and a set of documents you want to archived away. MP3 files that you listen to only once in a while are candidates for archival. What you might want to do from an organizational point of view is to move your working files into one partition, and less frequently used files to the archive partition.

1.3.2 Boost System Performance

In terms of boosting performance, partitions also provide an advantage. This is how it works for the Windows operating system. Windows allows you to specify a location for a "paging file" to be created in case you need to use the hard disk as an additional source of "memory". This kind of memory is called "paged memory" - a topic we will not get into here.



Suffice to say that if you have a separate partition specified as a location for the "paging file", you can get performance improvement, as opposed to specifying a location in the same partition you're using.

1.3.3 Run Multiple Operating Systems

If you want the convenience of having multiple operating systems running from one hard disk, or if you must have different operating systems to run specific applications, then partitions are the way to go.



For example, you might have four partitions, one running Windows Vista, one running Windows XP, one running Ubuntu Linux and a final partition to store user files.