

## Re: FAT32 v.s NTFS

**Source:**

[http://www.tech-archive.net/Archive/Win2000/microsoft.public.win2000.file\\_system/2004-06/0286.html](http://www.tech-archive.net/Archive/Win2000/microsoft.public.win2000.file_system/2004-06/0286.html)

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**From:** R. C. White (*RCWhite\_at\_msn.com*)

**Date:** 06/14/04

Date: Mon, 14 Jun 2004 11:27:57 -0500

Hi, Gary??

Who are you? Surely this is a spoof! Nobody actually from Seagate Technologies would spew such erroneous nonsense! You must be somebody spoofing Gary's name! ;>(

For authoritative information on Win2K and WinXP file systems, see this page from the online version of the WinXP Pro Resource Kit:

Size Limitations in NTFS and FAT File Systems

<http://www.microsoft.com/resources/documentation/Windows/XP/all/reskit/en-us/Default.asp?url=/resources/docume>

Note that the limitations are based on the FILE system, not the operating system, so there are little or no differences between Win2K and WinXP in this regard.

- > *FAT, 16 or 32, is severely limited in growth; note that 2000 and*
- > *above will not allow you to create a single 80 gig partition on an 80 gig*
- > *HDD.*

You can CREATE as large a partition as you like. Win2K/XP will not FORMAT a >32 GB volume as FAT32, but a larger partition can be formatted by another operating system (such as Win98, which will format at least 127 GB as FAT32) and Win2K/XP will happily use the whole thing.

- > *Above*
- > *1 gig your minimum cluster size is well over 32K.*

No, it's 4 KB; see this table in the RK, just before the page cited above (Sorry about OE's reformatting; see the web page for proper columns.):

Table 13.4 Default Cluster Sizes for Volumes with Windows XP Professional File Systems

Volume Size	FAT16 Cluster Size	FAT32 Cluster Size	NTFS Cluster Size
7 MB–16 MB	2 KB	Not supported	512 bytes
17 MB–32 MB	512 bytes	Not supported	512 bytes

33 MB–64 MB 1 KB 512 bytes 512 bytes  
65 MB–128 MB 2 KB 1 KB 512  
bytes  
129 MB–256 MB 4 KB 2 KB 512 bytes  
257 MB–512 MB 8 KB 4 KB 512 bytes  
513 MB–1,024 MB 16 KB 4 KB 1 KB  
1,025 MB–2 GB 32 KB 4 KB 2 KB  
2 GB–4 GB 64 KB 4 KB 4  
KB  
4 GB–8 GB Not supported 4 KB 4 KB  
8 GB–16 GB Not supported 8 KB 4 KB  
16 GB–32 GB Not supported 16 KB 4 KB  
32 GB–2 terabytes Not supported Not supported(1) 4 KB

1 Windows XP Professional formats FAT32 volumes up to 32 GB regardless of cluster size. To format volumes larger than 32 GB, you must use NTFS. However, Windows XP Professional can mount FAT32 volumes larger than 32 GB that were created by other operating systems.

> *Multi gig HDDs rapidly give you cluster  
> sizes of 1 meg.*

Ridiculous! See the table above.

> *NTFS provides cluster sizes closer to what the HDD is actually using ...  
> typically 512 bytes.*

Only for HDDs smaller than .5 GB. For all volumes larger than 2 GB, the default cluster size in NTFS is 4 KB. See the table above.

RC

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Microsoft Windows MVP

"Gary G. Little" <gary.g.little.nospam@seagate.com> wrote in message  
news:sGhzc.4649\$%N6.1442@newssvr24.news.prodigy.com...

> With more and more systems being sold without floppies, making boot  
> floppies  
> is rapidly becoming archaic, and a "if God intended for us to walk on the  
> moon ...". FAT, 16 or 32, is severely limited in growth; note that 2000  
> and  
> above will not allow you to create a single 80 gig partition on an 80 gig  
> HDD.  
>  
> Also realize that file sizes are extremely bloated in any FAT system.  
> Above  
> 1 gig your minimum cluster size is well over 32K. A cluster is the MINIMUM  
> amount of data that the file system will transfer to and from the disc,  
> regardless of how big the file is. Multi gig HDDs rapidly give you cluster  
> sizes of 1 meg. That's fine if you are dealing with a database of audio or  
> video, but if you're dealing with smaller bits of data such as a customer  
> database, you can easily end up with data-throughput times well into the

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> milliseconds because your waiting on a 40 byte record that is contained in  
> a  
> 2 meg cluster.  
>  
> NTFS provides cluster sizes closer to what the HDD is actually using ...  
> typically 512 bytes. I've seen from 30% to a 50% increase in free space  
> simply by formatting for NTFS. Throughput increased even more remarkably.  
>  
> --  
> Gary G. Little  
> Seagate Technologies, LLC  
>  
> "Leonard" <t.d.c@sbcglobal.net> wrote in message  
> news:1b45e01c44fc1\$767f6780\$a101280a@phx.gbl...  
>> It has been my philosophy to set up systems in FAT32  
>> rather than NTFS. Main reasons:  
>> 1: Losing the boot files under NTFS is goodbye data while  
>> under FAT you can boot to a floppy.  
>> 2: When encountering an 'undeletable' virus corrupted file  
>> under NTFS one is basically out of luck. Under FAT32 I  
>> have yet to find a file I cannot delete after booting to a  
>> floppy.  
>>  
>> An experienced friend tells me that, aside from the  
>> security features, Windows 2000 or XP may not work properly  
>> when set up in FAT32. So far I have never found a problem  
>> and have 'been around' for 'a few' years (since the  
>> 8088's).  
>>  
>> I will appreciate any and all feedback on this difference  
>> of opinion.  
>>  
>> Thanks,  
>> Leonard