eview by Pete Burkindine

PlusMaker

PlusMaximizer

Title: PlusMaker/Maximizer
Version: PlusMaker: 1.0.0
                      PlusMaximizer: 1.0.0
Developer: Alsoft, Inc.
Publisher: Alsoft, Inc.
Price: $29.95 each, or $39.95 bundled (from Alsoft)
Contact Info: http://www.alsoftinc.com/
Genre: Utility
Requirements: MacOS 8.1 or later, any disk larger than 8 MB, 600k free
                      RAM, 68040 Macintosh or better, and a bootable
OS 8.1 CD or
                      partition other than the drive you are working
on.

verview

For several months before the release of Mac OS 8.1, there was a significant
industry buzz over Apple's new file system, HFS Plus (or HFS+). HFS Plus
was designed to eliminate many of the flaws of the aged Hierarchical File
System (HFS, Apple's original file system, which was designed in and has
gone without much modification since 1986), and simultaneously leapfrog

the competition (Windows 95's FAT16 and FAT32) in speed, features and ease of use. Its features include support for very long file names (up to 255 Unicode characters), support for very large files (larger than 2 GB), and tiny block allocation sizes (as small as 0.5 kilobytes — more on this later).

Although Mac OS users probably wouln't see support for some of the enhancements, long file names in particular, until the next major release of the Mac OS, they can take advantage of HFS Plus's small allocation block sizes with Mac OS 8.1. Why is this important? Under HFS, a hard drive could only be divided into 2^16 blocks in which to store files. This meant that no disk could ever hold more than 65, 536 files. It also meant that, on large disks and disks with lots of small files, huge amounts of space were being wasted. That's because, on a 2 GB hard disk, each of those 2^16 pieces is nearly 32 kilobytes in size! Since any part of a file claims an entire allocation block to itself, whether it fills it or not, a lot of space was being wasted by small files (fonts, aliases, icons, text files, etc.) which claimed only a small portion of this large allocation block.

Under HFS Plus, however, the disk can be divided into as many as 4.29 BILLION pieces. With an allocation block size of as little as 0.5 kilobytes, small files waste a lot less space. This means a 2GB HFS Plus volume will often have as much as TWICE as much space.

So, where do PlusMaker and PlusMaximizer come in to this picture? When HFS Plus was first announced, dread filled millions of Mac users. They wanted to take advantage of these great leaps in file management, but they couldn't re-initialize their hard drive! They had no way to back it up, and it was their only one! What were they to do?

PlusMaker is the answer. This small application converts your existing hard drive from HFS to HFS Plus without erasing a single file. It uses the smallest block size possible, 0.5 kilobytes. It also fixes minor hard drive problems and warns you of more serious issues.

PlusMaximizer, on the other hand, is a tiny extension that adds "Mac OS Maximized" to the Erase Disk options. This allows you to force any disk to use the smallest possible allocation block size: 0.5 kilobytes. If you didn't do this, large disks would have slightly larger block sizes (any disk over 1 GB would have a 4 kilobyte block size, which is still quite small).

PlusMaker

PlusMaker proved somewhat challenging to work correctly, but the program

is extremely helpful in this process. You will need two things: an unlocked floppy containing PlusMaker (Alsoft's floppy is good, just make sure it's not locked), and a Mac OS Boot CD (preferably an OS 8.1 Boot CD) or a separate boot drive/partition. You can NOT run PlusMaker from the hard disk you are trying to convert, nor can you boot from that drive. Also, be aware that a 68040 can not start from an HFS Plus disk (you can still convert other partitions, but the boot disk must be HFS unless you have a PowerPC).

Once you have booted from another volume, and the PlusMaker diskette is in the floppy drive, run PlusMaker from its folder on the diskette. One of the best things about PlusMaker is its extensive error checking. It simply will not let you run the conversion incorrectly. The error messages it puts up are very informative, and you should be able to understand them without any trouble. Once you have everything ready for the conversion, you will see this screen:

he Graph button will show you how much more efficient your storage will be in HFS Plus, and the Convert button will start the process of converting the disk. Once you've hit convert, go out for coffee. It's a lengthy process — PlusMaker does numerous disk tests, optimizes and repairs (if necessary) the disk directory, and then begins the long conversion. You will be asked a few questions near the end, but overall there is very little interaction after the process has begun.

According to Alsoft, the program does its job in such a way that, even in the event of a power outage or stampeding cattle, you will not lose data. I

cannot personally vouch for this, as my conversion went flawlessly, but it is nice to know. I converted a 2.4 GB Quantum internal hard drive and recovered nearly 600 MB of free space. Nice!

My only real issue with this program, and the reason for the 0.5 star deduction in my star rating, is that it causes (but does not fix) severe disk fragmentation. The more small files on your disk, the worse the fragmentation will be, and that means a performance hit for disk activity. Until we see a new release of Norton Utilities or Alsoft Inc.'s own Disk Express Pro (both expected in the next few months), there is no way to fix this fragmentation. However, one must ask themself if it isn't it worth it to double the amount of free space on your hard drive?

The program is very user friendly, attractive, and helpful. Like so many great products over the years, using PlusMaker made me realize what a powerful machine I have on my desk. Can any other platform mix wonderful functionality with an eloquent interface so consistently?

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PlusMaximizer is decidedly less impressive than PlusMaker. It's very simple to install — simply copy the extension from the floppy into your System folder. It does only one thing, and the usefulness of this one thing is entirely up for debate:

n addition to the Mac OS Standard and Mac OS Extended formatting options available when erasing a disk under Mac OS 8.1, the user can now choose Mac OS Maximized from the list. This choice, which will cost you $29.95, will format your drive into 0.5 kilobyte HFS Plus blocks. Why would anyone need this? Well, on any disk bigger than a single gigabyte, the Mac OS Extended option will format into 4 whopping kilobytes per block,

sarcasm intended.

The advantages of such a small block size? On a disk with a lot of small files, enormous. I gained about 200 megabytes when moving my web documents partition onto a PlusMaximizer-ized disk. However, unless you deal largely in the tiny (web documents, programming files, icon files, etc.), the savings are generally quite minimal (less than 20 megabytes on my system partition, and virtually no savings on my big files partition). There is one more advantage to PlusMaximizing a disk — the amount of files you can fit on a disk would, in theory, quadruple. However, this is, again, only true if all of the files on the disk are smaller than 0.5 kilobytes (and that's unusual even for small files).

To summarize, I simply can't recommend buying PlusMaximizer unless you have a lot of small files and a big sense of "anality."

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I was and remain very impressed by PlusMaker. Before my recent CD-R purchase, I was one of the thousands of Mac owners that didn't have a way to back up my files. Thus, I couldn't erase my disk to take advantage of HFS Plus. I looked sadly at my options: borrow a drive from a friend, buy a LOT of floppies, or tough it out and get out ALL of my installers. Then, I saw PlusMaker (bright lights, heavenly music, etc.) and I was heeeaaled, my brothers! Well, that's too much, but it is a great program and a lifesaver.

PlusMaximizer? Eh. Not so much. I may be anal, but I'm not THAT anal. I will get by without those fractions of a kilobyte I may or may not be wasting.

On a more personal note, I am very happy to be on staff, and I look forward to filling your minds with drivel each and every month. Cheers!

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