Why does the Recycle Bin have different file system names on FAT and NTFS?

devblogs.microsoft.com/oldnewthing/20060131-00

January 31, 2006

Raymond Chen

On FAT drives, the directory that stores files in the Recycle Bin is called `C:\RECYCLED`, but on NTFS drives, its name is `C:\RECYCLER`. Why the name change? The FAT and NTFS Recycle Bins have different internal structure because NTFS has this thing called "security" and FAT doesn't. All recycled files on FAT drives are dumped into a single `C:\RECYCLED` directory, whereas recycled files on NTFS drives are separated based on the user's SID into directories named `C:\RECYCLER\S-...`. (It has nothing to do with whether you are running English or Swedish Windows.) Suppose the same directory name were used for both file systems, say, `C:\RECYCLED`. Since it is possible to upgrade a FAT drive to an NTFS drive with the `CONVERT` utility, this means that a FAT drive converted to NTFS would have a FAT-style Recycle Bin after the conversion. But since the names are the same, the Recycle Bin says, "Hey, look, here's a `C:\RECYCLED` directory. That must be my NTFS Recycle Bin!" except that it isn't. It's a FAT Recycle Bin left over from the conversion. Giving the NTFS Recycle Bin a different name means that the Recycle Bin shell folder won't get confused by the "wrong" type of recycle bin directory structure on an NTFS volume. Yes, the problem could have been solved some other way. For example, there could have been code to inspect the Recycle Bin directory to determine what format it is and ignore it if it didn't match the actual file system. (Or, if you're feeling really ambitious, somehow convert from one format to the other.) But that would be over-engineering. You have to write and test the detection (and possibly conversion) code, there's the risk of a false-positive, the code runs at every boot, and it needs to be maintained whenever either the FAT or NTFS recycle bin format changes. All for a scenario that happens at most once per drive.

Or you could change one text string and be done with it. (I could make some really awful "Gordian knot"/"string" remark here but will refrain.)

Raymond Chen

Follow