The Old New Thing

Why do my file properties sometimes show an Archive check box and sometimes an Advanced button?

19 Feb 2009 10:00 AM | **18**

When you view the properties of a file and go to the General page, there are some check boxes at the bottom for file attributes. There's one for *Read-only* and one for *Hidden*, and then it gets weird. Sometimes you get *Archive* and sometimes you get an *Advanced* button. What controls which one you get?

It depends on whether there is anything interesting in the Advanced dialog.

If the volume supports either compression or encryption (or both), then you will get an *Advanced* dialog with check boxes for *Archive*, *Compress* and *Encrypt*. On the other hand, if the volume supports neither compression nor encryption, then you will just get an *Archive* check box, since it looks kind of silly having an *Advanced* button that shows you a dialog box with just one check box on it. (Note that these features can also be disabled by group policy, so it's not purely a file system decision.)

In Windows, the most commonly encountered file system that does not support compression or encryption is probably FAT, and the most commonly encountered one that does is almost certainly NTFS, so in a rough sense, you can say that FAT gives you an *Archive* check box and NTFS gives you an *Advanced* button.

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Comments

SelArom
19 Feb 2009 1:26 PM
#

interesting... but I've always wondered, what exactly does archive mean or do?

xix
19 Feb 2009 1:42 PM
#

As I understood it, it doesn't mean or do anything on its own. It is just a flag that other programs can look at and decide what to do. So two files exist, one marked archive, the other not, so a backup program will only backup the one marked archive. But as far as I know nothing enforces that convention.

A. Skrobov
19 Feb 2009 1:48 PM
#

Each time a file is written to, the archive bit is set.

Mike Dimmick
19 Feb 2009 1:57 PM
#

The combination of A. Skrobov and xix's answers provide the full answer: the OS sets the Archive flag when a file is written to. The backup program clears the flag on a full or incremental backup. When asked for a differential or incremental backup, the backup program simply backs up those files with the archive flag checked.

Say I have:

A.txt

B.txt

C.txt

A full backup is made on Monday, clearing the flags. I edit B.txt on Tuesday, and C.txt on Wednesday. A differential backup on Tuesday backs up B and leaves the archive flag set. A differential backup on Wednesday backs up B and C.

If I use incremental backups instead, Tuesday's backup backs up B, and clears its flag, so an incremental backup on Wednesday only sees that C has been changed and backs it up.

More sophisticated backup programs might use NTFS' change journal to detect changes since a given date, as the modified timestamp of a file can be fiddled using the SetFileTime function (commonly done when mirroring files from one location to another).

Someone You Know
19 Feb 2009 3:19 PM
#

It's an unfortunate choice of name, then, since it looks like it's being used as a verb (i.e., it means "Archive this", not "This is an archive") while the other attributes are descriptive.

[*It doesn't even mean "this is an archive". It means "archive needed." Unfortunately, the name was chosen in 1981 and we're stuck with it. -Raymond*]

configurator
19 Feb 2009 6:37 PM
#

"Unfortunately, the name was chosen in 1981 and we're stuck with it" - why can't you change it to "Archive need" or something else that contains the word "Archive" (to avoid confusion)? It's only a UI bit, isn't it?

[*The thing is, nobody uses it for its original purpose any more. Backup programs nowadays use other mechanisms to decide when a file needs to be backed up. It's just some leftover goo like the* `GlobalFlags` *function. -Raymond*]

Slackmaster K
19 Feb 2009 7:17 PM
#

So why not just include the Compressed and Encrypted checkboxes in the properties dialog and disable the ones that aren't supported?

[*Users don't want to play a text adventure game. -Raymond*]

Anonymous Coward
20 Feb 2009 4:44 AM
#

Hi Raymond. I have two little questions...

1) If the archive flag works as advertised, why isn't it used anymore? It certainly sounds like the most reliable option: just check if the file has been written to. That doesn't exclude having a blacklist for files you don't want to backup, but checking if it has been written to certainly seems like a good idea, does it not?

2) Why does the dialog box display an Advanced... button and sufficient blank space for four checkboxes instead of four checkboxes in the most commonly encountered scenario?

Florian
20 Feb 2009 6:56 AM
#

@Anonymous Coward: The archive flag isn't the most reliable thing. What happens if there is more than one backup program? The first program makes a backup and clears the flag, and the second program thinks that the file already has a backup.

A much more reliable feature to make backups work is the "Last modified" timestamp.

dave
20 Feb 2009 8:46 AM
#

re: Users don't want to play a text adventure game.

Well, like most topics in UI design, it's a matter of opinion which approach will take them into the twisty little passages.

My own take on this is that I like UIs to stay the same. Thus, if some of my file system property sheets have a button labelled 'advanced', I want them all to have that. (I don't

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like my twisty little passages to be all different).

Furthermore, if there are file system features that are generally applicable but not in this particular case, I want to see them present in the UI but tagged as inapplicable, not entirely absent.

The reason is that, if I don't see something I have seen before, then my first reaction is not 'oh, this filesystem does not have that feature', but 'damn, I must have forgotten where that shows up in the UI'.

'Button not present' does not have an easily intuitable meaning. I find it unclear whether it's omitted for a good reason, or omitted because I'm looking in the wrong place again.

This is the reason, by the way, that I always disable the 'personalized menus' options, which hides things I don't much use - the very things whose location is likely to slip my memory.

Marc
20 Feb 2009 9:41 AM
#

The name is pretty clear in XP, it says "File is ready for archiving" in the under the advanced button. Seems clear ti me. Only when the checkbox appears might someone be confused.

John Elliott
20 Feb 2009 10:50 AM
#

Like many things in DOS, the file attributes originally come from CP/M. More or less; "Read-Only" came across, but "System" got split into "Hidden" and "System".

The odd thing is, there's also an Archive attribute in CP/M, but it works the other way round; it gets set by the backup utility when the backup is made, and cleared when the file is written to.

Yuhong Bao
20 Feb 2009 2:18 PM
#

"So why not just include the Compressed and Encrypted checkboxes in the properties dialog and disable the ones that aren't supported?"

Indeed, in NT 4, which did not have EFS or the Advanced dialog, the Compressed flag was just a checkbox on the Properties dialog.

Friday
20 Feb 2009 2:54 PM

#

Experiments have shown?! (in the linked article "When do you disable an option and when do you remove it?")

Like those experiments from office CEIP that every normal person turns them off?

I will show you more experiments where users don't want their start menu changed. I doubt it'll stop you (you as in Microsoft) from tossing Classic Start Menu. Yes, I'm upset with that.

Slackmaster K
20 Feb 2009 11:58 PM
#

@Raymond: Read your response, thanks. But...

So why not just include the Compressed and Encrypted checkboxes in the properties dialog and set visible=False for the ones that aren't supported?

[*"... it looks kind of silly having an Advanced button that shows you a dialog box with just one check box on it." -Raymond*]

Leo Davidson
21 Feb 2009 6:58 AM
#

I think Slackmaster K was suggesting getting rid of the Advanced dialog/button completely.

i.e. Move all of the checkboxes to the main Properties sheet and only show the ones which apply to the filesystem in question.

There does seem to be plenty of empty space for additional checkboxes on the General tab, assuming the rest of the Advanced Attributes dialog is considered gratuitous and not carried over. (The group boxes and icon "flesh out" the Advanced dialog but don't serve any purpose. The grouping is arbitrary and the group titles just re-state the checkbox names.)

If it's still desirable to hide the "advanced" checkboxes from people by default then the Advanced button could be turned into something which shows/hides the extra checkboxes. That's usually preferable to a child dialog and is used in some other parts of the shell, FWIW.

[*Actually, there's no room, because there is space reserved for the "This file came from another computer..." text if applicable. -Raymond*]

Leo Davidson
21 Feb 2009 6:44 PM
#

[Actually, there's no room, because there is space reserved for the "This file came from another computer..." text if applicable. -Raymond]

Ah, fair enough. I see that so rarely I forgot it was there.

Personally, then, I'd move the attributes stuff to a dedicated tab, but it's not that important in the grand scheme of things.

DWalker
23 Feb 2009 3:43 PM
#

Some backup programs let you decide what criteria to use for backing up files. Those that do, as far as I have seen, always let you use the Archive flag as one of the possible criteria for backing up files.

So, your backup program of choice might be perfectly happy using the Archive flag for its original intended purpose.