

Re: Linux syscalls

Source: <http://coding.derkeiler.com/Archive/Assembler/alt.lang.asm/2004-06/0187.html>

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Robert Redelmeier wrote:

> *I think it's _much_ more complex than that.*
> *My work MS-Win2k system C:\ shows [in part]:*
>
> *-rwxrwxrwx 1 user 0 Apr 9 2003 AUTOEXEC.BAT*
> *-rw-rw-rw- 1 user 0 Apr 9 2003 CONFIG.SYS*
> *-r--r--r-- 1 user 0 Apr 9 2003 IO.SYS*
> *-r--r--r-- 1 user 0 Apr 9 2003 MSDOS.SYS*
> *-r-xr-xr-x 1 user 34724 May 24 07:14 NTDETECT.COM*
> *drwxrwxrwx 1 user 0 Apr 27 12:56 System Volume*
Information
> *drwxrwxrwx 1 user 0 May 26 06:58 WINNT*
> *-r-xr-xr-x 1 user 150528 Jul 21 2002 arcldr.exe*
> *-r-xr-xr-x 1 user 163840 Jul 21 2002 arcsetup.exe*
> *-r--r--r-- 1 user 192 Apr 27 12:50 boot.ini*
> *-r--r--r-- 1 user 214432 May 24 07:14 ntldr*
>
> *The 0 size files are one I don't have priv's to read,*
> *but the first 4 look very much like MS-DOS.*

Ah, some of these files are retained purely for "backwards compatibility" with earlier DOS and Windows 3.x programs..."AUTOEXEC.BAT" and "CONFIG.SYS" certainly aren't needed because there are `_registry_` entries corresponding to their purposes...

And, under Win9x, I think that one of the files – "MSDOS.SYS", if I recall correctly – is just a plain text file that says something along the lines of: "This text is padding out the file size to xxxx bytes for compatibility reasons"...it's not a real file anymore but a "dummy" to keep the older applications happy, should they go looking for the files...

"System Volume Information" (normally a hidden file) is all to do with filesystem management...nothing to do with the booting process but just the "container file" for, well, "system volume information" as it suggests...and, interestingly – at least under XP – not even the most privileged "root" superuser (well,

not necessarily actually called "root" under Windows but the equivalent ;) is able to look into the "system volume information"...so more information about this would likely have to come from NTFS documentation (and, if Microsoft are gathering up information to send to the CIA – as sometimes alleged – then it's probably in here that they'd "hide" that because Windows itself gives `_NO_` user (not even the superuser) the rights to look into this directory)...

> *It also looks very much like ``ntldr`` is an MS-DOS `*.COM` file.*

"ntldr", as its mnemonical name suggests, is the actual "NT loader"...and, yeah, it's a ".com" file in the sense that it's just a raw binary file that the bootsector loads and executes...

> *From what I've seen reading websites on the matter (but, indeed, goodness knows how reliable this actually is, in some cases ;), NTLDR actually does the "bootmenu" by reading BOOT.INI and then actually proceeds to do the actual kernel booting..*

> *But I don't pretend to be an MS-WinNT expert.*

Neither do I...but, for sure, those "0 byte" files you're looking at there don't actually do anything but sit there for "backwards compatibility" (I've seen this mentioned in a number of places, including in one of the older Win9x versions where the "MSDOS.SYS" file literally is a plain text file and explicitly states that it serves no purpose but "backwards compatibility" in the file itself ;)...

Under Win98, I think it was (any Win98 users around to verify this? It was one of the earlier Windows versions, for sure, as I read it out of the file itself directly with Notepad...I just can't remember which version exactly...but Win98 is triggering my "Spidey sense" more than any other Windows, that I'll stick my neck out in trying to recall that it's Win98 ;), you could open up "MSDOS.SYS" (which was bigger than 0 bytes on this earlier version...NT literally has it as a "placeholder" that it's not even got anything in it at all...not even a byte...but pop in so that older programs looking for the files will find the entries...remembering that older DOS applications often `_automatically_` would edit your AUTOEXEC.BAT and CONFIG.SYS as part of program installation...well, they can do so with these "dummy files", if they really want, because they don't do anything useful :) in Notepad and it's just a plain text file with some stupid message about "this file needs to be at least xxxx bytes in size for compatibility reasons"...nothing else useful in it, though...a 100% "dummy" file, just so that if any older 16-bit DOS / Windows programs look for "AUTOEXEC.BAT", "CONFIG.SYS" and that kind of thing then they find the files...but the files don't actually do anything anymore...they

are replaced by registry entries instead (which also makes logical sense from the perspective that "AUTOEXEC.BAT" is a _system-wide_ _single user_ form of "login script" but NT is multi-user that, in fact, it looks under "HKEY_CURRENT_USER" for the specific settings for the "current user"...NT doesn't work that way anymore but keeps the files around just for "backwards compatibility")...

Beth :)