Note: This API call is for DOS and Win16 personality only. Use Family API for portability.

2018/09/07 05:04 · prokushev · 0 Comments

Int 21H, AH=0FH

Version

1 and higher

Brief

OPEN FILE USING FCB

Family API

DosOpen

Input

```
      AH = 0Fh
      DS:DX -> unopened File Control Block (see #01345,#01346)
```

Return

AL = status

- 00h successful
- FFh file not found or access denied

Notes

Notes: (DOS 3.1+) file opened for read/write in compatibility mode

```
      an unopened FCB has the drive, filename, and extension fields filled
        in and all other bytes cleared
```

```
      not supported by MS Windows 3.0 DOSX.EXE DOS extender
      DR DOS checks password attached with AX=4303h
      (FAT32 drive) this function will only succeed for creating a volume
        label; FAT32 does not support FCBs for file I/O
```

BUG: APPEND for DOS 3.3+ corrupts DX if the file is not found

Format of File Control Block: Offset Size Description (Table 01345) 00h BYTE drive number (0 = default, 1 = A, etc)

```
              FFh is not allowed (signals extended FCB, see #01346)
```

01h 8 BYTEs blank-padded file name 09h 3 BYTEs blank-padded file extension 0Ch WORD current block number 0Eh WORD logical record size 10h DWORD file size 14h WORD date of last write (see #01666 at AX=5700h) 16h WORD time of last write (see #01665 at AX=5700h) (DOS 1.1+) 18h 8 BYTEs reserved (see #01347,#01348,#01349,#01350,#01351) 20h BYTE record within current block 21h DWORD random access record number (if record size is > 64 bytes, high

```
                byte is omitted)
```

SeeAlso: #01346

Format of Extended File Control Block (XFCB): Offset Size Description (Table 01346) 00h BYTE FFh signature for extended FCB 01h 5 BYTEs reserved 06h BYTE file attribute if extended FCB 07h 36 BYTEs standard FCB (all offsets are shifted by seven bytes) SeeAlso: #01246

Format of FCB reserved field for DOS 1.0: Offset Size Description (Table 01347) 16h WORD location in directory (if high byte = FFh, low byte is device

```
                ID)
```

18h WORD number of first cluster in file 1Ah WORD current absolute cluster number on disk 1Ch WORD current relative cluster number within file

```
              (0 = first cluster of file, 1 = second cluster, etc.)
```

1Eh BYTE dirty flag (00h = not dirty) 1Fh BYTE unused

Format of FCB reserved field for DOS 1.10-1.25: Offset Size Description (Table 01348) 18h BYTE bit 7: set if logical device

```
              bit 6: not dirty
              bits 5-0: disk number or logical device ID
```

19h WORD starting cluster number on disk 1Bh WORD current absolute cluster number on disk 1Dh WORD current relative cluster number within file 1Fh BYTE unused

Format of FCB reserved field for DOS 2.x: Offset Size Description (Table 01349) 18h BYTE bit 7: set if logical device

```
              bit 6: set if open???
```

```
              bits 5-0: ???
```

19h WORD starting cluster number on disk 1Bh WORD ??? 1Dh BYTE ??? 1Eh BYTE ??? 1Fh BYTE ???

Format of FCB reserved field for DOS 3.x: Offset Size Description (Table 01350) 18h BYTE number of system file table entry for file 19h BYTE attributes

```
              bits 7,6: 00 = SHARE.EXE not loaded, disk file
                        01 = SHARE.EXE not loaded, character device
                        10 = SHARE.EXE loaded, remote file
                        11 = SHARE.EXE loaded, local file or device
              bits 5-0: low six bits of device attribute word
```

—SHARE.EXE loaded, local file— 1Ah WORD starting cluster of file on disk 1Ch WORD (DOS 3.x) offset within SHARE of sharing record

```
                (see #01637 at AH=52h)
```

1Eh BYTE file attribute 1Fh BYTE ??? —SHARE.EXE loaded, remote file— 1Ah WORD number of sector containing directory entry (see #01352) 1Ch WORD relative cluster within file of last cluster accessed 1Eh BYTE absolute cluster number of last cluster accessed 1Fh BYTE ??? —SHARE.EXE not loaded— 1Ah BYTE (low byte of device attribute word AND 0Ch) OR open mode 1Bh WORD starting cluster of file 1Dh WORD number of sector containing directory entry (see #01352) 1Fh BYTE number of directory entry within sector Note: if FCB opened on character device, DWORD at 1Ah is set to the address

```
      of the device driver header, then the BYTE at 1Ah is overwritten.
```

SeeAlso: #01646

Format of FCB reserved field for DOS 5.0: Offset Size Description (Table 01351) 18h BYTE number of system file table entry for file 19h BYTE attributes

```
              bits 7,6: 00 = SHARE.EXE not loaded, disk file
                        01 = SHARE.EXE not loaded, character device
                        10 = SHARE.EXE loaded, remote file
                        11 = SHARE.EXE loaded, local file or device
              bits 5-0: low six bits of device attribute word
```

—SHARE.EXE loaded, local file— 1Ah WORD starting cluster of file on disk 1Ch WORD unique sequence number of sharing record 1Eh BYTE file attributes 1Fh BYTE unused??? —SHARE.EXE loaded, remote file— 1Ah WORD network handle 1Ch DWORD network ID —SHARE not loaded, local device— 1Ah DWORD pointer to device driver header (see #01646) 1Eh 2 BYTEs unused??? —SHARE not loaded, local file— 1Ah BYTE extra info

```
              bit 7: read-only attribute from SFT
              bit 6: archive attribute from SFT
              bits 5-0: high bits of sector number
```

1Bh WORD starting cluster of file 1Dh WORD low word of sector number containing directory entry

```
                (see #01352)
```

1Fh BYTE number of directory entry within sector

See also

AH=10h,AH=16h,AH=3Dh,AX=4303h

Note

Text based on Ralf Brown Interrupt List Release 61

DOS API	
Process manager	INT 20H, **INT 21H**: 00H, 25H, 26H, 31H, 34H, 35H, 4BH, 4CH, 4DH, 50H, 51H, 52H, 55H, 62H, INT 22H, INT 27H, INT 28H
File manager	INT 25H, INT 26H, **INT 21H**: 0DH, 0EH, 0FH, 10H, 11H, 12H, 13H, 14H, 15H, 16H, 17H, 19H, 1AH, 1BH, 1CH, 21H, 22H, 23H, 24H, 27H, 28H, 29H, 2EH, 2FH, 32H, 3305H, 36H, 39H, 3AH, 3BH, 3CH, 3DH, 3EH, 3FH, 40H, 41H, 42H, 4300H, 4301H, 45H, 45H, 46H, 4EH, 4FH, 54H, 56H, 5700H, 5701H, 5AH, 5BH, 5c00H, 5c01H, 60H, 67H, 68H, 6900H, 6901H, 6AH, 6CH
Character Device I/O	INT 29H, **INT 21H**: 01H, 02H, 03H, 04H, 05H, 06H, 07H, 08H, 09H, 0AH, 0BH, 0AH, 0CH, 5D07H, 5D08H, 5D09H, 5D0AH
Signals	INT 23H, INT 24H, **INT 21H**: 3300H, 3301H, 3302H
Memory manager	**INT 21H**: 48H, 49H, 4AH, 5800H, 5801H, 5802H, 5803H
Date and Time	**INT 21H**: 2AH, 2BH, 2CH, 2DH
Misc	**INT 21H**: 30H, 3306H, 3700H, 3701H, 3702H, 3703H, 59H
NLS	**INT 21H**: 3303H, 3304H, 3800H, 3801H, 6300H, 6301H, 6301H, 6500H, 6501H, 6502H, 6503H, 6504H, 6505H, 6506H, 6507H, 6520H, 6521H, 6522H, 6523H, 65A0H, 65A1H, 65A2H, 6601H, 6602H
Devices	**INT 21H**: 4400H, 4401H, 4402H, 4403H, 4404H, 4405H, 4406H, 4407H, 4408H, 4409H, 440AH, 440BH, 440CH, 440DH, 440EH, 440FH, 4410H, 4411H, 53H
Network	**INT 21H**: 5E00H, 5E01H, 5E02H, 5E03H, 5E04H, 5E05H, 5F00H, 5F01H, 5F02H, 5F03H, 5F04H, 5F05H, 5F07H, 5F08H
osFree Macro Library	
Video I/O	@SetMode @SetCurSz @SetCurPos @GetCur @SetPage @ScrollUp @ScrollDn @Scroll @GetChAtr @PutChAtr @PutCh @SetPalet @SetColor @SetDot @GetDot @WrtTTY @VideoState @GetMode @GetDisplay @GetVideoState @GetEGAInfo @Cls
Hardware info	@Equipment @MemSize
Serial I/O	@AuxInit @AuxSendChar @AuxRecieveChar @AuxStatus
Tape I/O	@TapeOn @TapeOff @TapeRead @TapeWrite
Keyboard I/O	@KbdStatus @CharIn @CharPeek
Printer I/O	@PrnPrint @PrnInit @PrnStatus
Disk I/O	@DskReset @DskStatus @DskRead @DskWrite @DskVerify @DskFormat
Date and Time	@SetTime @GetTime

osFree Macro Library	
Mouse	@MouInit @MouShowPointer @MouStatus @MouSetPos @MouSetMickey @MouRegion
Memory manager	@ModBlok SET_BLOCK

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Family API		
DOS	Process Manager	DosBeep DosExit DosSleep DosExecPgm
	File Manager	DosChDir DosChgFilePtr DosClose DosDelete DosDupHandle DosMkDir DosMove DosQCurDir DosQCurDisk DosSetFileMode DosOpen DosQFileInfo DosRead DosQFileMode DosQFSInfo DosQVerify DosRmDir DosSelectDisk DosFindClose DosFindFirst DosFindNext DosSetFileInfo DosSetVerify DosWrite DosFileLocks DosSetFHandState DosNewSize DosBufReset DosQFHandState DosSetFSinfo DosShutdown
	Memory Manager	DosFreeSeg DosSubAlloc DosSubFree DosSubSet DosAllocHuge DosAllocSeg DosReallocHuge DosReallocSeg DosGetHugeShift DosCreateCSAlias
	NLS	DosCaseMap DosGetCtryInfo DosGetDBCSEv DosSetCtryCode DosGetCollate DosGetMessage DosInsMessage DosPutMessage
	Date and Time	DosSetDateTime DosGetDateTime
	Devices	DosDevConfig DosDevIOCtl DosDevIOCtl2
	Signals	DosHoldSignal DosSetSigHandler
	Misc	BadDynLink DosGetEnv DosGetMachineMode DosGetVersion DosError DosErrClass DosSetVec
KBD		KbdCharIn KbdFlushBuffer KbdGetStatus KbdSetStatus KbdStringIn KbdPeek
VIO		VioGetBuf VioGetConfig VioGetCurPos VioGetCurType VioGetPhysBuf VioReadCellStr VioReadCharStr VioScrollUp VioScrollDn VioScrollLf VioScrollRt VioScrUnLock VioSetCurPos VioSetCurType VioSetMode VioGetMode VioShowBuf VioWrtCellStr VioWrtCharStr VioWrtCharStrAtt VioWrtNAttr VioWrtNCell VioWrtNChar VioWrtTTY VioScrLock VioPopUp
Tools		BIND
Modules		DOSCALLS.DLL VIOCALLS.DLL KBDCALLS.DLL MSG.DLL
Libraries		API.LIB OS2386.LIB FAPI.LIB DOSCALLS.LIB SUBCALLS.LIB

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