Nasty gotcha: STGM_READ | STGM_WRITE does not grant read/write access

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You might think that if you want to get read/write access, you could pass `STGM_READ | STGM_WRITE`. You would be wrong. You have to pass `STGM_READWRITE`. The three flags `STGM_READ`, `STGM_WRITE`, and `STGM_READWRITE` are mutually exclusive. If you try to combine them, you get a weird mess. In particular, since the numerical value of `STGM_READ` is zero, passing `STGM_READ | STGM_WRITE` is numerically equivalent to passing `STGM_WRITE`, which grants write-only access. The documentation for the `STGM_*` constants specifically says "It is not valid to use more than one element from a single group," and `STGM_READ` and `STGM_WRITE` belong to the Access group (as does `STGM_READWRITE`). These values date back to the days of MS-DOS, where function 3Dh (Open File) passed an access mode in the AL register.

7	6	5	4	3	2	1	0
0	0	0	0	0	access mode		

The bottom three bits specified the requested access (0 = read-only, 1 = write-only, 2 = read/write), and the remaining bits were reserved. Later, when networking support was added in approximately MS-DOS 3.5, three more bits were pressed into service:

7	6	5	4	3	2	1	0
0	share mode			0	access mode		

Sharing modes were 0 = compatibility mode, 1 = deny all, 2 = deny write, 3 = deny read, 4 = deny none.

These values were carried forward into Windows as flags to the `OpenFile` function:

Value	Description
OF_READ 0x00000000	Opens a file for reading only.
OF_WRITE 0x00000001	Opens a file for write access only.
OF_READ- WRITE 0x00000002	Opens a file with read/write permissions.
OF_SHARE- COMPAT 0x00000000	Opens a file with compatibility mode, allows any process on a specified computer to open the file any number of times.
OF_SHARE- EXCLUSIVE 0x00000010	Opens a file with exclusive mode and denies both read/write ccess to other processes.
OF_SHARE- DENYWRITE 0x00000020	Opens a file and denies write access to other processes.
OF_SHARE- DENYREAD 0x00000030	Opens a file and denies read access to other processes.
OF_SHARE- DENYNONE 0x00000040	Opens a file without denying read or write access to other processes.

These flags were then carried forward into the STGM constants with the same numerical values.

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