*smb\_dscnt* Number of data bytes being sent in this buffer.

*smb\_dsoff* Offset from the start of an SMB header to the data bytes.

smb\_dsdispByte displacement for these data bytes.smb\_fidValue = 0xffff. No FID in this request.smb\_bccTotal bytes following including pad bytes.

 $smb_data[]$  Data bytes (size =  $smb_dscnt$ ).

### Response Format

 $smb\_wct$  Value = 10.  $smb\_tprcnt$  Value = 2.

 $smb\_tdrcnt$  Value = 0. No data bytes.  $smb\_rsvd$  Reserved. Must be zero.

*smb\_prcnt* Value = 2. Parameter bytes being returned.

smb\_proff Offset from the start of an SMB header to the parameter bytes.

 $smb\_prdisp$  Value = 0. Byte displacement for these parameter bytes.

*smb\_bcc* Total bytes following including pad bytes.

smb\_param[] The parameter block for the TRANSACT2\_MKDIR function response is the

mkdir-specific return information in the following format:

Location Name Meaning
smb\_param[0-1] mkdir\_offerror Offset into FEALIST data of first error which occurred while setting the extended attributes.



# Appendix A SMB Transmission Analysis

#### A.1 Introduction

This appendix describes the mapping between DOS and OS/2 system calls on an SMB redirector, and the associated SMB requests sent from the SMB redirector to an LMX server. The DOS SMB redirector is assumed to be using the core SMB protocols, and the OS/2 SMB redirector is assumed to be using the LAN Manager extended SMB protocols. While an OS/2 SMB redirector will use core SMB requests to communicate with a core LMX server, and a DOS LAN Manager client will use extended SMB requests to communicate with an OS/2 server, these situations will not be considered here.

The mappings given here do not completely describe the behaviour of all SMB redirectors; they do not take into account various optimisations which SMB redirectors may do which will result in behaviour which differs from that described here. In particular, the extended SMB protocol contains a number of facilities which allow a redirector to improve performance. These include: SMB chaining, opportunistic locking, caching and various specialised SMB requests, such as Read Block Multiplex, Write Block Multiplex, Read Block Raw and Write Block Raw. Redirectors which make use of these facilities may not behave exactly as described here.

It should also be noted that the OS/2 SMB redirector and file system make extensive use of internal buffers and heuristics that make it difficult to determine an exact mapping between OS/2 API calls and SMB emissions. The listed API calls give an indication of which SMBs are sent when invoked, and where possible, an explanation is given regarding any special circumstances.

DOS and OS/2 system calls which are not listed here will not normally result in SMB requests being transmitted.



#### **A.2** DOS Functions

Function Number	DOS Function
0x00	Terminate Programme
0x05	Print Character
0x0d	Reset Disk
0x0f	Open File (FCB I/O)
0x10	Close File (FCB I/O)
0x11	Search For First Entry
0x12	Search For Next Entry
0x13	Delete File (FCB I/O)
0x14	Sequential Read (FCB I/O)
0x15	Sequential Write (FCB I/O)
0x16	Create File (FCB I/O)
0x17	Rename File (FCB I/O)
0x1b	Get Default Drive Data
0x1c	Get Drive Data
0x21	Random Read (FCB I/O)
0x22	Random Write (FCB I/O)
0x23	Get File Size (FCB I/O)
0x27	Random Block Read (FCB I/O)
0x28	Random Block Write (FCB I/O)
0x36	Get Disk Free Space
0x39	Create Directory
0x3a	Remove Directory
0x3b	Change Current Directory
0x3c	Create File Handle
0x3d	Open File Handle
0x3e	Close File Handle
0x3f	Read <b>V</b> ia File Handle
0x40	Write <b>V</b> ia File Handle
0x41	Delete Directory Entry
0x42	Move File Pointer
0x43	Set/Get File Attributes
0x4b	Load and Execute Programme/Load Overlay
0x4c	End Process
0x4e	Find First File
0x4f	Find Next File
0x56	Change Directory Entry
0x57	Set/Get Date/Time of File
0x5a	Create Temporary File Handle
0x5b	Create New File
0x5c	Unlock/Lock File
0x5f	Get Assign List Entry
0x68	Flush Buffer



Change Current Directory

Function number 0x3b.

SMB sent SMBchkpth.

Reason Change directory.

Change Directory Entry

Function number 0x56.

SMB sent SMBmv.

Reason Rename file.

Close File (FCB I/O)

Function number 0x10.

SMB sent SMBclose.

Reason Close file (FCB I/O).

Close File Handle

Function number 0x3e.

SMB sent SMBclose, SMBsplclose (printer device).

Reason Close file.

Create Directory

Function number 0x39.

SMB sent SMBmkdir.

Reason Make directory.

Create File (FCB I/O)

Function number 0x16.

SMB sent SMBcreate.
Reason Create file.

Create File Handle

Function number 0x3c.

SMB sent SMBcreate.
Reason Create file.



Create New File

Function number 0x5b.

SMB sent SMBmknew.
Reason Create file.

Delete Directory Entry

Function number 0x41.

SMB sent SMBunlink.
Reason Delete file.

Delete File (FCB I/O)

Function number 0x13.

SMB sent SMBunlink.

Reason Delete file (FCB I/O).

End Process

Function number 0x4c.

SMB sent SMBexit.

Reason Exit programme.

Find First File

Function number 0x4e.

SMB sent SMBsearch.

Reason Find first matching filename.

Find Next File

Function number 0x4f.

SMB sent SMBsearch.

Reason Find next matching filename.

Flush Buffer

Function number 0x68.

SMB sent SMBflush.
Reason Commit file.



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