[MS-FSA]: File System Algorithms

Errata below are for Protocol Document Version V24.0 – 2017/06/01.

Errata Published*	Description
2017/09/05	In Section 2.1.4.12, Algorithm to Check for an Oplock Break, the following bullet points were changed from: If Oplock is not empty and Oplock.State is not NO_OPLOCK: • If Flags contains PARENT_OBJECT: • If Operation is OPEN, as specified in section 2.1.5.1, or Operation is FLUSH_DATA, as specified in section 2.1.5.6, or Operation is CLOSE, as specified in section 2.1.5.4, or Operation is FS_CONTROL, as specified in section 2.1.5.9, and OpParams.ControlCode is FSCTL_SET_ENCRYPTION, or Operation is SET_INFORMATION, as specified in section 2.1.5.14, and OpParams.FileInformationClass is one of FileBasicInformation or FileAllocationInformation or FileEndOfFileInformation or FileRenameInformation or FileLinkInformation or FileShortNameInformation or FileValidDataLengthInformation: • Set BreakCacheLevel to (READ_CACHING|WRITE_CACHING). • EndIf Changed to: If Oplock is not empty and Oplock.State is not NO_OPLOCK: • If Flags contains PARENT_OBJECT<41>: • Set BreakCacheLevel to (READ_CACHING|WRITE_CACHING). <41> Section 2.1.4.12: Windows 2000 through Windows Server 2008 R2 do not perform any of the following checks because PARENT_OBJECT is never set in the Flags field so you will always take the ELSE statement to the SWITCH statement. Windows 8 and Windows Server 2012 will perform the following checks before the Switch(Operation) statement: • If Flags contains PARENT_OBJECT: • If Operation is OPEN, as specified in section 2.1.5.1, or Operation is FLUSH_DATA, as specified in section 2.1.5.6, or Operation is CLOSE, as specified in section 2.1.5.4, or Operation is FS_CONTROL, as specified in section 2.1.5.9, and OpParams.ControlCode is FSCTL_SET_ENCRYPTION, or Operation is SET_INFORMATION, as specified in section 2.1.5.14, and OpParams.FileInformationClass is one of FileBasicInformation or FileAllocationInformation or FileEndOfFileInformation or FileRenameInformation or FileLinkInformation or FileShortNameInformation or FileValidDataLengthInformation. • Set BreakCacheLevel to (READ_CACHING|WRITE_CACHING). • Else:

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	• Switch (Operation):
2017/08/07	In Section 2.1.5.17.1, Algorithm to Request an Exclusive Oplock, changed from: • EndIf • If Open.File.OpenList contains more than one Open whose Stream is the same as Open.Stream, and NO_OPLOCK is present in Open.Stream.Oplock.State, the operation MUST be failed with Status set to STATUS_OPLOCK_NOT_GRANTED. • If Open.Stream.IsDeleted is TRUE and RequestedOplock contains HANDLE_CACHING, the operation MUST be failed with Status set to STATUS_OPLOCK_NOT_GRANTED. Changed to: • If Open.File.OpenList contains more than one Open whose Stream is the same as Open.Stream, and NO_OPLOCK is present in Open.Stream.Oplock.State: • The operation MUST be failed with Status set to STATUS_OPLOCK_NOT_GRANTED. • EndIf • If Open.Stream.IsDeleted is TRUE and RequestedOplock contains HANDLE_CACHING: • The operation MUST be failed with Status set to STATUS_OPLOCK_NOT_GRANTED. • EndIf
2017/08/07	In Section 2.1.5.18, Server Acknowledges an Oplock Break, an endif was added. Changed from: • Else • // Note that because this oplock is being set up as part of an acknowledgement • // of an exclusive oplock break, Open.Stream.Oplock.ExclusiveOpen was set • // at the time of the original oplock request; it contains Open. • Set Open.Stream.Oplock.State to (RequestedOplockLevel|EXCLUSIVE). • This operation MUST be made cancelable by inserting it into CancelableOperations.CancelableOperationList. • This operation waits until the oplock is broken or canceled, as specified in section 2.1.5.17.3. Changed to: • Else • // Note that because this oplock is being set up as part of an acknowledgement • // of an exclusive oplock break, Open.Stream.Oplock.ExclusiveOpen was set • // at the time of the original oplock request; it contains Open. • Set Open.Stream.Oplock.State to (RequestedOplockLevel|EXCLUSIVE). • This operation MUST be made cancelable by inserting it into CancelableOperations.CancelableOperationList. • This operation waits until the oplock is broken or canceled, as specified in section 2.1.5.17.3. • EndIf
2017/08/07	In Section 2.1.4.12, Algorithm to Check for an Oplock Break, changed from:

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	• If Open equals Open.Oplock.ExclusiveOpen Changed to: • If Open equals Oplock.ExclusiveOpen
2017/07/12	In Section 2.1.5.21, Server Requests Setting Quota Information, changed from: The server provides: Open: An Open of a Quota Stream<153>. <153> The name of the quota file in the Windows environment is: $Extend\$Quota:$Q:$INDEX_ALLOCATION Changed to: The server provides: Open: An Open of a Quota Stream<153>. <153> The name of the quota file in the Windows environment is: $Extend\$Quota:$Q:$INDEX_ALLOCATION Opening the quota stream is only supported when the share is defined at the root of the volume.
2017/07/12	In multiple sections, product behavior notes were revised to address the FAT32 file system. For details on the changes, see the PDF Diff file at https://winprotocoldoc.blob.core.windows.net/productionwindowsarchives/MS-FSA/[MS-FSA]-170712-diff.pdf.

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