**AFPCommand** Pass an AFP command to the server

#include <AppleTalk.h> **AppleTalk Manager**

OSErr **AFPCommand(***xParamBlock, async***);**
XPPParmBlkPtr *xParamBlock*; address of an XPPParamBlock structure
Boolean *async*; 0=await completion; 1=immediate return
**returns** Error Code; 0=no error

The **AFPCommand** function can have one of the following formats:

- General

- Login

- AFPWrite

- AFPRead

## General Command Format

The general command format for the **AFPCommad** function passes an AFP command to the server. This format is used for all AFP calls except AFPLogin, AFPRead, and AFPWrite.

*xParamBlock* is a pointer to an XPPParamBlock structure. The relevant fields are as follows:

| Out-In | Name | Type | Size | Offset | Description |
|--------|------|------|------|--------|-------------|
| ← | cmdResult | long | 4 | 18 | AFP command result |
| ← | csCode | short | 2 | 26 | Always afpCall |
| ← | sessRefNum | short | 2 | 28 | Session reference number |
| ← | aspTimeout | char | 1 | 30 | Retry interval in seconds |
| ← | cbSize | short | 2 | 32 | Command buffer siz |
| ← | cbPtr | Ptr | 4 | 34 | Command buffer |
| ↔ | rbSize | short | 2 | 38 | Reply buffer size and reply size |
| ← | rbPtr | Ptr | 4 | 40 | Reply buffer pointer |
| ↔ | wdSize | short | 2 | 44 | Write data size |
| ← | wdPtr | Ptr | 4 | 46 | Write data pointer |
| ← | ccbStart | 296 bytes | 296 | 50 | Start of memory for CCB |

*async* is a Boolean value. Use FALSE for normal (synchronous) operation or TRUE to function asynchronously. See Async I/O.

**Returns**: an operating system Error Code.

| | | |
|---|---|---|
| aspBufTooSmall | (-1067) | Reply is bigger than response buffer; the buffer will be filled, data will be truncated |
| aspParamErr | (-1070) | Invalid session number; session has been closed |
| aspSessClosed | (-1072) | Session already in process of closing |
| aspSizeErr | (-1073) | Command block size is bigger than MaxCmdSize |
| afpParmErr | (-5019) | AFP command block size is equal to zero. This error will also be returned if the command byte in the command block is equal to 0 or 0xFF (255) or GetSrvrStatus(15) |

Notes:  CmdResult is four bytes of data returned by the server containing an indication of the result of the AFP command.

SessRefnum is the session reference number returned in the **AFPLogin** call.

AspTimeout is the interval in seconds between retries of the call by the driver.

CBSize is the size in bytes of the block of data that contains the command to be sent to the server on the session. The size of the command block must not exceed the value of aspMaxCmdSize returned by the **ASPGetParms** call.

CBPtr points to the command data.The first byte of the command block must contain the AFP command byte. Subsequent bytes in the command buffer contain the parameter associated with the command as defined in the AFP document.

RBSize is passed and indicates the size of the reply buffer in bytes expected by the command. RBSize is also returned and indicates the size of the reply that was actually returned.

RBPtr points to the reply buffer.

WDSize is the size of the data to be written to the server (only used if the command is one that is mapped to an ASPUserWrite).

WDPointer points to the write data buffer(only used if the command is one that is mapped to an ASPUserWrite).

CCBStart is the start of the memory to be used by the .XPP driver for the command control block. The size of this block is equal to a maximum of 296 bytes.

## Login Command Format

The AFP login command executes a series of AFP operations as defined in the AFP Draft Proposal. For further information, refer to the AFP document.

*xParamBlock*

is a pointer to an XPPParamBlock structure. The relevant fields are as follows:

| Out-In | Name | Type | Size | Offset | Description |
|---|---|---|---|---|---|
| ← | cmdResult | long | 4 | 18 | AFP command result |
| ← | csCode | short | 2 | 26 | Always AFPCall |
| ← | sessRefnum | short | 2 | 28 | Session reference number |
| ← | aspTimeout | char | 1 | 30 | Retry interval in seconds |
| ← | aspRetry | char | 1 | 31 | Number of retries |
| ← | cbSize | short | 2 | 32 | Command buffer size |
| ← | cbPtr | Ptr | 4 | 34 | Command buffer |
| ↔ | rbSize | short | 2 | 38 | Reply buffer size and reply size |
| ← | rbPtr | Ptr | 4 | 40 | Reply buffer pointer |
| ← | afpAddrBlock | long | 4 | 44 | Server address block |
| ← | afpSCBPtr | Ptr | 4 | 48 | SCB pointer |
| ↔ | Routine | Ptr | 4 | 52 | Attention routine pointer |
| ← | ccbStart | 296 bytes | 150 | 50 | Start of command control block |

*async* is a Boolean value.  Use FALSE for normal (synchronous) operation

or <u>TRUE</u> to enqueue the request and resume control immediately.  See <u>Async I/O</u>.

**Returns**: an operating system <u>Error Code</u>.

| | | |
|---|---|---|
| aspBadVersNum | (-1066) | Sever cannot support the offered version number |
| aspBufTooSmall | (-1067) | Reply is bigger than response buffer; the buffer will be filled, data will be truncated |
| aspNoMoreSess | (-1068) | Driver cannot support another session |
| aspNoservers | (-1069) | No servers at that address, or the server did not respond to the request |
| aspServerBusy | (-1071) | Server cannot open another session |
| aspSizeErr | (-1073) | Command block size is bigger than MaxCmdSize |

Notes:   CmdResult is four bytes of data returned by the server containing an indication of the result of the AFP command.

SessRefnum is the session reference number returned in the **AFPLogin** call.

ASPTimeOut is the interval in seconds between retries of the call by the driver.

CBSize is the size in bytes of the block of data that contains the command to be sent to the server on the session. The size of the command block must not exceed the value of aspMaxCmdSize returned by the **ASPGetParms** call.

CBPtr points to the command data.The first byte of the command block must contain the AFP command byte. Subsequent bytes in the command buffer contain the parameter associated with the command as defined in the AFP document.

RBSize is passed and indicates the size of the reply buffer in bytes expected by the command. RBSize is also returned and indicates the size of the reply that was actually returned.

RBPtr points to the reply buffer.

AFPAddrBlock is the network identifier or address of the socket on which the server is listening.

AFPSCBPtr points to a locked block of data for the session control block (SCB). the SCB size is defined by scbMemSize. The SCB is a lock block, and as long as the session is open, the SCB cannot be modified in any way by the application. There is one SCB for each open session.

AFPAttnRoutine is a pointer to a routine that is invoked if an attention from the server is received. When afpAttnRoutine is equal to zero, no attention routine will be invoked.

CCBStart is the start of the memory to be used by the .XPP driver for the command control block. The size of this block is equal to a maximum of 150 bytes.

**Note:** In the parameter block, the afpSCBPtr and the afpAttnRoutine fields over lap with the start of the CCB and are modified by the call.

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| **AFPWrite Command Format** |
|---|

The AFPWrite and AFPRead command formats allow the calling application to make AFP-level calls that read or write a data block that is larger than a single ASP-level call is capable of reading or writing. The maximum number of bytes of data that can be read or written at the ASP level is equal to quantumSize.

*xParamBlock*

is a pointer to an XPPParamBlock structure. The relevant fields are as follows:

| Out-In | Name | Type | Size | Offset | Description |
|--------|------|------|------|--------|-------------|
| ← | cmdResult | long | 4 | 18 | AFP command result |
| ← | csCode | short | 2 | 26 | Always AFPCall |
| ← | sessRefnum | short | 2 | 28 | Session reference number |
| ← | aspTimeout | char | 1 | 30 | Retry interval in seconds |
| ← | cbSize | short | 2 | 32 | Command buffer size |
| ← | cbPtr | Ptr | 4 | 34 | Command buffer |
| ↔ | rbSize | short | 2 | 38 | Reply buffer size and reply size |
| ← | rbPtr | Ptr | 4 | 40 | Reply buffer pointer |
| ← | wdSize | short | 2 | 44 | Used internally |
| ↔ | wdPtr | Ptr | 4 | 46 | Write data pointer |
| ← | ccbStart | 296 bytes | 296 | 50 | Start of memory for CCB |

*async* is a Boolean value. Use FALSE for normal (synchronous) operation or TRUE to enqueue the request and resume control immediately. See Async I/O.

**Returns**: an operating system Error Code.

| | | |
|---|---|---|
| aspBufTooSmall | (-1067) | Reply is bigger than response buffer |
| aspParamErr | (-1070) | Invalid session number |
| aspSessClosed | (-1072) | Session already in process of closing |
| aspSizeErr | (-1073) | Command block size is buffer than MaxCmdSize |

Notes:   CmdResult is four bytes of data returned by the server containing an indication of the result of the AFP command.

SessRefnum is the session reference number returned in the **AFPLogin** call.

ASPTimeOut is the interval in seconds between retries of the call by the driver.

CBSize is the size in bytes of the block of data that contains the command to be sent to the server on the session. The size of the command block must not exceed the value of aspMaxCmdSize returned by the **ASPGetParms** call.

CBPtr points to the command data.The first byte of the command block must contain the AFP command byte. Subsequent bytes in the command buffer contain the parameter associated with the command as defined in the AFP document.

RBSize is passed and indicates the size of the reply buffer in bytes expected by the command. RBSize is also returned and indicates the size of the reply that was actually returned.

RBPtr points to the reply buffer.

WDSize is used internally.

**Note:** This command does not pass the write data size in the queue element but in the command buffer. XPP will look for the size in that buffer.

WDPointer points to the write data buffer. Note that this field will be updated by XPP as it proceeds and will always point to that section of the data which XP is currently writing.

CCBStart is the start of the memory to be used by the .XPP driver for the command control block. The size of this block is equal to a maximum of 296 bytes.

***Command Block Structure:*** The AFP write command passes several arguments to XPP in the command buffer itself. The command buffer is a structure of type <u>AFPCommandBlock</u>. The byte offsets are relative to the location pointed to by cbPtr.

| Out-In | Name | Type | Size | Offset | Description |
|---|---|---|---|---|---|
| ← | cmdByte | char | 1 | 0 | AFP call command byte |
| ← | startEndFlag | char | 1 | 1 | Start/end Flag |
| ↔ | rwOffset | long | 4 | 4 | Offset within fork to write |
| ↔ | reqCount | long | 4 | 8 | Requested count |

CmdByte is the AFP call command byte and must contain the AFP write command code.

StartEndFlag is a one-bit flag (the high bit of the byte) indicating whether the rwOffset field is relative to the beginning or the end of the fork (all other bits are zero).

0=relative to the beginning of the fork

1=relative to the end of the fork

RWOffset is the byte offset within the fork at which the write is to begin.

ReqCount indicates the size of the data to be written and is returned as the actual size written.

The rwOffset and reqCount fields are modified by XPP as the write proceeds and will always indicate the current value of these fields.

### AFPRead Command Format

The AFPWrite and AFPRead command formats allow the calling application to make AFP-level calls that read or write a data block that is larger than a single ASP-level call is capable of reading or writing. The maximum number of bytes of data that can be read or written at the ASP level is equal to quantumSize.

*xParamBlock*

is a pointer to an <u>XPPParamBlock</u> structure. The relevant fields are as follows:

| Out-In | Name | Type | Size | Offset | Description |
|---|---|---|---|---|---|
| ← | cmdResult | long | 4 | 18 | AFP command result |
| ← | csCode | short | 2 | 26 | Always AFPCall |
| ← | sessRefnum | short | 2 | 28 | Session reference number |
| ← | aspTimeout | char | 1 | 30 | Retry interval in seconds |

| | | | | | |
|---|---|---|---|---|---|
| ← | cbSize | short | 2 | 32 | Command buffer size |
| ← | cbPtr | Ptr | 4 | 34 | Command buffer |
| ↔ | rbSize | short | 2 | 38 | Used internally |
| ← | rbPtr | Ptr | 4 | 40 | Reply buffer pointer (updated) |
| ← | ccbStart | record | 150 | 50 | Start of memory for CCB |

*async* is a Boolean value.  Use FALSE for normal (synchronous) operation or TRUE to enqueue the request and resume control immediately.  See Async I/O.

**Returns**: an operating system Error Code.

| | | |
|---|---|---|
| aspBufTooSmall | (-1067) | Reply is bigger than response buffer |
| aspParamErr | (-1070) | Invalid session number |
| aspSessClosed | (-1072) | Session already in process of closing |
| aspSizeErr | (-1073) | Command block size is buffer than MaxCmdSize |

Notes: CmdResult is four bytes of data returned by the server containing an indication of the result of the AFP command.

SessRefnum is the session reference number returned in the **AFPLogin** call.

ASPTimeOut is the interval in seconds between retries of the call by the driver.

CBSize is the size in bytes of the block of data that contains the command to be sent to the server on the session. The size of the command block must not exceed the value of aspMaxCmdSize returned by the **ASPGetParms** call.

CBPtr points to the command data. The first byte of the command block must contain the AFP command byte. Subsequent bytes in the command buffer contain the parameter associated with the command as defined in the AFP document.

RBSize is used internally.

**Note:** This command does not pass the read size in the queue element but in the command buffer. XPP will look for the size in that buffer.

RBPtr points to the reply buffer.Note that this field will be updated by XPP as it proceeds and will always point to that section of the buffer that XPP is currently reading into.

CCBStart is the start of the memory to be used by the .XPP driver for the command control block. The size of this block is equal to a maximum of 296 bytes.

***Command Block Structure:*** The AFP write command passes several arguments to XPP in the command buffer itself.  The command buffer is a structure of type AFPCommandBlock.  The byte offsets are relative to the location pointed to by cbPtr.

| Out-In | Name | Type | Size | Offset | Description |
|---|---|---|---|---|---|
| ← | cmdByte | char | 1 | 0 | AFP call command byte |
| ↔ | rwOffset | long | 4 | 4 | Offset within fork to write |
| ↔ | reqCount | long | 4 | 8 | Requested count |
| ← | newLineFlag | char | 1 | 12 | Start/end Flag |
| ← | oldLineFlag | char | 1 | 13 | Start/end Flag |

CmdByte is the AFP call command byte and must contain the AFP write command code.

RWOffset is the byte offset within the fork at which the write is to begin.

ReqCount indicates the size of the data to be written and is returned as the actual size written.

The rwOffset and reqCount  fields are modified by XPP as the write proceeds and will always indicate the current value of these fields.

NewLineFlag is a one-bit flag (the high bit of the byte) indicating whether or not the read is to terminate at a specified character (all other bits are zero).

0=no Newline Character is specified.

1= a NewLine Character is specified.

NewLineChar is any character from 0x000 to 0x0FF (inclusive) that, when encountered in reading the fork, causes the read operation to terminate.