CFFTPStream Reference

Core Foundation > Networking

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CFFTPStream Reference

Derived From:	CFType
Framework:	CoreServices
Companion guide	CFNetwork Programming Guide
Declared in	CFFTPStream.h

Overview

This document describes the CFStream functions for working with FTP connections. It is part of the CFFTP API.

Functions

CFFTPCreateParsedResourceListing

Parses an FTP listing to a dictionary.

```
CFIndex CFFTPCreateParsedResourceListing (
   CFAllocatorRef alloc,
   const UInt8 *buffer,
   CFIndex bufferLength,
   CFDictionaryRef *parsed
);
```

Parameters

alloc

The allocator to use to allocate memory for the dictionary. Pass `NULL` or `kCFAllocatorDefault` to use the current default allocator.

buffer

A pointer to a buffer holding zero or more lines of resource listing.

bufferLength

The length in bytes of the buffer pointed to by `buffer`.

parsed

Upon return, contains a dictionary containing the parsed resource information. If parsing fails, a `NULL` pointer is returned.

Return Value

The number of bytes parsed, `0` if no bytes were available for parsing, or `-1` if parsing failed.

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Discussion
This function examines the contents of buffer as an FTP directory listing and parses into a CFDictionary the information for a single file or folder. The CFDictionary is returned in the `parsed` parameter, and the number of bytes used from buffer is returned.

Availability
Available in Mac OS X version 10.3 and later.

Declared In
`CFFTPStream.h`

CFReadStreamCreateWithFTPURL

Creates an FTP read stream.

```
CFReadStreamRef CFReadStreamCreateWithFTPURL (
   CFAllocatorRef alloc,
   CFURLRef ftpURL
);
```

Parameters

`alloc`

The allocator to use to allocate memory for the new object. Pass `NULL` or `kCFAllocatorDefault` to use the current default allocator.

`ftpURL`

A pointer to a CFURL structure for the URL to be downloaded that can be created by calling any of the `CFURLCreate` functions, such as `CFURLCreateWithString`.

Return Value
A new read stream, or `NULL` if the call failed. Ownership follows the Create Rule.

Discussion
This function creates an FTP read stream for downloading data from an FTP URL. If the `ftpURL` parameter is created with the user name and password as part of the URL (such as `ftp://username:password@ftp.example.com`) then the user name and password will automatically be set in the `CFReadStream`. Otherwise, call `CFReadStreamSetProperty` to set the steam's properties, such as `kCFStreamPropertyFTPUserName` and `kCFStreamPropertyFTPPassword` to associate a user name and password with the stream that are used to log in when the stream is opened. See "Constants" (page 7) for a description of all FTP stream properties.

To initiate a connection with the FTP server, call `CFReadStreamOpen`. To read the FTP stream, call `CFReadStreamRead`. If the URL refers to a directory, the stream provides the listing results sent by the server. If the URL refers to a file, the stream provides the data in that file.

To close a connection with the FTP server, call `CFReadStreamClose`.

Availability
Available in Mac OS X version 10.3 and later.

Declared In
`CFFTPStream.h`

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CFWriteStreamCreateWithFTPURL

Creates an FTP write stream.

```
CFWriteStreamRef CFWriteStreamCreateWithFTPURL (
   CFAllocatorRef alloc,
   CFURLRef ftpURL
);
```

Parameters

alloc

The allocator to use to allocate memory for the new object. Pass `NULL` or `kCFAllocatorDefault` to use the current default allocator.

ftpURL

A pointer to a CFURL structure for the URL to be uploaded created by calling any of the `CFURLCreate` functions, such as `CFURLCreateWithString`.

Return Value
A new write stream, or `NULL` if the call failed. Ownership follows the Create Rule.

Discussion
This function creates an FTP write stream for uploading data to an FTP URL. If the `ftpURL` parameter is created with the user name and password as part of the URL (such as `ftp://username:password@ftp.example.com`) then the user name and password will automatically be set in the `CFWriteStream`. Call `CFWriteStreamSetProperty` to set the steam's properties, such as `kCFStreamPropertyFTPUserName` and `kCFStreamPropertyFTPPassword` to associate a user name and password with the stream that are used to log in when the stream is opened. See "Constants" (page 7) for a description of all FTP stream properties.

After creating the write stream, you can call `CFWriteStreamGetStatus` at any time to check the status of the stream.

To initiate a connection with the FTP server, call `CFWriteStreamOpen`. If the URL specifies a directory, the open is immediately followed by the event `kCFStreamEventEndEncountered` (and the stream passes to the state `kCFStreamStatusAtEnd`). Once the stream reaches this state, the directory has been created. Intermediary directories are not created.

To write to the FTP stream, call `CFWriteStreamWrite`.

To close a connection with the FTP server, call `CFWriteStreamClose`.

Availability
Available in Mac OS X version 10.3 and later.

Declared In
`CFFTPStream.h`

Constants

CFStream FTP Property Constants

Constants for setting and copying CFStream FTP properties.

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```
const CFStringRef kCFStreamPropertyFTPUserName;
const CFStringRef kCFStreamPropertyFTPPassword;
const CFStringRef kCFStreamPropertyFTPUsePassiveMode;
const CFStringRef kCFStreamPropertyFTPResourceSize;
const CFStringRef kCFStreamPropertyFTPFetchResourceInfo;
const CFStringRef kCFStreamPropertyFTPFileTransferOffset;
const CFStringRef kCFStreamPropertyFTPAttemptPersistentConnection;
const CFStringRef kCFStreamPropertyFTPProxy;
const CFStringRef kCFStreamPropertyFTPProxyHost;
extern const CFStringRef kCFStreamPropertyFTPProxyPort;
extern const CFStringRef kCFStreamPropertyFTPProxyUser;
extern const CFStringRef kCFStreamPropertyFTPProxyPassword;
```

Constants

`kCFStreamPropertyFTPUserName`

FTP User Name stream property key for set and copy operations. A value of type CFString for storing the login user name. Don't set this property when anonymous FTP is desired.

Available in Mac OS X v10.3 and later.

Declared in `CFFTPStream.h`.

`kCFStreamPropertyFTPPassword`

FTP Password stream property key for set and copy operations. A value of type CFString for storing the login password. Don't set this property when anonymous FTP is desired.

Available in Mac OS X v10.3 and later.

Declared in `CFFTPStream.h`.

`kCFStreamPropertyFTPUsePassiveMode`

FTP Passive Mode stream property key for set and copy operations. Set this property to `kCFBooleanTrue` to enable passive mode; set this property to `kCFBooleanFalse` to disable passive mode.

Available in Mac OS X v10.3 and later.

Declared in `CFFTPStream.h`.

`kCFStreamPropertyFTPResourceSize`

FTP Resource Size read stream property key copy operations. This property stores a CFNumber of type `kCFNumberLongLongType` representing the size of a resource in bytes.

Available in Mac OS X v10.3 and later.

Declared in `CFFTPStream.h`.

`kCFStreamPropertyFTPFetchResourceInfo`

FTP Fetch Resource Information stream property key for set and copy operations. Set this property to `kCFBooleanTrue` to require that resource information, such as size, must be provided before download starts; set this property to `kCFBooleanFalse` to allow downloads to start without resource information. For this version, size is the only resource information.

Available in Mac OS X v10.3 and later.

Declared in `CFFTPStream.h`.

`kCFStreamPropertyFTPFileTransferOffset`

FTP File Transfer Offset stream property key for set and copy operations. The value of this property is a CFNumber of type `kCFNumberLongLongType` representing the file offset at which to start the transfer.

Available in Mac OS X v10.3 and later.

Declared in `CFFTPStream.h`.

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`kCFStreamPropertyFTPAttemptPersistentConnection`
FTP Attempt Persistent Connection stream property key for set and copy operations. Set this property to `kCFBooleanTrue` to enable the reuse of existing server connections; set this property to `kCFBooleanFalse` to not reuse existing server connections. By default, this property is set to `kCFBooleanTrue`.

Available in Mac OS X v10.3 and later.

Declared in `CFFTPStream.h`.

`kCFStreamPropertyFTPProxy`
FTP Proxy stream property key for set and copy operations. The property is a value of type CFDictionary that holds proxy dictionary key-value pairs. The dictionary returned by SystemConfiguration can also be set as the value of this property.

Available in Mac OS X v10.3 and later.

Declared in `CFFTPStream.h`.

`kCFStreamPropertyFTPProxyHost`
FTP Proxy Host stream property key or an FTP Proxy dictionary key for set and copy operations. The value of this property is a CFString containing the host name of a proxy server. This property can be set and copied individually or via a CFDictionary. This property is the same as the `kSCPropNetProxiesFTPProxy` property defined in `SCSchemaDefinitions.h`.

Available in Mac OS X v10.3 and later.

Declared in `CFFTPStream.h`.

`kCFStreamPropertyFTPProxyPort`
FTP Proxy Port stream property key or an FTP Proxy dictionary key for set and copy operations. The value of this property is a CFNumber of type `kCFNumberIntType` containing the port number of a proxy server. This property can be set and copied individually or via a CFDictionary. This property is the same as the `kSCPropNetProxiesFTPPort` property defined in `SCSchemaDefinitions.h`.

Available in Mac OS X v10.3 and later.

Declared in `CFFTPStream.h`.

`kCFStreamPropertyFTPProxyUser`
FTP Proxy Host stream property key or FTP Proxy dictionary key for set and copy operations. The value of this property is a CFString containing the username to be used when connecting to the proxy server.

Available in Mac OS X v10.3 and later.

Declared in `CFFTPStream.h`.

`kCFStreamPropertyFTPProxyPassword`
FTP Proxy Port stream property key or FTP Proxy dictionary key for set and copy operations. The value of this property is a CFString containing the password to be used when connecting to the proxy server.

Available in Mac OS X v10.3 and later.

Declared in `CFFTPStream.h`.

Discussion
The CFStream property constants are used to specify the property to set when calling `CFReadStreamSetProperty` or `CFWriteStreamSetProperty` and to copy when calling `CFReadStreamCopyProperty` or `CFWriteStreamCopyProperty`. They can also be passed to a CFDictionary creator or to an item accessor or mutator.

Availability
Available in Mac OS X version 10.3 and later.

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Declared In
CFNetwork/CFFTPStream.h

CFStream FTP Resource Constants

FTP resource constants.

```
const CFStringRef kCFFTPResourceMode;
const CFStringRef kCFFTPResourceName;
const CFStringRef kCFFTPResourceOwner;
const CFStringRef kCFFTPResourceGroup;
const CFStringRef kCFFTPResourceLink;
const CFStringRef kCFFTPResourceSize;
const CFStringRef kCFFTPResourceType;
const CFStringRef kCFFTPResourceModDate;
```

Constants

`kCFFTPResourceMode`
CFDictionary key for getting the CFNumber containing the access permissions, defined in `sys/types.h`, of the FTP resource.

Available in Mac OS X version 10.3 and later.

Declared in `CFFTPStream.h`.

`kCFFTPResourceName`
CFDictionary key for getting the CFString containing the name of the FTP resource.

Available in Mac OS X version 10.3 and later.

Declared in `CFFTPStream.h`.

`kCFFTPResourceOwner`
CFDictionary key for getting the CFString containing the name of the owner of the FTP resource.

Available in Mac OS X version 10.3 and later.

Declared in `CFFTPStream.h`.

`kCFFTPResourceGroup`
CFDictionary key for getting the CFString containing the name of a group that shares the FTP resource.

Available in Mac OS X version 10.3 and later.

Declared in `CFFTPStream.h`.

`kCFFTPResourceLink`
CFDictionary key for getting the CFString containing the symbolic link information. If the item is a symbolic link, the CFString contains the path to the item that the link references.

Available in Mac OS X version 10.3 and later.

Declared in `CFFTPStream.h`.

`kCFFTPResourceSize`
CFDictionary key for getting the CFNumber containing the size in bytes of the FTP resource.

Available in Mac OS X version 10.3 and later.

Declared in `CFFTPStream.h`.

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`kCFFTPResourceType`
: CFDictionary key for getting the CFNumber containing the type of the FTP resource as defined in `sys/dirent.h`.

  Available in Mac OS X version 10.3 and later.

  Declared in `CFFTPStream.h`.

`kCFFTPResourceModDate`
: CFDictionary key for getting the CFDate containing the last date and time the FTP resource was modified.

  Available in Mac OS X version 10.3 and later.

  Declared in `CFFTPStream.h`.

Discussion
The values of FTP resource keys are extracted from a line of the directory list by the `CFFTPCreateParsedResourceListing` (page 5) function.

Availability
Available in Mac OS X version 10.3 and later.

Declared In
`CFNetwork/CFFTPStream.h`

Error Domains

Error domains specific to `CFFTPStream` calls.

```
extern const SInt32 kCFStreamErrorDomainFTP;
```

Constants
`kCFStreamErrorDomainFTP`
: Error domain that returns the last result code returned by the FTP server.

  Available in Mac OS X version 10.3 and later.

  Declared in `CFFTPStream.h`.

Discussion
To determine the source of an error, examine the `userInfo` dictionary included in the `CFError` object returned by a function call or call `CFErrorGetDomain` and pass in the `CFError` object and the domain whose value you want to read.

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Document Revision History

This table describes the changes to *CFFTPStream Reference*.

Date	Notes
2008-07-11	Added missing constants.
2006-09-01	Made minor formatting changes.
2006-06-28	Updated information about user names and passwords.
2006-02-07	New document that describes the C API for communicating with FTP servers.

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