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# CFNetDiagnostics Reference

[Core Foundation](#) > [Networking](#)



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# CFNetDiagnostics Reference

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<b>Derived From:</b>	CType
<b>Framework:</b>	CoreServices
<b>Companion guide</b>	CFNetwork Programming Guide
<b>Declared in</b>	CFNetDiagnostics.h

## Overview

The CFNetDiagnostics opaque type allows you to diagnose network-related problems.

## Functions by Task

### Creating a net diagnostics object

- [CFNetDiagnosticCreateWithStreams](#) (page 6)  
Creates a network diagnostic object from a pair of CFStreams.
- [CFNetDiagnosticCreateWithURL](#) (page 7)  
Creates a CFNetDiagnosticRef from a CFURLRef.

### CFNetDiagnostics Functions

- [CFNetDiagnosticSetName](#) (page 9)  
Overrides the displayed application name.
- [CFNetDiagnosticDiagnoseProblemInteractively](#) (page 8)  
Opens a Network Diagnostics window.
- [CFNetDiagnosticCopyNetworkStatusPassively](#) (page 6)  
Gets a network status value.

## Functions

### CFNetDiagnosticCopyNetworkStatusPassively

Gets a network status value.

```
CFNetDiagnosticStatus CFNetDiagnosticCopyNetworkStatusPassively (
    CFNetDiagnosticRef details,
    CFStringRef *description
);
```

#### Parameters

*details*

CFNetDiagnosticRef, created by [CFNetDiagnosticCreateWithStreams](#) (page 6) or [CFNetDiagnosticCreateWithURL](#) (page 7), for which the Network Diagnostics status is to be obtained.

*description*

If not NULL, upon return contains a localized string containing a description of the current network status. Ownership follows the Create Rule.

#### Return Value

A network status value.

#### Discussion

This function returns a status value that can be used to display basic information about the connection, and optionally gets a localized string containing a description of the current network status.

This function is guaranteed not to generate network activity.

#### Special Considerations

This function is thread safe as long as another thread does not alter the same CFNetDiagnosticRef at the same time.

#### Availability

Available in Mac OS X version 10.4 and later.

#### Declared In

CFNetDiagnostics.h

### CFNetDiagnosticCreateWithStreams

Creates a network diagnostic object from a pair of CFStreams.

```
CFNetDiagnosticRef CFNetDiagnosticCreateWithStreams (
    CFAllocatorRef alloc,
    CFReadStreamRef readStream,
    CFWriteStreamRef writeStream
);
```

**Parameters***alloc*

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

*readStream*

Reference to a read stream whose connection has failed, or `NULL` if you do not want the `CFNetDiagnosticRef` to have a read stream.

*writeStream*

Reference to a write stream whose connection has failed, or `NULL` if you do not want the `CFNetDiagnosticRef` to have a write stream.

*function result*

`CFNetDiagnosticRef` that you can pass to [CFNetDiagnosticDiagnoseProblemInteractively](#) (page 8) or [CFNetDiagnosticCopyNetworkStatusPassively](#) (page 6). Ownership follows the Create Rule.

**Discussion**

This function uses references to a read stream and a write stream (or just a read stream or just a write stream) to create a reference to an instance of a `CFNetDiagnostic` object. You can pass the reference to [CFNetDiagnosticDiagnoseProblemInteractively](#) (page 8) to open a Network Diagnostics window or to [CFNetDiagnosticCopyNetworkStatusPassively](#) (page 6) to get a description of the connection referenced by `readStream` and `writeStream`.

**Special Considerations**

This function is thread safe as long as another thread does not alter the same `CFNetDiagnosticRef` at the same time.

**Availability**

Available in Mac OS X version 10.4 and later.

**Declared In**

`CFNetDiagnostics.h`

**CFNetDiagnosticCreateWithURL**

Creates a `CFNetDiagnosticRef` from a `CFURLRef`.

```
CFNetDiagnosticRef CFNetDiagnosticCreateWithURL (
    CFAllocatorRef alloc,
    CFURLRef url
);
```

**Parameters***alloc*

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

*url*

CFURLRef that refers to the failed connection.

#### Return Value

CFNetDiagnosticRef that you can pass to [CFNetDiagnosticDiagnoseProblemInteractively](#) (page 8) or [CFNetDiagnosticCopyNetworkStatusPassively](#) (page 6). Ownership follows the Create Rule.

#### Discussion

This function uses a URL to create a reference to an instance of a CFNetDiagnostic object. You can pass the reference to [CFNetDiagnosticDiagnoseProblemInteractively](#) (page 8) to open a Network Diagnostics window or to [CFNetDiagnosticCopyNetworkStatusPassively](#) (page 6) to get a description of the connection referenced by `readStream` and `writeStream`.

#### Special Considerations

This function is thread safe as long as another thread does not alter the same CFNetDiagnosticRef at the same time.

#### Availability

Available in Mac OS X version 10.4 and later.

#### Declared In

CFNetDiagnostics.h

## CFNetDiagnosticDiagnoseProblemInteractively

Opens a Network Diagnostics window.

```
CFNetDiagnosticStatus CFNetDiagnosticDiagnoseProblemInteractively (
    CFNetDiagnosticRef details
);
```

#### Parameters

*details*

A network diagnostics object, created by [CFNetDiagnosticCreateWithStreams](#) (page 6) or [CFNetDiagnosticCreateWithURL](#) (page 7), for which the window is to be opened.

#### Return Value

CFNetDiagnosticNoErr if no error occurred, or CFNetDiagnosticErr if an error occurred that prevented this call from completing successfully.

#### Discussion

This function opens the Network Diagnostics window and returns immediately once the window is open.

#### Special Considerations

This function is thread safe as long as another thread does not alter the same CFNetDiagnosticRef at the same time.

#### Availability

Available in Mac OS X version 10.4 and later.

#### Declared In

CFNetDiagnostics.h



## CFNetDiagnosticSetName

Overrides the displayed application name.

```
void CFNetDiagnosticSetName (
    CFNetDiagnosticRef details,
    CFStringRef name
);
```

### Parameters

*details*

The network diagnostics object for which the application name is to be set.

*name*

Name that is to be set.

### Discussion

Frameworks requiring that an application name be displayed to the user derive the application name from the bundle identifier of the currently running application, in that application's localization. If you want to override the derived application name, use this function to set the name that is displayed.

### Special Considerations

This function is thread safe as long as another thread does not alter the same CFNetDiagnosticRef at the same time.

### Availability

Available in Mac OS X version 10.4 and later.

### Declared In

CFNetDiagnostics.h

## Data Types

### CFNetDiagnosticRef

An opaque reference representing a CFNetDiagnostic.

```
typedef struct __CFNetDiagnostic* CFNetDiagnosticRef;
```

### Availability

Available in Mac OS X version 10.4 and later.

### Declared In

CFNetDiagnostics.h

### CFNetDiagnosticStatus

A CFIndex type that is used to return status values from `CFNetDiagnosticStatus` and diagnostic functions. For a list of possible values, see [“CFNetDiagnosticStatusValues Constants”](#) (page 10).

```
typedef CFIndex                                CFNetDiagnosticStatus;
```

**Availability**

Available in Mac OS X version 10.4 and later.

**Declared In**

CFNetDiagnostics.h

## Constants

### CFNetDiagnosticStatusValues Constants

Constants for diagnostic status values.

```
enum CFNetDiagnosticStatusValues {
    kCFNetDiagnosticNoErr = 0,
    kCFNetDiagnosticErr = -66560L,
    kCFNetDiagnosticConnectionUp = -66559L,
    kCFNetDiagnosticConnectionIndeterminate = -66558L,
    kCFNetDiagnosticConnectionDown = -66557L
};
typedef enum CFNetDiagnosticStatusValues CFNetDiagnosticStatusValues;
```

**Constants**

kCFNetDiagnosticNoErr

**No error occurred but there is no status.**

Available in Mac OS X v10.4 and later.

Declared in CFNetDiagnostics.h.

kCFNetDiagnosticErr

**An error occurred that prevented the call from completing.**

Available in Mac OS X v10.4 and later.

Declared in CFNetDiagnostics.h.

kCFNetDiagnosticConnectionUp

**The connection appears to be working.**

Available in Mac OS X v10.4 and later.

Declared in CFNetDiagnostics.h.

kCFNetDiagnosticConnectionIndeterminate

**The status of the connection is not known.**

Available in Mac OS X v10.4 and later.

Declared in CFNetDiagnostics.h.

kCFNetDiagnosticConnectionDown

**The connection does not appear to be working.**

Available in Mac OS X v10.4 and later.

Declared in CFNetDiagnostics.h.

**Discussion**

Diagnostic status values are returned by [CFNetDiagnosticDiagnoseProblemInteractively](#) (page 8) and [CFNetDiagnosticCopyNetworkStatusPassively](#) (page 6).

**Availability**

Available in Mac OS X version 10.4 and later.

**Declared In**

CFNetwork/CFNetDiagnostics.h



# Document Revision History

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This table describes the changes to *CFNetDiagnostics Reference*.

Date	Notes
2008-07-11	Added mention of the CFNetDiagnosticStatus type for easier cross-referencing.
2006-07-06	Made minor formatting changes.
2006-02-07	New document that describes the C API for diagnosing and fixing network related problems.

## REVISION HISTORY

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