NSFastEnumeration Protocol Reference

Cocoa > Objective-C Language

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NSFastEnumeration Protocol Reference

Framework	/System/Library/Frameworks/Foundation.framework
Availability	Available in Mac OS X v10.5 and later.
Companion guide	The Objective-C 2.0 Programming Language
Declared in	NSEnumerator.h

Overview

The fast enumeration protocol `NSFastEnumeration` must be adopted and implemented by objects used in conjunction with the for language construct used in conjunction with Cocoa objects.

The abstract class `NSEnumerator` provides a convenience implementation that uses `nextObject` to return items one at a time. For more details, see Fast Enumeration.

Tasks

Enumeration

`- countByEnumeratingWithState:objects:count:` (page 5)
Returns by reference a C array of objects over which the sender should iterate, and as the return value the number of objects in the array.

Instance Methods

countByEnumeratingWithState:objects:count:

Returns by reference a C array of objects over which the sender should iterate, and as the return value the number of objects in the array.

```
- (NSUInteger)countByEnumeratingWithState:(NSFastEnumerationState *)state
    objects:(id *)stackbuf
    count:(NSUInteger)len
```

Parameters

state

Context information that is used in the enumeration to, in addition to other possibilities, ensure that the collection has not been mutated.

stackbuf

A C array of objects over which the sender is to iterate.

len

The maximum number of objects to return in *stackbuf*.

Return Value

The number of objects returned in *stackbuf*. Returns 0 when the iteration is finished.

Discussion

The state structure is assumed to be of stack local memory and, from a garbage collection perspective, does not require write-barriers on stores, so you can recast the passed in state structure to one more suitable for your iteration.

Availability

Available in Mac OS X v10.5 and later.

Declared In

NSEnumerator.h

Constants

NSFastEnumerationState

This defines the structure used as contextual information in the NSFastEnumeration protocol.

```
typedef struct {
    unsigned long state;
    id *itemsPtr;
    unsigned long *mutationsPtr;
    unsigned long extra[5];
} NSFastEnumerationState;
```

Fields

state

Arbitrary state information used by the iterator. Typically this is set to 0 at the beginning of the iteration.

itemsPtr

A C array of objects.

mutationsPtr

Arbitrary state information used to detect whether the collection has been mutated.

extra

A C array that you can use to hold returned values.

Discussion

For more information, see countByEnumeratingWithState:objects:count: (page 5).

Availability
Available in Mac OS X v10.5 and later.

Declared In
`NSEnumerator.h`

Document Revision History

This table describes the changes to *NSFastEnumeration Protocol Reference*.

Date	Notes
2007-06-27	New document that describes the protocol that supports the Objective-C 2.0 fast enumeration feature.

Document Revision History

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