
NSPasteboard Class Reference

Interapplication Communication



2009-11-17



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Contents

NSPasteboard Class Reference 5

Overview	5
Tasks	6
Creating and Releasing a Pasteboard	6
Writing Data	6
Reading Data	7
Validating Contents	7
Getting Information About a Pasteboard	8
Writing Data (Mac OS X v10.5 and Earlier)	8
Reading Data (Mac OS X v10.5 and Earlier)	8
Class Methods	8
generalPasteboard	8
pasteboardByFilteringData:ofType:	9
pasteboardByFilteringFile:	9
pasteboardByFilteringTypesInPasteboard:	10
pasteboardWithName:	10
pasteboardWithUniqueName	11
typesFilterableTo:	11
Instance Methods	12
addTypes:owner:	12
availableTypeFromArray:	13
canReadItemWithDataConformingToTypes:	14
canReadObjectForClasses:options:	14
changeCount	15
clearContents	15
dataForType:	16
declareTypes:owner:	17
indexOfPasteboardItem:	18
name	18
pasteboardItems	19
propertyListForType:	19
readFileContentsType:toFile:	20
readFileWrapper	20
readObjectsForClasses:options:	21
releaseGlobally	22
setData:forType:	22
setPropertyList:forType:	23
setString:forType:	24
stringForType:	25
types	25
writeFileContents:	26

- writeFileWrapper: 26
- writeObjects: 27
- Constants 27
 - Pasteboard Names 27
 - Types for Standard Data (Mac OS X 10.6 and later) 28
 - Types for Standard Data (Mac OS X 10.5 and earlier) 30
 - Pasteboard Reading Options 34

Document Revision History 35

Index 37

NSPasteboard Class Reference

Inherits from	NSObject
Conforms to	NSObject (NSObject)
Framework	/System/Library/Frameworks/AppKit.framework
Availability	Available in Mac OS X v10.0 and later.
Declared in	NSPasteboard.h
Companion guides	Pasteboard Programming Guide Drag and Drop Programming Topics for Cocoa Services Implementation Guide
Related sample code	DemoAssistant DemoMonkey iSpend Quartz Composer WWDC 2005 TextEdit Sketch-112

Overview

`NSPasteboard` objects transfer data to and from the pasteboard server. The server is shared by all running applications. It contains data that the user has cut or copied, as well as other data that one application wants to transfer to another. `NSPasteboard` objects are an application's sole interface to the server and to all pasteboard operations.

An `NSPasteboard` object is also used to transfer data between applications and service providers listed in each application's Services menu. The drag pasteboard (`NSDragPboard`) is used to transfer data that is being dragged by the user.

Important: This reference and the *Pasteboard Programming Guide* describe the API and behavior for Mac OS X v10.6 and later. To learn about the behavior on Mac OS X v10.5 and earlier, see "Pasteboard Programming Topics for Cocoa" in the Legacy Reference Library.

On Mac OS X v10.6 and later, a pasteboard can contain multiple items. You can directly write or read any object that implements the `NSPasteboardWriting Protocol Reference` or `NSPasteboardReading Protocol Reference` protocol respectively. This allows you to write and read common items such as URLs, colors, images, strings, attributed strings, and sounds without an intermediary object. Your custom classes can also implement these protocols for use with the pasteboard.

The writing methods available on Mac OS X v10.5 and earlier all operate on what is conceptually the first item on the pasteboard. They accept UTIs and pboard type strings. In a future release they may take only UTIs. On Mac OS X v10.6 and later, the writing methods such as `setData:forType:` (page 22) still provide a convenient means of writing to the first pasteboard item, without having to create the first pasteboard item. For example, instead of

```
[pboard clearContents];
NSPasteboardItem *item = [[[NSPasteboardItem alloc] initWithData:data type:type] autorelease];
[item setData:data forType:type];
[pboard writeObjects:[NSArray arrayWithObject:item]];
```

you can write:

```
[pboard clearContents];
[pboard setData:data forType:type];
```

In addition to being more compact, this is also a little more efficient—it avoids the need to create a separate pasteboard item and array.

Tasks

Creating and Releasing a Pasteboard

- + [generalPasteboard](#) (page 8)
Returns the general `NSPasteboard` object.
- + [pasteboardByFilteringData:ofType:](#) (page 9)
Creates and returns a new pasteboard with a unique name that supplies the specified data in as many types as possible given the available filter services.
- + [pasteboardByFilteringFile:](#) (page 9)
Creates and returns a new pasteboard with a unique name that supplies the specified file data in as many types as possible given the available filter services.
- + [pasteboardByFilteringTypesInPasteboard:](#) (page 10)
Creates and returns a new pasteboard with a unique name that supplies the specified pasteboard data in as many types as possible given the available filter services.
- + [pasteboardWithName:](#) (page 10)
Returns the pasteboard with the specified name.
- + [pasteboardWithUniqueName](#) (page 11)
Creates and returns a new pasteboard with a name that is guaranteed to be unique with respect to other pasteboards on the computer.
- [releaseGlobally](#) (page 22)
Releases the receiver's resources in the pasteboard server.

Writing Data

- [clearContents](#) (page 15)
Clears the existing contents of the pasteboard

- [writeObjects:](#) (page 27)
Writes an array of objects to the receiver.
- [setData:forType:](#) (page 22)
Sets the given data as the representation for the specified type for the first item on the receiver.
- [setPropertyList:forType:](#) (page 23)
Sets the given property list as the representation for the specified type for the first item on the receiver.
- [setString:forType:](#) (page 24)
Sets the given string as the representation for the specified type for the first item on the receiver.

Reading Data

- [readObjectsForClasses:options:](#) (page 21)
Reads from the receiver objects that best match the specified array of classes.
- [pasteboardItems](#) (page 19)
Returns all the items held by the receiver.
- [indexOfPasteboardItem:](#) (page 18)
Returns the index of the specified pasteboard item.
- [dataForType:](#) (page 16)
Returns the data for the specified type from the first item in the receiver that contains the type.
- [propertyListForType:](#) (page 19)
Returns the property list for the specified type from the first item in the receiver that contains the type.
- [stringForType:](#) (page 25)
Returns a concatenation of the strings for the specified type from all the items in the receiver that contain the type.

Validating Contents

- [availableTypeFromArray:](#) (page 13)
Scans the specified types for a type that the receiver supports.
- [canReadItemWithDataConformingToTypes:](#) (page 14)
Returns a Boolean value that indicates whether the receiver contains any items that conform to the specified UTIs.
- [canReadObjectForClasses:options:](#) (page 14)
Returns a Boolean value that indicates whether the receiver contains any items that can be represented as an instance of any class in a given array.
- [types](#) (page 25)
Returns an array of the receiver's supported data types.
- + [typesFilterableTo:](#) (page 11)
Returns the data types that can be converted to the specified type using the available filter services.

Getting Information About a Pasteboard

- [name](#) (page 18)
Returns the receiver's name.
- [changeCount](#) (page 15)
Returns the receiver's change count.

Writing Data (Mac OS X v10.5 and Earlier)

These methods all operate on what is conceptually the first item on the pasteboard. They accept UTIs and pboard type strings. In a future release they may take only UTIs.

- [declareTypes:owner:](#) (page 17)
Prepares the receiver for a change in its contents by declaring the new types of data it will contain and a new owner.
- [addTypes:owner:](#) (page 12)
Adds promises for the specified types to the first pasteboard item.
- [writeFileContents:](#) (page 26)
Writes the contents of the specified file to the pasteboard.
- [writeFileWrapper:](#) (page 26)
Writes the serialized contents of the specified file wrapper to the pasteboard.

Reading Data (Mac OS X v10.5 and Earlier)

These methods all operate on what is conceptually the first item on the pasteboard. They accept UTIs and pboard type strings. In a future release they may take only UTIs.

- [readFileContentsType:toFile:](#) (page 20)
Reads data representing a file's contents from the receiver and writes it to the specified file.
- [readFileWrapper](#) (page 20)
Reads data representing a file's contents from the receiver and returns it as a file wrapper.

Class Methods

generalPasteboard

Returns the general NSPasteboard object.

```
+ (NSPasteboard *)generalPasteboard
```

Return Value

The general pasteboard.

Discussion

Invokes [pasteboardWithName:](#) (page 10) to obtain the pasteboard.

Availability

Available in Mac OS X v10.0 and later.

Related Sample Code

DemoMonkey

GLUT

iSpend

PDFKitLinker2

Sketch-112

Declared In

NSPasteboard.h

pasteboardByFilteringData:ofType:

Creates and returns a new pasteboard with a unique name that supplies the specified data in as many types as possible given the available filter services.

```
+ (NSPasteboard *)pasteboardByFilteringData:(NSData *)data ofType:(NSString *)type
```

Parameters

data

The data to be placed on the pasteboard.

type

The type of data in the *data* parameter.

Return Value

The new pasteboard object.

Discussion

The returned pasteboard also declares data of the supplied *type*.

No filter service is invoked until the data is actually requested, so invoking this method is reasonably inexpensive.

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSPasteboard.h

pasteboardByFilteringFile:

Creates and returns a new pasteboard with a unique name that supplies the specified file data in as many types as possible given the available filter services.

```
+ (NSPasteboard *)pasteboardByFilteringFile:(NSString *)filename
```

Parameters

filename

The filename to put on the pasteboard.

Return Value

The new pasteboard object.

Discussion

No filter service is invoked until the data is actually requested, so invoking this method is reasonably inexpensive.

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSPasteboard.h

pasteboardByFilteringTypesInPasteboard:

Creates and returns a new pasteboard with a unique name that supplies the specified pasteboard data in as many types as possible given the available filter services.

```
+ (NSPasteboard *)pasteboardByFilteringTypesInPasteboard:(NSPasteboard *)pasteboard
```

Parameters

pasteboard

The original pasteboard object.

Return Value

The new pasteboard object. This method returns the object in the *pasteboard* parameter if the pasteboard was returned by one of the `pasteboardByFiltering...` methods. This prevents a pasteboard from being expanded multiple times.

Discussion

This process can be thought of as expanding the pasteboard, because the new pasteboard generally contains more representations of the data than *pasteboard*.

This method only returns the original types and the types that can be created as a result of a single filter; the pasteboard does not have defined types that are the result of translation by multiple filters.

No filter service is invoked until the data is actually requested, so invoking this method is reasonably inexpensive.

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSPasteboard.h

pasteboardWithName:

Returns the pasteboard with the specified name.

```
+ (NSPasteboard *)pasteboardWithName:(NSString *)name
```

Parameters*name*

The name of the pasteboard. The names of standard pasteboards are given in [“Pasteboard Names”](#) (page 27).

Return Value

The pasteboard associated with the given name, or a new `NSPasteboard` object if the application does not yet have a pasteboard object for the specified name.

Discussion

Other names can be assigned to create private pasteboards for other purposes.

Availability

Available in Mac OS X v10.0 and later.

Related Sample Code

ClipboardViewer

CocoaDragAndDrop

FunHouse

PDFKitLinker2

ZipBrowser

Declared In

NSPasteboard.h

pasteboardWithUniqueName

Creates and returns a new pasteboard with a name that is guaranteed to be unique with respect to other pasteboards on the computer.

```
+ (NSPasteboard *)pasteboardWithUniqueName
```

Return Value

The new pasteboard object.

Discussion

This method is useful for applications that implement their own interprocess communication using pasteboards.

Availability

Available in Mac OS X v10.0 and later.

Related Sample Code

PhotoSearch

Declared In

NSPasteboard.h

typesFilterableTo:

Returns the data types that can be converted to the specified type using the available filter services.

```
+ (NSArray *)typesFilterableTo:(NSString *)type
```

Parameters*type*

The target data type.

Return ValueAn array of `NSString` objects containing the types that can be converted to the target data type.**Discussion**

The array also contains the original type.

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSPasteboard.h

Instance Methods

addTypes:owner:

Adds promises for the specified types to the first pasteboard item.

- (NSInteger)addTypes:(NSArray *)newTypes owner:(id)newOwner

Parameters*newTypes*An array of `NSString` objects, each of which specifies a type of data that can be provided to the pasteboard.*newOwner*

The object that provides the data for the specified types.

If the data for those types is provided immediately, the owner can be `nil`. If the data for the added types will be provided lazily when requested from the pasteboard, an owner object must be provided that implements the `-pasteboard:provideDataForType:` method of the `NSPasteboardOwner` informal protocol.**Return Value**

The new change count, or 0 if there was an error adding the types.

Discussion

This method adds promises for the specified types to the first pasteboard item.

You use this methods to declare additional types of data for the first pasteboard item in the receiver. You can also use it to replace existing types added by a previous `declareTypes:owner:` (page 17) or `addTypes:owner:` message.The *newTypes* parameter specifies the types of data you are promising to the pasteboard. The types should be ordered according to the preference of the source application, with the most preferred type coming first (typically, the richest representation). New types are added to the end of the list containing any existing types, if any.If you specify a type that has already been declared, this method replaces the owner of that type with the value in *newOwner*. In addition, any data already already written to the pasteboard for that type is removed.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [changeCount](#) (page 15)

Related Sample Code

CocoaDragAndDrop

DemoMonkey

RGB Image

RGB ValueTransformers

Declared In

NSPasteboard.h

availableTypeFromArray:

Scans the specified types for a type that the receiver supports.

```
- (NSString *)availableTypeFromArray:(NSArray *)types
```

Parameters

types

An array of `NSString` objects specifying the pasteboard types your application supports, in preferred order.

Return Value

The first pasteboard type in *types* that is available on the pasteboard, or `nil` if the receiver does not contain any of the types in *types*.

Discussion

You use this method to determine the best representation available on the pasteboard. For example, if your application supports RTFD, RTF, and string data, then you might invoke the method as follows:

```
NSArray *supportedTypes =
    [NSArray arrayWithObjects: NSRTFDPboardType, NSRTFPboardType,
     NSStringPboardType, nil];
NSString *bestType = [[NSPasteboard generalPasteboard]
    availableTypeFromArray:supportedTypes];
```

If the pasteboard contains RTF and string data, then `bestType` would contain `NSRTFPboardType`. If the pasteboard contains none of the types in `supportedTypes`, then `bestType` would be `nil`.

You must send a `types` (page 25) or `availableTypeFromArray:` message before reading any data from an `NSPasteboard` object. If you need to see if a type in the returned array matches a type string you have stored locally, use the `isEqualToString:` method to perform the comparison.

Availability

Available in Mac OS X v10.0 and later.

Related Sample Code

GLChildWindowDemo

GLUT

MP3 Player

Sketch+Accessibility
Sketch-112

Declared In

NSPasteboard.h

canReadItemWithDataConformingToTypes:

Returns a Boolean value that indicates whether the receiver contains any items that conform to the specified UTIs.

- (BOOL)canReadItemWithDataConformingToTypes:(NSArray *)types

Parameters

types

An array of `NSString` objects containing UTIs.

Return Value

YES if the receiver contains any items that conform to the UTIs specified in *types*, otherwise NO.

Availability

Available in Mac OS X v10.6 and later.

See Also

- [canReadObjectForClasses:options:](#) (page 14)
- [readObjectsForClasses:options:](#) (page 21)

Declared In

NSPasteboard.h

canReadObjectForClasses:options:

Returns a Boolean value that indicates whether the receiver contains any items that can be represented as an instance of any class in a given array.

- (BOOL)canReadObjectForClasses:(NSArray *)classArray
options:(NSDictionary *)options

Parameters

classArray

An array of class objects.

Classes in the array must conform to the `NSPasteboardReading Protocol Reference` protocol.

options

A dictionary that specifies options to refine the search for pasteboard items, for example to restrict the search to file URLs with particular content types. For valid dictionary keys, see [“Pasteboard Reading Options”](#) (page 34).

Return Value

YES if the receiver contains any items that can be represented as an instance of a class specified in *classArray*, otherwise NO.

Availability

Available in Mac OS X v10.6 and later.

See Also

- [canReadItemWithDataConformingToTypes:](#) (page 14)
- [readObjectsForClasses:options:](#) (page 21)

Related Sample Code

DemoMonkey

Declared In

NSPasteboard.h

changeCount

Returns the receiver's change count.

- (NSInteger)changeCount

Return Value

The change count of the receiver.

Discussion

The change count starts at zero when a client creates the receiver and becomes the first owner. The change count subsequently increments each time the pasteboard ownership changes.

The change count is also returned from [clearContents](#) (page 15) and [declareTypes:owner:](#) (page 17). You can therefore record the change count at the time that you take ownership of the pasteboard and later compare it with the value returned from `changeCount` to determine whether you still have ownership.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [clearContents](#) (page 15)
- [declareTypes:owner:](#) (page 17)

Related Sample Code

GLUT

Sketch+Accessibility

Sketch-112

Declared In

NSPasteboard.h

clearContents

Clears the existing contents of the pasteboard

- (NSInteger)clearContents

Return Value

The change count of the receiver.

Discussion

Clears the existing contents of the pasteboard, preparing it for new contents. This is the first step in providing data on the pasteboard.

Availability

Available in Mac OS X v10.6 and later.

Related Sample Code

DemoMonkey

IconCollection

Declared In

NSPasteboard.h

dataForType:

Returns the data for the specified type from the first item in the receiver that contains the type.

```
- (NSData *)dataForType:(NSString *)dataType
```

Parameters

dataType

The type of data you want to read from the pasteboard. This value should be one of the types returned by [types](#) (page 25) or [availableTypeFromArray:](#) (page 13).

Return Value

A data object containing the data for the specified type from the first item in the receiver that contains the type, or `nil` if the contents of the pasteboard changed since they were last checked.

This method may also return `nil` if the pasteboard server cannot supply the data in time—for example, if the pasteboard's owner is slow in responding to a `pasteboard:provideDataForType: message` and the interprocess communication times out.

Discussion

Errors other than a timeout raise a `NSPasteboardCommunicationException`.

If `nil` is returned, the application should put up a panel informing the user that it was unable to carry out the paste operation.

Special Considerations

For standard text data types such as string, RTF, and RTFD, the text data from each item is returned as one combined result separated by newlines.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [setData:forType:](#) (page 22)

Related Sample Code

GeekGameBoard

ImageKitDemo
iSpend
Sketch+Accessibility
Sketch-112

Declared In

NSPasteboard.h

declareTypes:owner:

Prepares the receiver for a change in its contents by declaring the new types of data it will contain and a new owner.

```
- (NSInteger)declareTypes:(NSArray *)newTypes owner:(id)newOwner
```

Parameters

newTypes

An array of `NSString` objects that specify the types of data that may be added to the new pasteboard. The types should be ordered according to the preference of the source application, with the most preferred type coming first (typically, the richest representation).

newOwner

The object responsible for writing data to the pasteboard, or `nil` if you provide data for all types immediately. If you specify a *newOwner* object, it must support all of the types declared in the *newTypes* parameter and must remain valid for as long as the data is *promised* on the pasteboard.

Return Value

The receiver's new change count.

Discussion

This method is the equivalent of invoking `clearContents` (page 15), implicitly writing the first pasteboard item, and then calling `addTypes:owner:` (page 12) to promise types for the first pasteboard item.

Mac OS X v10.5 and earlier: In Mac OS X v10.5 and earlier, this method is the first step in writing data to the pasteboard and must precede the messages that actually write the data. A `declareTypes:owner:` message essentially changes the contents of the receiver: It invalidates the current contents of the receiver and increments its change count.

Special Considerations

In general, you should not use this method with `writeObjects:` (page 27), since `writeObjects:` will always write additional items to the pasteboard, and will not affect items already on the pasteboard, including the item implicitly created by this method.

Availability

Available in Mac OS X v10.0 and later.

See Also

- `clearContents` (page 15)
- `addTypes:owner:` (page 12)
- `changeCount` (page 15)
- `pasteboard:provideDataForType:` (NSPasteboardOwner Informal Protocol)

Related Sample Code

GLUT

iSpend

PDFKitLinker2

Sketch-112

With and Without Bindings

Declared In

NSPasteboard.h

indexOfPasteboardItem:

Returns the index of the specified pasteboard item.

- (NSUInteger)indexOfPasteboardItem:(NSPasteboardItem *)*pasteboardItem***Parameters***pasteboardItem*

A pasteboard item.

Return ValueThe index of the specified pasteboard item. If *pasteboardItem* has not been added to any pasteboard, or is owned by another pasteboard, returns `NSNotFound`.**Discussion**

An item's index in the pasteboard is useful for a pasteboard item data provider that has promised data for multiple items, to be able to easily match the pasteboard item to an array of source data from which to derive the promised data.

Availability

Available in Mac OS X v10.6 and later.

Declared In

NSPasteboard.h

name

Returns the receiver's name.

- (NSString *)name

Return Value

The name of the receiver.

Availability

Available in Mac OS X v10.0 and later.

See Also[+ pasteboardWithName:](#) (page 10)**Declared In**

NSPasteboard.h

pasteboardItems

Returns all the items held by the receiver.

- (NSArray *)pasteboardItems

Return Value

Returns all the items held by the receiver, or `nil` if there is an error retrieving pasteboard items.

Availability

Available in Mac OS X v10.6 and later.

See Also

- [readObjectsForClasses:options:](#) (page 21)

Declared In

NSPasteboard.h

propertyListForType:

Returns the property list for the specified type from the first item in the receiver that contains the type.

- (id)propertyListForType:(NSString *)dataType

Parameters

dataType

The pasteboard data type containing the property-list data.

Return Value

The property list for the specified type from the first item in the receiver that contains the type. This object consists of `NSArray`, `NSData`, `NSDictionary`, or `NSString` objects—or any combination thereof.

Discussion

This method invokes the [dataForType:](#) (page 16) method.

Special Considerations

You must send [types](#) (page 25) or [availableTypeFromArray:](#) (page 13) before invoking `propertyListForType:`.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [setPropertyList:forType:](#) (page 23)

Related Sample Code

DictionaryController

GLChildWindowDemo

Sketch+Accessibility

Sketch-112

SourceView

Declared In

NSPasteboard.h

readFileContentsType:toFile:

Reads data representing a file's contents from the receiver and writes it to the specified file.

```
- (NSString *)readFileContentsType:(NSString *)type toFile:(NSString *)filename
```

Parameters

type

The pasteboard data type to read. You should generally specify a value for this parameter. If you specify `nil`, the filename extension (in combination with the `NSCreateFileContentsPboardType` function) is used to determine the type.

filename

The file to receive the pasteboard data.

Return Value

The name of the file into which the data was actually written.

Discussion

Data of any file contents type should only be read using this method. If data matching the specified type is not found on the pasteboard, data of type `NSFileContentsPboardType` is requested.

Mac OS X v10.6 and later: In Mac OS X v10.5 and earlier, the file contents pboard type allowed you to synthesize a pboard type for a file's contents based on the file's extension. In Mac OS X v10.5 and later, using the UTI of a file to represent its contents now replaces this functionality.

Special Considerations

You must send an `availableTypeFromArray:` (page 13) or `types` (page 25) message before invoking `readFileContentsType:toFile:.`

Availability

Available in Mac OS X v10.0 and later.

See Also

- `writeFileContents:` (page 26)

Declared In

`NSPasteboard.h`

readFileWrapper

Reads data representing a file's contents from the receiver and returns it as a file wrapper.

```
- (NSFileWrapper *)readFileWrapper
```

Return Value

A file wrapper containing the pasteboard data, or `nil` if the receiver contained no data of type `NSFileContentsPboardType`.

Discussion

In Mac OS X v10.5 and earlier, the file contents pboard type allowed you to synthesize a pboard type for a file's contents based on the file's extension. In Mac OS X v10.5 and later, using the UTI of a file to represent its contents now replaces this functionality.

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSPasteboard.h

readObjectsForClasses:options:

Reads from the receiver objects that best match the specified array of classes.

```
- (NSArray *)readObjectsForClasses:(NSArray *)classArray
    options:(NSDictionary *)options
```

Parameters

classArray

An array of class objects.

The classes should appear in the array in the order the preferred order of representation. Classes in the array must conform to the `NSPasteboardReadingProtocol` Reference protocol.

options

A dictionary that specifies options to refine the search for pasteboard items, for example to restrict the search to file URLs with particular content types. For valid dictionary keys, see [“Pasteboard Reading Options”](#) (page 34).

Return Value

An array containing the best match (if any) for each of the items on the receiver that can be represented by a class specified in *classArray*. Returns `nil` if there is an error in retrieving the requested items from the pasteboard, or if no objects of the specified classes can be created.

Discussion

Classes in *classArray* must implement the `NSPasteboardReading` protocol. Cocoa classes that implement this protocol include `NSImage`, `NSString`, `NSURL`, `NSColor`, `NSAttributedString`, and `NSPasteboardItem`. For every item on the pasteboard, each class in the provided array will be queried for the types it can read using `readableTypesForPasteboard:`. An instance is created of the first class found in the provided array whose readable types match a conforming type contained in that pasteboard item. Any instances that could be created from pasteboard item data is returned to the caller. Additional options, such as restricting the search to file URLs with particular content types, can be specified with an options dictionary.

Only objects of the requested classes are returned. You can always ensure to receive one object per item on the pasteboard by including the `NSPasteboardItem` class in the array of classes.

Consider the following example: there are five items on the pasteboard, two contain TIFF data, two contain RTF data, one contains a private data type. The following table shows what objects you get back in the returned array for different classes in *classArray*

Classes in <i>classArray</i>	Returned objects
<code>NSImage</code>	Two <code>NSImage</code> objects.
<code>NSAttributedString</code>	Two <code>NSAttributedString</code> objects.
<code>NSImage</code> , <code>NSAttributedString</code>	Two <code>NSImage</code> objects, and two <code>NSAttributedString</code> objects.

Classes in <i>classList</i>	Returned objects
NSImage, NSAttributedString, NSPasteboardItem	Two NSImage objects, two NSAttributedString objects, and one NSPasteboardItem object containing the private data type.

Availability

Available in Mac OS X v10.6 and later.

See Also

- [canReadObjectForClasses:options:](#) (page 14)
- [canReadItemWithDataConformingToTypes:](#) (page 14)
- [pasteboardItems](#) (page 19)

Related Sample Code

DemoMonkey
LightTable

Declared In

NSPasteboard.h

releaseGlobally

Releases the receiver's resources in the pasteboard server.

```
- (void)releaseGlobally
```

Discussion

After this method is invoked, no other application can use the receiver.

Special Considerations

A temporary, privately named pasteboard can be released this way when it is no longer needed, but a standard pasteboard should never be released globally.

Availability

Available in Mac OS X v10.0 and later.

Declared In

NSPasteboard.h

setData:forType:

Sets the given data as the representation for the specified type for the first item on the receiver.

```
- (BOOL)setData:(NSData *)data forType:(NSString *)dataType
```

Parameters

data

The data to write to the pasteboard.

dataType

The type of data in the *data* parameter. The type must have been declared by a previous `declareTypes:owner:` (page 17) message.

Return Value

YES if the data was written successfully, otherwise NO if ownership of the pasteboard has changed. Any other error raises an `NSPasteboardCommunicationException`.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [dataForType:](#) (page 16)
- [setPropertyList:forType:](#) (page 23)
- [setString:forType:](#) (page 24)

Related Sample Code

CocoaDragAndDrop
GLUT
PDFKitLinker2
Sketch+Accessibility
Sketch-112

Declared In

`NSPasteboard.h`

setPropertyList:forType:

Sets the given property list as the representation for the specified type for the first item on the receiver.

```
- (BOOL)setPropertyList:(id)propertyList forType:(NSString *)dataType
```

Parameters*propertyList*

The property list data to write to the pasteboard.

dataType

The type of property-list data in the *propertyList* parameter. The type must have been declared by a previous `declareTypes:owner:` (page 17) message.

Return Value

YES if the data was written successfully, otherwise NO if ownership of the pasteboard has changed. Any other error raises an `NSPasteboardCommunicationException`.

Discussion

This method invokes `setData:forType:` (page 22) with a serialized property list parameter.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [propertyListForType:](#) (page 19)
- [setString:forType:](#) (page 24)

Related Sample Code

DragNDropOutlineView
 EnhancedAudioBurn
 iSpend
 Quartz Composer WWDC 2005 TextEdit
 ZipBrowser

Declared In

NSPasteboard.h

setString:forType:

Sets the given string as the representation for the specified type for the first item on the receiver.

```
- (BOOL)setString:(NSString *)string forType:(NSString *)dataType
```

Parameters

string

The string to write to the pasteboard.

dataType

The type of string data. The type must have been declared by a previous [declareTypes:owner:](#) (page 17) message.

Return Value

YES if the data was written successfully, otherwise NO if ownership of the pasteboard has changed. Any other error raises an `NSPasteboardCommunicationException`.

Discussion

This method invokes [setData:forType:](#) (page 22) to perform the write.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [stringForType:](#) (page 25)
- [setData:forType:](#) (page 22)
- [setPropertyList:forType:](#) (page 23)

Related Sample Code

DemoAssistant
 DragNDropOutlineView
 QTMetadataEditor
 SpotlightFortunes
 With and Without Bindings

Declared In

NSPasteboard.h

stringForType:

Returns a concatenation of the strings for the specified type from all the items in the receiver that contain the type.

```
- (NSString *)stringForType:(NSString *)dataType
```

Parameters

dataType

The pasteboard data type to read.

Return Value

A concatenation of the strings for the specified type from all the items in the receiver that contain the type, or `nil` if none of the items contain strings of the specified type.

Discussion

This method invokes `dataForType:` to obtain the string. If the string cannot be obtained, `stringForType:` returns `nil`. See [dataForType:](#) (page 16) for a description of what will cause `nil` to be returned.

In Mac OS X v10.6 and later, if the receiver contains multiple items that can provide string, RTF, or RTFD data, the text data from each item is returned as a combined result separated by newlines.

Special Considerations

You must send [types](#) (page 25) or [availableTypeFromArray:](#) (page 13) before invoking `stringForType:`.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [setString:forType:](#) (page 24)

Related Sample Code

`iSpend`

`SpotlightFortunes`

Declared In

`NSPasteboard.h`

types

Returns an array of the receiver's supported data types.

```
- (NSArray *)types
```

Return Value

An array of `NSString` objects containing the union of the types of data declared for all the pasteboard items on the receiver. The returned types are listed in the order they were declared.

Discussion

You must send a `types` or [availableTypeFromArray:](#) (page 13) message before reading any data from an `NSPasteboard` object. If you need to see if a type in the returned array matches a type string you have stored locally, use the `isEqualToString:` method to perform the comparison.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [declareTypes:owner:](#) (page 17)
- [dataForType:](#) (page 16)

Related Sample Code

iSpend

Quartz Composer WWDC 2005 TextEdit

Declared In

NSPasteboard.h

writeFileContents:

Writes the contents of the specified file to the pasteboard.

```
- (BOOL)writeFileContents:(NSString *)filename
```

Parameters

filename

The name of the file to write to the pasteboard.

Return Value

YES if the data was successfully written, otherwise NO.

Discussion

Writes the contents of the file *filename* to the receiver and declares the data to be of type `NSFileContentsPboardType` and also of a type appropriate for the file's extension (as returned by the `NSCreateFileContentsPboardType` function when passed the file's extension), if it has one.

Availability

Available in Mac OS X v10.0 and later.

See Also

- [readFileContentsType:toFile:](#) (page 20)

Declared In

NSPasteboard.h

writeFileWrapper:

Writes the serialized contents of the specified file wrapper to the pasteboard.

```
- (BOOL)writeFileWrapper:(NSFileWrapper *)wrapper
```

Parameters

wrapper

The file wrapper to write to the pasteboard.

Return Value

YES if the data was successfully written, otherwise NO.

Discussion

Writes the serialized contents of the file wrapper *wrapper* to the receiver and declares the data to be of type `NSFileContentsPboardType` and also of a type appropriate for the file's extension (as returned by the `NSCreateFileContentsPboardType` function when passed the file's extension), if it has one. If *wrapper* does not have a preferred filename, this method raises an exception.

Availability

Available in Mac OS X v10.0 and later.

Declared In

`NSPasteboard.h`

writeObjects:

Writes an array of objects to the receiver.

```
- (BOOL)writeObjects:(NSArray *)objects
```

Parameters

objects

An array of objects that implement the `NSPasteboardWriting Protocol Reference` protocol (including instances of `NSPasteboardItem`).

Return Value

YES if the array was successfully added, otherwise NO.

Availability

Available in Mac OS X v10.6 and later.

Related Sample Code

DemoMonkey

IconCollection

Declared In

`NSPasteboard.h`

Constants

Pasteboard Names

The `NSPasteboard` class defines the following named pasteboards.

```
NSString *NSGeneralPboard;
NSString *NSFontPboard;
NSString *NSRulerPboard;
NSString *NSFindPboard;
NSString *NSDragPboard;
```

Constants

NSGeneralPboard

The pasteboard that's used for ordinary cut, copy, and paste operations.

This pasteboard holds the contents of the last selection that's been cut or copied.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSFontPboard

The pasteboard that holds font and character information and supports Copy Font and Paste Font commands that may be implemented in a text editor.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSRulerPboard

The pasteboard that holds information about paragraph formats in support of the Copy Ruler and Paste Ruler commands that may be implemented in a text editor.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSFindPboard

The pasteboard that holds information about the current state of the active application's find panel.

This information permits users to enter a search string into the find panel, then switch to another application to conduct another search.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSDragPboard

The pasteboard that stores data to be moved as the result of a drag operation.

For additional information on working with the drag pasteboard, see *Drag and Drop Programming Topics for Cocoa*.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

Declared In

AppKit/NSPasteboard.h

Types for Standard Data (Mac OS X 10.6 and later)

The `NSPasteboard` class uses the following constants to define UTIs for common pasteboard data types.

```

NSString *const NSPasteboardTypeString;
NSString *const NSPasteboardTypePDF;
NSString *const NSPasteboardTypeTIFF;
NSString *const NSPasteboardTypePNG;
NSString *const NSPasteboardTypeRTF;
NSString *const NSPasteboardTypeRTFD;
NSString *const NSPasteboardTypeHTML;
NSString *const NSPasteboardTypeTabularText;
NSString *const NSPasteboardTypeFont;
NSString *const NSPasteboardTypeRuler;
NSString *const NSPasteboardTypeColor;
NSString *const NSPasteboardTypeSound;
NSString *const NSPasteboardTypeMultipleTextSelection;
NSString *const NSPasteboardTypeFindPanelSearchOptions;

```

Constants

NSPasteboardTypeString

String data.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

NSPasteboardTypePDF

PDF data.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

NSPasteboardTypeTIFF

Tag Image File Format (TIFF) data.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

NSPasteboardTypePNG

PNG image data.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

NSPasteboardTypeRTF

Rich Text Format (RTF) data.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

NSPasteboardTypeRTFD

RTFD formatted file contents.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

NSPasteboardTypeHTML

HTML data.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

`NSPasteboardTypeTabularText`

An `NSString` object containing tab-separated fields of text.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

`NSPasteboardTypeFont`

Font and character information.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

`NSPasteboardTypeRuler`

Paragraph formatting information.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

`NSPasteboardTypeColor`

Color data (an `NSColor` object).

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

`NSPasteboardTypeSound`

Sound data (an `NSSound` object).

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

`NSPasteboardTypeMultipleTextSelection`

Multiple text selection.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

`NSPasteboardTypeFindPanelSearchOptions`

Type for the Find panel metadata property list.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

Types for Standard Data (Mac OS X 10.5 and earlier)

The `NSPasteboard` class uses the following common pasteboard data types.

```

NSString *NSStringPboardType;
NSString *NSFileNamesPboardType;
NSString *NSPostScriptPboardType;
NSString *NSTIFFPboardType;
NSString *NSRTFPboardType;
NSString *NSTabularTextPboardType;
NSString *NSFontPboardType;
NSString *NSRulerPboardType;
NSString *NSFileContentsPboardType;
NSString *NSColorPboardType;
NSString *NSRTFDPboardType;
NSString *NSHTMLPboardType;
NSString *NSPICTPboardType;
NSString *NSURLPboardType;
NSString *NSPDFPboardType;
NSString *NSVCardPboardType;
NSString *NSFilesPromisePboardType;
NSString *NSMultipleTextSelectionPboardType;

```

Constants

NSColorPboardType

NSColor **data**.

On Mac OS X v10.6 and later, use [NSPasteboardTypeColor](#) (page 30) (and you read and write colors directly to and from the pasteboard).

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSFileContentsPboardType

A representation of a file's contents.

The file contents pboard type allowed you to synthesize a pboard type for a file's contents based on the file's extension.

On Mac OS X v10.6 and later, you should use the UTI of a file to represent its contents instead.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSFileNamesPboardType

An array of `NSString` objects designating one or more filenames.

On Mac OS X v10.6 and later, use [writeObjects:](#) (page 27) to write file URLs to the pasteboard.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSFontPboardType

Font and character information.

On Mac OS X v10.6 and later, use [NSPasteboardTypeFont](#) (page 30) instead.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSHTMLPboardType

HTML (which an `NSTextView` object can read from, but not write to).

On Mac OS X v10.6 and later, use [NSPasteboardTypeHTML](#) (page 29) instead.

Available in Mac OS X v10.1 and later.

Declared in `NSPasteboard.h`.

NSPDFPboardType

PDF data.

On Mac OS X v10.6 and later, use [NSPasteboardTypePDF](#) (page 29) instead.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSPICTPboardType

QuickDraw picture data.

The PICT format was formally deprecated in Mac OS X v10.4 along with QuickDraw. You should not be explicitly providing or looking for PICT data on the pasteboard.

To aid in this deprecation, if PICT is the only image type on the pasteboard, as is sometimes the case when copying images from 32-bit Carbon applications, a translated image type will be automatically reported and provided by `NSPasteboard`. The translated type is added to the types array ahead of PICT so that the deprecated PICT format is not the preferred format. In addition, when an application provides image data to `NSPasteboard`, the Carbon Pasteboard Manager will automatically make a PICT translation available to 32-bit Carbon applications.

Although `NSPICTPboardType`, and its UTI equivalent `kUTTypePICT`, will appear in a pasteboard's type array retrieved from the existing `NSPasteboard` API, it may cease to be reported in future releases.

Available in Mac OS X v10.0 and later.

Deprecated in Mac OS X v10.6.

Declared in `NSPasteboard.h`.

NSPostScriptPboardType

Encapsulated PostScript (EPS) code.

On Mac OS X v10.6 and later, use `"com.adobe.encapsulated-postscript"` instead.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSRulerPboardType

Paragraph formatting information.

On Mac OS X v10.6 and later, use [NSPasteboardTypeRuler](#) (page 30) instead.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSRTFPboardType

Rich Text Format (RTF) data.

On Mac OS X v10.6 and later, use [NSPasteboardTypeRTF](#) (page 29) instead.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSRTFDPboardType

RTFD formatted file contents.

On Mac OS X v10.6 and later, use [NSPasteboardTypeRTFD](#) (page 29) instead.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSStringPboardType

NSString data. (**Deprecated.** On Mac OS X v10.6 and later, use [NSPasteboardTypeString](#) (page 29) instead.)

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSTabularTextPboardType

An NSString object containing tab-separated fields of text.

On Mac OS X v10.6 and later, use [NSPasteboardTypeTabularText](#) (page 30) instead.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSTIFFPboardType

Tag Image File Format (TIFF) data.

On Mac OS X v10.6 and later, use [NSPasteboardTypeTIFF](#) (page 29) instead.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSURLPboardType

NSURL data for one file or resource.

On Mac OS X v10.6 and later, use [writeObjects:](#) (page 27) to write URLs directly to the pasteboard instead.

On Mac OS X v10.5 and earlier: to write an URL to a pasteboard you use `writeToPasteboard:(NSURL)`; to get an URL from a pasteboard you use `URLFromPasteboard:(NSURL)`.

Available in Mac OS X v10.0 and later.

Declared in `NSPasteboard.h`.

NSVCardPboardType

VCard data.

On Mac OS X v10.6 and later, use `(NSString *)kUTTypeVCard` instead.

Available in Mac OS X v10.2 and later.

Declared in `NSPasteboard.h`.

NSFilesPromisePboardType

Promised files.

On Mac OS X v10.6 and later, use `(NSString *)kPasteboardTypeFileURLPromise` instead.

For information on promised files, see *Dragging Files in Drag and Drop Programming Topics for Cocoa*.

Available in Mac OS X v10.2 and later.

Declared in `NSPasteboard.h`.

NSInkTextPboardType

Ink text data.

On Mac OS X v10.6 and later, use `(NSString *)kUTTypeInkText` instead.

For information on ink text objects, see *Using Ink Services in Your Application*.

Available in Mac OS X v10.4 and later.

Declared in `NSPasteboard.h`.

`NSMultipleTextSelectionPboardType`

Multiple text selection.

On Mac OS X v10.6 and later, use [NSPasteboardTypeMultipleTextSelection](#) (page 30) instead.

Available in Mac OS X v10.5 and later.

Declared in `NSPasteboard.h`.

Discussion

See also `NSSoundPboardType` (`NSSound`).

Version Notes

Pboard types will be deprecated in a future release. On Mac OS X 10.6 and later you should replace any use of pboard types with UTIs, including the constants described in [“Types for Standard Data \(Mac OS X 10.6 and later\)”](#) (page 28).

Pasteboard Reading Options

These options can be used for both the [readObjectsForClasses:options:](#) (page 21) and [canReadObjectForClasses:options:](#) (page 14) methods, unless otherwise specified. The currently available options allow for customization of how URLs are read from the pasteboard.

```
NSString *NSPasteboardURLReadingFileURLsOnlyKey;
NSString *NSPasteboardURLReadingContentsConformToTypesKey;
```

Constants

`NSPasteboardURLReadingFileURLsOnlyKey`

Option for reading URLs to restrict the results to file URLs only.

The value for this key is an `NSNumber` object with a boolean value.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

`NSPasteboardURLReadingContentsConformToTypesKey`

Option for reading URLs to restrict the results to URLs with contents that conform to any of the provided UTI types.

If the content type of a URL cannot be determined, it will not be considered to match. The value for this key is an array of UTI type strings.

Available in Mac OS X v10.6 and later.

Declared in `NSPasteboard.h`.

Document Revision History

This table describes the changes to *NSPasteboard Class Reference*.

Date	Notes
2009-11-17	Moved pasteboard owner methods to NSPasteboardOwner Protocol Reference.
2009-07-20	Corrected deprecation information for pasteboard type constants.
2009-05-16	Describes new API introduced in Mac OS X v10.6.
2008-10-15	Clarified behavior of pasteboardChangedOwner:.
2008-02-08	Enhanced discussions of color and URL pasteboard types.
2007-01-04	Updated to include new API introduced in Mac OS X v10.5.
2006-05-23	Enhanced description of availableTypeFromArray:.
	First publication of this content as a separate document.

REVISION HISTORY

Document Revision History

Index

A

`addTypes:owner:` [instance method 12](#)
`availableTypeFromArray:` [instance method 13](#)

C

`canReadItemWithDataConformingToTypes:` [instance method 14](#)
`canReadObjectForClasses:options:` [instance method 14](#)
`changeCount` [instance method 15](#)
`clearContents` [instance method 15](#)

D

`dataForType:` [instance method 16](#)
`declareTypes:owner:` [instance method 17](#)

G

`generalPasteboard` [class method 8](#)

I

`indexOfPasteboardItem:` [instance method 18](#)

N

`name` [instance method 18](#)
`NSColorPboardType` [constant 31](#)
`NSDragPboard` [constant 28](#)
`NSFileContentsPboardType` [constant 31](#)

`NSFileNamesPboardType` [constant 31](#)
`NSFilesPromisePboardType` [constant 33](#)
`NSFindPboard` [constant 28](#)
`NSFontPboard` [constant 28](#)
`NSFontPboardType` [constant 31](#)
`NSGeneralPboard` [constant 28](#)
`NSHTMLPboardType` [constant 31](#)
`NSInkTextPboardType` [constant 33](#)
`NSMultipleTextSelectionPboardType` [constant 34](#)
`NSPasteboardTypeColor` [constant 30](#)
`NSPasteboardTypeFindPanelSearchOptions` [constant 30](#)
`NSPasteboardTypeFont` [constant 30](#)
`NSPasteboardTypeHTML` [constant 29](#)
`NSPasteboardTypeMultipleTextSelection` [constant 30](#)
`NSPasteboardTypePDF` [constant 29](#)
`NSPasteboardTypePNG` [constant 29](#)
`NSPasteboardTypeRTF` [constant 29](#)
`NSPasteboardTypeRTFD` [constant 29](#)
`NSPasteboardTypeRuler` [constant 30](#)
`NSPasteboardTypeSound` [constant 30](#)
`NSPasteboardTypeString` [constant 29](#)
`NSPasteboardTypeTabularText` [constant 30](#)
`NSPasteboardTypeTIFF` [constant 29](#)
`NSPasteboardURLReadingContentsConformToTypesKey` [constant 34](#)
`NSPasteboardURLReadingFileURLsOnlyKey` [constant 34](#)
`NSPDFPboardType` [constant 32](#)
`NSPICTPboardType` [constant \(Deprecated in Mac OS X v10.6\) 32](#)
`NSPostScriptPboardType` [constant 32](#)
`NSRTFDPboardType` [constant 32](#)
`NSRTFPboardType` [constant 32](#)
`NSRulerPboard` [constant 28](#)
`NSRulerPboardType` [constant 32](#)
`NSStringPboardType` [constant 33](#)
`NSTabularTextPboardType` [constant 33](#)
`NSTIFFPboardType` [constant 33](#)
`NSURLPboardType` [constant 33](#)
`NSVCARDPboardType` [constant 33](#)

P

Pasteboard Names [27](#)

Pasteboard Reading Options [34](#)

pasteboardByFilteringData:ofType: **class method** [9](#)

pasteboardByFilteringFile: **class method** [9](#)

pasteboardByFilteringTypesInPasteboard: **class method** [10](#)

pasteboardItems **instance method** [19](#)

pasteboardWithName: **class method** [10](#)

pasteboardWithUniqueName **class method** [11](#)

propertyListForType: **instance method** [19](#)

R

readFileContentsType:toFile: **instance method** [20](#)

readFileWrapper **instance method** [20](#)

readObjectsForClasses:options: **instance method** [21](#)

releaseGlobally **instance method** [22](#)

S

setData:forType: **instance method** [22](#)

setPropertyList:forType: **instance method** [23](#)

setString:forType: **instance method** [24](#)

stringForType: **instance method** [25](#)

T

Types for Standard Data (Mac OS X 10.5 and earlier) [30](#)

Types for Standard Data (Mac OS X 10.6 and later) [28](#)

types **instance method** [25](#)

typesFilterableTo: **class method** [11](#)

W

writeFileContents: **instance method** [26](#)

writeFileWrapper: **instance method** [26](#)

writeObjects: **instance method** [27](#)