MDItem Reference

Carbon > File Management

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Apple Inc.
1 Infinite Loop
Cupertino, CA 95014
408-996-1010

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MDItem Reference

Derived From:	CFType
Framework:	CoreServices/CoreServices.h
Declared in	MDItem.h
Companion guides	Spotlight Overview Spotlight Query Programming Guide Spotlight Importer Programming Guide Spotlight Metadata Attributes Reference

Overview

MDItem is a CF-compliant object that represents a file and the metadata associated with the file.

For functions that expect an MDItemRef parameter, if this parameter is not a valid MDItemRef, the behavior is undefined. `NULL` is not a valid MDItemRef.

Functions by Task

Creating an MDItem

`MDItemCreate` (page 8)
Creates an MDItem object for a file at the specified path.

Getting the Type Identifier

`MDItemGetTypeID` (page 8)
Returns the type identifier of all MDItem instances.

Retrieving Metadata Attributes

`MDItemCopyAttribute` (page 6)
Returns the value of the specified attribute in the metadata item.

`MDItemCopyAttributes` (page 7)
Returns the values of the specified attributes in the metadata item.

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`MDItemCopyAttributeList` (page 6)
Returns the values of the specified attributes in the metadata item.

`MDItemCopyAttributeNames` (page 7)
Returns an array containing the attribute names existing in the metadata item.

Functions

MDItemCopyAttribute

Returns the value of the specified attribute in the metadata item.

```
CFTypeRef MDItemCopyAttribute (
   MDItemRef item,
   CFStringRef name
);
```

Parameters

item
The item to be queried.

name
The name of the requested attribute.

Return Value

A CFTypeRef, or `NULL` if there was a failure reading the attribute or the attribute does not exist.

Availability

Available in Mac OS X version 10.4 and later.

Declared In

`MDItem.h`

MDItemCopyAttributeList

Returns the values of the specified attributes in the metadata item.

```
CFDictionaryRef MDItemCopyAttributeList (
   MDItemRef item,
   ...
);
```

Parameters

item
The item to be queried.

...
A comma-separated varargs list of the string attribute names..

Return Value

A CFDictionary containing keys for the requested attribute names, and the corresponding values. If an attribute does not exist, or the attribute is unreadable, there will be no key-value pair for it in the dictionary. Returns `NULL` on failure.

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Availability
Available in Mac OS X version 10.4 and later.

Declared In
`MDItem.h`

MDItemCopyAttributeNames

Returns an array containing the attribute names existing in the metadata item.

```
CFArrayRef MDItemCopyAttributeNames (
   MDItemRef item
);
```

Parameters

item

The item to be queried.

Return Value
A CFArray of CFString attribute names, or `NULL` on failure.

Availability
Available in Mac OS X version 10.4 and later.

Declared In
`MDItem.h`

MDItemCopyAttributes

Returns the values of the specified attributes in the metadata item.

```
CFDictionaryRef MDItemCopyAttributes (
   MDItemRef item,
   CFArrayRef names
);
```

Parameters

item

The item to be queried.

names

A CFArray containing the names of the requested attributes.

Return Value
A CFDictionary containing keys for the requested attribute names, and the corresponding values. If an attribute does not exist, or the attribute is unreadable, there will be no key-value pair for it in the dictionary. Returns `NULL` on failure.

Availability
Available in Mac OS X version 10.4 and later.

Declared In
`MDItem.h`

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MDItemCreate

Creates an MDItem object for a file at the specified path.

```
MDItemRef MDItemCreate (
   CFAllocatorRef allocator,
   CFStringRef path
);
```

Parameters

allocator

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

path

A path to the file from which to create the `MDItem`. The path must exist.

Return Value
An `MDItem` object or `NULL` if there was a problem creating the object.

Discussion
Returns a metadata item for the given path. MDItemRefs are uniqued and can be compared using == or `CFEqual`.

Availability
Available in Mac OS X version 10.4 and later.

Declared In
`MDItem.h`

MDItemGetTypeID

Returns the type identifier of all MDItem instances.

```
CFTypeID MDItemGetTypeID (
   void
);
```

Return Value
The type identifier for the `MDItem` opaque type.

Availability
Available in Mac OS X version 10.4 and later.

Declared In
`MDItem.h`

Data Types

MDItemRef

A reference to a MDItem object.

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```
typedef struct __MDItem *MDItemRef;
```

Availability
Available in Mac OS X v10.4 and later.

Declared In
`MDItem.h`

Constants

Common Metadata Attribute Keys

Metadata attribute keys that are common to many file types.

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```
const CFStringRef kMDItemAttributeChangeDate;
const CFStringRef kMDItemAudiences;
const CFStringRef kMDItemAuthors;
const CFStringRef kMDItemCity;
const CFStringRef kMDItemComment;
const CFStringRef kMDItemContactKeywords;
const CFStringRef kMDItemContentCreationDate;
const CFStringRef kMDItemContentModificationDate;
const CFStringRef kMDItemContentType;
const CFStringRef kMDItemContributors;
const CFStringRef kMDItemCopyright;
const CFStringRef kMDItemCountry;
const CFStringRef kMDItemCoverage;
const CFStringRef kMDItemCreator;
const CFStringRef kMDItemDescription;
const CFStringRef kMDItemDueDate;
const CFStringRef kMDItemDurationSeconds;
const CFStringRef kMDItemEmailAddresses;
const CFStringRef kMDItemEncodingApplications;
const CFStringRef kMDItemFinderComment;
const CFStringRef kMDItemFonts;
const CFStringRef kMDItemHeadline;
const CFStringRef kMDItemIdentifier;
const CFStringRef kMDItemInstantMessageAddresses;
const CFStringRef kMDItemInstructions;
const CFStringRef kMDItemKeywords;
const CFStringRef kMDItemKind;
const CFStringRef kMDItemLanguages;
const CFStringRef kMDItemLastUsedDate;
const CFStringRef kMDItemNumberOfPages;
const CFStringRef kMDItemOrganizations;
const CFStringRef kMDItemPageHeight;
const CFStringRef kMDItemPageWidth;
const CFStringRef kMDItemPhoneNumbers;
const CFStringRef kMDItemProjects;
const CFStringRef kMDItemPublishers;
const CFStringRef kMDItemRecipients;
const CFStringRef kMDItemRights;
const CFStringRef kMDItemSecurityMethod;
const CFStringRef kMDItemStarRating;
const CFStringRef kMDItemStateOrProvince;
const CFStringRef kMDItemTextContent;
const CFStringRef kMDItemTitle;
const CFStringRef kMDItemVersion;
const CFStringRef kMDItemWhereFroms;
```

Constants

`kMDItemAttributeChangeDate`

The date and time of the last change made to a metadata attribute. A CFDate.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemAudiences`

The audience for which the file is intended. The audience may be determined by the creator or the publisher or by a third party. A CFArray of CFStrings.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

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`kMDItemAuthors`

The author, or authors, of the contents of the file. The order of the authors is preserved, but does not represent the main author or relative importance of the authors. A CFArray of CFStrings.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemCity`

Identifies city of origin according to guidelines established by the provider. For example, "New York", "Cupertino", or "Toronto". A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemComment`

A comment related to the file. This differs from the Finder comment, `kMDItemFinderComment`. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemContactKeywords`

A list of contacts that are associated with this document, not including the authors. A CFArray of CFStrings.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemContentCreationDate`

The date that the contents of the file were created. This is different than the file creation date. Its can be used to store when the file contents were first created, or first modified. A CFDate.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemContentModificationDate`

The date and time that the contents of the file were last modified. This is not necessarily the file modification date. A CFDate.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemContentType`

The UTI pedigree of a file. For example, a jpeg image file will have a value of public.jpeg/public.image/public.data. The value of this attribute is set by the MDImporter. Changes to this value are lost when the file attributes are next imported. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemContributors`

The entities responsible for making contributions to the content of the resource. Examples of a contributor include a person, an organization or a service. A CFArray of CFStrings.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

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`kMDItemCopyright`
The copyright owner of the file contents. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemCountry`
The full, publishable name of the country or primary location where the intellectual property of the item was created, according to guidelines of the provider. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemCoverage`
The extent or scope of the content of the resource. Coverage will typically include spatial location (a place name or geographic co-ordinates), temporal period (a period label, date, or date range) or jurisdiction (such as a named administrative entity). Recommended best practice is to select a value from a controlled vocabulary, and that, where appropriate, named places or time periods be used in preference to numeric identifiers such as sets of co-ordinates or date ranges. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemCreator`
Application used to create the document content (e.g. "Word", "AppleWorks", etc.). A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemDescription`
A description of the content of the resource. The description may include an abstract, table of contents, reference to a graphical representation of content or a free-text account of the content. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemDueDate`
Date this item is due. A CFDate.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemDurationSeconds`
The duration, in seconds, of the content of file. A value of 10.5 represents media that is 10 and 1/2 seconds long. A CFNumber.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemEmailAddresses`
Email addresses related to this item. A CFArray of CFStrings.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemEncodingApplications`
Application used to convert the original content into it's current form. For example, a PDF file might have an encoding application set to "Distiller". A CFArray of CFStrings.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

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`kMDItemFinderComment`
Finder comments for this file. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemFonts`
Fonts used in this item. You should store the font's full name, the postscript name, or the font family name, based on the available information. A CFArray of CFStrings.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemHeadline`
A publishable entry providing a synopsis of the contents of the file. For example, "Apple Introduces the iPod Photo". A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemIdentifier`
A formal identifier used to reference the resource within a given context. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemInstantMessageAddresses`
Instant message addresses related to this item. A CFArray of CFStrings.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemInstructions`
Editorial instructions concerning the use of the item, such as embargoes and warnings. For example, "Second of four stories". A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemKeywords`
Keywords associated with this file. For example, “Birthday”, “Important”, etc. A CFArray of CFStrings.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemKind`
A description of the kind of item this file represents. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemLanguages`
Indicates the languages of the intellectual content of the resource. Recommended best practice for the values of the Language element is defined by RFC 3066. A CFArray of CFStrings.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

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`kMDItemLastUsedDate`
: The date and time that the file was last used. This value is updated automatically by LaunchServices everytime a file is opened by double clicking, or by asking LaunchServices to open a file. A CFDate.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemNumberOfPages`
: Number of pages in the document. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemOrganizations`
: The company or organization that created the document. A CFArray of CFStrings.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemPageHeight`
: Height of the document page, in points (72 points per inch). For PDF files this indicates the height of the first page only. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemPageWidth`
: Width of the document page, in points (72 points per inch). For PDF files this indicates the width of the first page only. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemPhoneNumbers`
: Phone numbers related to this item. A CFArray of CFStrings.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemProjects`
: The list of projects that this file is part of. For example, if you were working on a movie all of the files could be marked as belonging to the project “My Movie”. A CFArray of CFStrings.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemPublishers`
: The entity responsible for making the resource available. For example, a person, an organization, or a service. Typically, the name of a publisher should be used to indicate the entity. A CFArray of CFStrings.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemRecipients`
: Recipients of this item. A CFArray of CFStrings.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

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`kMDItemRights`
: Provides a link to information about rights held in and over the resource. Contains a rights management statement for the resource, or reference a service providing such information. Rights information often encompasses Intellectual Property Rights (IPR), Copyright, and various Property Rights. If this attribute is absent, no assumptions can be made about the status of these and other rights with respect to the resource. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemSecurityMethod`
: The security or encryption method used for the file. A CFNumber.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemStarRating`
: User rating of this item. For example, the stars rating of an iTunes track. A CFNumber.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemStateOrProvince`
: Identifies the province or state of origin according to guidelines established by the provider. For example, "CA", "Ontario", or "Sussex". A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemTextContent`
: Contains a text representation of the content of the document. Data in multiple fields should be combined using a whitespace character as a separator. An application's Spotlight importer provides the content of this attribute. Applications can search for values in this attribute, but are not able to read the content of this attribute directly. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemTitle`
: The title of the file. For example, this could be the title of a document, the name of an song, or the subject of an email message. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemVersion`
: The version number of this file. A CFString

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemWhereFroms`
: Describes where the file was obtained from. For example, a downloaded file may refer to the URL, files received by email may indicate the sender’s email address, message subject, etc. A CFArray of CFStrings.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

Availability
Available in Mac OS X version 10.4 and later.

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Declared In
MDItem.h

Image Metadata Attribute Keys

Metadata attribute keys that are common to image files.

```
const CFStringRef      kMDItemPixelHeight;
const CFStringRef      kMDItemPixelWidth;
const CFStringRef      kMDItemColorSpace;
const CFStringRef      kMDItemBitsPerSample;
const CFStringRef      kMDItemFlashOnOff;
const CFStringRef      kMDItemFocalLength;
const CFStringRef      kMDItemAcquisitionMake;
const CFStringRef      kMDItemAcquisitionModel;
const CFStringRef      kMDItemISOSpeed;
const CFStringRef      kMDItemOrientation;
const CFStringRef      kMDItemLayerNames;
const CFStringRef      kMDItemWhiteBalance;
const CFStringRef      kMDItemAperture;
const CFStringRef      kMDItemProfileName;
const CFStringRef      kMDItemResolutionWidthDPI;
const CFStringRef      kMDItemResolutionHeightDPI;
const CFStringRef      kMDItemExposureMode;
const CFStringRef      kMDItemExposureTimeSeconds;
const CFStringRef      kMDItemEXIFVersion;
const CFStringRef      kMDItemAlbum;
const CFStringRef      kMDItemHasAlphaChannel;
const CFStringRef      kMDItemRedEyeOnOff;
const CFStringRef      kMDItemMeteringMode;
const CFStringRef      kMDItemMaxAperture;
const CFStringRef      kMDItemFNumber;
const CFStringRef      kMDItemExposureProgram;
const CFStringRef      kMDItemExposureTimeString;
```

Constants

`kMDItemPixelHeight`

The height, in pixels, of the contents. For example, the image height or the video frame height. A CFNumber.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemPixelWidth`

The width, in pixels, of the contents. For example, the image width or the video frame width. A CFNumber.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemColorSpace`

The color space model used by the document contents. For example, “RGB”, “CMYK”, “YUV”, or “YCbCr”. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

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`kMDItemBitsPerSample`
: The number of bits per sample. For example, the bit depth of an image (8-bit, 16-bit etc...) or the bit depth per audio sample of uncompressed audio data (8, 16, 24, 32, 64, etc..). A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemFlashOnOff`
: Indicates if a camera flash was used. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemFocalLength`
: The actual focal length of the lens, in millimeters. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemAcquisitionMake`
: The manufacturer of the device used to aquire the document contents. A CFString.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemAcquisitionModel`
: The model of the device used to aquire the document contents. For example, 100, 200, 400, etc. A CFString.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemISOSpeed`
: The ISO speed used to aquire the document contents. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemOrientation`
: The orientation of the document contents. Possible values are 0 (landscape) and 1 (portrait). A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemLayerNames`
: The names of the layers in the file. A CFArray of CFStrings.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemWhiteBalance`
: The white balance setting used to aquire the document contents. Possible values are 0 (auto white balance) and 1 (manual). A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

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`kMDItemAperture`
: The aperature setting used to aqure the document contents. This unit is the APEX value. A CFNumber.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemProfileName`
: The name of the color profile used by the document contents. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemResolutionWidthDPI`
: Resolution width, in DPI, of this image. A CFNumber.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemResolutionHeightDPI`
: Resolution height, in DPI, of this image. A CFNumber.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemExposureMode`
: The exposure mode used to aquire the document contents. Possible values are 0 (auto exposure), 1 (manual exposure) and 2 (auto bracket). A CFNumber.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemExposureTimeSeconds`
: The exposure time, in seconds, used to aquire the document contents. A CFNumber.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemEXIFVersion`
: The version of the EXIF header used to generate the metadata. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemAlbum`
: The title for a collection of media. This is analagous to a record album, or photo album. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemHasAlphaChannel`
: Indicates if this image file has an alpha channel. A CFBoolean.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemRedEyeOnOff`
: Indicates if red-eye reduction was used to take the picture. Possible values are 0 (no red-eye reduction mode or unknown) and 1 (red-eye reduction used). A CFBoolean.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

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`kMDItemMeteringMode`
: The metering mode used to take the image. Possible values are: Unknown, Average, CenterWeightedAverage, Spot, MultiSpot, Pattern, and Partial. A CFString.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemMaxAperture`
: The smallest f-number of the lens. The unit is the APEX?? value. Ordinarily it is given in the range of 00.00 to 99.99. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemFNumber`
: The diameter of the diaphragm aperture in terms of the effective focal length of the lens.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemExposureProgram`
: The class of the exposure program used by the camera to set exposure when the image is taken. Possible values include: Manual, Normal, and Aperture priority.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemExposureTimeString`
: The time of the exposure. A CFString.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

Availability
Available in Mac OS X version 10.4 and later.

Declared In
`MDItem.h`

Video Metadata Attribute Keys

Metadata attribute keys that are common to video files.

```
const CFStringRef kMDItemAudioBitRate;
const CFStringRef kMDItemCodecs;
const CFStringRef kMDItemDeliveryType;
const CFStringRef kMDItemMediaTypes;
const CFStringRef kMDItemStreamable;
const CFStringRef kMDItemTotalBitRate;
const CFStringRef kMDItemVideoBitRate;
```

Constants
`kMDItemAudioBitRate`
: The audio bit rate. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

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`kMDItemCodecs`
: The codecs used to encode/decode the media. A CFArray of CFStrings.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemDeliveryType`
: The delivery type. Values are “Fast start” or “RTSP”. A CFString.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemMediaTypes`
: The media types present in the content. A CFArray of CFStrings.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemStreamable`
: Whether the content is prepared for streaming. A CFBoolean.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemTotalBitRate`
: The total bit rate, audio and video combined, of the media. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemVideoBitRate`
: The video bit rate. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

Availability
Available in Mac OS X version 10.4 and later.

Declared In
`MDItem.h`

Audio Metadata Attribute Keys

Metadata attribute keys that describe an audio file.

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```
const CFStringRef kMDItemAppleLoopDescriptors;
const CFStringRef kMDItemAppleLoopsKeyFilterType;
const CFStringRef kMDItemAppleLoopsLoopMode;
const CFStringRef kMDItemAppleLoopsRootKey;
const CFStringRef kMDItemAudioChannelCount;
const CFStringRef kMDItemAudioEncodingApplication;
const CFStringRef kMDItemAudioSampleRate;
const CFStringRef kMDItemAudioTrackNumber;
const CFStringRef kMDItemComposer;
const CFStringRef kMDItemIsGeneralMIDISequence;
const CFStringRef kMDItemKeySignature;
const CFStringRef kMDItemLyricist;
const CFStringRef kMDItemMusicalGenre;
const CFStringRef kMDItemMusicalInstrumentCategory;
const CFStringRef kMDItemMusicalInstrumentName;
const CFStringRef kMDItemRecordingDate;
const CFStringRef kMDItemRecordingYear;
const CFStringRef kMDItemTempo;
const CFStringRef kMDItemTimeSignature;
```

Constants

`kMDItemAppleLoopDescriptors`

Specifies multiple pieces of descriptive information about a loop. Besides genre and instrument, files can contain descriptive information that help users in refining searches. A CFArray of CFStrings.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemAppleLoopsKeyFilterType`

Specifies key filtering information about a loop. Loops are matched against projects that often in a major or minor key. To assist users in identifying loops that will "fit" with their compositions, loops can be tagged with one of the following key filters: "AnyKey" "Minor" "Major" "NeitherKey" "BothKeys". "AnyKey" means that it fits with anything (whether in a major key, minor key or neither). "Minor" fits with compositions in a minor key. "NeitherKey" doesn't work well with compositions that are in major or minor key. "BothKeys" means it fits with major or minor key. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemAppleLoopsLoopMode`

Specifies how a file should be played. Tagged files can either be loops or non-loops (e.g., a cymbal crash). "Looping" indicates if the file should be treated as a loop. "Non-looping" indicates the file should not be treated as a loop. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemAppleLoopsRootKey`

Specifies the loop's original key. The key is the root note or tonic for the loop, and does not include the scale type. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

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`kMDItemAudioChannelCount`

Number of channels in the audio data contained in the file. This integer value only represents the number of discreet channels of audio data found in the file. It does not indicate any configuration of the data in regards to a user's speaker setup. A CFNumber.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemAudioEncodingApplication`

The name of the application that encoded the data contained in the audio file. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemAudioSampleRate`

Sample rate of the audio data contained in the file. The sample rate is a float value representing hz (audio_frames/second). For example: 44100.0, 22254.54. A CFNumber.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemAudioTrackNumber`

The track number of a song or composition when it is part of an album. A CFNumber (integer).

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemComposer`

The composer of the music contained in the audio file. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemIsGeneralMIDISequence`

Indicates whether the MIDI sequence contained in the file is setup for use with a General MIDI device. A CFBoolean.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemKeySignature`

The key of the music contained in the audio file. For example: C, Dm, F#m, Bb. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemLyricist`

The lyricist, or text writer, of the music contained in the audio file. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemMusicalGenre`

The musical genre of the song or composition contained in the audio file. For example: Jazz, Pop, Rock, Classical. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

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`kMDItemMusicalInstrumentCategory`
: Specifies the category of an instrument. Files should have an instrument associated with them ("Other Instrument" is provided as a catch-all). For some categories, such as "Keyboards", there are instrument names which provide a more detailed instrument definition, for example "Piano" or "Organ". A CFString.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemMusicalInstrumentName`
: Specifies the name of instrument relative to the instrument category. Files can have an instrument name associated with them if they have certain instrument categories. For example, the "Percussion" category has multiple instruments, including "Conga" and "Bongo". A CFString.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemRecordingDate`
: The recording date of the song or composition. This is in contrast to `kMDItemContentCreationDate` which, could indicate the creation date of an edited or 'mastered' version of the original art. A CFDate.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemRecordingYear`
: Indicates the year the item was recorded. For example, 1964, 2003, etc. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemTempo`
: A float value that specifies the beats per minute of the music contained in the audio file. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemTimeSignature`
: The time signature of the musical composition contained in the audio/MIDI file. For example: "4/4", "7/8". A CFString.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

Availability
Available in Mac OS X version 10.4 and later.

Declared In
`MDItem.h`

File System Metadata Attribute Keys

Metadata attribute keys that describe the file system attributes for a file.

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```
const CFStringRef kMDItemDisplayName;
const CFStringRef kMDItemFSContentChangeDate;
const CFStringRef kMDItemFSCreationDate;
const CFStringRef kMDItemFSExists;
const CFStringRef kMDItemFSInvisible;
const CFStringRef kMDItemFSIsExtensionHidden;
const CFStringRef kMDItemFSIsReadable;
const CFStringRef kMDItemFSIsWriteable;
const CFStringRef kMDItemFSLabel;
const CFStringRef kMDItemFSName;
const CFStringRef kMDItemFSNodeCount;
const CFStringRef kMDItemFSOwnerGroupID;
const CFStringRef kMDItemFSOwnerUserID;
const CFStringRef kMDItemFSSize;
const CFStringRef kMDItemPath;
```

Constants

`kMDItemDisplayName`

The localized version of the file name. This is the localized version of the LaunchServices call `LSCopyDisplayNameForURL()`/`LSCopyDisplayNameForRef()`. A CFString.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemFSContentChangeDate`

The date the file contents last changed. A CFDate.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemFSCreationDate`

The date and time that the file was created. A CFDate.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemFSExists`

This attribute is deprecated and was never implemented.

Deprecated in Mac OS X v10.4.

Declared in `MDItem.h`.

`kMDItemFSInvisible`

Indicates whether the file is invisible. A CFBoolean.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemFSIsExtensionHidden`

Indicates whether the file extension of the file is hidden. A CFBoolean.

Available in Mac OS X v10.4 and later.

Declared in `MDItem.h`.

`kMDItemFSIsReadable`

This attribute is deprecated and was never implemented.

Deprecated in Mac OS X v10.4.

Declared in `MDItem.h`.

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`kMDItemFSIsWriteable`
: This attribute is deprecated and was never implemented.

  Deprecated in Mac OS X v10.4.

  Declared in `MDItem.h`.

`kMDItemFSLabel`
: Index of the Finder label of the file. Possible values are 0 through 7. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemFSName`
: The file name of the item. A CFString.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemFSNodeCount`
: Number of files in a directory. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemFSOwnerGroupID`
: The group ID of the owner of the file. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemFSOwnerUserID`
: The user ID of the owner of the file. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemFSSize`
: The size, in bytes, of the file on disk. A CFNumber.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

`kMDItemPath`
: The complete path to the file. A CFString.

  Available in Mac OS X v10.4 and later.

  Declared in `MDItem.h`.

Availability
Available in Mac OS X version 10.4 and later.

Declared In
`MDItem.h`

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Document Revision History

This table describes the changes to *MDItem Reference*.

Date	Notes
2006-06-28	Marked kMDItemFSExists, kMDItemFSIsReadable, and kMDItemFSIsWriteable as deprecated in Mac OS X v10.4.
2005-06-04	Corrected MDItemCopyAttributeList declaration.
2005-04-29	Added additional metadata attributes.
	Updated the available metadata attributes. First public version.
2004-06-29	Removed `kMDItemFSNodeType` constant and associated constants.
2004-06-28	New document that describes the opaque type that encapsulates the metadata attributes for a file.

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Document Revision History

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