

File Metadata Attributes Reference

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About the File Metadata Attributes Reference

File meta-data provides a collection of standard metadata attributes that are used by most files. Querying these standard attribute keys makes it easier to search based on standard metadata data. The file metadata attributes are used when performing searching or writing Spotlight importers on OS X. Metadata searches can be performed on local and network volumes when using OS X, and on iCloud when using iOS as well as OS X.

iCloud defines its own set of metadata attributes that are available only when files are stored, or transferring to or from, iCloud. These are defined in [iCloud Metadata Attributes](#) (page 38).

Important: Metadata is designed to store small bits of information about the file. It should not be used as a way of storing significant amounts of data.

Who Should Read This Document

You should read this document if you are creating metadata search queries to locate files. You should also use the standard Spotlight metadata attribute keys if writing a Spotlight importer. It is important to use existing keys whenever possible. Avoid creating new metadata keys if an existing key would be appropriate. For example, if your document tracks the photographer of an image, use the `kMDItemAuthors` key rather than defining a custom photographer key. All applications that support saving their own documents should consider providing a Spotlight importer using these metadata attribute keys.

The iCloud metadata attributes provide information on the status of files as they are uploaded and downloaded from iCloud. The abilities include checking for downloading or uploading status and tracking the upload and download percentages.

Organization of This Document

This article contains descriptions of the metadata attribute keys that Apple provides:

- [Spotlight Metadata Attributes](#) (page 5) describes Spotlight's standard metadata attributes.
- [iCloud Metadata Attributes](#) (page 38) list the metadata attributes that are only available to files that are iCloud specific.

See Also

This document is primarily a reference. You may want to read these additional topics for a better understanding of the concepts required to effectively use Spotlight and iCloud metadata.

- *Spotlight Overview* covers the conceptual details surrounding file metadata usage
- *File Metadata Search Programming Guide* describes how to write search queries that use metadata attributes. Searches can be performed on both OS X and iOS and targeted to local or networked storage, or iCloud.
- *Core Data Spotlight Integration Programming Guide* describes how to write Spotlight importers that use Core Data storage on OS X.
- *Spotlight Importer Programming Guide* describes how to write and troubleshoot Spotlight importers on OS X.

Spotlight Metadata Attributes

Common Spotlight Metadata Attribute Keys

Spotlight Metadata attribute keys that are common to many file types.

kMDItemAttributeChangeDate

Date and time of the last change made to a metadata attribute.

Value Type	CFDate
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

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.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

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.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h

Availability Available in OS X v10.4 and later.

kMDItemAuthorAddresses

This attribute indicates the author addresses of the document.

Value Type Array of CFStrings
Framework Path CoreServices/CoreServices.h
Header MDItem.h
Availability Available in OS X v10.6 and later.

kMDItemCity

Identifies city of origin according to guidelines established by the provider.

For example, "New York", "Cupertino", or "Toronto".

Value Type CFString
Framework Path CoreServices/CoreServices.h
Header MDItem.h
Availability Available in OS X v10.4 and later.

kMDItemComment

A comment related to the file.

This comment is not displayed by the Finder.

Value Type CFString
Framework Path CoreServices/CoreServices.h
Header MDItem.h
Availability Available in OS X v10.4 and later.

kMDItemContactKeywords

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

Value Type Array of CFStrings
Framework Path CoreServices/CoreServices.h

Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemContentCreationDate

The date and time that the content was created.

Value Type	CFDate
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemContentModificationDate

Date and time when the content of this item was modified.

Value Type	CFDate
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemContentType

Uniform Type Identifier of the file.

For example, a jpeg image file will have a value of public.jpeg. The value of this attribute is set by the Spotlight importer. Changes to this value are lost when the file attributes are next imported.

This attribute is marked as `nosearch`. You must specify this attribute key explicitly in a query in order for its contents to be searched.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemContentTypeTree

Uniform Type Identifier hierarchy of the file.

For example, a jpeg image file will return an array containing “public.jpeg”, “public.image”, and “public.data”. The value of this attribute is set by the Spotlight importer. Changes to this value are lost when the file attributes are next imported.

This attribute is marked as `nosearch`. You must specify this attribute key explicitly in a query in order for its contents to be searched.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemContributors

Entities responsible for making contributions to the content of the resource.

Examples of a contributor include a person, an organization or a service.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemCopyright

Copyright owner of the file contents.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

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.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h

Availability Available in OS X v10.4 and later.

kMDItemCoverage

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.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemCreator

Name of the application used to create the document content.

For example, "Pages" or "Keynote".

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemDescription

Description of the kind of item this file represents.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemDisplayName

Localized version of the file name.

This is the localized version of the LaunchServices call `LSCopyDisplayNameForURL()` / `LSCopyDisplayNameForRef()`.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemDueDate

Date this item is due.

Value Type	CFDate
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemDurationSeconds

The duration, in seconds, of the content of the item.

A value of 10.5 represents media that is 10 and 1/2 seconds long.

Value Type	CFNumber
Units	seconds
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemEmailAddresses

Email addresses related to this item.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h

Availability Available in OS X v10.4 and later.

kMDItemEncodingApplications

Applications used to convert the original content into it's current form.

For example, a PDF file might have an encoding application set to "Distiller".

Value Type Array of CFStrings
Framework Path CoreServices/CoreServices.h
Header MDItem.h
Availability Available in OS X v10.4 and later.

kMDItemFinderComment

Finder comments for this item.

Value Type CFString
Framework Path CoreServices/CoreServices.h
Header MDItem.h
Availability Available in OS X v10.4 and later.

kMDItemFonts

Fonts used by this item.

You should store the font's full name, the postscript name, or the font family name, based on the available information.

Value Type Array of CFStrings
Framework Path CoreServices/CoreServices.h
Header MDItem.h
Availability Available in OS X v10.4 and later.

kMDItemHeadline

Publishable entry providing a synopsis of the contents of the item.

For example, "Apple Introduces the iPod Photo".

Value Type CFString

Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemIdentifier

Formal identifier used to reference the resource within a given context.

For example, the Message-ID of a mail message.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemInstantMessageAddresses

Instant message addresses related to this item.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemInstructions

Instructions concerning the use of the item, such as embargoes and warnings.

For example, "Second of four stories".

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemKeywords

Keywords associated with this file.

For example, "Birthday", "Important", etc.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemKind

Description of the kind of item this file represents.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemLanguages

Indicates the languages used by the item.

The recommended best practice for the values of this attribute are defined by RFC 3066.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemLastUsedDate

Date and time that the file was last used.

This value is updated automatically by LaunchServices every time a file is opened by double clicking, or by asking LaunchServices to open a file.

Value Type	CFDate
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemNumberOfPages

Number of pages in the document.

Value Type	CFNumber
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemNamedLocation

The name of the location or point of interest associated with the item. The name may be user provided.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.6 and later.

kMDItemOrganizations

Companies or organizations that created the document.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemPageHeight

Height of the document page, in points (72 points per inch).

For PDF files this indicates the height of the first page only.

Value Type	CFNumber
Units	points
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemPageWidth

Width of the document page, in points (72 points per inch).

For PDF files this indicates the width of the first page only.

Value Type	CFNumber
Units	points
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemParticipants

The list of people who are visible in an image or movie or written about in a document.

Value Type	Array of CFStringss
Framework Path	CoreServices/CoreServices
Header	MDItem.h
Availability	Available in OS X v10.6 and later.

kMDItemPhoneNumbers

Phone numbers related to this item.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemProjects

List of projects related to this item.

For example, if you were working on a movie, all of the files could be marked as belonging to the project “My Movie”.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemPublishers

Publishers of the item.

For example, a person, an organization, or a service.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemRecipients

Recipients of this item.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemRecipientAddresses

This attribute indicates the recipient addresses of the document.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.6 and later.

kMDItemRights

Provides a link to information about rights held on the document.

Contains a rights management statement for the document, 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 document.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h

Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemSecurityMethod

Encryption method used to make the item secure.

PDF files return "None" or "Password Encrypted".

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemStarRating

User rating of this item.

For example, the user rating (number of stars) of an iTunes track.

Value Type	CFNumber
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemStateOrProvince

Province or state of origin according to guidelines established by the provider.

For example, "CA", "Ontario", or "Sussex".

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

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 create queries using this attribute, but are not able to read the value of this attribute directly.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemTitle

Title of the item.

For example, this could be the title of a document, the name of an song, or the subject of an email message.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemVersion

Version number of the item.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemWhereFroms

Describes where the item 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.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

Image Metadata Attribute Keys

Metadata attribute keys that are common to image files.

kMDItemAcquisitionMake

Manufacturer of the device used to acquire the document contents.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemAcquisitionModel

Model of the device used to acquire the document contents.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemAlbum

Title for the collection containing this item.

This is analogous to a record label or photo album.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemAperture

Aperture setting used when the image was created.

This unit is the APEX value.

Value Type	CFNumber
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Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemBitsPerSample

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..).

Value Type	CFNumber
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemColorSpace

Color space model used by the document contents.

For example, "RGB", "CMYK", "YUV", or "YCbCr".

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemEXIFVersion

Version of the EXIF header used to generate the metadata.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemExposureMode

Exposure mode used to acquire the document contents.

Value Type	CFNumber
Expected Values	0 (auto exposure), 1 (manual exposure), 2 (auto bracket)
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemExposureProgram

Type of exposure program used by the camera to acquire the document contents.

Possible values include: Manual, Normal, Aperture priority, etc.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemExposureTimeSeconds

Exposure time used to capture the document contents.

Value Type	CFNumber
Units	seconds
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemExposureTimeString

Time when the document contents were captured.

Typically this corresponds to when a photograph is exposed.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemFNumber

Diameter of the aperture relative to the effective focal length of the lens.

Value Type	CFNumber
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemFlashOnOff

Whether a camera flash was used to capture the document contents.

Value Type	CFBoolean
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemFocalLength

Actual focal length of the lens, in millimeters.

Value Type	CFNumber
Units	millimeters
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemHasAlphaChannel

Whether the image has an alpha channel.

Value Type	CFBoolean
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemISOSpeed

ISO speed used to acquire the document contents.

For example, 100, 200, 400, etc.

Value Type	CFNumber
Units	ISO Speed
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemLayerNames

Names of the layers in the file.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemMaxAperture

Smallest F number of the lens in APEX value units, usually in the range of 00.00 to 99.99.

Value Type	CFNumber
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemMeteringMode

Metering mode used to acquire the image.

Value Type	CFString
Expected Values	Unknown, Average, CenterWeightedAverage, Spot, MultiSpot, Pattern, Partial
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemOrientation

Orientation of the document contents.

Value Type	CFNumber
Expected Values	0 (landscape), 1 (portrait)
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemPixelHeight

Height, in pixels, of the contents.

For example, the image height or the video frame height.

Value Type	CFNumber
Units	pixels
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemPixelWidth

Width, in pixels, of the contents.

For example, the image width or the video frame width.

Value Type	CFNumber
Units	pixels
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemPixelCount

The total number of pixels in the contents..

Same as [kMDItemPixelWidth](#) (page 24) * [kMDItemPixelHeight](#) (page 24).

Value Type	CFNumber
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Units	pixels
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.6 and later.

kMDItemProfileName

Name of the color profile used by the document contents.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemRedEyeOnOff

Whether red-eye reduction was used to take the picture.

Value Type	CFBoolean
Expected Values	0 (no red-eye reduction mode or unknown), 1 (red-eye reduction used)
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemResolutionHeightDPI

Resolution height, in DPI, of the item.

Value Type	CFNumber
Units	dots per inch (DPI)
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemResolutionWidthDPI

Resolution width, in DPI, of the item.

Value Type	CFNumber
Units	dots per inch (DPI)
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemWhiteBalance

White balance setting of the camera when the picture was taken.

Value Type	CFNumber
Expected Values	0 (auto white balance), 1 (manual)
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

Video Metadata Attribute Keys

Metadata attribute keys that are common to video files.

kMDItemAudioBitRate

Bit rate of the audio in the media.

Value Type	CFNumber
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemCodecs

Codecs used to encode/decode the media.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemDeliveryType

Method used to deliver streaming media.

Value Type	CFString
Expected Values	"Fast Start", "RTSP"
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemMediaTypes

Media types present in the content.

For example, a QuickTime movie may return:

```
kMDItemMediaTypes = (Sound, Video, "Hinted Video Track", "Hinted Sound Track")  
kMDItemMediaTypes = (Sound, Video)  
kMDItemMediaTypes = ("MPEG1 Muxed")
```

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemStreamable

Whether the content is prepared for streaming.

Value Type	CFBoolean
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemTotalBitRate

Total bit rate, audio and video combined, of the media.

Value Type	CFNumber
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Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemVideoBitRate

Bit rate of the video in the media.

Value Type	CFNumber
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

Audio Metadata Attribute Keys

Metadata attribute keys that describe an audio file.

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.

Value Type	Array of CFStrings
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemAppleLoopsKeyFilterType

Specifies key filtering information about a loop.

Loops are matched against projects that often differ 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", or "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 compositions that are in major or minor key.

Value Type	CFString
Expected Values	"AnyKey", "Minor", "Major", "NeitherKey", "BothKeys"
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

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.

Value Type	CFString
Expected Values	"Looping", "Non-looping"
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

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

Value Type	CFString
Expected Values	"C", "C#/Db", "D", "D#/Eb", "E", "F", "F#/Gb", "G", "G#/Ab", "A", "A#/Bb", "B", "NoKey"
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemAudioChannelCount

Number of channels in the audio data contained in the file.

This integer value only represents the number of discrete 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.

Value Type	CFNumber
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h

Availability Available in OS X v10.4 and later.

kMDItemAudioEncodingApplication

Name of the application that encoded the audio of the document.

Value Type CFString
Framework Path CoreServices/CoreServices.h
Header MDItem.h
Availability Available in OS X v10.4 and later.

kMDItemAudioSampleRate

Sample rate of the item's audio data.

The sample rate is a float value representing Hz (audio_frames/second). For example: 44100.0, 22254.54.

Value Type CFNumber
Units Hz (audio_frames/second)
Framework Path CoreServices/CoreServices.h
Header MDItem.h
Availability Available in OS X v10.4 and later.

kMDItemAudioTrackNumber

Track number of a song or composition when it is part of an album.

Value Type CFNumber
Framework Path CoreServices/CoreServices.h
Header MDItem.h
Availability Available in OS X v10.4 and later.

kMDItemComposer

Composer of the song in the audio file.

Value Type CFString
Framework Path CoreServices/CoreServices.h

Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemIsGeneralMIDISequence

Whether the MIDI sequence contained in the file is set up for use with a General MIDI device.

Value Type	CFBoolean
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemKeySignature

Musical key of the song in the audio file.

For example: "C", "Dm", "F#m", "Bb".

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemLyricist

Lyricist of the song in the audio file.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemMusicalGenre

Musical genre of the song or composition contained in the audio file.

For example: "Jazz", "Pop", "Rock", "Classical".

Value Type	CFString
Framework Path	CoreServices/CoreServices.h

Header	MDItem.h
Availability	Available in OS X v10.4 and later.

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".

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

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".

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemRecordingDate

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.

Value Type	CFDate
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemRecordingYear

Year the item was recorded.

For example: 1964, 1995, 1997, or 2003.

Value Type	CFNumber
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemTempo

Tempo of the music in the audio file.

A floating point value.

Value Type	CFNumber
Units	Beats per Minute (BPM)
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemTimeSignature

Time signature of the musical composition contained in the audio/MIDI file.

For example: "4/4", "7/8".

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

File System Metadata Attribute Keys

Metadata attribute keys that describe the file system attributes for a file. These attributes are available for files on any mounted volume.

kMDItemFSContentChangeDate

Date the file contents last changed.

Value Type	CFDate
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemFSCreationDate

Date that the contents of the file were created.

Value Type	CFDate
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemFSInvisible

Whether the file is invisible.

Value Type	CFBoolean
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemFSIsExtensionHidden

Whether the file extension of the file is hidden.

Value Type	CFBoolean
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemFSLabel

Index of the Finder label of the file.

Possible values are 0 through 7.

Value Type	CFNumber
Expected Values	0 through 7
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemFSName

File name of the item.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemFSNodeCount

Number of files in a directory.

Value Type	CFNumber
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemFSOwnerGroupID

Group ID of the owner of the file.

Value Type	CFNumber
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemFSOwnerUserID

User ID of the owner of the file.

Value Type	CFNumber
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemFSSize

Size, in bytes, of the file on disk.

Value Type	CFNumber
Units	bytes
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

kMDItemPath

Complete path to the file.

This value of this attribute can be retrieved, but can't be used in a query or to sort search results. This attribute can't be used as a member of the `valueListAttrs` array parameter for `MDQueryCreate` or `MDQueryCreateSubset`.

Value Type	CFString
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Available in OS X v10.4 and later.

Deprecated Metadata Attribute Keys

Metadata attribute keys that have been deprecated.

kMDItemFSExists

This attribute is deprecated and was never implemented.

Value Type	CFBoolean
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Deprecated in OS X v10.4 and later.

kMDItemFSIsReadable

This attribute is deprecated and was never implemented.

Value Type	CFBoolean
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Deprecated in OS X v10.4 and later.

kMDItemFSIsWritable

This attribute is deprecated and was never implemented.

Value Type	CFBoolean
Framework Path	CoreServices/CoreServices.h
Header	MDItem.h
Availability	Deprecated in OS X v10.4 and later.

iCloud Metadata Attributes

These metadata attributes provide information on iCloud files. The attributes allow you to determine if a file is in the cloud, whether the file is uploading or downloading to or from iCloud, and the percentage of the action in progress.

Note: These metadata attributes are only valid when requested from iCloud files stored. They are not available for local files.

General iCloud Attributes

These attributes provide general information on the status of iCloud files.

NSMetadataItemIsUbiquitousKey

The value is an `NSNumber` object that contains a Boolean indicating whether the item is stored in the cloud.

Value Type	NSNumber
Framework Path	/System/Library/Frameworks/Foundation.framework
Header	NSMetadata.h
Availability	Available in OS X v10.7 and later. Available in iOS 5.0 and later.

NSMetadataUbiquitousItemHasUnresolvedConflictsKey

The value is an `NSNumber` object that contains a Boolean indicating whether the item is currently in conflict with another version of the file somewhere else.

Value Type	NSNumber
Framework Path	/System/Library/Frameworks/Foundation.framework
Header	NSMetadata.h
Availability	Available in OS X v10.7 and later. Available in iOS 5.0 and later.

NSMetadataUbiquitousItemsDownloadedKey

The value is an NSNumber object that contains a Boolean indicating whether the current version of the item has been downloaded and is available locally.

Value Type	NSNumber
Framework Path	/System/Library/Frameworks/Foundation.framework
Header	NSMetadata.h
Availability	Available in OS X v10.7 and later.Available in iOS 5.0 and later.

iCloud Downloading Attributes

The following attributes provide information on the download state of an iCloud file.

NSMetadataUbiquitousItemsDownloadingKey

The value is an NSNumber object that contains a Boolean indicating whether the item is currently being downloaded to the local device.

Value Type	NSNumber
Framework Path	/System/Library/Frameworks/Foundation.framework
Header	NSMetadata.h
Availability	Available in OS X v10.7 and later.Available in iOS 5.0 and later.

NSMetadataUbiquitousItemPercentDownloadedKey

The value is an NSNumber object that contains the percentage of the file that has already been downloaded from the cloud.

Value Type	NSNumber
Expected Values	A double in the range 0.0 to 100.0.
Framework Path	/System/Library/Frameworks/Foundation.framework
Header	NSMetadata.h
Availability	Available in OS X v10.7 and later.Available in iOS 5.0 and later.

iCloud Uploading Attributes

The following attributes provide information on the upload state of an iCloud file.

NSMetadataUbiquitousItemsUploadedKey

The value is an `NSNumber` object that contains a Boolean indicating whether the item has been uploaded to the cloud.

Value Type	NSNumber
Framework Path	/System/Library/Frameworks/Foundation.framework
Header	NSMetadata.h
Availability	Available in OS X v10.7 and later. Available in iOS 5.0 and later.

NSMetadataUbiquitousItemsUploadingKey

The value is an `NSNumber` object that contains a Boolean indicating whether the current version of the item is currently being uploaded to the cloud.

Value Type	NSNumber
Framework Path	/System/Library/Frameworks/Foundation.framework
Header	NSMetadata.h
Availability	Available in OS X v10.7 and later. Available in iOS 5.0 and later.

NSMetadataUbiquitousItemPercentUploadedKey

The value is an `NSNumber` object that contains the percentage of the file that has already been uploaded to the cloud.

Value Type	NSNumber
Expected Values	A double in the range 0.0 to 100.0.
Framework Path	/System/Library/Frameworks/Foundation.framework
Header	NSMetadata.h
Availability	Available in OS X v10.7 and later. Available in iOS 5.0 and later.

Document Revision History

This table describes the changes to *File Metadata Attributes Reference*.

Date	Notes
2014-07-15	Added an important note that metadata is designed to store small amounts of information only.
2011-09-28	Added iCloud metadata attributes.
2009-08-28	Added new attributes: kMDItemAuthorAddresses, kMDItemRecipientAddresses, and kMDItemParticipants.
2009-07-18	Updated for OS X v10.6. Added kMDItemNamedLocation and kMDItemPixelCount.
2007-05-22	Updated description of kMDItemPath.
2006-04-04	Corrected minor typos.
2005-09-08	Updated kMDItemFSExists, kMDItemFSIsReadable, and kMDItemFSIsWriteable availability to indicate that those attributes are deprecated and were never implemented.
2005-08-11	Added new Spotlight attribute kMDItemContentTypeTree. Enhanced descriptions of other attributes.
2005-06-04	Corrected kMDItemSecurityMethod attribute value type. Expanded attribute descriptions.
2005-04-29	Added kMDItemTextContent, kMDItemMusicalInstrumentCategory, kMDItemMusicalInstrumentName, and kMDItemAppleLoop* attributes. kMDItemFSSize now reports the actual file size. New document that describes the usage and types of metadata attributes for various file types used with Spotlight.



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