

1. Introduction

MP4 or Quicktime? What name to use: The MP4 format is based on the Quicktime format[1] but from here I will call it MP4 format since this has become more general.

2. Dates and data in MP4 files

Table 1: Example of metadata atom that has no ‘keys’ section. (file had no metadata before, metadata inserted by Windows property editor). Note that metadata atom is a **full-atom** here. File:[2]

Metadata atom	00 00 00 C0 6D 65 74 type meta 61 00 v 00 flags 00 00
Metadata handler atom	00 00 size 00 21 68 64 type hdr 6C 72 00 v 00 flags 00 00 predefined=0 6D 64 69 72 handler type mdir 00 00 00 00 Reserved=0 00 00 00 00 Reserved=0 00 00 00 00 Reserved=0 00 Name
Metadata Item List Atom	00 00 size 00 93 69 6C 73 type ilst 74
Metadata Item Atom	00 00 size 00 2E A9 77 type @wrt 72 74
Value atom	00 00 size 00 26 64 type data 61 74 61 DF known types locale indicator country language 57 6E 20 63 6F 6D 70 6F 73 65 72 ... data of well-known data type=\$15=21 Wn composer1/c...
Metadata Item Atom	00 00 size 00 19 74 6D type tmpo 70 6F
Value atom	00 00 size 00 11 64 type data 61 74 61 DF known types locale indicator country language 00 data of well-known data type=\$15=21 A big-endian signed integer in 1,2,3 or 4 bytes....
Metadata Item Atom	00 00 size 00 20 A9 6E type @nam 61 6D
Value atom	00 00 size 00 18 64 type data 61 74 61 DF known types locale indicator country language 57 69 6E 54 69 74 6C 65 data of well-known data type=\$01=1=string "WinTitle"
Metadata Item Atom	00 00 size 00 24 A9 63 type @cmt 6D 74
Value atom	00 00 size 00 1C 64 type data 61 74 61 DF known types locale indicator country language 57 69 6E 20 43 6F 6D 6D 65 6E 74 73 data of well-known data type=\$01=1=string "Win Comments"

¹ https://en.wikipedia.org/wiki/MPEG-4_Part_14#

3 Apple-Iphone5s.mov

Metadata atom	00 00 xx size	6D 65 74 61 type meta																																						
Metadata handler atom	00 00 00 size	22 68 64 6C type hdr	72 00 v	00 00 00 flags	predefined=0				6D 64 74 61 handler type mdt				Reserved=0								Reserved=0								Reserved=0								Name			
Metadata Item Keys Atom	00 00 00 size	93 6B 65 79 type keys	73 00 v	00 00 00 flags																																				
		00 00 00 entry_count	03																																					
	Key value 1	00 00 00 key_size	28	6D 64 74 61 key_namespace mdt				63 6F 6D 2E 61 70 70 6C 65 2E 71 75 69 63 6B 74 69 6D ...																																
	Key value 2	00 00 00 key_size	21	64 61 74 61 key_namespace mdt				63 6F 6D 2E 61 70 70 6C 65 2E 71 75 69 63 6B 74 69 6D ...																																
	Key value 3	00 00 00 key_size	24	A9 6E 61 6D key_namespace mdt				63 6F 6D 2E 61 70 70 6C 65 2E 71 75 69 63 6B 74 69 6D ...																																
Metadata Item List Atom	00 00 00 size	xx 69 6C type ilst	73 74																																					
Metadata Item Atom	00 00 00 size	30	00 00 type =key 1	01																																				
	Value atom	00 00 size	28	64 61 type data				00 00 00 01 DF wknown types				46 52 1A 41 country language				32 30 31 34 2D 30 37 2D 30 35 54 ...																								
Metadata Item Atom	00 00 size	21	00 00 type =key 2				02																																	
	Value atom	00 00 size	19	64 61 type data				00 00 00 01 DF wknown types				46 52 1A 41 country language				69 50 68 6F 6E 65 20 35 73																								
Metadata Item Atom	00 00 size	32	00 00 type =key 3				03																																	
	Value atom	00 00 size	2A	64 61 type data				00 00 00 01 DF wknown types				46 52 1A 41 country language				2B 34 33 2E 36 35 32 31 2B 30 30 ...																								
Free Atom	00 00 04 size	00 66 72 65 type free	65	00 00 00 00 00 00 00 00																																				