

A new optional imaging scheme has been added to the Text Media Handler that allows pre-rendered bit map images of the text to be saved in the sample data. This allows a movie with text data to be rendered on different platforms but still appear the same. In addition it allows pre-rendering of certain time intensive text modes such as anti-aliased text and drop shadow. The actual text still exists and is still searchable. Naturally, using this bitmap scheme uses significantly more memory space on disk than simply storing the text alone.

		Bytes
Text Image Atom		
Image Atom Size	4	
Type = 'imag'	4	
Image Descriptor Atom		
Atom Size	4	
Type = 'idsc'	4	
Image Descriptor	variab	
Image Data Atom		
Atom Size	4	
Type = 'idat'	4	
Image Data	variab	

		Byte
Text Metrics Atom		
Metrics Atom Size	4	
Type = 'metr'	4	
backgroundColor	6	
displayFlags	4	
lineOrientation	2	
Line Data Atom		
Atom Size	4	
Type = 'Ldat'	4	
numLines	2	
startChar	2	
linePos	2	
lineHeight	2	
lineWidth	2	
startChar	2	
linePos	2	
lineHeight	2	
lineWidth	2	
Character Data Atom		
Atom Size	4	
Type = 'cdat'	4	
numChars	2	
char loc	2	
char loc	2	

The 'imag' atom contains an optional image descriptor and the compressed image data. The image descriptor is contained in a 'idsc' atom and the image data is contained in a 'idat' atom. If the image descriptor atom is not contained in the sample data, then it will have been appended to the text sample descriptor (described below). The size of the bitmap image is equal to the defaultTextBox value found in the text descriptor, except for scrolling text which is imaged into whatever rectangle will fit the text. The 'metr' atom contains the metrics of the bitmapped text, showing where each line starts and where each character is placed, so that the text media handler can implement hilighting of the bitmapped characters. Within the 'metr' atom is the 'Ldat' atom which contains line

information, and the 'cdat' atom which contains the character information. The lineOrientation field can be one of the following values: 0 for left to right text, -1 for right to left text, and 2 for vertical text. The linePos field in each Ldat entry is the top coordinate of the line for horizontal text and the left edge for vertical text. For horizontal text, the character locations in the cdat atom indicate horizontal positions; for vertical text they indicate vertical positions.

If the 'imag' atom is present in the sample data, then it will be used to display the text. If the 'metr' atom is present in the data, it will be used to determine character locations for text highlighting.

The following call has been added to the Text MediaHandler:

```
pascal ComponentResult GetMetrics(MediaHandler mh, Handle metrics)
    = ComponentCallNow( 0x100 + 8, 0x08 );
```

This will return the 'metr' atom of the sample at mediaTime for the given media handler. Sample code will be provided that will convert a file with text tracks to a new file with text tracks that contain 'imag' and 'metr' atoms for each text sample.

The text descriptor can now contain optional atoms for imaged text. The 'idsc' atom contains an image descriptor that is used for samples that contain an idat (image data) atom without its own idsc atom. This saves space by not having to have an image descriptor saved for each sample. The 'bdbt' and 'upbt' atoms are used when searching certain special character sets. The 'bdbt' will only be present if the text contains double byte characters. The atom contains a 256 byte table where a 1 indicates that the corresponding character is used only for the upper byte of two byte characters. This is used by searching routines to avoid false hits on the lower byte of two byte characters. The 'upbt' atom is only present for one byte character systems that have non-standard upper case rules. The atom contains a 256 byte table whose entries can be added to the corresponding character to convert that character to upper case. This is used by searching routines to perform case insensitive search.

