

DCMTK - Bug #1056

DcmCodec::updateImageType() adds Image Type (0008,0008) with incorrect value

2023-01-11 14:11 - Jörg Riesmeier

Status:	Closed	Start date:	2023-01-11
Priority:	Normal	Due date:	
Assignee:	Jörg Riesmeier	% Done:	100%
Category:	Library and Apps	Estimated time:	3:00 hours
Target version:	3.6.8	Compiler:	
Module:	dcmdata, dcmjpeg, dcmimage, others?		
Operating System:			
Description When compressing a DICOM image with JPEG Baseline, the JPEG encoder calls DcmCodec::updateImageType(), which adds the Image Type (0008,0008) Attribute with a possibly invalid value. For example, compressing a DICOM Secondary Capture image that does not contain the Image Type (0008,0008) Attribute with the following command: <code>dcmcjpeg +eb -d SC.dcm SC_jpg.dcm</code> ... results in an invalid value of "DERIVED" for the Image Type (0008,0008) Attribute. This value is invalid because the Value Multiplicity is "2-n" according to DICOM PS3.6, i.e. at least two values should be present. The tool "dciodvfy" reports the following errors: <code>Error - Bad attribute Value Multiplicity 1 (2-n Required by Dictionary) Element=<ImageType> Module=<GeneralImage></code> <code>Error - Bad attribute Value Multiplicity Type 3 Optional Element=<ImageType> Module=<GeneralImage></code> The same is probably true for other compression schemes, e.g. RLE, and other command line tools like dcmquant, as they also call the above-mentioned function.			
Related issues: Related to DCMTK - Bug #1068: Check whether Frame Type (0008,9007) also needs... <div>New2023-02-23</div>			

History

#1 - 2023-01-12 09:59 - Jörg Riesmeier

It should also be checked whether "DERIVED" is always the correct Value at position 1. For some IODs (e.g. Enhanced CT and MR), there is a third Enumerated Value: MIXED. See PS3.3 Table C.8-127 for details.

In this context, the Frame Type (0008,9007) Attribute also needs to be checked and possibly modified.

#2 - 2023-01-16 15:33 - Jörg Riesmeier

- Assignee set to Jörg Riesmeier

#3 - 2023-02-23 12:29 - Jörg Riesmeier

- Status changed from New to Closed
- % Done changed from 0 to 100
- Estimated time set to 3:00 h

Closed with commit e26565202.

#4 - 2023-02-23 12:35 - Jörg Riesmeier

- Related to Bug #1068: Check whether Frame Type (0008,9007) also needs to be updated when using lossy compression added