

DICOM Correction Proposal

STATUS	Final Text
Date of Last Update	2013/08/08
Person Assigned	David Clunie dclunie@dclunie.com
Submitter Name	David Clunie dclunie@dclunie.com
Submission Date	2013/02/06

Correction Number	CP-1283
Log Summary: Cleanup Lossy Image Compression descriptions and conditions	
Name of Standard PS 3.3 2011	
<p>Rationale for Correction:</p> <p>In some modules, the conditional inclusion of the Lossy Image Compression attribute and its value set is non-nonsensical, since if the condition is false, it is not permitted to be included (in the absence of may be present otherwise), and the absence of the Attribute implies no lossy compression, which could be specified explicitly.</p> <p>It should just be Type 1 in newer objects, and in older objects in which it is often absent (implying no lossy compression) it should be allowed to be present otherwise.</p> <p>Also, the description varies between IODs. Harmonize to the most recent form that specifies "in its lifetime" and "shall not be reset".</p>	
Correction Wording:	

Amend PS 3.3:

C.7.6.1 General Image Module

Table C.7-9 specifies the Attributes that identify and describe an image within a particular series.

**Table C.7-9
GENERAL IMAGE MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	3	<p>Specifies whether an Image has undergone lossy compression (<u>at a point in its lifetime</u>). Enumerated Values:</p> <p>00 = Image has NOT been subjected to lossy compression.</p> <p>01 = Image has been subjected to lossy compression.</p> <p><u>Once this value has been set to 01 it shall not be reset.</u></p> <p>See C.7.6.1.1.5</p>
...

C.8.4.9 NM Image Module

...

Table C.8-9
NM IMAGE MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1C	Specifies whether an Image has undergone lossy compression (at a point in its lifetime). Enumerated Values: 00 = Image has NOT been subjected to lossy compression. 01 = Image has been subjected to lossy compression. See C.7.6.1.1.5 Once this value has been set to 01 it shall not be reset. Required if Lossy Compression has been performed on the Image. May be present otherwise.
...

C.8.5.6 US Image Module

....

Table C.8-18
US IMAGE MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1C	Specifies whether an Image has undergone lossy compression (at a point in its lifetime). Enumerated Values: 00 = Image has NOT been subjected to lossy compression. 01 = Image has been subjected to lossy compression. See C.7.6.1.1.5 Once this value has been set to 01 it shall not be reset. Required if Lossy Compression has been performed on the Image. May be present otherwise.
...

C.8.7.1 X-Ray Image Module

Table C.8-26
X-RAY IMAGE MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1C	Specifies whether an Image has undergone lossy compression (at a point

			<p>in its lifetime). Enumerated Values:</p> <p>00 = Image has NOT been subjected to lossy compression.</p> <p>01 = Image has been subjected to lossy compression.</p> <p>See C.7.6.1.1.5</p> <p><u>Once this value has been set to 01 it shall not be reset.</u></p> <p>Required if Lossy Compression has been performed on the Image. <u>May be present otherwise.</u></p>
...

C.8.9.4 PET Image Module

...

Table C.8-63 - PET IMAGE MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1C	<p>Specifies whether an Image has undergone lossy compression <u>(at a point in its lifetime).</u> Enumerated values:</p> <p>00 = Image has NOT been subjected to lossy compression.</p> <p>01 = Image has been subjected to lossy compression.</p> <p><u>Once this value has been set to 01 it shall not be reset.</u></p> <p>See C.7.6.1.1.5.</p> <p>Required if Lossy Compression has been performed on the image. <u>May be present otherwise.</u></p>
...

C.8.11.3 DX Image Module

...

**Table C.8-70
DX IMAGE MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1	<p>Specifies whether an Image has undergone lossy compression <u>(at a point in its lifetime).</u> Enumerated Values:</p> <p>00 = Image has NOT been subjected to lossy compression.</p> <p>01 = Image has been subjected to lossy compression.</p> <p>See C.7.6.1.1.5 for further explanation.</p> <p><u>Once this value has been set to 01 it shall not be reset.</u></p>
...

C.8.12.1 VL Image Module

...

Table C.8-77
VL IMAGE MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	2	Specifies whether an Image has undergone lossy compression (<u>at a point in its lifetime</u>). Enumerated Values: 00 = Image has NOT been subjected to lossy compression. 01 = Image has been subjected to lossy compression. See C.7.6.1.1.5. <u>Once this value has been set to 01 it shall not be reset.</u>
...

C.8.12.4 VL Whole Slide Microscopy Image Module

...

Table C.8.12.4-1
VL WHOLE SLIDE MICROSCOPY IMAGE MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1	Specifies whether an Image has undergone lossy compression (<u>at a point in its lifetime</u>). Enumerated Values: 00 - Image has NOT been subjected to lossy compression. 01 - Image has been subjected to lossy compression. See C.7.6.1.1.5. <u>Once this value has been set to 01 it shall not be reset.</u>
...

C.8.13.1 Enhanced MR Image Module

...

Table C.8-79
ENHANCED MR IMAGE MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1	Specifies whether an Image has undergone lossy compression (<u>at a point in its lifetime</u>). Enumerated Values: 00 = Image has NOT been

			<p>subjected to lossy compression.</p> <p>01 = Image has been subjected to lossy compression.</p> <p>See C.7.6.1.1.5 for further explanation.</p> <p><u>Once this value has been set to 01 it shall not be reset.</u></p>
...

C.8.15.2 Enhanced CT Image Module

...

Table C.8-114
ENHANCED CT IMAGE MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1	<p>Specifies whether an Image has undergone lossy compression (<u>at a point in its lifetime</u>). Enumerated Values:</p> <p>00 = Image has NOT been subjected to lossy compression.</p> <p>01 = Image has been subjected to lossy compression.</p> <p>See C.7.6.1.1.5 for further explanation.</p> <p><u>Once this value has been set to 01 it shall not be reset.</u></p>
...

C.8.17.2 Ophthalmic Photography Image Module

...

Table C.8.17.2-1
OPHTHALMIC PHOTOGRAPHY IMAGE MODULE ATTRIBUTES

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1	<p>Specifies whether an Image has undergone lossy compression (<u>at a point in its lifetime</u>). Enumerated Values:</p> <p>00 = Image has NOT been subjected to lossy compression.</p> <p>01 = Image has been subjected to lossy compression.</p> <p>See C.7.6.1.1.5.</p> <p><u>Once this value has been set to 01 it shall not be reset.</u></p>
...

C.8.17.7 Ophthalmic Tomography Image Module

...

**Table C.8.17.7-1
OPHTHALMIC TOMOGRAPHY IMAGE MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1	Specifies whether an Image has undergone lossy compression (at a point in its lifetime). Enumerated Values: 00 = Image has NOT been subjected to lossy compression. 01 = Image has been subjected to lossy compression. Once this value has been set to 01 it shall not be reset. If this tag is empty, no information is explicitly available. See C.7.6.1.1.5
...

C.8.19.2 Enhanced XA/XRF Image Module

...

**Table C.8.19.2-1
Enhanced XA/XRF Image Module Table**

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1	Specifies whether an Image has undergone lossy compression (at a point in its lifetime). Enumerated Values: 00 = Image has NOT been subjected to lossy compression. 01 = Image has been subjected to lossy compression. See C.7.6.1.1.5 for further explanation. Once this value has been set to 01 it shall not be reset.
...

C.8.20.2 Segmentation Image Module

...

**Table C.8.20-2
SEGMENTATION IMAGE MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1	Specifies whether an Image has undergone lossy compression (at a point in its lifetime), or is derived from lossy compressed images . Enumerated Values:

			00 = Image has NOT been subjected to lossy compression. 01 = Image has been subjected to lossy compression. See Section C.8.20.2.2 and C.7.6.1.1.5. <u>Once this value has been set to 01 it shall not be reset.</u>
...

C.8.20.2.2 Lossy Image Compression and Lossy Image Compression Method

If Lossy Image Compression (0028,2110) in any of the source images is “01”, the value shall be “01” for the Segmentation instance.

The process of segmentation itself is defined not to be lossy compression, even though it involves loss. If the Segmentation instance is encoded using a lossy compression transfer syntax, then the value shall be set to “01”.

Notes: It is not advisable to lossy compress a Segmentation SOP Instance. In particular, a binary segmentation should not be lossy compressed.

C.8.21.1 X-Ray 3D Image Module

**Table C.8.21.1-1
X-Ray 3D IMAGE MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1	Specifies whether an Image has undergone lossy compression <u>(at a point in its lifetime)</u> . Enumerated Values: 00 = Image has NOT been subjected to lossy compression. 01 = Image has been subjected to lossy compression. See C.7.6.1.1.5 for further explanation. <u>Once this value has been set to 01 it shall not be reset.</u>
...

C.8.22.3 Enhanced PET Image Module

Table C.8.22-3 specifies the attributes of the Enhanced PET Image Module.

**Table C.8.22-3
ENHANCED PET IMAGE MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...

Lossy Image Compression	(0028,2110)	1	Specifies whether an Image has undergone lossy compression (<u>at a point in its lifetime</u>). Enumerated Values: 00 = Image has NOT been subjected to lossy compression. 01 = Image has been subjected to lossy compression. See C.7.6.1.1.5 for further explanation. <u>Once this value has been set to 01 it shall not be reset.</u>
...

C.8.24.3 Enhanced US Image Module

...

**Table C.8.24.3-1
ENHANCED US IMAGE MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...
Lossy Image Compression	(0028,2110)	1E	Specifies whether an Image has undergone lossy compression (<u>at a point in its lifetime</u>). Enumerated Values: 00 Image has NOT been subjected to lossy compression. 01 Image has been subjected to lossy compression. See C.7.6.1.1.5. <u>Once this value has been set to 01 it shall not be reset.</u> Required if Lossy Compression has been performed on the Image.
...

C.8.27.2 Intravascular OCT Image Module

...

**Table C.8.27.2-1
INTRAVASCULAR OCT IMAGE MODULE ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...

Lossy Image Compression	(0028,2110)	1G	<p>Specifies whether an Image has undergone lossy compression (at a point in its lifetime).</p> <p>Enumerated Values:</p> <p>00 = Image has NOT been subjected to lossy compression.</p> <p>01 = Image has been subjected to lossy compression.</p> <p>Once this tagvalue has been set to 01 it shall not be reset.</p> <p>See C.7.6.1.1.5</p> <p>Required if Lossy Compression has been performed on the Image.</p>
...