

1	Status	Assigned
2	Date of Last Update	2019/05/16
3	Person Assigned	David Clunie
4		mailto:dclunie@dclunie.com
5	Submitter Name	Jouke Numan (GE Healthcare)
6		mailto:Jouke.Numan@ge.com
7	Submission Date	2017/12/06

8	Correction Number CP-1777	
9	Log Summary: Derivation of Photometric Interpretation in STOW-RS	
10	Name of Standard	
11	PS3.18	
12	Rationale for Correction:	
13	Note 5 on Table 10.5.2-1 states how to handle alpha channel in a png file if the IOD doesn't support RGBA". As RGBA is not a valid	
14	Photometric Interpretation, this is confusing and as note 4 already describe that it will be discarded it might even be completely	
15	removed.	
16	It is unclear how to decide whether the Photometric Interpretation must be MONOCHROME1 or MONOCHROME2 when a compressed	
17	gray-scale image is uploaded. This cannot be inferred from the image itself. Should one assume MONOCHROME2 always?	
18	Explain animated GIF conversion in more detail.	
19	Define transparency substitute pixel and mention use of Pixel Padding Value.	
20	Correction Wording:	

Amend DICOM PS3.18 as follows (changes to existing text are bold and **underlined** for additions and ~~struckthrough~~ for removals):

10.5 Store Transaction

10.5.2 Behavior

The origin server stores Instances from the representations contained in the request payload.

...

Requirements are specified in Table 10.5.2-1 as follows:

Transform No DICOM Transfer Syntax exists; shall be transformed by the origin server into an uncompressed or lossless compressed Transfer Syntax (the choice of which is at the discretion of the origin server).

Unchanged Shall be encapsulated in the corresponding DICOM Transfer Syntax without further lossy compression.

Table 10.5.2-1. Media Type Transformation to Transfer Syntaxes

Media Type	Requirement
image/gif	Transform
Image/jp2	Unchanged
image/jpeg	Unchanged
image/jpx	Unchanged
image/png	Transform
video/mp4	Unchanged
video/mpeg2	Unchanged

Note

- In the case of pixel data supplied as image/gif or image/png, the origin server may transform the color representation from indexed color to true color (RGB) as necessary to conform to any Photometric Interpretation constraints specified by the IOD (i.e., if PALETTE COLOR is not permitted) ; such a transformation is considered lossless.
- If the number of bits per channel of an image/png file is not supported by the IOD, a lossless transformation cannot be performed.
- An animated image/gif will be converted into a multi-frame image **by transforming the frame deltas into fully decoded frames**; image/png does not support animation, and Multiple-image Network Graphics (MNG) is not included in Table 10.5.2-1.
- Any transparency information present in an image/gif or image/png file will be discarded, since DICOM does not support the concept of transparency. **The actual pixel value used to replace transparent pixels (e.g., black or white) is at the discretion of the implementation, but if the value used does not appear elsewhere in the image, it may be useful to record it in Pixel Padding Value (0028,0120).**
- If an alpha channel is supplied in an image/png file, ~~and the IOD does not support the RGBA Photometric Interpretation,~~ the alpha channel will be discarded (i.e., considered to consist of all opaque values, consistent with the policy of discarding any transparency information).
- In the case of pixel data that contains a single channel in the absence of metadata describing the interpretation of the pixel values, the Photometric Interpretation may be assumed by the origin server to be MONOCHROME2 (zero is interpreted as black).**