

DICOM Correction Item

Correction Number CP-415	
Log Summary: Even length padding for Deflate Transfer Syntax	
Type of Modification Clarification	Name of Standard PS 3.5 2003
Rationale for Correction: PS 3.8 expects even length PDVs to produced by the encoding rules of PS 3.5. The deflate transfer syntax rules do not address the possibility of the need for padding following the deflated bit stream, and it is certainly possible that it may not be even length.	
Sections of documents affected PS 3.5 A.5	
Correction Wording:	
<i>Add to PS 3.5 A.5:</i>	

A.5 DICOM Deflated little endian transfer syntax (explicit VR)

This Transfer Syntax applies to the encoding of the entire DICOM Data Set.

The entire Data Set is first encoded according to the rules specified in Section A.2 DICOM Little Endian Transfer Syntax (Explicit VR).

The entire byte stream is then compressed using the "Deflate" algorithm defined in Internet RFC 1951.

If the deflate algorithm produces an odd number of bytes then a single trailing NULL byte shall be added after the last byte of the deflated bit stream.

- Notes:
1. The Pixel Data (7FE0,0010) is not handled in any special manner. The pixel data is first encoded as sequential uncompressed frames without encapsulation, and then is handled as part of the byte stream fed to the "~~deflate~~deflate" compressor in the same manner as the value of any other attribute.
 2. This transfer syntax is particularly useful for compression of objects without pixel data, such as structured reports. It is not particularly effective at image compression, since any benefit obtained from compressing the non-pixel data is offset by less effective compression of the much larger pixel data.
 3. A freely available reference implementation of the "deflate" compressor may be found in the zlib package, which may be downloaded from <ftp://ftp.uu.net/pub/archiving/zip/zlib/>.
 - 4. Although the encoded stream may be padded by a trailing NULL byte, the end of the deflated bit stream will be indicated by the delimiter that will occur before the padding.**