ISO/IEC JTC 1/SC 29/WG 1 N1240
Date: 17 March, 1999

ISO/IEC JTC 1/SC 29/WG 1
(ITU-T SG8)

Coding of Still Pictures

JBIG
Joint Bi-level Image Experts Group

JPEG
Joint Photographic Experts Group

TITLE: DICOM Response to JPEG2000 Baseline Requirements Survey

SOURCE: DICOM

PROJECT: JPEG2000

STATUS: Final

REQUESTED ACTION: Input to Requirements Group

DISTRIBUTION: WG1 Seoul Meeting, WG1 Web pages.

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Mandatory Requirement – Check boxes in this column to indicate that all JPEG2000 decoders must meet this requirement. Indicating that a requirement is mandatory will require that every decoder, at a minimum, must implement the indicated requirement to be JPEG2000 compliant, so only check the absolute minimum set of requirements for the baseline decoder. **Indicated by X. Requirements that it is suggested may be outside the scope of JPEG 2000, or should definitely be optional, are indicated by "- no -".**

Requirement Number	Check to indicate **Mandatory Requirement** (WD Part I)	Requirement Description
1		Image Type
		Types:
	X	Natural
	X	Compound
		Color Filter Array
		Infrared Sensor
		Electro-Optical Sensor
		Synthetic Aperture Radar
		Hyper-spectral
		Other: _____
		Spatial Size, Pixels (Width, Height):
		1 to 255 (1 to 2^8-1 = 1 byte)
	X	1 to 65535 (1 to 2^{16}-1 = 2 bytes)
		1 to 16,777,215 (1 to 2^{24}-1 = 3 bytes)
		1 to 4,294,967,295 (1 to 2^{32}-1 = 4 bytes)
		Other: _____
		Component quantization:
		1 byte (8 bits)
	X	2 bytes (16 bits)
		3 bytes (24 bits)
		4 bytes (32 bits)
		Other: ***needs signed and unsigned***
		Number of components:
	X	1 to 4 (2 bits)
		1 to 16 (4 bits)

		1 to 64 (6 bits) 1 to 256 (8 bits) Other: _____ Independent component quantizations Independent component spatial sizes Colour spaces: Luminance (Y) RGB YUV Other(s): ***must be reversible (for lossless)***
	X ***X*** ***X***	
2	***- no -***	Uncompressed ***(thumbnails ok)***
3	***X***	Lossless Compression
4	***X***	Visually Lossless Compression
5	***X***	Visually Lossy Compression
6	***X***	Progressive Spatial
7	***X***	Progressive Quality
8	***- no -***	Security
9	***- no -***	Error Resilience***(detection ok)***
10		Complexity Scalability
11	***X***	Strip Processing
12	***X***	Sensor Specific Compression Flexibility
13	***- no -***	Information Embedding
14	***X***	Repetitive Encoding/Decoding
15	***- no -***	Object-Based Functionality
16		MPEG4 VTC Compatibility
TBD		ITU-T.44 Mixed Raster Content (MRC) Model Compat.
17		Decoder - Backward Compatibility
18	***X***	Decoder - ROI Decoding
19	***X***	Decoder - Fast/Random Data Access
20		Decoder - Implementation Complexity
24		Decoder - Geometric Manipulation
21	***X***	Encoder - ROI Encoding
22	***X***	Encoder - Fast Encoder
23		Encoder - Implementation Complexity