TruDR™ DICOM
Conformance Statement

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Version 1.8

Version History

Date	Version	Person	Description
8/01/2007	1.5	Robert Powell	WG 25 additions
9/26/2008	1.6	Ann Melin	Removed Private Tags no longer needed with WG25
11/25/2008	1.7	Ann Melin	Updated to describe new TruDR product
8/13/2009	1.8	Robert Powell	

DICOM Conformance Statements and Version Histories are released regularly. For additional assistance with our product's latest DICOM and interconnectivity statements, in addition to or beyond the scope of what is stated herein, please contact Sound-Eklin at support@soundeklin.com or (800) 268-5354.

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NOTE: Some settings must be changed by the service person in order to use or change the function marked with a "*".

1. Introduction

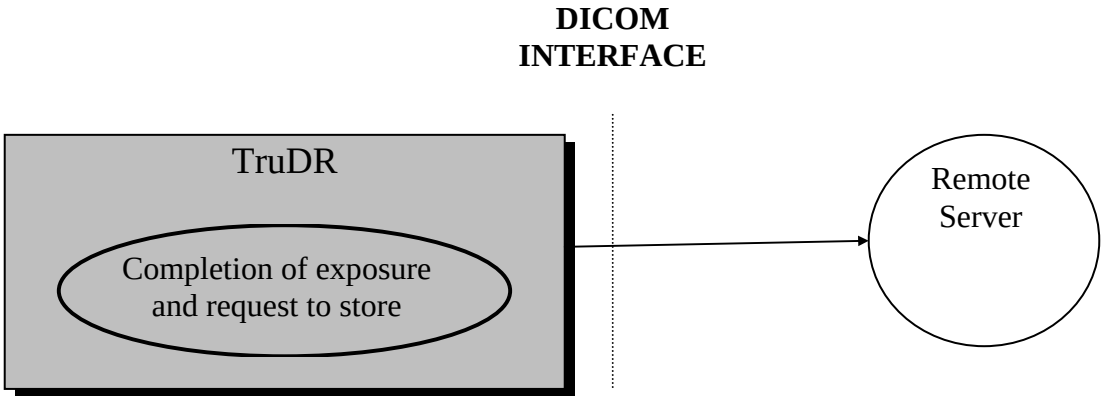
This Conformance Statement specifies the Sound-Eklin TruDR compliance to DICOM V3.0.

2. Implementation Model

Sound-Eklin TruDR directly digitizes the X-ray image data (DX image) by using the flat panel sensor, and sends the Digital Radiography image data by using DICOM Storage Service Class.

2.1 Application Data Flow Diagram

Sound-Eklin TruDR sends acquired image data (DX image) to the server by using Storage Service Class.



2.2 Functional Definition of AE's

Sound-Eklin TruDR captures an image and processes the image by the operation from the LCD touch panel monitor of the operation unit. After image data (DX image) is captured, it may be sent to the server by using Storage Service Class, or it is sent to the printer by using Print Management Service Class.

Sound-Eklin TruDR also retrieves a Modality Worklist from an external Modality Worklist Provider.

The Application Entity of Sound-Eklin TruDR also acts as an SCU for the Verification SOP classes.

2.3 Sequencing of Real-World Activities

Not applicable.

3. AE Specifications

Sound-Eklin TruDR generates a single association establishment request and operates as an application entity. Sound-Eklin TruDR is defined by the following SOP:

SOP Class as SCU	
UID Name	**UID Value**
Digital X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.1
Basic Grayscale Print Management Meta SOP Class	1.2.840.10008.5.1.1.9
Basic Annotation Box SOP Class	1.2.840.10008.5.1.1.15
Verification (Echo)	1.2.840.10008.1.1
Modality Worklist Information Model - FIND	1.2.840.10008.5.1.4.31
* Unknown IOD Storage	* See note

NOTE: This will initiate outgoing DICOM C-STORE requests masquerading as any stored IOD module. The behavior of this outgoing association link will be like the DICOM defined SCU role: Storage Service Class.

Sound-Eklin TruDR supports the following Transfer Syntaxes for saving acquired images:

Transfer Syntax		
UID Name	**UID Value**	**Comment**
Implicit VR Little Endian	1.2.840.10008.1.2	No compression
JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1]): Default Transfer Syntax for Lossless JPEG Image Compression.	1.2.840.10008.1.2.4.70	This is the default setting. Settings need to be changed by the service person when they are going to be used in DICOM Storage Service.
JPEG 2000 Lossless	1.2.840.10008.1.2.4.90	JPEG 2000 lossless (but not supported by all DICOM readers).

Sound-Eklin TruDR supports the following Transfer Syntax and Compression Modes when executing a C-Store: (compression setting can be changed in the Dicom Servers tab in Application Settings)

Compression Modes		
Configuration	**Proposed Transfer Syntaxes**	**Name**
0 (Uncompressed)	1.2.840.10008.1.2	Implicit Little Endian
1 (Send As Is)	<Transfer syntax in image>	<Transfer syntax in image>
	1.2.840.10008.1.2	Implicit Little Endian
2 (Send As Is With Default Transfer Syntax)	1.2.840.10008.1.2	Implicit Little Endian
3 (Jpeg Lossless)	1.2.840.10008.1.2.4.70	JPEG Lossless sv1
	1.2.840.10008.1.2	Implicit Little Endian
4 (Jpeg Lossy)	1.2.840.10008.1.2.4.51	JPEG extended (12 bits)
	1.2.840.10008.1.2	Implicit Little Endian

Note: The transfer syntaxes are listed in order of priority. I.e., if a host is configured as 3 (Jpeg Lossless) and it accepts JPEG lossless, the image will be lossless JPEG compressed before transmission, even if it was not stored in that way. If the host does not accept Jpeg Lossless, it will send it out Uncompressed with Default Transfer Syntax (Implicit Little Endian)

- 0 (Uncompressed). Images will be decompressed prior to transmission and sent with default transfer syntax (ImplicitLittleEndian, 1.2.840.10008.1.2).
- 1 (Send As Is) Sends image with the transfer syntax specified in the file. It is recommended that the host be configured to receive all possible transfer syntaxes.
- 2 (Send As Is With Default Transfer Syntax). The configuration “as” will transmit images as-is. Independent of how images are stored on disk (with JPEG or NKI compression), they will be transmitted over an ImplicitLittleEndian connection. This behavior does not conform to the DICOM standard and for many hosts this may therefore not work. NKI clients will work, though.
- 3 (Jpeg Lossless). Will attempt to send with Jpeg Lossless (1.2.840.10008.1.2.4.70) if the host accepts it, otherwise, it will send it as configuration 0 (Uncompressed)
- 4 (Jpeg Lossy). Will attempt to send with Jpeg Extended Lossy (1.2.840.10008.1.2.4.71) if the host accepts it, otherwise, it will send it as configuration 0 (Uncompressed)

Jpeg compression is performed by utility from the OFFIS DICOM toolkit DCMTK version 3.5.3. This executable is called by Nucleus to compress DICOM images in jpeg format. Copyright (C) 1994-2004, OFFIS. This software and supporting documentation were developed by Kuratorium OFFIS e.V. Healthcare Information and Communication Systems Escherweg 2 D-26121 Oldenburg, Germany. This software is made available, as is, and OFFIS makes no warranty regarding the software, its performance, its merchantability or fitness for any particular use, freedom from any computer diseases or its conformity to any specification. The entire risk as to quality and performance of the software is with the user. Copyright of the software and supporting documentation is, unless otherwise stated, owned by OFFIS, and free access is hereby granted as a license to use this software, copy this software and prepare derivative works based upon this software. However, any distribution of this software source code or

supporting documentation or derivative works (source code and supporting documentation) must include the three paragraphs of this copyright notice.

3.1 Association Establishment Policies

3.1.1 General

Sound-Eklin TruDR generates association establishment request for the server when image data (DX image) to be sent is acquired. Maximum size of PDU which is used is 128K*.

3.1.2 Number of Associations

Sound-Eklin TruDR generates association establishment request.

3.1.3 Asynchronous Nature

Asynchronous mode is supported.

3.1.4 Implementation Identifying Information

Implementation Class UID for Sound-Eklin TruDR is:
1.2.840.114387.GUID, where GUID is the unique image ID that is generated from the VetPACS system.

3.2 Association Acceptance Policy

Sound-Eklin TruDR establishes association by sending establishment request to the server when image data (DX image) to be sent is acquired.

3.2.1 Related Real-World Activity

Storage Service Class:

When the study is completed, AE sends C-STORE request for sending image.

4. Communication Profiles

4.1 Supported Communication Stack

Sound-Eklin TruDR provides DICOM V3.0 TCP/IP network communication support as stated in DICOM Standard Part 8.

4.2 TCP/IP Stack

Sound-Eklin TruDR inherits TCP/IP stack.

4.3 Physical Media Support

Sound-Eklin TruDR supports 10BASE-T, 100BASE-TX, 10BASE-2 (option) and 10BASE-5 (option) of ETHERNET™ [1].

[1] Ethernet is a trademark of Xerox Corporation

5. Extension / Specialization / Privatization

Not applicable.

6. Configurable Parameters

Following environmental configuration information can be set from the LCD touch panel monitor of the Sound-Eklin TruDR: CALLED APP TITLE HOST NAME PORT #.

7. Support of Extended Character Sets

Sound-Eklin TruDR supports extended character sets. Defined terms for single-byte character sets without code extensions:

Character Set Description	Defined Term	ISO registration number	Number of characters	Code element	Character Set
Default repertoire	None	ISO-IR 6	94	G0	ISO 646:
Latin alphabet No.1	ISO_IR 100	ISO-IR 100	96	G1	Supplementary set
		ISO-IR 6	94	G0	ISO 646:
Latin alphabet No.2	ISO_IR 101	ISO-IR 101	96	G1	Supplementary set
		ISO-IR 6	94	G0	ISO 646:
Cyrillic	ISO_IR 144	ISO-IR 144	96	G1	Supplementary set
		ISO-IR 6	94	G0	ISO 646:

8. Entity

8.1 IOD Modules

Sound-Eklin TruDR uses the following IOD modules for DX modality DICOM files:

Information Entities	Module
SOP	SOP Common
Patient	Patient
	Patient Study
Study	General Study
Series	General Series
Equipment	General Equipment
	DX Detector
Image	General Image
	DX Image
	Pixel Image
	VOI LUT
	X-Ray Anatomy Imaged
Acquisition	X-Ray Generation
	X-Ray Acquisition Dose
	DX Positioning

Sound-Eklin TruDR uses the following VR (Value Representation) definitions as follows:

VR	Format	Data Length (Byte)
AS (Age String)	nnnY, nnnM, nnnW, nnnD	4
AE (Application Entity)		16 (max.)
CS (Code String)		16 (max.)
DA (Date)	YYYYMMDD	8
DS (Decimal String)	+xxx.xxxx, -xxx.xxxxx, etc	16 (max.)
DT (Date Time)	YYYYMMDDHHMMSS.FFFFFF	26 (max.)
FL (Floating Point Single)		4
FD (Floating Point Double)		8
IS (Integer String)		12 (max.)
LO (Long String)		64 (max.)
LT (Long Text)		10,240 (max.)
OB (Other Byte String)		Differs according to the transfer syntax.
OW (Other Word String)		Differs according to the transfer syntax.
PN (Person Name)		64 (max.) / component
SH (Short String)		16 (max.)
ST (Short Text)		1,024 (max.)
TM (Time)	HHMMSS.FFFFFF	16 (max.)
UI (Unique Identifier)		64 (max.)
UL (Unsigned Long)		4
US (Unsigned Short)		2

8.2 TruDR DICOM Library

Each element in this system for TYPE will be handled as follows:

Type	Handling
1	Value is always sent with Tag.
1C	Value is sent with Tag under a certain condition.
2	Value is sent with Tag. However, when Value is unknown, it will be sent as a text string of length 0.
2C	It will be handled in the same way as TYPE2 under a certain condition.
3	Value is sent with Tag. However, when Value is unknown, it will be sent as a text string of length 0, or the element itself will not be sent.

8.2.1 Part 10 Group Header (if file based)

Attribute Name	Tag	VR	Type	Value
File preamble	No tag or length field	-	1	A fixed 128 byte field available for Application Profile or implementation specified use. Currently set to all zeroes.
DICOM Prefix	No tag or length field	-	1	Four bytes containing the character string "DICM". This Prefix is intended to be used to recognize that this File is or not a DICOM File.
Group Length	(0002,0000)	-	1	Number of bytes following this File Meta Element (end of the Value field) up to and including the last File Meta Element of the Group 2 File Meta Information
File Meta Information Version	(0002,0001)	OB	1	Array of the values: “00”, “01”
Media Storage SOP Class UID	(0002,0002)	UI	1	Uniquely identifies the SOP Class associated with the Data Set. SOP Class UIDs allowed for media storage are specified in PS 3.4 of the DICOM Standard - Media Storage Application Profiles.
Meta storage SOP Instance UID	(0002,0003)	UI	1	Uniquely identifies the SOP Instance associated with the Data Set placed in the file and following the File Meta Information. SOP Instance (same as tag 0008,0018)

Attribute Name	Tag	VR	Type	Value
Transfer Syntax UID	(0002,0010)	UI	1	Uniquely identifies the Transfer Syntax used to encode the following Data Set. This Transfer Syntax does not apply to the File Meta Information. Note: It is recommended to use one of the DICOM Transfer Syntaxes supporting explicit Value Representation encoding to facilitate interpretation of File Meta Element Values (See PS 3.5 of the DICOM Standard).
Implementation class UID	(0002,0012)	UI	1	Uniquely identifies the implementation which wrote this file and its content. It provides an unambiguous identification of the type of implementation which last wrote the file in the event of interchange problems. It follows the same policies as defined by PS 3.7 of the DICOM Standard (association negotiation). The value is set to: "1.2.840.114387.3"
Implementation Version Name	(0002,0013)	SH	3	Identifies a version for an Implementation Class UID (0002,0012) using up to 16 characters of the repertoire identified in Section 8.5. It follows the same policies as defined by PS 3.7 of the DICOM Standard (association negotiation). The value is set to: "Sound Tech"
Source application entity title	(0002,0016)	AE	3	The DICOM Application Entity (AE) Title of the AE which wrote this file's content (or last updated it). If used, it allows the tracing of the source of errors in the event of media interchange problems. The policies associated with AE Titles are the same as those defined in PS 3.8 of the DICOM Standard. The value is set to: "VetPACS"

8.2.2 Private Block Summary Module

Attribute Name	Tag	VR	Type	Value
Private block 1 reservation	(F001,00F1)	LO	1	"Sound-Eklin", reserved block f001:f100-f1ff (used for various private tags)
Private block 2 reservation	(F001,00F2)	LO	1	"Sound-Eklin", reserved block f002:f200-f2ff (used for embedded annotations

8.2.3 Private Block 1 Module

Attribute Name	Tag	VR	Type	Value
Patient Category Size	(F001,F102)	LO	2	Patient category size (SMALL, LARGE, EQUINE)
Patient Sex Extended (including spay/neuter)	(F001:F103)	CS	2	Patient sex extended: <null>=unknown, M=male, F=female, N=neutered, S=spayed
Image View	(F001:F104)	LO	2	Image view: CD_CR, CDL_CRMO, CR_CA, CRM_CDLO, RT_LE C1_C2, RT_LE C2_C3, RT_LE C3_C4, RT_LE C4_C5, RT_LE C5_C6, RTD_LEV C1_C2, RTD_LEV C2_C3, RTD_LEV C3_C4, RTD_LEV C4_C5, RTD_LEV C5_C6, LE_RT C1_C2, LE_RT C2_C3, LE_RT C3_C4, LE_RT C4_C5, LE_RT C5_C6, LED_RTV C1_C2, LED_RTV C2_C3, LED_RTV C3_C4, LED_RTV C4_C5, LED_RTV C5_C6, LE_RT, RT_LE, LED_RTVO, RTD_LEVO, D45PR30L_PLDIMO, D45PR30M_PLDILO, D65PR_PADIO, D65PR45L_PADIMO, D65PRM_PADILO, DL_MVO, DLPMO, DMPLO, DP, DPR_DDIO, DPR_PADIO, DPRL_PADIMO, DPRM_PADILO, DV, FLEXED DP, LAT, LAT LEFT, LAT RIGHT, LAT LEFT OBL, LAT RIGHT OBL, ML, PA50PR_PADIO, PAPR_PADIO, PD, DPR_DDI, DPL, CDL_CRMO, CDM_DRLO, CRPR_DRDI, FLEXED CDL_CRMO, D65PR45_65LPADIMO, D65PR45_65MPADILO, PA45R_DDI, CRL_CDMO, LM, FLM, D45PR30L_PLDILO, FLEXED DPR_DDIO, SKY_DROW, D45PRL_PADIMO, D45PRM_PADILO, FLEXED LM, VD OBL RIGHT, VD OBL LEFT, CR_CD OBL, CD_CR OBL, VD EXTENDED, VD COMPRESSION, VD DISTRACTION, DV DAR, LAT RIGHT THR VIEW, ROSTROCAUDAL, DV OBL RIGHT, DV OBL LEFT

Attribute Name	Tag	VR	Type	Value
Anatomy Imaged	(F001,F105)	LO	2	Anatomy imaged: CSPINE, THORAX, ABDOMEN, HIP, SPINE, EXTREMITY, SKULL, FEMUR, STIFLE, FETLOCK, PASTERN, TARSUS, MAXILLA, MANDIBLE, SCAPULA, SHOULDER, ELBOW, PATELLA, TIBIA, CALCANEOUS, METATARSUS, P3, NAVICULAR, HUMERUS, RADIUS, ULNA, CARPUS, METACARPUS, WHOLE BODY, EXTREMITY W/IMPLANTS
Image enhancements	(F001,F106)	LO	2	Image enhancements applied in sequence (e.g. “STATIC LUT = C:\ContextVision\1000 Cutoff.lpf ADAPTIVE LUT = C:\ContextVision\abdomen_lessLAT.alut ENHANCEMENT = C:\ContextVision\boxer lg-abd-bigkernels_filmlike_1nl.gop”)
Detector Settings	(F001,F107)	LO	2	Detector settings (e.g. “"Serialnumber:1234-56, Offset correction: True, Gain correction: True, Defect correction: True, Line noise correction: True”)
Application Version	(F001,F108)	LO	2	Application version
Image Laterality Extended	(F001,F109)	LO	3	
Client Name	(F001,F10A)	PN	2	Name of person with medical decision make authority for the patient
Protocol	(F001,F111)	LO	3	Name of protocol used
Receptor Bits Per Pixel	(F001,F11E)	LO	3	Actual bit depth of the image when it was acquired from the device

8.2.4 Private Block 2 Module

Attribute Name	Tag	VR	Type	Value
Private tags	(F001,00F2)	LO	3	"Sound-Eklin", used for embedded annotations

8.2.5 SOP Common Module

Attribute Name	Tag	VR	Type	Value
SOP Class UID	(0008,0016)	UI	1	"1.2.840.10008.5.1.4.1.1.1.1"
SOP Instance UID	(0008,0018)	UI	1	"1.2.840.114387.12345678.1234.1234.1234.123456.123456" This value is composed of our base SOP base UID and appended GUID for the referenced item instance.
SOP Instance number	(0020,0013)	IS	2	Sequence number (?)
Instance Creation Date	(0008,0012)	DA	3	Date captured
Instance Creation Time	(0008,0013)	TM	3	Time captured

8.2.6 Patient Module

Attribute Name	Tag	VR	Type	Value
Patient ID	(0010,0020)	LO	2	Patient's ID
Patient Name	(0010,0010)	PN	2	Patient's name (e.g. “JOHN^SMITH”)
Patient Birth Date	(0010,0030)	DA	2	Patient's birth date (e.g. “YYYYMMDD”)
Patient Sex	(0010,0040)	CS	2	Patient's sex: (M=Male, F=Female or <null>=Unknown)
Patient Age	(0010,1010)	AS	3	Patient age in years
Patient Weight	(0010,1030)	DS	3	Patient weight (in kilograms)
Patient Species Description	(0010,2201)	LO	1C	Patient Species Description
Patient Species Code Sequence	(0010,2202)	SQ	1C	Patient Species
Patients Sex Neutered	(0010,2203)	CS	2C	Whether or not a procedure has been performed the render the patient sterile
Patient Breed Description	(0010,2292)	LO	2C	Patient Breed Description
Patient Breed Code Sequence	(0010,2293)	SQ	2C	Patient Breed
Responsible Person	(0010,2297)	PN	2C	Name of person with medical decision make authority for the patient
Responsible Person Role	(0010,2298)	CS	1C	Relationship of Responsible Person to the patient

8.2.7 General Study Module

Attribute Name	Tag	VR	Type	Value
Study ID	(0020,0010)	SH	2	Internal study number.
Study Instance UID*	(0020,000D)	UI	1	1.2.392.200046.100.2.1.(S/N).(Internal study No.).(Year, month, date and time of study exposure)
Study Date	(0008,0020)	DA	2	Date (YYYYMMDD) when study was performed.
Study Time	(0008,0030)	TM	2	Time (HHMMSS.000000) when study was performed.
Study Description	(0008,1030)	LO	2	Institution-generated description or classification of the study performed.
Accession Number	(0008,0050)	SH	2	A RIS or a HIS generated number which identifies the order for the study.
Referring Physician's Name	(0008,0090)	PN	2	Physician's name to refer to. (Physician in charge of the patient)
Physician(s) of Record	(0008,1048)	PN	3	Names of the physician(s) who are responsible for the overall patient care at time of Study.

8.2.8 General Series Module

Attribute Name	Tag	VR	Type	Value
Modality	(0008,0060)	CS	1	Modality of digital x-ray “DX “
Series Number	(0020,0011)	IS	2	A number that identifies this Series.
Series Instance UID	(0020,000E)	UI	1	1.2.392.200046.100.2.1.(S/N).(Internal study No.).(Year, month, date and time of study exposure).(Series No.)
Series Date	(0008,0021)	DA	3	Date the series started.
Series Time	(0008,0031)	TM	3	Time the series started.
Series Description	(0008,103E)	LO	3	User provided description of the series.

8.2.9 General Equipment Module

Attribute Name	Tag	VR	Type	Value
Institution Name	(0008,0080)	LO	3	Institution where the equipment is located, (e.g. “Emergency Animal Hospital”)
Manufacturer	(0008,0070)	LO	2	Sound-Eklin Inc.
Manufacturer's Model Name	(0008,1090)	LO	3	“TruDR”
Station Name	(0008,1010)	SH	3	Machine name of computer that produced the image. (e.g. “ACQUISITION1”)
Device Serial Number	(0018,1000)	LO	3	Serial number (e.g. “1234-05”)
Software Version	(0018,1020)	LO	3	Vx.x.xx (x indicates version number)
Date of Last Calibration	(0018,1200)	DA	3	Date (YYYYMMDD) when the last calibration was performed.
Time of Last Calibration	(0018,1201)	TM	3	Time (HHMMSS.000000) when the last calibration was performed.

8.2.10 DX Detector Module

Attribute Name	Tag	VR	Type	Value
Detector Type	(0018,7004)	CS	2	Detector Type (SCINTILLATOR)
Detector Configuration	(0018,7005)	CS	3	“AREA”
Detector Description	(0018,7006)	LT	3	“TruDR”
Detector Mode	(0018,7008)	LT	3	“0”
Detector Serial Number	(0018,700A)	SH	3	“1234-05”
Detector Last Calibration Date	(0018,7010)	DA	3	Date of last calibration “20051101”
Detector Last Calibration Time	(0018,7011)	TM	3	Time of last calibration “111213”
Detector Time Since Last Exposure	(0018,7012)	DS	3	Time in Seconds since an exposure was last made on this detector prior to the acquisition of this image (e.g. “60”).
Detector Samples Per Pixels	(0028,0002)	US	1	“1”
Detector Pixel Aspect Ratio	(0028,0034)	IS	1C	Array (X/Y)
Detector Binning	(0018,701A)	DS	3	Array (X/Y)

Attribute Name	Tag	VR	Type	Value
Detector Imaging Pixel Spacing	(0018,1164)	DS	1	Array (0.127/0.127) for TruDR panel

8.2.11 DX Positioning Module

Attribute Name	Tag	VR	Type	Value
Laterality	(0020,0062)	CS	2C	Laterality of (paired) body part examined. Required if the body part examined is a paired structure. Enumerated Values: R=right, L=left

8.2.12 General Image Module

Attribute Name	Tag	VR	Type	Value
Image Number	(0020,0013)	IS	2	A number that identifies the internal image.
Image Comments	(0020,4000)	LT	3	Comments on Images.
Pixel Data[2]	(7FE0,0010)	OW	1	A data stream of the pixel samples that comprise the Image. See C.7.6.3.1.4 for further explanation. Pixel data is an array (could be raw pixels, or an embedded JPEG or J2K image). The order of pixels sent for each image plane is left to right, top to bottom, i.e., the upper left pixel. The VR is generally OW or OB for > 8 bit data or OB for 8 bit or less).
Rows	(0028,0010)	US	1	Number of pixels in rows in the image data.
Columns	(0028,0011)	US	1	Number of pixels in columns in the image data.
Bits Allocated	(0028,0100)	US	1	16
Bits Stored	(0028,0101)	US	1	12 (but may vary with future hardware)
High Bits	(0028,0102)	US	1	11 (one less than bits stored)
Pixel Representation	(0028,0103)	US	1	0

[2] Planar Configuration (0028,0006) shall not be present for grayscale images

8.2.13 DX Image Module

Attribute Name	Tag	VR	Type	Value
Image Type	(0008,0008)	CS	1C	Array: Value1: ORIGINAL or DERIVED, Value2: PRIMARY or SECONDARY
Photometric Interpretation	(0028,0004)	CS	1	Grayscale color map: MONOCHROME2 (black to white), MONOCHROME1 (white to black). Note we currently only create MONOCHROME2 images.
Samples Per Pixel	(0028,0002)	US	1	Sample per pixel: “1”
Pixel Intensity Relationship	(0028,1041)	SS	1	-1
Rescale Intercept	(0028,1052)	DS	1	0
Rescale Slope	(0028,1053)	DS	1	1
Rescale Type	(0028,1054)	LO	1	“US” (unspecified)
Presentation LUT Shape	(2050,0020)	CS	1C	“IDENTITY”
Tag Burned In Image	(0028,0301)	CS	1	"NO" Since we currently do not burn in tags to our raw images.

8.2.14 VOI LUT Module

Attribute Name	Tag	VR	Type	Value
Window Center	(0028,1050)	DS	3	Window center for display, (e.g. 2048)
Window Width	(0028,1051)	DS	1C	Window width for display, (e.g. 4096)
Window Description	(0028,1052)	CS		Window description: "Image Windows Level"

8.2.15 X-Ray Generation Module

Attribute Name	Tag	VR	Type	Value
KVP	(0018,0060)	DS	3	Peak KVP X-ray generator voltage
X-ray Tube Current	(0018,1151)	IS	3	X-ray tube current, in mA.
Exposure Time	(0018,1150)	IS	3	Time of X-ray exposure, in mSec.
Exposure	(0018,1152)	IS	3	The product of exposure time and X-ray tube current expressed in mAs.
Distance Source to Detector	(0018,1110)	DS	3	Distance in mm from source to detector center, also known as SID.
Acquisition Device				
Processing	(0018,1400)	LO	3	Method of processing the image.

8.4 Retrieve a Modality Worklist from a Remote System

8.4.1 Scheduled Procedure Step Module

Attribute Name	Tag	VR	Type	Value
Scheduled Procedure Step Sequence	(0040,0100)	DS	2C	
Scheduled Procedure Step ID	(0040,0009)	SH	2C	
Scheduled Station AE Title	(0040,0001)	AE	2C	
Scheduled Procedure Step Start Date	(0040,0002)	DA	2C	
Scheduled Procedure Step Start Time	(0040,0003)	TM	2C	
Modality	(0008,0060)	CS	2C	
Scheduled Performing Physician's Name	(0008,0060)	PN	2C	
Scheduled Procedure Step Description	(0040,0006)	LO	2C	
Scheduled Station Name	(0040,0007)	SH	2C	
Scheduled Procedure Step Location	(0040,0010)	SH	2C	
Scheduled Procedure Step Status	(0040,0011)	CS	2C	
Comments on the Scheduled Procedure Step	(0040,0020)	LT	2C	

8.4.2 Requested Procedure

Attribute Name	Tag	VR	Type	Value
Requested Procedure ID	(0040,1001)	SH	2C	
Requested Procedure Description	(0032,1060)	LO	2C	
Study Instance UID	(0020,000D)	UI	2C	
Reason for the Requested Procedure	(0040,1002)	LO	2C	
Requested Procedure Comments	(0040,1400)	LT	2C	
Requested Procedure Priority	(0040,1003)	SH	2C	

8.4.3 Patient Identification

Attribute Name	Tag	VR	Type	Value
Patient's Name	(0010,0010)	PN	2C	

Attribute Name	Tag	VR	Type	Value
Patient ID	(0010,0020)	LO	2C	

8.4.4 Patient Demographic

Attribute Name	Tag	VR	Type	Value
Patient's Birth Date	(0010,0030)	DA	2C	
Patient's Sex	(0010,0040)	CS	2C	
Patient's Weight	(0010,0030)	DS	2C	

8.4.5 Imaging Service Request

Attribute Name	Tag	VR	Type	Value
Imaging Service Request Comments	(0040,2400)	LT	2C	
Requesting Physician	(0032,1032)	PN	2C	
Referring Physician's Name	(0008,0090)	PN	2C	
Accession Number	(0008,0050)	SH	2C	