

DICOM Conformance Statement

TIMS DICOM System



Foresight Imaging
One Executive Dr.
Suite 102
Chelmsford, MA 01824
Tel: 978-458-4624
Fax: 978-458-5488
Email: info@tims.com
Web: www.tims.com

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1 Introduction

1.1 Scope and Field of Application

This document is the DICOM Conformance Statement for version 2.2 of the TIMS product. The purpose of this document is to describe how the TIMS product collaborates in a DICOM network with other Medical Imaging applications that conform to the DICOM 3.0 standard.

1.2 References

See Digital Imaging and Communications in Medicine (DICOM), parts 1 through 14 (NEMA PS 3.1-14).

1.3 Definitions

See Digital Imaging and Communications in Medicine (DICOM), parts 1 through 14 (NEMA PS 3.1-14).

1.4 Symbols and Abbreviations

See Digital Imaging and Communications in Medicine (DICOM), parts 1 through 14 (NEMA PS 3.1-14).

1.5 Important Considerations for the Reader

This DICOM Conformance Statement by itself is not sufficient to guarantee successful connectivity between TIMS and equipment from other vendors. The following considerations should be made:

- The integration of equipment from different vendors goes beyond the scope of the DICOM 3.0 standard and the DICOM Conformance Statements from TIMS and other vendors. It is the sole responsibility of the user (or user's agent) to assess the application requirements and to provide a solution that integrates TIMS equipment with equipment from other vendors.
- When the comparison of this DICOM Conformance Statement with a DICOM Conformance Statement from another vendor indicates that connectivity should be possible it is the sole responsibility of the user (or user's agent) to verify this by carrying out validation tests and to check whether all required functionality is met.
- With regard to the future evolution of the DICOM 3.0 standard TIMS reserves the right to make changes to the TIMS architecture described in this document.

The user (or user's agent) should ensure that any equipment connected via DICOM to TIMS Dicom System also follows the future evolution of the DICOM 3.0 standard.

1.6 Acknowledgment of Trade Names

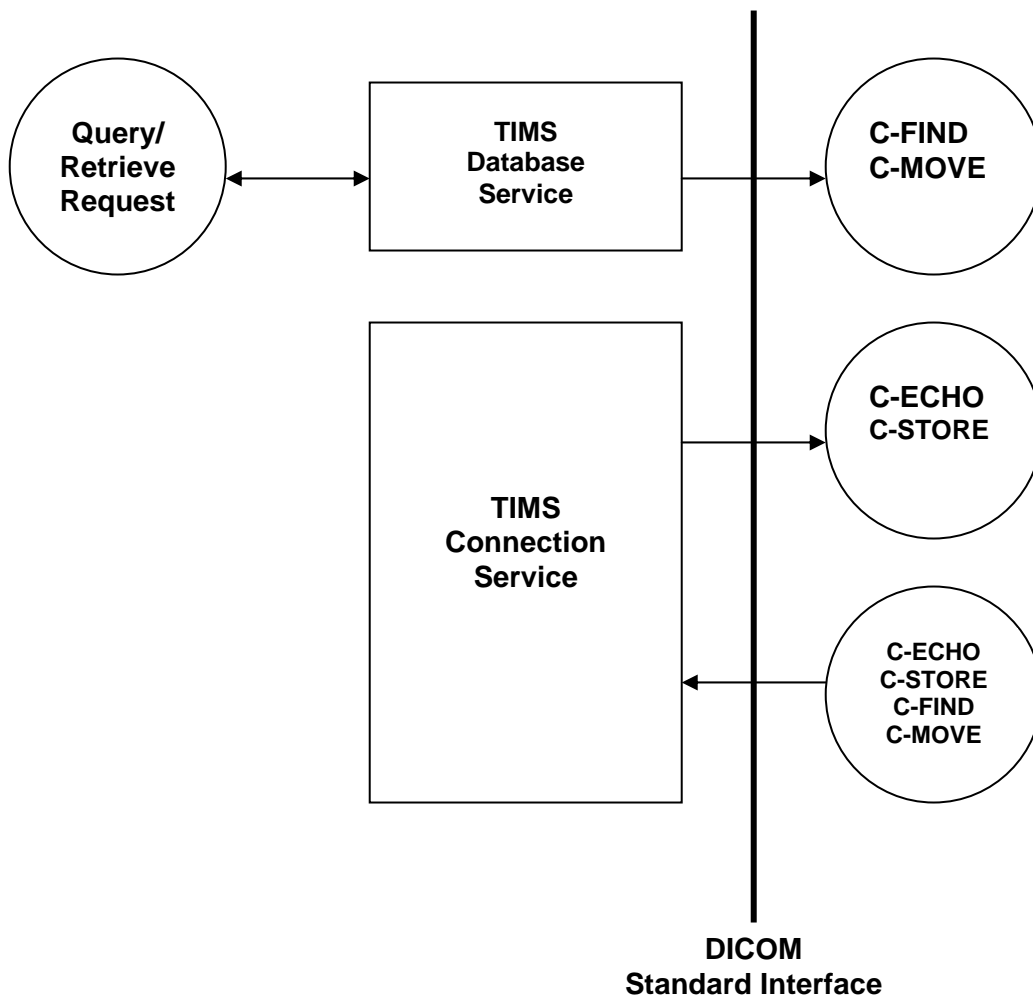
All trade names mentioned in this document are recognized.

2 IMPLEMENTATION MODEL

The TIMS DICOM services are implemented as two separate processes that share a single Application Entity title. Currently both processes can all initiate associations with remote Application Entities while one can accept associations from remote Application Entities as well.

2.1 Application Data Flow Diagram

The Implementation Model for the TIMS DICOM services is depicted below:



The TIMS Connection Service is responsible for image reception and transmission. It maintains logs of all studies that entered and left the system thru DICOM send and DICOM receive logs.

The TIMS Database Service handles queries to remote DICOM databases and initiates import requests. Please note that the destination of imports is the TIMS database.

In addition to Storage SOP Class support for networking, TIMS also supports the Media Storage Service Class for the Interchange of images as a File Set Reader (FSR) and File Set Creator (FSC).

3 APPLICATION ENTITY SPECIFICATIONS

3.1 TIMS DICOM services AE Specifications

The TIMS DICOM services provide support for the following DICOM V3.0 SOP Classes as an SCU:

SOP Classes as SCU	
SOP Class Name	SOP Class UID
Media Storage Directory Storage	1.2.840.10008.1.3.10
Basic Study Content Notification SOP Class	1.2.840.10008.1.9
DICOM Application Context Name	1.2.840.10008.3.1.1.1
Detached Patient Management SOP Class	1.2.840.10008.3.1.2.1.1
Detached Patient Management Meta SOP Class	1.2.840.10008.3.1.2.1.4
Detached Visit Management SOP Class	1.2.840.10008.3.1.2.2.1
Detached Study Management SOP Class	1.2.840.10008.3.1.2.3.1
Study Component Management SOP Class	1.2.840.10008.3.1.2.3.2
Detached Results Management SOP Class	1.2.840.10008.3.1.2.5.1
Detached Results Management Meta SOP Class	1.2.840.10008.3.1.2.5.4
Detached Study Management Meta SOP Class	1.2.840.10008.3.1.2.5.5
Detached Interpretation Management SOP Class	1.2.840.10008.3.1.2.6.1
Basic Film Session SOP Class	1.2.840.10008.5.1.1.1
Basic Film Box SOP Class	1.2.840.10008.5.1.1.2
Basic Grayscale Image Box SOP Class	1.2.840.10008.5.1.1.4
Basic Color Image Box SOP Class	1.2.840.10008.5.1.1.4.1
Referenced Image Box SOP Class (Retired)	1.2.840.10008.5.1.1.4.2
CD/DR (Computed/Digital Radiography) Image Storage	1.2.840.10008.5.1.4.1.1.1
Digital X-Ray Image Storage Presentation	1.2.840.10008.5.1.4.1.1.1.1
Digital X-Ray Image Storage Processing	1.2.840.10008.5.1.4.1.1.1.1.1
Digital X-Ray Mammography Image Storage Presentation	1.2.840.10008.5.1.4.1.1.1.2

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Digital X-Ray Mammography Image Storage Processing	1.2.840.10008.5.1.4.1.1.1.2.1
Digital X-Ray Intra-Oral Image Storage Presentation	1.2.840.10008.5.1.4.1.1.1.3
Digital X-Ray Intra-Oral Image Storage Processing	1.2.840.10008.5.1.4.1.1.1.3.1
CT (Computer Tomography) Image Storage	1.2.840.10008.5.1.4.1.1.2
US (Ultra Sound) Multi-Frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3
US (Ultra Sound) Multi-Frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
MR (Magnetic Resonance) Image Storage	1.2.840.10008.5.1.4.1.1.4
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5
US (Ultra Sound) Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6
US (Ultra Sound) Image Storage	1.2.840.10008.5.1.4.1.1.6.1
SC (Secondary Capture) Image Storage	1.2.840.10008.5.1.4.1.1.7
Standalone Overlay Storage	1.2.840.10008.5.1.4.1.1.8
Standalone Curve Storage	1.2.840.10008.5.1.4.1.1.9
Ambulatory ECG Waveform Storage	1.2.840.10008.5.1.4.1.1.9.1.3
Cardiac Electrophysiology Waveform Storage	1.2.840.10008.5.1.4.1.1.9.3.1
Basic Voice Audio Waveform Storage	1.2.840.10008.5.1.4.1.1.9.4.1
Standalone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10
Standalone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11
Grayscale Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.1
XA (X-Ray Angiographic) Image Storage	1.2.840.10008.5.1.4.1.1.12.1
RF (X-Ray Radiofluoroscopic) Image Storage	1.2.840.10008.5.1.4.1.1.12.2
X-Ray Angiographic Bi-Plane Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.12.3
NM (Nuclear Medicine) Image Storage	1.2.840.10008.5.1.4.1.1.20
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128
Standalone Positron Emission Tomography Curve Storage	1.2.840.10008.5.1.4.1.1.129
Radiotherapy Image Storage	1.2.840.10008.5.1.4.1.1.481.1
Radiotherapy Dose Storage	1.2.840.10008.5.1.4.1.1.481.2
Radiotherapy Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3
Radiotherapy Beams Treatment Record Storage Class	1.2.840.10008.5.1.4.1.1.481.4
Radiotherapy Plan Storage	1.2.840.10008.5.1.4.1.1.481.5
Radiotherapy Brachy Treatment Record Storage Class	1.2.840.10008.5.1.4.1.1.481.6
Radiotherapy Treatment Summary Record Storage Class	1.2.840.10008.5.1.4.1.1.481.7
Visible Light Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.1
Visible Light Multiframe Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.2
Visible Light Endoscopic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.1
Visible Light Microscopic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.2
Visible Light Slide Coordinates Microscopic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.3
Visible Light Photographic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.4
Basic Text Structured Reporting	1.2.840.10008.5.1.4.1.1.88.11
Enhanced Structured Reporting	1.2.840.10008.5.1.4.1.1.88.22
Comprehensive Structured Reporting	1.2.840.10008.5.1.4.1.1.88.33
Patient Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.1.1
Patient Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.1.2
Study Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.2.1
Study Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.2.2

Modality Worklist Information Management - FIND	1.2.840.10008.5.1.4.31
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The TIMS DICOM System provide support for the following DICOM V3.0 SOP Classes as an SCP:

SOP Classes as SCP	
SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
Detached Study Management	1.2.840.10008.3.1.2.3.1
CR/DR (Computed/Digital Radiography) Image Storage	1.2.840.10008.5.1.4.1.1.1
DX (Digital X-Ray for presentation) Image Storage	1.2.840.10008.5.1.4.1.1.1.1
DX (Digital X-Ray for processing) Image Storage	1.2.840.10008.5.1.4.1.1.1.1.1
Digital X-Ray Mammography Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.2
Digital X-Ray Mammography Image Storage (Process)	1.2.840.10008.5.1.4.1.1.1.2.1
Digital X-Ray Intra-Oral Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.3
Digital X-Ray Intra-Oral Image Storage for (Process)	1.2.840.10008.5.1.4.1.1.1.3.1
Standalone Modality LUT	1.2.840.10008.5.1.4.1.1.10
Standalone VOI LUT	1.2.840.10008.5.1.4.1.1.11
Grayscale Softcopy Presentation State	1.2.840.10008.5.1.4.1.1.11.1
XA (X-Ray Angiographic) Image Storage	1.2.840.10008.5.1.4.1.1.12.1
RF (X-Ray Radiofluoroscopic) Image Storage	1.2.840.10008.5.1.4.1.1.12.2
X-Ray Angiographic Bi-Plane Image	1.2.840.10008.5.1.4.1.1.12.3
PET Image	1.2.840.10008.5.1.4.1.1.128
Standalone PET Curve	1.2.840.10008.5.1.4.1.1.129
CT (Computer Tomography) Image Storage	1.2.840.10008.5.1.4.1.1.2
NM (Nuclear Medicine) Image Storage	1.2.840.10008.5.1.4.1.1.20
US (Ultra Sound) Multi-Frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3
US (Ultra Sound) Multi-Frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
MR (Magnetic Resonance) Image Storage	1.2.840.10008.5.1.4.1.1.4
Radiotherapy Image Storage	1.2.840.10008.5.1.4.1.1.481.1
Radiotherapy Dose Storage	1.2.840.10008.5.1.4.1.1.481.2
Radiotherapy Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3
Radiotherapy Beams Treatment Record Storage Class	1.2.840.10008.5.1.4.1.1.481.4
Radiotherapy Plan Storage	1.2.840.10008.5.1.4.1.1.481.5
Radiotherapy Brachy Treatment Record Storage Class	1.2.840.10008.5.1.4.1.1.481.6
Radiotherapy Treatment Summary Record Storage Class	1.2.840.10008.5.1.4.1.1.481.7
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5
US (Ultra Sound) Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6
US (Ultra Sound) Image Storage	1.2.840.10008.5.1.4.1.1.6.1
SC (Secondary Capture) Image Storage	1.2.840.10008.5.1.4.1.1.7
Multi-Frame Single Bit SC Image	1.2.840.10008.5.1.4.1.1.7.1
Multi-Frame Grayscale Byte SC Image	1.2.840.10008.5.1.4.1.1.7.2
Multi-Frame Grayscale Word SC Image	1.2.840.10008.5.1.4.1.1.7.3

Multi-Frame True Color SC Image	1.2.840.10008.5.1.4.1.1.7.4
Visible Light Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.1
Visible Light Endoscopic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.1
Visible Light Microscopic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.2
Visible Light Slide-Coordinates Microscopic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.3
Visible Light Photographic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.4
Visible Light Multiframe Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.2
Standalone Overlay	1.2.840.10008.5.1.4.1.1.8
Key Object Reference	1.2.840.10008.5.1.4.1.1.88.59
Standalone Curve Storage	1.2.840.10008.5.1.4.1.1.9
Patient Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.1.1
Study Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.2.1
Study Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.2.2
Patient/Study Only Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.3.1

Association Establishment Policies

3.1.1.1 General

The default PDU size of 16K is used for association initiation and for all locally initiated operations except C-STORE. Locally initiated C-STORE operations allow maximum PDU sizes to be customized from 4K to 128K. The default C-STORE PDU size is 16K.

3.1.1.2 Number of Associations

The TIMS Connection Service supports Single associations both as an SCU and SCP. By default the maximum number of associations that the Connection Service will support as an SCP is 1.

3.1.1.3 Asynchronous Nature

The TIMS DICOM services do not support asynchronous operations and will not perform asynchronous window negotiation.

3.1.2 Association Initiation Policy

The TIMS Connection Service initiates associations for the following activities:

- The TIMS user wants to verify the DICOM communication with a remote system.

- The TIMS user wants to send images from the local TIMS database to a remote system.

The TIMS Database Service initiates associations for the following activities:

- The TIMS user wants to query the contents of a remote database.
- The TIMS user wants to retrieve images from a remote database to the local TIMS database.

3.1.2.1 Verify Communication with a Remote System

3.1.2.1.1 Associated Real World Activity

The TIMS Connection Service sends out a request to DICOM communication with a remote DICOM system.

3.1.2.1.2 Accepted Presentation Contexts

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended
Name	UID	Name	UID		Negotiation
Verification	1.2.840.10008.1.1	Implicit VR, Little Endian	1.2.840.10008.1.2	SCU	None

3.1.2.1.3 SOP Specific Conformance Statement for SOP Class Verification

The TIMS Connection Service provides standard conformance.

3.1.2.2 Send Images to a Remote System

3.1.2.2.1 Associated Real World Activity

The user of the TIMS system makes a selection of one or more studies in the local Database and subsequently presses the Send button which will initiate the transfer of images from the local database of TIMS to the remote system.

3.1.2.2.2 Proposed Presentation Contexts

Presentation Context Table for Send to Remote System			
Abstract Syntax		Transfer Syntax	Role
Name	UID		
Media Storage Directory Storage	1.2.840.10008.1.3.10	See Below	SCU
Basic Study Content Notification SOP Class	1.2.840.10008.1.9	See Below	SCU
DICOM Application Context Name	1.2.840.10008.3.1.1.1	See Below	SCU
Detached Patient Management SOP Class	1.2.840.10008.3.1.2.1.1	See Below	SCU
Detached Patient Management Meta SOP Class	1.2.840.10008.3.1.2.1.4	See Below	SCU
Detached Visit Management SOP Class	1.2.840.10008.3.1.2.2.1	See Below	SCU
Detached Study Management SOP Class	1.2.840.10008.3.1.2.3.1	See Below	SCU
Study Component Management SOP Class	1.2.840.10008.3.1.2.3.2	See Below	SCU
Detached Results Management SOP Class	1.2.840.10008.3.1.2.5.1	See Below	SCU
Detached Results Management Meta SOP Class	1.2.840.10008.3.1.2.5.4	See Below	SCU
Detached Study Management Meta SOP Class	1.2.840.10008.3.1.2.5.5	See Below	SCU
Detached Interpretation Management SOP Class	1.2.840.10008.3.1.2.6.1	See Below	SCU
Basic Film Session SOP Class	1.2.840.10008.5.1.1.1	See Below	SCU
Basic Film Box SOP Class	1.2.840.10008.5.1.1.2	See Below	SCU
Basic Grayscale Image Box SOP Class	1.2.840.10008.5.1.1.4	See Below	SCU
Basic Color Image Box SOP Class	1.2.840.10008.5.1.1.4.1	See Below	SCU
Referenced Image Box SOP Class (Retired)	1.2.840.10008.5.1.1.4.2	See Below	SCU
CD/DR (Computed/Digital Radiography) Image Storage	1.2.840.10008.5.1.4.1.1.1	See Below	SCU
Digital X-Ray Image Storage Presentation	1.2.840.10008.5.1.4.1.1.1.1	See Below	SCU
Digital X-Ray Image Storage Processing	1.2.840.10008.5.1.4.1.1.1.1.1	See Below	SCU
Digital X-Ray Mammography Image Storage Presentation	1.2.840.10008.5.1.4.1.1.1.2	See Below	SCU
Digital X-Ray Mammography Image Storage Processing	1.2.840.10008.5.1.4.1.1.1.2.1	See Below	SCU
Digital X-Ray Intra-Oral Image Storage Presentation	1.2.840.10008.5.1.4.1.1.1.3	See Below	SCU
Digital X-Ray Intra-Oral Image Storage Processing	1.2.840.10008.5.1.4.1.1.1.3.1	See Below	SCU
CT (Computer Tomography) Image Storage	1.2.840.10008.5.1.4.1.1.2	See Below	SCU
US (Ultra Sound) Multi-Frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	See Below	SCU
US (Ultra Sound) Multi-Frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	See Below	SCU
MR (Magnetic Resonance) Image Storage	1.2.840.10008.5.1.4.1.1.4	See Below	SCU
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	See Below	SCU
US (Ultra Sound) Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	See Below	SCU
US (Ultra Sound) Image Storage	1.2.840.10008.5.1.4.1.1.6.1	See Below	SCU
SC (Secondary Capture) Image Storage	1.2.840.10008.5.1.4.1.1.7	See Below	SCU
Standalone Overlay Storage	1.2.840.10008.5.1.4.1.1.8	See Below	SCU
Standalone Curve Storage	1.2.840.10008.5.1.4.1.1.9	See Below	SCU
Ambulatory ECG Waveform Storage	1.2.840.10008.5.1.4.1.1.9.1.3	See Below	SCU
Hemodynamic Waveform Storage	1.2.840.10008.5.1.4.1.1.9.2.1	See Below	SCU
Cardiac Electrophysiology Waveform Storage	1.2.840.10008.5.1.4.1.1.9.3.1	See Below	SCU
Basic Voice Audio Waveform Storage	1.2.840.10008.5.1.4.1.1.9.4.1	See Below	SCU
Standalone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10	See Below	SCU

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Standalone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11	See Below	SCU
Grayscale Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.1	See Below	SCU
XA (X-Ray Angiographic) Image Storage	1.2.840.10008.5.1.4.1.1.12.1	See Below	SCU
RF (X-Ray Radiofluoroscopic) Image Storage	1.2.840.10008.5.1.4.1.1.12.2	See Below	SCU
X-Ray Angiographic Bi-Plane Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.12.3	See Below	SCU
NM (Nuclear Medicine) Image Storage	1.2.840.10008.5.1.4.1.1.20	See Below	SCU
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128	See Below	SCU
Standalone Positron Emission Tomography Curve Storage	1.2.840.10008.5.1.4.1.1.129	See Below	SCU
Radiotherapy Image Storage	1.2.840.10008.5.1.4.1.1.481.1	See Below	SCU
Radiotherapy Dose Storage	1.2.840.10008.5.1.4.1.1.481.2	See Below	SCU
Radiotherapy Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3	See Below	SCU
Radiotherapy Beams Treatment Record Storage Class	1.2.840.10008.5.1.4.1.1.481.4	See Below	SCU
Radiotherapy Plan Storage	1.2.840.10008.5.1.4.1.1.481.5	See Below	SCU
Radiotherapy Brachy Treatment Record Storage Class	1.2.840.10008.5.1.4.1.1.481.6	See Below	SCU
Radiotherapy Treatment Summary Record Storage Class	1.2.840.10008.5.1.4.1.1.481.7	See Below	SCU
Visible Light Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.1	See Below	SCU
Visible Light Multiframe Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.2	See Below	SCU
Visible Light Endoscopic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.1	See Below	SCU
Visible Light Microscopic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.2	See Below	SCU
Visible Light Slide Coordinates Microscopic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.3	See Below	SCU
Visible Light Photographic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.4	See Below	SCU
Basic Text Structured Reporting	1.2.840.10008.5.1.4.1.1.88.11	See Below	SCU
Enhanced Structured Reporting	1.2.840.10008.5.1.4.1.1.88.22	See Below	SCU
Comprehensive Structured Reporting	1.2.840.10008.5.1.4.1.1.88.33	See Below	SCU
Patient Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.1.1	See Below	SCU
Patient Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.1.2	See Below	SCU
Study Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.2.1	See Below	SCU
Study Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.2.2	See Below	SCU
Modality Worklist Information Management - FIND	1.2.840.10008.5.1.4.31	See Below	SCU

Transfer Syntaxes for Send To Remote System	
Name	UID
Implicit VR, Little Endian	1.2.840.10008.1.2
Explicit VR, Little Endian	1.2.840.10008.1.2.1
Explicit VR, Lossy JPEG 8-Bit Image Compression	1.2.840.10008.1.2.4.50
Explicit VR, Lossy JPEG12-Bit Image Compression	1.2.840.10008.1.2.4.51
Explicit VR, JPEG Lossless, Non-Hierarchical, First-Order Prediction	1.2.840.10008.1.2.4.70

3.1.2.2.3 SOP Specific Conformance Statement for SOP Class Storage

TIMS provides full (level 2) conformance as SCP of the Storage SOP class. This means that upon sending an image received via DICOM on to another DICOM compliant system it will send out all attributes that it received (this includes private attributes from other vendors).

3.1.2.3 Query a Remote Database

3.1.2.3.1 Associated Real World Activity

The user of the TIMS system wants to have a view on a remote DICOM database and either views the complete contents of the remote database or fills out a query dialogue box with fields for Patient Name, Patient ID, Study date, etc. Wildcards can be used instead of fully specified information to allow flexible queries.

3.1.2.3.2 Proposed Presentation Contexts

Presentation Context Table for Remote Database Query					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Patient Root Query/ Retrieve Model - FIND	1.2.840.10008.5.1.4.1.2.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
Study Root Query/ Retrieve Model - FIND	1.2.840.10008.5.1.4.1.2.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

3.1.2.3.3 SOP Specific Conformance Statement for SOP Class Query

The TIMS Database Service does not support Relational Queries. The following keys are supported for the Patient Root Query:

Supported Keys for Patient Root Query			
Level	Description	Tag	Type
Patient	Patient's Name	(0010,0010)	R
Patient	Patient's ID	(0010,0020)	U
Patient	Patient's Birth Date	(0010,0030)	O
Patient	Patient's Sex	(0010,0040)	O
Study	Study Date	(0008,0020)	R
Study	Study Time	(0008,0030)	R
Study	Accession Number	(0008,0050)	R
Study	Study ID	(0020,0010)	R
Study	Study Instance ID	(0020,000D)	U
Study	Referring Physician's Name	(0008,0090)	O
Study	Study Description	(0008,1030)	O

Study	Modalities in Study	(0008,0061)	O
Study	Number of Study Related Series	(0020,1206)	O
Study	Number of Study Related Instances/Images	(0020,1208)	O

For a Study Root Query the following keys are supported:

Supported Keys for Study Root Query			
Level	Description	Tag	Type
Study	Study Date	(0008,0020)	R
Study	Study Time	(0008,0030)	R
Study	Accession Number	(0008,0050)	R
Study	Patient's Name	(0010,0010)	R
Study	Patient ID	(0010,0020)	R
Study	Study ID	(0020,0010)	R
Study	Study Instance UID	(0020,000D)	U
Study	Referring Physician's Name	(0008,0090)	O
Study	Study Description	(0008,1030)	O
Study	Patient's Birth Date	(0010,0030)	O
Study	Patient's Sex	(0010,0040)	O
Study	Modalities in Study	(0008,0061)	O
Study	Number of Study Related Series	(0020,1206)	O
Study	Number of Study Related Instances/Images	(0020,1208)	O

TIMS expects the remote Query SCP to perform any one of the following Matching methods:

Matching Methods for Study/Patient Root Query
Method
Single Value Matching
Universal Matching
Wild Card Matching
Range Matching

3.1.2.4 Print to a remote Laser Imager

3.1.2.4.1 Associated Real World Activity

The TIMS user selects a study in the local database and sends it to the Print Service as a job for the desired laser imager. The user can choose several parameters such as the layout of the film and number of copies.

The TIMS user creates a Virtual Layout Film Sheet print job from the studies available in the Viewing module and submits it as a job for the desired laser imager. On a per-image or per-sheet basis several parameters can be altered. When submitting the job the user can choose a few parameters, such as the number of copies.

3.1.2.4.2 Proposed Presentation Contexts

Presentation Context Table for Remote System Retrieve					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Basic Grayscale Print Management Meta	1.2.840.10008.5.1.1.9	Implicit VR, Little Endian	1.2.840.10008.1.2	SCU	None
Basic Color Print Management Meta	1.2.840.10008.5.1.1.18	Implicit VR, Little Endian	1.2.840.10008.1.2	SCU	None
Print Job	1.2.840.10008.5.1.1.14	Implicit VR, Little Endian	1.2.840.10008.1.2	SCU	None

3.1.2.4.3 SOP Specific Conformance Statement for Meta SOP Classes Basic Grayscale and Color Print Management

The TIMS Print Service supports the following mandatory SOP classes as defined by the Basic Grayscale Print Management Meta class:

Supported SOP Classes as Basic Grayscale Print Management Meta SOP Class	
SOP Class Name	SOP Class UID
Basic Film Session	1.2.840.10008.5.1.1.1
Basic Film Box	1.2.840.10008.5.1.1.2
Basic Grayscale Image Box	1.2.840.10008.5.1.1.4.1
Printer	1.2.840.10008.5.1.1.16

For the Basic Color Print Management Meta SOP class it supports:

Supported SOP Classes as Basic Color Print Management Meta SOP Class	
SOP Class Name	SOP Class UID
Basic Film Session	1.2.840.10008.5.1.1.1
Basic Film Box	1.2.840.10008.5.1.1.2
Basic Color Image Box	1.2.840.10008.5.1.1.4.1
Printer	1.2.840.10008.5.1.1.16

3.1.2.4.3.1 Conformance for SOP Class Basic Film Session

The TIMS Print Service includes the following attributes in the N-CREATE for the Basic Film Session SOP class:

Attributes for Basic Film Session SOP Class N-CREATE		
Description	Tag	Range of Values

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Number of Copies	(2000,0010)	1-10000 (Max. user value configurable, default 1)
Medium Type	(2000,0030)	"PAPER", "CLEAR FILM", "BLUE FILM"
Film Destinaton	(2000,0040)	"MAGAZINE", "PROCESSOR", <more configurable>
Film Session Label	(2000,0050)	"TIMS DICOM Print"
Print Priority	(2000, 0020)	"HIGH", "MEDIUM", "LOW"

The N-SET and N-ACTION are currently unused. The N-DELETE is used to delete the complete Basic Film Session SOP instance hierarchy.

3.1.2.4.3.2 Conformance for SOP Class Basic Film Box

The TIMS Print Service includes the following attributes in the N-CREATE for the Basic Film Box SOP class:

Attributes for Basic Film Box SOP Class N-CREATE			
Description	Tag	Usage	Range of Values
Image Display Format	(2010,0010)	A ₁	STANDARD\Col,Row
Film Orientation	(2010,0040)	A	"PORTRAIT", "LANDSCAPE" "8INX10IN", "8_5INx11IN", "10INx12IN", "10INx14IN", "11INx14IN", "11INx17IN", "14INx14IN", "14INx17IN", "24CMx24CM", "24CMx30CM",
Film Size ID	(2010,0050)	A	"A4", "A3", "A"
Magnification Type	(2010,0060)	C	"BILINEAR", "CUBIC", "NONE", <more configurable>
Max Density	(2010,0130)	C	<configurable>
Configuration Information	(2010,0150)	C	<empty string>
Smoothing Type	(2010,0080)	C	<configurable>
Border Density	(2010,0100)	C	<configurable>
Empty Image Density	(2010,0110)	C	<configurable>
Min Density	(2010,0120)	C	<configurable>
Trim	(2010,0140)	C ₂	"YES", "NO"
Requested Resolution ID	(2020,0050)	C	"STANDARD", "HIGH", ""(default)

The N-SET is currently unused. The N-ACTION is used to print a complete Basic Film Box SOP instance and N-DELETE is used to delete it after printing.

¹ A means the attribute is always sent

² C means the attribute is only sent when not empty

3.1.2.4.3.3 Conformance for SOP Class Basic Grayscale Image Box

The Print includes the following attributes in the N-SET for the Basic Grayscale Image SOP class:

Attributes for Basic Grayscale Image SOP Box Class N-SET
--

Description	Tag	Usage	Range of Values
Image Position	(2020,0010)	A	1...
Preformatted Grayscale Image Sequence	(2020,0110)	A	
Samples Per Pixel	(0028, 0002)	A	1
Photometric Interpretation	(0028, 0004)	A	"MONOCHROME"
Rows	(0028, 0010)	A	
Columns	(0028, 0011)	A	
Pixel Aspect Ratio	(0028, 0034)	A	
Bits Allocated ₈	(0028, 0100)	A	8, 16
Bits Stored ₁	(0028, 0101)	A	8, 12
High Bit ₁	(0028, 0102)	A	7, 11
Pixel Representation	(0028, 0103)	A	0
Pixel Data	(7FE0,0010)	A	
Requested Image Size	(2020,0030)	C	hor. size of the image in mm.

3.1.2.4.3.4 Conformance for SOP Class Basic Color Image Box

The TIMS Print Service includes the following attributes in the N-SET for the Basic Color Image Box SOP class:

Attributes for Basic Color Image Box SOP Class N-SET			
Description	Tag	Usage	Range of Values
Image Position	(2020,0010)	A	1...
Preformatted Color Image Sequence	(2020,0111)	A	
Samples Per Pixel	(0028, 0002)	A	3
Photometric Interpretation	(0028, 0004)	A	
Planar Configuration	(0028, 0006)	A	RGB
Rows	(0028, 0010)	A	
Columns	(0028, 0011)	A	
Pixel Aspect Ratio	(0028, 0034)	A	
Bits Allocated	(0028, 0100)	A	8
Bits Stored	(0028, 0101)	A	8
High Bit	(0028, 0102)	A	7
Pixel Representation	(0028, 0103)	A	0
Pixel Data	(7FE0,0010)	A	
Requested Image Size	(2020,0030)	C	hor. size of the image in mm.

7 Depends on the chosen Image Display format

8 TIMS Print offers support for either 8 or 12-bit printing. For 12-bit printing Bits Allocated is set to 16, Bits Stored is set to 12, and High Bit is set to 11. For 8-bit printing the values are 8, 8, and 7 respectively.

3.1.2.4.3.5 Conformance for SOP Class Printer

TIMS Print shall accept N-EVENT-REPORT and return confirmation accordingly.

3.1.2.4.4 SOP Specific Conformance for SOP Class Print Job

3.1.2.4.5 Optional Meta SOP Classes for Basic Grayscale Print Management

3.1.2.4.6 Optional Meta SOP Classes for Basic Color Print Management

3.1.2.5 Retrieve from a Remote System

3.1.2.5.1 Associated Real World Activity

After a view on a remote DICOM database has been obtained the user makes a selection of one or more studies, series or images and subsequently presses the Import button. This will initiate the transfer of images from the remote system to the local database of TIMS.

Note that the TIMS Database Service performs the C-MOVE operation while the destination of the resulting C-STORE operation is the TIMS Connection Service.

3.1.2.5.2 Proposed Presentation Contexts

Presentation Context Table for Remote System Retrieve					
Abstract Syntax		Transfer Syntax		Role	Extended
Name	UID	Name	UID		Negotiation
Study Root Query/ Retrieve Model - MOVE	1.2.840.10008.5.1.4.1.2.2.2	Implicit VR, Little Endian	1.2.840.10008.1.2	SCU	None

3.1.2.5.3 SOP Specific Conformance Statement for SOP Class Retrieve

The TIMS Database Service provides standard conformance.

3.1.2.6 Retrieve a Modality Worklist from a Remote System

3.1.2.6.1 Associated Real World Activity

TIMS can query for a Modality Worklist to aid in merging patient demographics into DICOM images. This prevents the need to enter patient demographics manually and consequently eliminates a source of typing errors.

3.1.2.6.2 Proposed Presentation Contexts

Presentation Context Table for Modality Worklist Management					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Modality Worklist	1.2.840.10008.5.1.4.31	Implicit VR,	1.2.840.10008.1.2	SCU	None
Information Model - FIND		Little Endian			

3.1.2.6.3 SOP Specific Conformance Statement for SOP Class Modality Worklist Management

TIMS provides standard conformance.

The following keys are supported for the Modality Worklist Management:

Supported keys for Modality Worklist Management			
Module	Description	Tag	Type
Scheduled Procedure Step	Scheduled Procedure Step Sequence	(0040,0100)	R
	>Scheduled Station AE Title	(0040,0001)	R
	>Scheduled Procedure Step Start Date	(0040,0002)	R
	>Scheduled Procedure Step Start Time	(0040,0003)	R
	>Modality	(0008,0060)	R
	>Scheduled Performing Physician	(0040,0006)	R
	>Scheduled Procedure Step Description	(0040,0007)	O
	>Scheduled Station Name	(0040,0010)	O
	>Scheduled Procedure Step Location	(0040,0011)	O
	>Pre-Medication	(0040,0012)	O
	>Scheduled Procedure Step ID	(0040,0009)	O
	>Requested Contrast Agent	(0032,1070)	O
	Requested Procedure	Requested Procedure ID	(0040,1001)
Requested Procedure Description		(0032,1060)	O
Study Instance UID		(0020,000D)	O
Requested Procedure Priority		(0040,1003)	O
Patient Transport Arrangements		(0040,1004)	O
Imaging Service Request	Accession Number	(0008,0050)	O
	Requesting Physician	(0032,1032)	O
	Referring Physician's Name	(0008,0090)	O
	Study Status ID	(0032,000A)	O
	Study Priority ID	(0032,000C)	O

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Visit Identification	Admission ID	(0038,0010)	O
Visit Status	Current Patient Location	(0038,0300)	O
Patient Identification	Patient's Name	(0010,0010)	R
	Patient ID	(0010,0020)	R
	Issuer of Patient ID	(0010,0021)	O
	Other Patient Ids	(0010,1000)	O
	Other Patient Names	(0010,1001)	O
	Patient's Birth Name	(0010,1005)	O
	Patient's Mother's Birth Name	(0010,1060)	O
	Medical Record Locator	(0010,1090)	O
Patient Demographic	Patient's Birth Date	(0010,0030)	O
	Patient's Birth Time	(0010,0032)	O
	Patient's Sex	(0010,0040)	O
	Patient's Size	(0010,1020)	O
	Patient's Weight	(0010,1030)	O
	Patient's Address	(0010,1040)	O
	Military Rank	(0010,1080)	O
	Branch of Service	(0010,1081)	O
	Country of Residence	(0010,2150)	O
	Region of Residence	(0010,2152)	O
	Patient's Telephone Numbers	(0010,2154)	O
	Ethnic Group	(0010,2160)	O
	Patient's Religious Preference	(0010,21F0)	O
	Patient Comments	(0010,4000)	O
Patient Medical	Medical Alerts	(0010,2000)	O
	Contrast Allergies	(0010,2110)	O
	Pregnancy Status	(0010,21C0)	O
	Special Needs	(0038,0050)	O
	Patient State	(0038,0500)	O

TIMS expects the remote Query SCP to perform any one of the following Matching methods:

Matching methods for Study/Patient Root Query
Method
Single Value Matching
Universal Matching
Wild Card Matching
Range Matching

TIMS may fill no, one, or multiple attributes in the query request with a non-empty value. TIMS may thus request matching on Optional Matching Key Attributes.

All fields listed above are always included in the query request to ask the SCP to return them for each response. TIMS expects the SCP to return values for all “R” attributes whereas the attributes marked with “O” may be optionally filled. Therefore, TIMS treats these attributes as Type 3 Return Key Attributes.

3.1.3 Association Acceptance Policy

The TIMS Connection Service accepts associations for the following activities:

- Verification of the DICOM communication between a remote system and TIMS
- Transfer of images from a remote system to TIMS.
- Processing of a query from a remote system.
- Initiation of a transfer of images to a remote system when a retrieve request is received.
- Commit the storage of images on a TIMS system.

Association requests from applications whose AE Title is unknown may be rejected by the TIMS Connection Service depending on how it is configured. The same applies to the case in which the AE Title for the TIMS Connection Service is incorrectly configured on the remote system.

3.1.3.1 Verify Communication with a Remote System

3.1.3.1.1 Associated Real World Activity

The TIMS Connection Service will respond to verification request made by remote systems.

3.1.3.1.2 Accepted Presentation Contexts

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended
Name	UID	Name	UID		Negotiation
Verification	1.2.840.10008.1.1	Implicit VR, Little Endian	1.2.840.10008.1.2	SCP	None

3.1.3.1.3 SOP Specific Conformance Statement for SOP Class Verification

The TIMS Connection Service provides standard conformance.

3.1.3.1.4 Presentation Context Acceptance Criterion

There are no specific rules for acceptance and prioritization of presentation contexts and the TIMS Connection Service will accept all presentation contexts that match those listed in the table shown above.

3.1.3.2 Receive Images from a Remote System

3.1.3.2.1 Associated Real World Activity

A remote system wants to send images to the TIMS system via the TIMS Connection Service. Once the transfer is completed the new images will automatically be included in the user's view of the local database of TIMS and can be selected for display.

3.1.3.2.2 Accepted Presentation Contexts

Presentation Context Table for Receive from Remote System		Transfer Syntax	Role
Abstract Syntax			
Name	UID		
Verification	1.2.840.10008.1.1	See Below	SCP
Detached Study Management	1.2.840.10008.3.1.2.3.1	See Below	SCP
CR/DR (Computed/Digital Radiography) Image Storage	1.2.840.10008.5.1.4.1.1.1	See Below	SCP
DX (Digital X-Ray for presentation) Image Storage	1.2.840.10008.5.1.4.1.1.1.1	See Below	SCP
DX (Digital X-Ray for processing) Image Storage	1.2.840.10008.5.1.4.1.1.1.1.1	See Below	SCP
Digital X-Ray Mammography Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.2	See Below	SCP
Digital X-Ray Mammography Image Storage (Process)	1.2.840.10008.5.1.4.1.1.1.2.1	See Below	SCP
Digital X-Ray Intra-Oral Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.3	See Below	SCP
Digital X-Ray Intra-Oral Image Storage for (Process)	1.2.840.10008.5.1.4.1.1.1.3.1	See Below	SCP
Standalone Modality LUT	1.2.840.10008.5.1.4.1.1.10	See Below	SCP
Standalone VOI LUT	1.2.840.10008.5.1.4.1.1.11	See Below	SCP
Grayscale Softcopy Presentation State	1.2.840.10008.5.1.4.1.1.11.1	See Below	SCP
XA (X-Ray Angiographic) Image Storage	1.2.840.10008.5.1.4.1.1.12.1	See Below	SCP
RF (X-Ray Radiofluoroscopic) Image Storage	1.2.840.10008.5.1.4.1.1.12.2	See Below	SCP
X-Ray Angiographic Bi-Plane Image	1.2.840.10008.5.1.4.1.1.12.3	See Below	SCP
PET Image	1.2.840.10008.5.1.4.1.1.128	See Below	SCP

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Standalone PET Curve	1.2.840.10008.5.1.4.1.1.129	See Below	SCP
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	See Below	SCP
NM Image Storage	1.2.840.10008.5.1.4.1.1.20	See Below	SCP
US Multi-Frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	See Below	SCP
US Multi-Frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	See Below	SCP
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	See Below	SCP
Radiotherapy Image Storage	1.2.840.10008.5.1.4.1.1.481.1	See Below	SCP
Radiotherapy Dose Storage	1.2.840.10008.5.1.4.1.1.481.2	See Below	SCP
Radiotherapy Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3	See Below	SCP
Radiotherapy Beams Treatment Record Storage Class	1.2.840.10008.5.1.4.1.1.481.4	See Below	SCP
Radiotherapy Plan Storage	1.2.840.10008.5.1.4.1.1.481.5	See Below	SCP
Radiotherapy Brachy Treatment Record Storage Class	1.2.840.10008.5.1.4.1.1.481.6	See Below	SCP
Radiotherapy Treatment Summary Record Storage Class	1.2.840.10008.5.1.4.1.1.481.7	See Below	SCP
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	See Below	SCP
US Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	See Below	SCP
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	See Below	SCP
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	See Below	SCP
Multi-Frame Single Bit SC Image	1.2.840.10008.5.1.4.1.1.7.1	See Below	SCP
Multi-Frame Grayscale Byte SC Image	1.2.840.10008.5.1.4.1.1.7.2	See Below	SCP
Multi-Frame Grayscale Word SC Image	1.2.840.10008.5.1.4.1.1.7.3	See Below	SCP
Multi-Frame True Color SC Image	1.2.840.10008.5.1.4.1.1.7.4	See Below	SCP
Visible Light Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.1	See Below	SCP
Visible Light Endoscopic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.1	See Below	SCP
Visible Light Microscopic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.2	See Below	SCP
Visible Light Slide-Coordinates Microscopic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.3	See Below	SCP
Visible Light Photographic Image Storage Class	1.2.840.10008.5.1.4.1.1.77.1.4	See Below	SCP
Visible Light Multiframe Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.7.2	See Below	SCP
Standalone Overlay	1.2.840.10008.5.1.4.1.1.8	See Below	SCP
Basic Text Structured Reports	1.2.840.10008.5.1.4.1.1.88.11	See Below	SCP
Enhanced Structured Reports	1.2.840.10008.5.1.4.1.1.88.22	See Below	SCP
Comprehensive Structured Reports	1.2.840.10008.5.1.4.1.1.88.33	See Below	SCP
Key Object Reference	1.2.840.10008.5.1.4.1.1.88.59	See Below	SCP
Standalone Curve Storage	1.2.840.10008.5.1.4.1.1.9	See Below	SCP
Patient Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.1.1	See Below	SCP
Study Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.2.1	See Below	SCP
Study Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.2.2	See Below	SCP
Patient/Study Only Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.3.1	See Below	SCP

Transfer Syntaxes for Receive from Remote System	
Name	UID
Implicit VR, Little Endian	1.2.840.10008.1.2
Explicit VR, Little Endian	1.2.840.10008.1.2.1
Explicit VR, Lossy JPEG 8-Bit Compression	1.2.840.10008.1.2.4.50

Explicit VR, Lossy JPEG12-Bit Compression	1.2.840.10008.1.2.4.51
Explicit VR, JPEG Lossless, Non-Hierarchical, First-Order Prediction	1.2.840.10008.1.2.4.70

3.1.3.2.3 SOP Specific Conformance Statement for SOP Class Storage

The TIMS Connection Service conforms to the full (level 2) conformance of the Storage SOP class. All Type 1, Type 2 and Type 3 attributes will be retained. In addition private attributes will be stored and included when the image is sent out again.

Upon successful storage of images of a study it may be transferred to another system.

When an image is received that has a SOP Instance UID (0008,0018) that is already present in the TIMS database the transfers itself will complete successfully but the existing image in the database will be kept and the newly received image will be appended.

When receiving lossy JPEG compressed images they will by default be stored in compressed form and be only decompressed for display purposes. Upon further transmission of such images to another DICOM system this system has to support the same DICOM Lossy JPEG transfer syntax with which the image was received by the TIMS system

TIMS is able to receive and send any type of (color) image, i.e. images will not be rejected based on the value of tag 0028,0004 (Photometric Interpretation). However, TIMS will only be able to images with Photometric interpretation "MONOCHROME 1", "MONOCHROME 2", or "RGB". For RGB images both planar configuration 0 and 1 can be displayed.

3.1.3.2.4 Presentation Context Acceptance Criterion

There are no specific rules for acceptance and prioritization of presentation contexts and the TIMS Connection Service will accept all presentation contexts that match those listed in the table shown above. It will however limit a certain

SCU to only one association at a time. This means that when a SCU tries to initiate a request while any previous associations that it made are not completely processed that association will be accepted by actual data transfer will be postponed until all previous associations are completed.

TIMS will prefer the “Explicit VR, Lossy JPEG 8/12-Bit Image Compression” above the “Explicit VR, Little Endian” above the “Implicit VR, Little Endian” transfer syntaxes.

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3.1.3.2.4.1 Operations

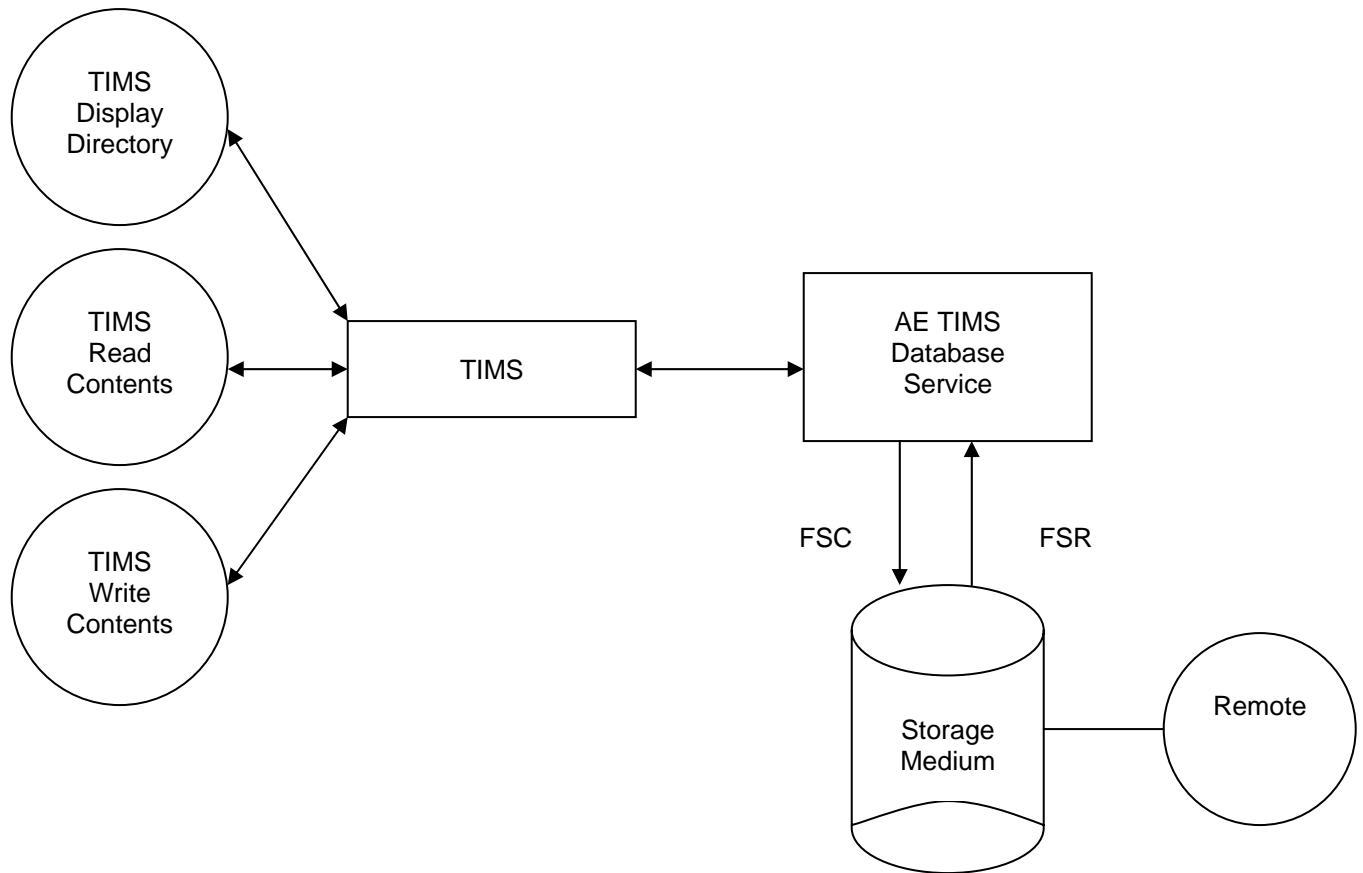
To date TIMS only provides temporary storage of images. This means that the system can be configured to auto delete studies based on priority rules. Apart from this TIMS offers a user interface to delete studies. Therefore TIMS should not be used as a long-term archive. If you want TIMS to retain the received studies (e.g. send them to a long-term storage after TIMS no longer needs it), it needs to be configured as such. TIMS does not support the optional Storage Media File-Set ID & UID attributes.

3.2 TIMS DICOM Media Server AE

TIMS provides standard conformance to the DICOM Media Storage Service and File Format (PS 3.10) and the Media Storage Application Profiles (PS 3.11) as far as the reading of uncompressed and JPEG Lossless Non-Hierarchical First Order Prediction compressed images on CD- and DVD Recordable media is concerned.

3.2.1 Implementation Model

3.2.1.1 Application Data Flow Diagram



The TIMS Media Server application flow consists of the following items:

- The TIMS Database Service serves both as an FSC and an FSR. In this role it is able to read directory information from the storage medium, to import images from the storage medium and to write images and directory information to the storage medium.
- The three Real World Activities involved are available through the TIMS AE's user interface.

TIMS does not support writing of multi session CD-R/DVD disks.

3.2.1.2 File Meta Information Options

The Implementation Class UID is 1.2.528.1.1001.2.19980612.1
The Implementation Version Name is TIMS 2.2

3.2.2 Additional Storage Options

TIMS offers the ability to store study data to network drives and USB storage devices as a convenience to the user. This operation is equivalent to copying the files that would be written to a CD or DVD (i.e, DICOMDIR and study files) to a folder on the network or USB device. It is important to note that this feature is not implemented in accordance with DICOM Supplement 87 of the 2004 DICOM Standard, which describes specialized DICOM transfer syntaxes and has other outlines restrictions.

TIMS supports the attachment of document and audio files to studies. These attachments can be archived to external media, but are stored as separate, non-DICOM files. They are not embedded within the DICOM study and are not transferred during C-STORE operations.

4.0 COMMUNICATION PROFILE

4.1 Supported Communication Stacks

The TIMS DICOM services provide DICOM V3.0 TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard.

4.2 OSI Stack

Not supported.

4.3 TCP/IP Stack

The TIMS DICOM services use the TCP/IP stack from the Microsoft Windows XP operating system upon which it executes.

4.3.1 Physical Media Support

The TIMS DICOM services are not dependent on the physical medium over which the TCP/IP executes.

4.4 Point-to-Point Stack

Not supported.

5 EXTENSION/SPECIALIZATIONS/PRIVITIZATIONS

5.1 Standard Extended/Specialized/Private SOPs

Not applicable.

5.2 Private Transfer Syntaxes

Not applicable.

6 CONFIGURATION

The configuration of the TIMS DICOM services are password protected . Only accounts (secured by passwords) with the right level of security will be able to change the configuration. This will typically be done by support personnel.

6.1 AE Title/Presentation Address Mapping

The AE title shared by the TIMS DICOM services is configurable and defaults to TIMS. The port on which the Connection Service listens is also configurable and defaults to 104.

All remote systems that want to communicate with the TIMS Connection Service have to be configured. For systems that want to act as SCUs of the Connections Service SCP SOP classes the following information may be needed:

- The AE title.
- The host name or IP address
- The port number.

For systems with which the TIMS DICOM services want to act as SCU the following information is needed:

- The AE title.
- The host name or IP address
- The port number.

6.2 Configurable Parameters

TIMS offers configuration of the following parameters, as far as the DICOM Communication is concerned.

Configurable		
Name	Values	Description
Max.number of Associations	1...	Maximum number of simultaneous incoming associations accepted by the Connection Service

7 SUPPORT OF EXTENDED CHARACTER SETS

TIMS offers full support for the following character sets:

Support Character Sets	
Name	Value
Default Character repertoire	ISO-IR 6
Latin - 1 character repertoire	ISO-IR 100

8 FULL LIST OF SUPPORTED DICOM TAGS

The TIMS product access DICOM study files in two primary manners:

- As a DICOM “gateway” transmission device, TIMS can receive and send DICOM study files.
- As a secondary capture device, TIMS can create, edit, and view DICOM study files.

When the TIMS product is used exclusively as a “gateway” transmission device, the studies are never viewed within TIMS. As a result, there are no limitations as to the DICOM tags that may be employed within the study.

Similarly, if the TIMS product is used exclusively to view a DICOM study that has been created externally (i.e., not by secondary capture on the TIMS device), there are no limitations as to the DICOM tags that may be employed within the study.

When the TIMS product is used as a secondary capture device, the following list of DICOM tags are supported with the following notes:

- Some tags are not enabled in the shipped configuration of the product, but all can be enabled on-site by the installer or system administrator.
- Some tags are explicitly filtered out of created study files. The DICOM filters can be changed by the installer or system administrator.
- Once enabled, DICOM tags can be pre-populated with fixed values and/or the operator can supply values when the study is created.
- Disabled sequence structures should not be enabled unless there is a method of populating them; manual entry of sequence structures is not supported.

Questions about specific DICOM tags should be directed to Foresight Imaging for clarification.

DICOM Conformance Statement
TIMS Product Line

(0002,0001)	File Meta Information Version
(0002,0002)	Media Storage SOP Class UID
(0002,0003)	Media Storage SOP Instance UID
(0002,0010)	Transfer Syntax UID
(0002,0012)	Implementation Class UID
(0002,0013)	Implementation Version Name
(0002,0016)	Source Application Entity Title
(0002,0100)	Private Information Creator UID
(0002,0102)	Private Information
(0004,1130)	File Set ID
(0004,1141)	File Set Descriptor File ID
(0004,1142)	Specific Character Set Of File
(0004,1200)	Offset First Root Directory
(0004,1202)	Offset Last Root Directory
(0004,1212)	File Set Consistency Flag
(0004,1220)	Directory Record Sequence
(0004,1400)	Offset Next Directory
(0004,1410)	Record In Use Flag
(0004,1420)	Offset Child Directory
(0004,1430)	Directory Record Type
(0004,1432)	Private Record UID
(0004,1500)	Referenced File ID
(0004,1504)	Offset MRDR Directory
(0004,1510)	Referenced SOP Class UID In File
(0004,1511)	Referenced SOP Instance UID In File
(0004,1512)	Referenced Transfer Syntax UID In File
(0004,1600)	Number Of References
(0008,0005)	Specific Character Set
(0008,0008)	Image Type
(0008,0012)	Instance Creation Date
(0008,0013)	Instance Creation Time
(0008,0014)	Instance Creator UID
(0008,0016)	SOP Class UID
(0008,0018)	SOP Instance UID
(0008,0020)	Study Date
(0008,0021)	Series Date
(0008,0022)	Acquisition Date
(0008,0023)	Content Date
(0008,0024)	Overlay Date
(0008,0025)	Curve Date
(0008,002A)	Acquisition Datetime
(0008,0030)	Study Time
(0008,0031)	Series Time
(0008,0032)	Acquisition Time
(0008,0033)	Content Time
(0008,0034)	Overlay Time
(0008,0035)	Curve Time
(0008,0042)	Nuclear Medicine Series Type Retired
(0008,0050)	Accession Number
(0008,0052)	Query Retrieve Level
(0008,0054)	Retrieve Ae Title
(0008,0056)	Instance Availability
(0008,0058)	Failed SOP Instance UID List
(0008,0060)	Modality
(0008,0061)	Modalities In Study
(0008,0064)	Conversion Type
(0008,0068)	Presentation Intent Type
(0008,0070)	Manufacturer
(0008,0080)	Institution Name

DICOM Conformance Statement
TIMS Product Line

(0008,0081)	Institution Address
(0008,0082)	Institution Code Sequence
(0008,0090)	Referring Physician Name
(0008,0092)	Referring Physician Address
(0008,0094)	Referring Physician Telephone Numbers
(0008,0096)	Referring Physician Identification Sequence
(0008,0100)	Code Value
(0008,0102)	Coding Scheme Designator
(0008,0104)	Code Meaning
(0008,0107)	Context Group Local Version
(0008,010B)	Context Group Extension Flag
(0008,010C)	Coding Scheme UID
(0008,010D)	Context Group Extension Creator UID
(0008,0110)	Coding Scheme Identification Sequence
(0008,0112)	Coding Scheme Registry
(0008,0114)	Coding Scheme External ID
(0008,0115)	Coding Scheme Name
(0008,0116)	Responsible Organization
(0008,0201)	Timezone Offset From UTC
(0008,1010)	Station Name
(0008,1030)	Study Description
(0008,1032)	Procedure Code Sequence
(0008,103E)	Series Description
(0008,1040)	Institutional Department Name
(0008,1048)	Physician Of Record
(0008,1049)	Physician Of Record Identification Sequence
(0008,1050)	Performing Physician Name
(0008,1052)	Performing Physician Identification Sequence
(0008,1060)	Name Of Physician Reading Study
(0008,1062)	Physician Reading Study Identification Sequence
(0008,1070)	Operators Name
(0008,1072)	Operator Identification Sequence
(0008,1080)	Admitting Diagnoses Description
(0008,1084)	Admitting Diagnosis Code Sequence
(0008,1090)	Manufacturer Model Name
(0008,1100)	Referenced Results Sequence
(0008,1110)	Referenced Study Sequence
(0008,1111)	Referenced Study Component Sequence
(0008,1115)	Referenced Series Sequence
(0008,1120)	Referenced Patient Sequence
(0008,1125)	Referenced Visit Sequence
(0008,1130)	Referenced Overlay Sequence 0008
(0008,113A)	Referenced Waveform Sequence
(0008,1140)	Referenced Image Sequence
(0008,1145)	Referenced Curve Sequence
(0008,114A)	Referenced Instance Sequence
(0008,1150)	Referenced SOP Class UID
(0008,1155)	Referenced SOP Instance UID
(0008,115A)	SOP Classes Supported
(0008,1160)	Referenced Frame Number
(0008,1195)	Transaction UID
(0008,1197)	Failure Reason
(0008,1198)	Failed SOP Sequence
(0008,1199)	Referenced SOP Sequence
(0008,2110)	Lossy Image Compression Retired
(0008,2111)	Derivation Description
(0008,2112)	Source Image Sequence
(0008,2120)	Stage Name
(0008,2122)	Stage Number
(0008,2124)	Number Of Stages
(0008,2127)	View Name
(0008,2128)	View Number

DICOM Conformance Statement
TIMS Product Line

(0008,2129) Number Of Event Timers
(0008,212A) Number Of Views In Stage
(0008,2130) Event Elapsed Time
(0008,2132) Event Timer Name
(0008,2142) Start Trim
(0008,2143) Stop Trim
(0008,2144) Recommended Display Frame Rate
(0008,2200) Transducer Position Retired
(0008,2204) Transducer Orientation Retired
(0008,2208) Anatomic Structure Retired
(0008,2218) Anatomic Region Sequence
(0008,2220) Anatomic Region Modifier Sequence
(0008,2228) Primary Anatomic Structure Sequence
(0008,2229) Anatomic Structure Space Or Region Sequence
(0008,2230) Primary Anatomic Structure Modifier Sequence
(0008,2240) Transducer Position Sequence
(0008,2242) Transducer Position Modifier Sequence
(0008,2244) Transducer Orientation Sequence
(0008,2246) Transducer Orientation Modifier Sequence
(0008,9007) Frame Type
(0008,9092) Referenced Image Evidence Sequence
(0008,9121) Referenced Raw Data Sequence
(0008,9123) Creator Version UID
(0008,9124) Derivation Image Sequence
(0008,9154) Source Image Evidence Sequence
(0008,9205) Pixel Presentation
(0008,9206) Volumetric Properties
(0008,9207) Volume Based Calculation Technique
(0008,9208) Complex Image Component
(0008,9209) Acquisition Contrast
(0008,9215) Derivation Code Sequence
(0008,9237) Referenced Grayscale Presentation State Sequence
(0010,0010) Patient Name
(0010,0020) Patient ID
(0010,0021) Issuer Of Patient ID
(0010,0030) Patient Birth Date
(0010,0032) Patient Birth Time
(0010,0040) Patient Sex
(0010,0050) Patient Insurance Plan Code Sequence
(0010,0101) Patient Primary Language Code Sequence
(0010,0102) Patient Primary Language Code Modifier Sequence
(0010,1000) Other Patient IDs
(0010,1001) Other Patient Names
(0010,1005) Patient Birth Name
(0010,1010) Patient Age
(0010,1020) Patient Size
(0010,1030) Patient Weight
(0010,1040) Patient Address
(0010,1060) Patient Mother Birth Name
(0010,1080) Military Rank
(0010,1081) Branch Of Service
(0010,1090) Medical Record Locator
(0010,2000) Medical Alerts
(0010,2110) Contrast Allergies
(0010,2150) Country Of Residence
(0010,2152) Region Of Residence
(0010,2154) Patient Telephone Numbers
(0010,2160) Ethnic Group
(0010,2180) Occupation
(0010,21A0) Smoking Status
(0010,21B0) Additional Patient History
(0010,21C0) Pregnancy Status

DICOM Conformance Statement
TIMS Product Line

(0010,21D0) Last Menstrual Date
(0010,21F0) Patient Religious Preference
(0010,4000) Patient Comments
(0012,0010) Clinical Trial Sponsor Name
(0012,0020) Clinical Trial Protocol ID
(0012,0021) Clinical Trial Protocol Name
(0012,0030) Clinical Trial Site ID
(0012,0031) Clinical Trial Site Name
(0012,0040) Clinical Trial Subject ID
(0012,0042) Clinical Trial Subject Reading ID
(0012,0050) Clinical Trial Time Point ID
(0012,0051) Clinical Trial Time Point Description
(0012,0060) Clinical Trial Coordinating Center Name
(0018,0010) Contrast Bolus Agent
(0018,0012) Contrast Bolus Agent Sequence
(0018,0014) Contrast Bolus Administration Route Sequence
(0018,0015) Body Part Examined
(0018,0020) Scanning Sequence
(0018,0021) Sequence Variant
(0018,0022) Scan Options
(0018,0023) MR Acquisition Type
(0018,0024) Sequence Name
(0018,0025) Angio Flag
(0018,0026) Intervention Drug Information Sequence
(0018,0027) Intervention Drug Stop Time
(0018,0028) Intervention Drug Dose
(0018,0029) Intervention Drug Code Sequence
(0018,002A) Additional Drug Sequence
(0018,0030) Radionuclide Retired
(0018,0031) Radiopharmaceutical
(0018,0032) Energy Window Centerline Retired
(0018,0033) Energy Window Total Width Retired
(0018,0034) Intervention Drug Name
(0018,0035) Intervention Drug Start Time
(0018,0036) Interventional Therapy Sequence
(0018,0037) Therapy Type
(0018,0038) Interventional Status
(0018,0039) Therapy Description
(0018,0040) Cine Rate
(0018,0050) Slice Thickness
(0018,0060) Kvp
(0018,0070) Counts Accumulated
(0018,0071) Acquisition Termination Condition
(0018,0072) Effective Series Duration
(0018,0073) Acquisition Start Condition
(0018,0074) Acquisition Start Condition Data
(0018,0075) Acquisition Termination Condition Data
(0018,0080) Repetition Time
(0018,0081) Echo Time
(0018,0082) Inversion Time
(0018,0083) Number Of Averages
(0018,0084) Imaging Frequency
(0018,0085) Imaged Nucleus
(0018,0086) Echo Number
(0018,0087) Magnetic Field Strength
(0018,0088) Spacing Between Slices
(0018,0089) Number Of Phase Encoding Steps
(0018,0090) Data Collection Diameter
(0018,0091) Echo Train Length
(0018,0093) Percent Sampling
(0018,0094) Percent Phase Field Of View
(0018,0095) Pixel Bandwidth

DICOM Conformance Statement
TIMS Product Line

(0018,1000) Device Serial Number
(0018,1004) Plate ID
(0018,1010) Secondary Capture Device ID
(0018,1011) Hardcopy Creation Device ID
(0018,1012) Date Of Secondary Capture
(0018,1014) Time Of Secondary Capture
(0018,1016) Secondary Capture Device Manufacturer
(0018,1017) Hardcopy Device Manufacturer
(0018,1018) Secondary Capture Device Manufacturer Model Name
(0018,1019) Secondary Capture Device Software Version
(0018,101A) Hardcopy Device Software Version
(0018,101B) Hardcopy Device Manufacturer Model Name
(0018,1020) Software Version
(0018,1022) Video Image Format Acquired
(0018,1023) Digital Image Format Acquired
(0018,1030) Protocol Name
(0018,1040) Contrast Bolus Route
(0018,1041) Contrast Bolus Volume
(0018,1042) Contrast Bolus Start Time
(0018,1043) Contrast Bolus Stop Time
(0018,1044) Contrast Bolus Total Dose
(0018,1045) Syringe Counts
(0018,1046) Contrast Flow Rate
(0018,1047) Contrast Flow Duration
(0018,1048) Contrast Bolus Ingredient
(0018,1049) Contrast Bolus Ingredient Concentration
(0018,1050) Spatial Resolution
(0018,1060) Trigger Time
(0018,1061) Trigger Source Or Type
(0018,1062) Nominal Interval
(0018,1063) Frame Time
(0018,1064) Framing Type
(0018,1065) Frame Time Vector
(0018,1066) Frame Delay
(0018,1067) Image Trigger Delay
(0018,1068) Multiplex Group Time Offset
(0018,1069) Trigger Time Offset
(0018,106A) Synchronization Trigger
(0018,106B) Synchronization Frame Of Reference
(0018,106C) Synchronization Channel
(0018,106E) Trigger Sample Position
(0018,1070) Radiopharmaceutical Route
(0018,1071) Radiopharmaceutical Volume
(0018,1072) Radiopharmaceutical Start Time
(0018,1073) Radiopharmaceutical Stop Time
(0018,1074) Radionuclide Total Dose
(0018,1075) Radionuclide Half Life
(0018,1076) Radionuclide Positron Fraction
(0018,1077) Radiopharmaceutical Specific Activity
(0018,1080) Beat Rejection Flag
(0018,1081) Low R R Value
(0018,1082) High R R Value
(0018,1083) Intervals Acquired
(0018,1084) Intervals Rejected
(0018,1085) Pvc Rejection
(0018,1086) Skip Beats
(0018,1088) Heart Rate
(0018,1090) Cardiac Number Of Images
(0018,1094) Trigger Window
(0018,1100) Reconstruction Diameter
(0018,1110) Distance Source To Detector
(0018,1111) Distance Source To Patient

DICOM Conformance Statement
TIMS Product Line

(0018,1114) Estimated Radiographic Magnification Factor
(0018,1120) Gantry Detector Tilt
(0018,1121) Gantry Detector Slew
(0018,1130) Table Height
(0018,1131) Table Traverse
(0018,1134) Table Motion
(0018,1135) Table Vertical Increment
(0018,1136) Table Lateral Increment
(0018,1137) Table Longitudinal Increment
(0018,1138) Table Angle
(0018,1140) Rotation Direction
(0018,1141) Angular Position
(0018,1142) Radial Position
(0018,1143) Scan Arc
(0018,1144) Angular Step
(0018,1145) Center Of Rotation Offset
(0018,1146) Rotation Offset Retired
(0018,1147) Field Of View Shape
(0018,1149) Field Of View Dimension
(0018,1150) Exposure Time
(0018,1151) X Ray Tube Current
(0018,1152) Exposure
(0018,1153) Exposure In UAS
(0018,1154) Average Pulse Width
(0018,1155) Radiation Setting
(0018,115A) Radiation Mode
(0018,115E) Image Area Dose Product
(0018,1160) Filter Type
(0018,1161) Type Of Filters
(0018,1162) Intensifier Size
(0018,1164) Imager Pixel Spacing
(0018,1166) Grid
(0018,1170) Generator Power
(0018,1180) Collimator Grid Name
(0018,1181) Collimator Type
(0018,1182) Focal Distance
(0018,1183) X Focus Center
(0018,1184) Y Focus Center
(0018,1190) Focal Spot
(0018,1200) Date Of Last Calibration
(0018,1201) Time Of Last Calibration
(0018,1210) Convolution Kernel
(0018,1242) Actual Frame Duration
(0018,1243) Count Rate
(0018,1244) Preferred Playback Sequencing
(0018,1250) Receiving Coil
(0018,1251) Transmitting Coil
(0018,1260) Plate Type
(0018,1261) Phosphor Type
(0018,1300) Scan Velocity
(0018,1301) Whole Body Technique
(0018,1302) Scan Length
(0018,1310) Acquisition Matrix
(0018,1312) Phase Encoding Direction
(0018,1314) Flip Angle
(0018,1315) Variable Flip Angle Flag
(0018,1316) SAR
(0018,1318) Db Dt
(0018,1400) Acquisition Device Processing Description
(0018,1401) Acquisition Device Processing Code
(0018,1402) Cassette Orientation
(0018,1403) Cassette Size

DICOM Conformance Statement
TIMS Product Line

(0018,1404) Exposures On Plate
(0018,1405) Relative X Ray Exposure
(0018,1450) Column Angulation
(0018,1460) Tomo Layer Height
(0018,1470) Tomo Angle
(0018,1480) Tomo Time
(0018,1500) Positioner Motion
(0018,1508) Positioner Type
(0018,1510) Positioner Primary Angle
(0018,1511) Positioner Secondary Angle
(0018,1520) Positioner Primary Angle Increment
(0018,1521) Positioner Secondary Angle Increment
(0018,1530) Detector Primary Angle
(0018,1531) Detector Secondary Angle
(0018,1600) Shutter Shape
(0018,1602) Shutter Left Vertical Edge
(0018,1604) Shutter Right Vertical Edge
(0018,1606) Shutter Upper Horizontal Edge
(0018,1608) Shutter Lower Horizontal Edge
(0018,1610) Center Of Circular Shutter
(0018,1612) Radius Of Circular Shutter
(0018,1620) Vertices Of The Polygonal Shutter
(0018,1622) Shutter Presentation Value
(0018,1623) Shutter Overlay Group
(0018,1700) Collimator Shape
(0018,1702) Collimator Left Vertical Edge
(0018,1704) Collimator Right Vertical Edge
(0018,1706) Collimator Upper Horizontal Edge
(0018,1708) Collimator Lower Horizontal Edge
(0018,1710) Center Of Circular Collimator
(0018,1712) Radius Of Circular Collimator
(0018,1720) Vertices Of The Polygonal Collimator
(0018,1800) Acquisition Time Synchronized
(0018,1801) Time Source
(0018,1802) Time Distribution Protocol
(0018,2001) Page Number Vector
(0018,2002) Frame Label Vector
(0018,2003) Frame Primary Angle Vector
(0018,2004) Frame Secondary Angle Vector
(0018,2005) Slice Location Vector
(0018,2006) Display Window Label Vector
(0018,2010) Nominal Scanned Pixel Spacing
(0018,2020) Digitizing Device Transport Direction
(0018,2030) Rotation Of Scanned Film
(0018,3100) Ivus Acquisition
(0018,3101) Ivus Pullback Rate
(0018,3102) Ivus Gated Rate
(0018,3103) Ivus Pullback Start Frame Number
(0018,3104) Ivus Pullback Stop Frame Number
(0018,3105) Lesion Number
(0018,5000) Output Power
(0018,5010) Transducer Data
(0018,5012) Focus Depth
(0018,5020) Processing Function
(0018,5021) Postprocessing Function
(0018,5022) Mechanical Index
(0018,5024) Thermal Index
(0018,5026) Cranial Thermal Index
(0018,5027) Soft Tissue Thermal Index
(0018,5028) Soft Tissue Focus Thermal Index
(0018,5029) Soft Tissue Surface Thermal Index
(0018,5050) Depth Of Scan Field

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(0018,5100) Patient Position
(0018,5101) View Position
(0018,5104) Projection Eponymous Name Code Sequence
(0018,5210) Image Transformation Matrix
(0018,5212) Image Translation Vector
(0018,6000) Sensitivity
(0018,6011) Sequence Of Ultrasound Regions
(0018,6012) Region Spatial Format
(0018,6014) Region Data Type
(0018,6016) Region Flags
(0018,6018) Region Location Min X 0
(0018,601A) Region Location Min Y 0
(0018,601C) Region Location Max X 1
(0018,601E) Region Location Max Y 1
(0018,6020) Reference Pixel X 0
(0018,6022) Reference Pixel Y 0
(0018,6024) Physical Units X Direction
(0018,6026) Physical Units Y Direction
(0018,6028) Reference Pixel Physical Value X
(0018,602A) Reference Pixel Physical Value Y
(0018,602C) Physical Delta X
(0018,602E) Physical Delta Y
(0018,6030) Transducer Frequency
(0018,6031) Transducer Type
(0018,6032) Pulse Repetition Frequency
(0018,6034) Doppler Correction Angle
(0018,6036) Steering Angle
(0018,6039) Doppler Sample Volume X Position
(0018,603B) Doppler Sample Volume Y Position
(0018,603C) Tm Line Position X 0
(0018,603D) Tm Line Position X0
(0018,603F) Tm Line Position Y 0
(0018,6041) Tm Line Position X 1
(0018,6043) Tm Line Position Y 1
(0018,6044) Pixel Component Organization
(0018,6046) Pixel Component Mask
(0018,6048) Pixel Component Range Start
(0018,604A) Pixel Component Range Stop
(0018,604C) Pixel Component Physical Units
(0018,604E) Pixel Component Data Type
(0018,6050) Number Of Table Break Points
(0018,6052) Table Of X Break Points
(0018,6054) Table Of Y Break Points
(0018,6056) Number Of Table Entries
(0018,6058) Table Of Pixel Values
(0018,605A) Table Of Parameter Values
(0018,7000) Detector Conditions Nominal Flag
(0018,7001) Detector Temperature
(0018,7004) Detector Type
(0018,7005) Detector Configuration
(0018,7006) Detector Description
(0018,7008) Detector Mode
(0018,700A) Detector ID
(0018,700C) Date Of Last Detector Calibration
(0018,700E) Time Of Last Detector Calibration
(0018,7010) Exposures On Detector Since Last Calibration
(0018,7010) Exposures On Detector Since Manufactured
(0018,7012) Detector Time Since Last Exposure
(0018,7014) Detector Active Time
(0018,7016) Detector Activation Offset From Exposure
(0018,701A) Detector Binning
(0018,7020) Detector Element Physical Size

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(0018,7022) Detector Element Spacing
(0018,7024) Detector Active Shape
(0018,7026) Detector Active Dimensions
(0018,7028) Detector Active Origin
(0018,7030) Field Of View Origin
(0018,7032) Field Of View Rotation
(0018,7034) Field Of View Horizontal Flip
(0018,7040) Grid Absorbing Material
(0018,7041) Grid Spacing Material
(0018,7042) Grid Thickness
(0018,7044) Grid Pitch
(0018,7046) Grid Aspect Ratio
(0018,7048) Grid Period
(0018,704C) Grid Focal Distance
(0018,7050) Filter Material
(0018,7052) Filter Thickness Minimum
(0018,7054) Filter Thickness Maximum
(0018,7060) Exposure Control Mode
(0018,7062) Exposure Control Mode Description
(0018,7064) Exposure Status
(0018,7065) Phototimer Setting
(0018,8150) Exposure Time In Nano S
(0018,8151) Xray Tube Current In Nano A
(0018,9004) Content Qualification
(0018,9005) Pulse Sequence Name
(0018,9006) MR Imaging Modifier Sequence
(0018,9008) Echo Pulse Sequence
(0018,9009) Inversion Recovery
(0018,9010) Flow Compensation
(0018,9011) Multiple Spin Echo
(0018,9012) Multi Planar Excitation
(0018,9014) Phase Contrast
(0018,9015) Time Of Flight Contrast
(0018,9016) Spoiling
(0018,9017) Steady State Pulse Sequence
(0018,9018) Echo Planar Pulse Sequence
(0018,9019) Tag Angle First Axis
(0018,9020) Magnetization Transfer
(0018,9021) T2 Preparation
(0018,9022) Blood Signal Nulling
(0018,9024) Saturation Recovery
(0018,9025) Spectrally Selected Suppression
(0018,9026) Spectrally Selected Excitation
(0018,9027) Spatial Pre Saturation
(0018,9028) Tagging
(0018,9029) Oversampling Phase
(0018,9030) Tag Spacing First Dimension
(0018,9032) Geometry Of K Space Traversal
(0018,9033) Segmented K Space Traversal
(0018,9034) Rectilinear Phase Encode Reordering
(0018,9035) Tag Thickness
(0018,9036) Partial Fourier Direction
(0018,9037) Cardiac Synchronization Technique
(0018,9041) Receive Coil Manufacturer Name
(0018,9042) MR Receive Coil Sequence
(0018,9043) Receive Coil Type
(0018,9044) Quadrature Receive Coil
(0018,9045) Multi Coil Definition Sequence
(0018,9046) Multi Coil Configuration
(0018,9047) Multi Coil Element Name
(0018,9048) Multi Coil Element Used
(0018,9049) MR Transmit Coil Sequence

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(0018,9050) Transmit Coil Manufacturer Name
(0018,9051) Transmit Coil Type
(0018,9052) Spectral Width
(0018,9053) Chemical Shift Reference
(0018,9054) Volume Localization Technique
(0018,9058) MR Acquisition Frequency Encoding Steps
(0018,9059) De Coupling
(0018,9060) De Coupled Nucleus
(0018,9061) De Coupling Frequency
(0018,9062) De Coupling Method
(0018,9063) De Coupling Chemical Shift Reference
(0018,9064) K Space Filtering
(0018,9065) Time Domain Filtering
(0018,9066) Number Of Zero Fills
(0018,9067) Baseline Correction
(0018,9069) Parallel Reduction Factor In Plane
(0018,9070) Cardiac R R Interval Specified
(0018,9073) Acquisition Duration
(0018,9074) Frame Acquisition Datetime
(0018,9075) Diffusion Directionality
(0018,9076) Diffusion Gradient Direction Sequence
(0018,9077) Parallel Acquisition
(0018,9078) Parallel Acquisition Technique
(0018,9079) Inversion Times
(0018,9080) Metabolite Map Description
(0018,9081) Partial Fourier
(0018,9082) Effective Echo Time
(0018,9084) Chemical Shift Sequence
(0018,9085) Cardiac Signal Source
(0018,9087) Diffusion B Value
(0018,9089) Diffusion Gradient Orientation
(0018,9090) Velocity Encoding Direction
(0018,9091) Velocity Encoding Minimum Value
(0018,9093) Number Of K Space Trajectories
(0018,9094) Coverage Of K Space
(0018,9095) Spectroscopy Acquisition Phase Rows
(0018,9098) Transmitter Frequency
(0018,9100) Resonant Nucleus
(0018,9101) Frequency Correction
(0018,9103) MR Spectroscopy Fov Geometry Sequence
(0018,9104) Slab Thickness
(0018,9105) Slab Orientation
(0018,9106) Mid Slab Position
(0018,9107) MR Spatial Saturation Sequence
(0018,9112) MR Timing And Related Parameters Sequence
(0018,9114) MR Echo Sequence
(0018,9115) MR Modifier Sequence
(0018,9117) MR Diffusion Sequence
(0018,9118) Cardiac Trigger Sequence
(0018,9119) MR Averages Sequence
(0018,9125) MR Fov Geometry Sequence
(0018,9126) Volume Localization Sequence
(0018,9127) Spectroscopy Acquisition Data Columns
(0018,9147) Diffusion Anisotropy Type
(0018,9151) Frame Reference Datetime
(0018,9152) MR Metabolite Map Sequence
(0018,9155) Parallel Reduction Factor Out Of Plane
(0018,9159) Spectroscopy Acquisition Out Of Plane Phase Steps
(0018,9166) Bulk Motion Status
(0018,9168) Parallel Reduction Factor Second In Plane
(0018,9169) Cardiac Beat Rejection Technique
(0018,9170) Respiratory Motion Compensation Technique

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(0018,9171) Respiratory Signal Source
(0018,9172) Bulk Motion Compensation Technique
(0018,9173) Bulk Motion Signal Source
(0018,9174) Applicable Safety Standard Agency
(0018,9175) Applicable Safety Standard Description
(0018,9176) Operating Mode Sequence
(0018,9177) Operating Mode Type
(0018,9178) Operating Mode
(0018,9179) Specific Absorption Rate Definition
(0018,9180) Gradient Output Type
(0018,9181) Specific Absorption Rate Value
(0018,9182) Gradient Output
(0018,9183) Flow Compensation Direction
(0018,9184) Tagging Delay
(0018,9195) Chemical Shifts Minimum Integration Limit
(0018,9196) Chemical Shifts Maximum Integration Limit
(0018,9197) MR Velocity Encoding Sequence
(0018,9198) First Order Phase Correction
(0018,9199) Water Referenced Phase Correction
(0018,9200) MR Spectroscopy Acquisition Type
(0018,9214) Respiratory Cycle Position
(0018,9217) Velocity Encoding Maximum Value
(0018,9218) Tag Spacing Second Dimension
(0018,9219) Tag Angle Second Axis
(0018,9220) Frame Acquisition Duration
(0018,9226) MR Image Frame Type Sequence
(0018,9227) MR Spectroscopy Frame Type Sequence
(0018,9231) MR Acquisition Phase Encoding Steps In Plane
(0018,9232) MR Acquisition Phase Encoding Steps Out Of Plane
(0018,9234) Spectroscopy Acquisition Phase Columns
(0018,9236) Cardiac Cycle Position
(0018,9239) Specific Absorption Rate Sequence
(0018,A001) Contributing Equipment Sequence
(0018,A002) Contribution Datetime
(0018,A003) Contribution Description
(0020,000D) Study Instance UID
(0020,000E) Series Instance UID
(0020,0010) Study ID
(0020,0011) Series Number
(0020,0012) Acquisition Number
(0020,0013) Instance Number
(0020,0014) Isotope Number Retired
(0020,0015) Phase Number Retired
(0020,0016) Interval Number Retired
(0020,0017) Time Slot Number Retired
(0020,0018) Angle Number Retired
(0020,0019) Item Number
(0020,0020) Patient Orientation
(0020,0022) Overlay Number
(0020,0024) Curve Number
(0020,0026) Lookup Table Number
(0020,0032) Image Position Patient
(0020,0037) Image Orientation Patient
(0020,0052) Frame Of Reference UID
(0020,0060) Laterality
(0020,0062) Image Laterality
(0020,0100) Temporal Position Identifier
(0020,0105) Number Of Temporal Positions
(0020,0110) Temporal Resolution
(0020,0200) Synchronization Frame Of Reference UID
(0020,1000) Series In Study
(0020,1002) Images In Acquisition

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(0020,1003) Images In Series
(0020,1004) Acquisitions In Study
(0020,1040) Position Reference Indicator
(0020,1041) Slice Location
(0020,1070) Other Study Numbers
(0020,1200) Number Of Patient Related Studies
(0020,1202) Number Of Patient Related Series
(0020,1204) Number Of Patient Related Instances
(0020,1206) Number Of Study Related Series
(0020,1208) Number Of Study Related Instances
(0020,1209) Number Of Series Related Instances
(0020,4000) Image Comments
(0020,9056) Stack ID
(0020,9057) In Stack Position Number
(0020,9071) Frame Anatomy Sequence
(0020,9072) Frame Laterality
(0020,9111) Frame Content Sequence
(0020,9113) Plane Position Sequence
(0020,9116) Plane Orientation Sequence
(0020,9128) Temporal Position Index
(0020,9153) Trigger Delay Time
(0020,9156) Frame Acquisition Number
(0020,9157) Dimension Index Values
(0020,9158) Frame Comments
(0020,9161) Concatenation UID
(0020,9162) In Concatenation Number
(0020,9163) In Concatenation Total Number
(0020,9164) Dimension Organization UID
(0020,9165) Dimension Index Pointer
(0020,9167) Functional Group Pointer
(0020,9213) Dimension Index Private Creator
(0020,9221) Dimension Organization Sequence
(0020,9222) Dimension Index Sequence
(0020,9228) Concatenation Frame Offset Number
(0020,9238) Functional Group Private Creator
(0028,0002) Samples Per Pixel
(0028,0004) Photometric Interpretation
(0028,0006) Planar Configuration
(0028,0008) Number Of Frames
(0028,0009) Frame Increment Pointer
(0028,0010) Rows
(0028,0011) Columns
(0028,0012) Planes
(0028,0014) Ultrasound Color Data Present
(0028,0030) Pixel Spacing
(0028,0031) Zoom Factor
(0028,0032) Zoom Center
(0028,0034) Pixel Aspect Ratio
(0028,0051) Corrected Image
(0028,0100) Bits Allocated
(0028,0101) Bits Stored
(0028,0102) High Bit
(0028,0103) Pixel Representation
(0028,0106) Smallest Image Pixel Value
(0028,0107) Largest Image Pixel Value
(0028,0108) Smallest Pixel Value In Series
(0028,0109) Largest Pixel Value In Series
(0028,0110) Smallest Image Pixel Value In Plane
(0028,0111) Largest Image Pixel Value In Plane
(0028,0120) Pixel Padding Value
(0028,0301) Burned In Annotation
(0028,1040) Pixel Intensity Relationship

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(0028,1041) Pixel Intensity Relationship Sign
(0028,1050) Window Center
(0028,1051) Window Width
(0028,1052) Rescale Intercept
(0028,1053) Rescale Slope
(0028,1054) Rescale Type
(0028,1055) Window Center Width Explanation
(0028,1090) Recommended Viewing Mode
(0028,1101) Red Palette Color Lookup Table Descriptor
(0028,1102) Green Palette Color Lookup Table Descriptor
(0028,1103) Blue Palette Color Lookup Table Descriptor
(0028,1199) Palette Color Lookup Table UID
(0028,1201) Red Palette Color Lookup Table Data
(0028,1202) Green Palette Color Lookup Table Data
(0028,1203) Blue Palette Color Lookup Table Data
(0028,1221) Segmented Red Palette Color Lookup Table Data
(0028,1222) Segmented Green Palette Color Lookup Table Data
(0028,1223) Segmented Blue Palette Color Lookup Table Data
(0028,1350) Partial View
(0028,1351) Partial View Description
(0028,2110) Lossy Image Compression
(0028,2112) Lossy Image Compression Ratio
(0028,3000) Modality LUT Sequence
(0028,3002) LUT Descriptor
(0028,3003) LUT Explanation
(0028,3004) Modality LUT Type
(0028,3006) LUT Data
(0028,3010) VOI LUT Sequence
(0028,3110) Softcopy VOI LUT Sequence
(0028,5000) Biplane Acquisition Sequence
(0028,6010) Representative Frame Number
(0028,6020) Frame Numbers Of Interest Fof
(0028,6022) Frame Of Interest Description
(0028,6030) Mask Pointer Retired
(0028,6040) R Wave Pointer
(0028,6100) Mask Subtraction Sequence
(0028,6101) Mask Operation
(0028,6102) Applicable Frame Range
(0028,6110) Mask Frame Numbers
(0028,6112) Contrast Frame Averaging
(0028,6114) Mask Sub Pixel Shift
(0028,6120) Tid Offset
(0028,6190) Mask Operation Explanation
(0028,9001) Data Point Rows
(0028,9002) Data Point Columns
(0028,9003) Signal Domain Columns
(0028,9099) Largest Monochrome Pixel Value
(0028,9108) Data Representation
(0028,9110) Pixel Measures Sequence
(0028,9132) Frame VOI LUT Sequence
(0028,9145) Pixel Value Transformation Sequence
(0028,9235) Signal Domain Rows
(0032,000A) Study Status ID
(0032,000C) Study Priority ID
(0032,0012) Study ID Issuer
(0032,0032) Study Verified Date
(0032,0033) Study Verified Time
(0032,0034) Study Read Date
(0032,0035) Study Read Time
(0032,1000) Scheduled Study Start Date
(0032,1001) Scheduled Study Start Time
(0032,1010) Scheduled Study Stop Date

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(0032,1011) Scheduled Study Stop Time
(0032,1020) Scheduled Study Location
(0032,1021) Scheduled Study Location Ae Title
(0032,1030) Reason For Study
(0032,1031) Requesting Physician Identification Sequence
(0032,1032) Requesting Physician
(0032,1033) Requesting Service
(0032,1040) Study Arrival Date
(0032,1041) Study Arrival Time
(0032,1050) Study Completion Date
(0032,1051) Study Completion Time
(0032,1055) Study Component Status ID
(0032,1060) Requested Procedure Description
(0032,1064) Requested Procedure Code Sequence
(0032,1070) Requested Contrast Agent
(0032,4000) Study Comments
(0038,0004) Referenced Patient Alias Sequence
(0038,0008) Visit Status ID
(0038,0010) Admission ID
(0038,0011) Issuer Of Admission ID
(0038,0016) Route Of Admissions
(0038,001A) Scheduled Admission Date
(0038,001B) Scheduled Admission Time
(0038,001C) Scheduled Discharge Date
(0038,001D) Scheduled Discharge Time
(0038,001E) Scheduled Patient Institution Residence
(0038,0020) Admitting Date
(0038,0021) Admitting Time
(0038,0030) Discharge Date
(0038,0032) Discharge Time
(0038,0040) Discharge Diagnosis Description
(0038,0044) Discharge Diagnosis Code Sequence
(0038,0050) Special Needs
(0038,0300) Current Patient Location
(0038,0400) Patient Institution Residence
(0038,0500) Patient State
(0038,4000) Visit Comments
(003A,0002) Waveform Sequence
(003A,0004) Waveform Originality
(003A,0005) Number Of Waveform Channels
(003A,0010) Number Of Waveform Samples
(003A,001A) Sampling Frequency
(003A,0020) Multiplex Group Label
(003A,0103) Waveform Sample Value Representation
(003A,0122) Waveform Padding Value
(003A,0200) Channel Definition Sequence
(003A,0202) Waveform Channel Number
(003A,0203) Channel Label
(003A,0205) Channel Status
(003A,0208) Channel Source Sequence
(003A,0209) Channel Source Modifiers Sequence
(003A,020A) Source Waveform Sequence
(003A,020B) Differential Channel Source Modifiers
(003A,020C) Channel Derivation Description
(003A,0210) Channel Sensitivity
(003A,0211) Channel Sensitivity Units Sequence
(003A,0212) Channel Sensitivity Correction Factor
(003A,0213) Channel Baseline
(003A,0214) Channel Time Skew
(003A,0215) Channel Sample Skew
(003A,0216) Channel Minimum Value
(003A,0217) Channel Maximum Value

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(003A,0218) Channel Offset
(003A,021A) Waveform Bits Stored
(003A,0220) Filter Low Frequency
(003A,0221) Filter High Frequency
(003A,0222) Notch Filter Frequency
(003A,0223) Notch Filter Bandwidth
(003A,1000) Waveform Data
(0040,0001) Scheduled Station Ae Title
(0040,0002) Scheduled Procedure Step Start Date
(0040,0003) Scheduled Procedure Step Start Time
(0040,0004) Scheduled Procedure Step End Date
(0040,0005) Scheduled Procedure Step End Time
(0040,0006) Scheduled Performing Physician Name
(0040,0007) Scheduled Procedure Step Description
(0040,0008) Scheduled Action Item Code Sequence
(0040,0009) Scheduled Procedure Step ID
(0040,000A) Stage Code Sequence
(0040,000B) Scheduled Performing Physician Identification Sequence
(0040,0010) Scheduled Station Name
(0040,0011) Scheduled Procedure Step Location
(0040,0012) Pre Medication
(0040,0020) Scheduled Procedure Step Status
(0040,0100) Scheduled Procedure Step Sequence
(0040,0220) Referenced Standalone SOP Instance Sequence
(0040,0241) Performed Station Ae Title
(0040,0242) Performed Station Name
(0040,0243) Performed Location
(0040,0244) Performed Procedure Step Start Date
(0040,0245) Performed Procedure Step Start Time
(0040,0250) Performed Procedure Step End Date
(0040,0251) Performed Procedure Step End Time
(0040,0252) Performed Procedure Step Status
(0040,0253) Performed Procedure Step ID
(0040,0254) Performed Procedure Step Description
(0040,0255) Performed Procedure Type Description
(0040,0260) Performed Action Item Sequence
(0040,0270) Scheduled Step Attributes Sequence
(0040,0275) Request Attributes Sequence
(0040,0280) Comments On The Performed Procedure Steps
(0040,0281) Performed Procedure Step Discontinuation Reason Code Sequence
(0040,0293) Quantity Sequence
(0040,0294) Quantity
(0040,0295) Measuring Units Sequence
(0040,0296) Billing Item Sequence
(0040,0300) Total Time Of Fluoroscopy
(0040,0301) Total Number Of Exposures
(0040,0302) Entrance Dose
(0040,0303) Exposed Area
(0040,0306) Distance Source To Entrance
(0040,030E) Exposure Dose Sequence
(0040,0310) Comments On Radiation Dose
(0040,0318) Organ Exposed
(0040,0320) Billing Procedure Step Sequence
(0040,0321) Film Consumption Sequence
(0040,0324) Billing Supplies And Devices Sequence Retired
(0040,0330) Referenced Procedure Step Sequence
(0040,0340) Performed Series Sequence
(0040,0400) Comments On The Scheduled Procedure Step
(0040,050A) Specimen Accession Number
(0040,0550) Specimen Sequence
(0040,0555) Acquisition Context Sequence
(0040,1001) Requested Procedure ID

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(0040,1002) Reason For The Requested Procedure
(0040,1003) Requested Procedure Priority
(0040,1004) Patient Transport Arrangements
(0040,1005) Requested Procedure Location
(0040,1006) Placer Order Number Procedure Retired
(0040,1007) Filler Order Number Procedure Retired
(0040,1008) Confidentiality Code
(0040,1009) Reporting Priority
(0040,1010) Names Of Intended Recipients Of Results
(0040,1011) Intended Recipients Of Results Identification Sequence
(0040,1101) Person Identification Code Sequence
(0040,1102) Persons Address
(0040,1103) Persons Telephone Numbers
(0040,1400) Requested Procedure Comments
(0040,2001) Reason For The Imaging Service Request
(0040,2004) Issue Date Of Imaging Service Request
(0040,2005) Issue Time Of Imaging Service Request
(0040,2006) Placer Order Number Imaging Service Request Retired
(0040,2007) Filler Order Number Imaging Service Request Retired
(0040,2008) Order Entered By
(0040,2009) Order Enterer Location
(0040,2010) Order Callback Phone Number
(0040,2016) Placer Order Number Imaging Service Request
(0040,2017) Filler Order Number Imaging Service Request
(0040,2400) Imaging Service Request Comments
(0040,3001) Confidentiality Constraint On Patient Data Description
(0040,4001) General Purpose Scheduled Procedure Step Status
(0040,4002) General Purpose Performed Procedure Step Status
(0040,4003) General Purpose Scheduled Procedure Step Priority
(0040,4004) Scheduled Processing Applications Code Sequence
(0040,4005) Scheduled Procedure Step Start Date And Time
(0040,4006) Multiple Copies Flag
(0040,4007) Performed Processing Applications Code Sequence
(0040,4009) Human Performer Code Sequence
(0040,4011) Expected Completion Date And Time
(0040,4015) Resulting General Purpose Performed Procedure Steps Sequence
(0040,4016) Referenced General Purpose Scheduled Procedure Step Sequence
(0040,4018) Scheduled Workitem Code Sequence
(0040,4019) Performed Workitem Code Sequence
(0040,4020) Input Availability Flag
(0040,4021) Input Information sequence
(0040,4022) Relevant Information Sequence
(0040,4023) Referenced General Purpose Scheduled Procedure Step Transaction UID
(0040,4025) Scheduled Station Name Code Sequence
(0040,4026) Scheduled Station Class Code Sequence
(0040,4027) Scheduled Station Geographic Location Code Sequence
(0040,4028) Performed Station Name Code Sequence
(0040,4029) Performed Station Class Code Sequence
(0040,4030) Performed Station Geographic Location Code Sequence
(0040,4031) Requested Subsequent Workitem Code Sequence
(0040,4032) Non Dicom Output Code Sequence
(0040,4033) Output Information Sequence
(0040,4034) Scheduled Human Performers Sequence
(0040,4035) Actual Human Performers Sequence
(0040,4036) Human Performer Organization
(0040,4037) Human Performer Name
(0040,4096) Real World Value Mapping Sequence
(0040,9210) LUT Label
(0040,9211) Real World Value Last Value Mapped
(0040,9212) Real World Value LUT Data
(0040,9216) Real World Value First Value Mapped
(0040,9224) Real World Value Intercept

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(0040,9225) Real World Value Slope
(0040,A170) Purpose Of Reference Code Sequence
(0040,A301) Numeric Value Qualifier Code Sequence
(0050,0004) Calibration Image
(0050,0010) Device Sequence
(0050,0014) Device Length
(0050,0016) Device Diameter
(0050,0017) Device Diameter Units
(0050,0018) Device Volume
(0050,0019) Inter Marker Distance
(0050,0020) Device Description
(0054,0010) Energy Window Vector
(0054,0011) Number Of Energy Windows
(0054,0012) Energy Window Information Sequence
(0054,0013) Energy Window Range Sequence
(0054,0014) Energy Window Lower Limit
(0054,0015) Energy Window Upper Limit
(0054,0016) Radiopharmaceutical Information Sequence
(0054,0017) Residual Syringe Counts
(0054,0018) Energy Window Name
(0054,0020) Detector Vector
(0054,0021) Number Of Detectors
(0054,0022) Detector Information Sequence
(0054,0030) Phase Vector
(0054,0031) Number Of Phases
(0054,0032) Phase Information Sequence
(0054,0033) Number Of Frames In Phase
(0054,0036) Phase Delay
(0054,0038) Pause Between Frames
(0054,0050) Rotation Vector
(0054,0051) Number Of Rotations
(0054,0052) Rotation Information Sequence
(0054,0053) Number Of Frames In Rotation
(0054,0060) R R Interval Vector
(0054,0061) Number Of R R Intervals
(0054,0062) Gated Information Sequence
(0054,0063) Data Information Sequence
(0054,0070) Time Slot Vector
(0054,0071) Number Of Time Slots
(0054,0072) Time Slot Information Sequence
(0054,0073) Time Slot Time
(0054,0080) Slice Vector
(0054,0081) Number Of Slices
(0054,0090) Angular View Vector
(0054,0100) Time Slice Vector
(0054,0101) Number Of Time Slices
(0054,0200) Start Angle
(0054,0202) Type Of Detector Motion
(0054,0210) Trigger Vector
(0054,0211) Number Of Triggers In Phase
(0054,0220) View Code Sequence
(0054,0222) View Modifier Code Sequence
(0054,0300) Radionuclide Code Sequence
(0054,0302) Administration Route Code Sequence
(0054,0304) Radiopharmaceutical Code Sequence
(0054,0306) Calibration Data Sequence
(0054,0308) Energy Window Number
(0054,0400) Image ID
(0054,0410) Patient Orientation Code Sequence
(0054,0412) Patient Orientation Modifier Code Sequence
(0054,0414) Patient Gantry Relationship Code Sequence
(0054,1000) Series Type

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(0054,1001) Units
(0054,1002) Counts Source
(0054,1004) Reprojection Method
(0054,1100) Randoms Correction Method
(0054,1101) Attenuation Correction Method
(0054,1102) Decay Correction
(0054,1103) Reconstruction Method
(0054,1104) Detector Lines Of Response Used
(0054,1105) Scatter Correction Method
(0054,1200) Axial Acceptance
(0054,1201) Axial Mash
(0054,1202) Transverse Mash
(0054,1203) Detector Element Size
(0054,1210) Coincidence Window Width
(0054,1220) Secondary Counts Type
(0054,1300) Frame Reference Time
(0054,1310) Primary Prompts Counts Accumulated
(0054,1311) Secondary Counts Accumulated
(0054,1320) Slice Sensitivity Factor
(0054,1321) Decay Factor
(0054,1322) Dose Calibration Factor
(0054,1323) Scatter Fraction Factor
(0054,1324) Dead Time Factor
(0054,1330) Image Index
(0054,1400) Counts Included
(0054,1401) Dead Time Correction Flag
(0060,3000) Histogram Sequence
(0060,3002) Histogram Number Of Bins
(0060,3004) Histogram First Bin Value
(0060,3006) Histogram Last Bin Value
(0060,3008) Histogram Bin Width
(0060,3010) Histogram Explanation
(0060,3020) Histogram Data
(0088,0130) Storage Media File Set ID
(0088,0140) Storage Media File Set UID
(0088,0200) Icon Image Sequence
(0088,0904) Topic Title
(0088,0906) Topic Subject
(0088,0910) Topic Author
(0088,0912) Topic Key Words
(0100,0410) SOP Instance Status
(0100,0420) SOP Authorization Date and Time
(0100,0424) SOP Authorization Comment
(0100,0426) Authorization Equipment Certification Number
(0400,0005) Mac ID Number
(0400,0010) Mac Calculation Transfer Syntax UID
(0400,0015) Mac Algorithm
(0400,0020) Data Elements Signed
(0400,0100) Digital Signature UID
(0400,0105) Digital Signature Datetime
(0400,0110) Certificate Type
(0400,0115) Certificate Of Signer
(0400,0120) Signature
(0400,0305) Certified Timestamp Type
(0400,0310) Certified Timestamp
(0400,0500) Encrypted Attributes Sequence
(0400,0510) Encrypted Content Transfer Syntax UID
(0400,0520) Encrypted Content
(0400,0550) Modified Attributes Sequence
(2000,0010) Number Of Copies
(2000,001E) Printer Configuration Sequence
(2000,0020) Print Priority

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(2000,0030) Medium Type
(2000,0040) Film Destination
(2000,0050) Film Session Label
(2000,0060) Memory Allocation
(2000,0061) Maximum Memory Allocation
(2000,0062) Color Image Printing Flag
(2000,0063) Collation Flag
(2000,0065) Annotation Flag
(2000,0067) Image Overlay Flag
(2000,0069) Presentation LUT Flag
(2000,006A) Image Box Presentation LUT Flag
(2000,00A0) Memory Bit Depth
(2000,00A1) Printing Bit Depth
(2000,00A2) Media Installed Sequence
(2000,00A4) Other Media Available Sequence
(2000,00A8) Supported Image Display Formats Sequence
(2000,0500) Referenced Film Box Sequence
(2000,0510) Referenced Stored Print Sequence
(2010,0010) Image Display Format
(2010,0030) Annotation Display Format ID
(2010,0040) Film Orientation
(2010,0050) Film Size ID
(2010,0052) Printer Resolution ID
(2010,0054) Default Printer Resolution ID
(2010,0060) Magnification Type
(2010,0080) Smoothing Type
(2010,00A6) Default Magnification Type
(2010,00A7) Other Magnification Types Available
(2010,00A8) Default Smoothing Type
(2010,00A9) Other Smoothing Types Available
(2010,0100) Border Density
(2010,0110) Empty Image Density
(2010,0120) Min Density
(2010,0130) Max Density
(2010,0140) Trim
(2010,0150) Configuration Information
(2010,0152) Configuration Information Description
(2010,0154) Maximum Collated Films
(2010,015E) Illumination
(2010,0160) Reflected Ambient Light
(2010,0376) Printer Pixel Spacing
(2010,0500) Referenced Film Session Sequence
(2010,0510) Referenced Image Box Sequence
(2010,0520) Referenced Basic Annotation Box Sequence
(2020,0010) Image Position
(2020,0020) Polarity
(2020,0030) Requested Image Size
(2020,0040) Requested Decimate Crop Behavior
(2020,0050) Requested Resolution ID
(2020,00A0) Requested Image Size Flag
(2020,00A2) Decimate Crop Result
(2020,0110) Basic Grayscale Image Sequence
(2020,0111) Basic Color Image Sequence
(2020,0130) Referenced Image Overlay Box Sequence Retired
(2020,0140) Referenced VOI LUT Box Sequence Retired
(2030,0010) Annotation Position
(2030,0020) Text String
(2040,0010) Referenced Overlay Plane Sequence
(2040,0011) Referenced Overlay Plane Groups
(2040,0020) Overlay Pixel Data Sequence
(2040,0060) Overlay Magnification Type
(2040,0070) Overlay Smoothing Type

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(2040,0072) Overlay Or Image Magnification
(2040,0074) Magnify To Number Of Columns
(2040,0080) Overlay Foreground Density
(2040,0082) Overlay Background Density
(2040,0090) Overlay Mode Retired
(2040,0100) Threshold Density Retired
(2040,0500) Referenced Image Box Sequence Retired
(2050,0010) Presentation LUT Sequence
(2050,0020) Presentation LUT Shape
(2050,0500) Referenced Presentation LUT Sequence
(2100,0010) Print Job ID
(2100,0020) Execution Status
(2100,0030) Execution Status Info
(2100,0040) Creation Date
(2100,0050) Creation Time
(2100,0070) Originator
(2100,0140) Destination Ae
(2100,0160) Owner ID
(2100,0170) Number Of Films
(2100,0500) Referenced Print Job Sequence 2100
(2110,0010) Printer Status
(2110,0020) Printer Status Info
(2110,0030) Printer Name
(2110,0099) Print Queue ID
(2120,0010) Queue Status
(2120,0050) Print Job Description Sequence
(2120,0070) Referenced Print Job Sequence 2120
(2130,0010) Print Management Capabilities Sequence
(2130,0015) Printer Characteristics Sequence
(2130,0030) Film Box Content Sequence
(2130,0040) Image Box Content Sequence
(2130,0050) Annotation Content Sequence
(2130,0060) Image Overlay Box Content Sequence
(2130,0080) Presentation LUT Content Sequence
(2130,00A0) Proposed Study Sequence
(2130,00C0) Original Image Sequence
(3002,0002) RT Image Label
(3002,0003) RT Image Name
(3002,0004) RT Image Description
(3002,000A) Reported Values Origin
(3002,000C) RT Image Plane
(3002,000E) X Ray Image Receptor Angle
(3002,0010) RT Image Orientation
(3002,0011) Image Plane Pixel Spacing
(3002,0012) RT Image Position
(3002,0020) Radiation Machine Name
(3002,0022) Radiation Machine SAD
(3002,0024) Radiation Machine SSD
(3002,0026) RT Image SID
(3002,0028) Source To Reference Object Distance
(3002,0029) Fraction Number
(3002,0030) Exposure Sequence
(3002,0032) Meterset Exposure
(3002,0034) Diaphragm Position
(3004,0001) Dvh Type
(3004,0002) Dose Units
(3004,0004) Dose Type
(3004,0006) Dose Comment
(3004,0008) Normalization Point
(3004,000A) Dose Summation Type
(3004,000C) Grid Frame Offset Vector
(3004,000E) Dose Grid Scaling

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(3004,0010) RT Dose ROI Sequence
(3004,0012) Dose Value
(3004,0040) Dvh Normalization Point
(3004,0042) Dvh Normalization Dose Value
(3004,0050) Dvh Sequence
(3004,0052) Dvh Dose Scaling
(3004,0054) Dvh Volume Units
(3004,0056) Dvh Number Of Bins
(3004,0058) Dvh Data
(3004,0060) Dvh Referenced ROI Sequence
(3004,0062) Dvh ROI Contribution Type
(3004,0070) Dvh Minimum Dose
(3004,0072) Dvh Maximum Dose
(3004,0074) Dvh Mean Dose
(3006,0002) Structure Set Label
(3006,0004) Structure Set Name
(3006,0006) Structure Set Description
(3006,0008) Structure Set Date
(3006,0009) Structure Set Time
(3006,0010) Referenced Frame Of Reference Sequence
(3006,0012) RT Referenced Study Sequence
(3006,0014) RT Referenced Series Sequence
(3006,0016) Contour Image Sequence
(3006,0020) Structure Set ROI Sequence
(3006,0022) ROI Number
(3006,0024) Referenced Frame Of Reference UID
(3006,0026) ROI Name
(3006,0028) ROI Description
(3006,002A) ROI Display Color
(3006,002C) ROI Volume
(3006,0030) RT Related ROI Sequence
(3006,0033) RT ROI Relationship
(3006,0036) ROI Generation Algorithm
(3006,0038) ROI Generation Description
(3006,0039) ROI Contour Sequence
(3006,0040) Contour Sequence
(3006,0042) Contour Geometric Type
(3006,0044) Contour Slab Thickness
(3006,0045) Contour Offset Vector
(3006,0046) Number Of Contour Points
(3006,0050) Contour Data
(3006,0080) RT ROI Observations Sequence
(3006,0082) Observation Number
(3006,0084) Referenced ROI Number
(3006,0085) ROI Observation Label
(3006,0086) RT ROI Identification Code Sequence
(3006,0088) ROI Observation Description
(3006,00A0) Related RT ROI Observations Sequence
(3006,00A4) RT ROI Interpreted Type
(3006,00A6) ROI Interpreter
(3006,00B0) ROI Physical Properties Sequence
(3006,00B2) ROI Physical Property
(3006,00B4) ROI Physical Property Value
(3006,00C0) Frame Of Reference Relationship Sequence
(3006,00C2) Related Frame Of Reference UID
(3006,00C4) Frame Of Reference Transformation Type
(3006,00C6) Frame Of Reference Transformation Matrix
(3006,00C8) Frame Of Reference Transformation Comment
(3008,0010) Measured Dose Reference Sequence
(3008,0012) Measured Dose Description
(3008,0014) Measured Dose Type
(3008,0016) Measured Dose Value

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(3008,0020) Treatment Session Beam Sequence
(3008,0022) Current Fraction Number
(3008,0024) Treatment Control Point Date
(3008,0025) Treatment Control Point Time
(3008,002A) Treatment Termination Status
(3008,002B) Treatment Termination Code
(3008,002C) Treatment Verification Status
(3008,0030) Referenced Treatment Record Sequence
(3008,0032) Specified Primary Meterset
(3008,0033) Specified Secondary Meterset
(3008,0036) Delivered Primary Meterset
(3008,0037) Delivered Secondary Meterset
(3008,003A) Specified Treatment Time
(3008,003B) Delivered Treatment Time
(3008,0040) Control Point Delivery Sequence
(3008,0042) Specified Meterset
(3008,0044) Delivered Meterset
(3008,0048) Dose Rate Delivered
(3008,0050) Treatment Summary Calculated Dose Reference Sequence
(3008,0052) Cumulative Dose To Dose Reference
(3008,0054) First Treatment Date
(3008,0056) Most Recent Treatment Date
(3008,005A) Number Of Fractions Delivered
(3008,0060) Override Sequence
(3008,0062) Override Parameter Pointer
(3008,0064) Measured Dose Reference Number
(3008,0066) Override Reason
(3008,0070) Calculated Dose Reference Sequence
(3008,0072) Calculated Dose Reference Number
(3008,0074) Calculated Dose Reference Description
(3008,0076) Calculated Dose Reference Dose Value
(3008,0078) Start Meterset
(3008,007A) End Meterset
(3008,0080) Referenced Measured Dose Reference Sequence
(3008,0082) Referenced Measured Dose Reference Number
(3008,0090) Referenced Calculated Dose Reference Sequence
(3008,0092) Referenced Calculated Dose Reference Number
(3008,00A0) Beam Limiting Device Leaf Pairs Sequence
(3008,00B0) Recorded Wedge Sequence
(3008,00C0) Recorded Compensator Sequence
(3008,00D0) Recorded Block Sequence
(3008,00E0) Treatment Summary Measured Dose Reference Sequence
(3008,0100) Recorded Source Sequence
(3008,0105) Source Serial Number
(3008,0110) Treatment Session Application Setup Sequence
(3008,0116) Application Setup Check
(3008,0120) Recorded Brachy Accessory Device Sequence
(3008,0122) Referenced Brachy Accessory Device Number
(3008,0130) Recorded Channel Sequence
(3008,0132) Specified Channel Total Time
(3008,0134) Delivered Channel Total Time
(3008,0136) Specified Number Of Pulses
(3008,0138) Delivered Number Of Pulses
(3008,013A) Specified Pulse Repetition Interval
(3008,013C) Delivered Pulse Repetition Interval
(3008,0140) Recorded Source Applicator Sequence
(3008,0142) Referenced Source Applicator Number
(3008,0150) Recorded Channel Shield Sequence
(3008,0152) Referenced Channel Shield Number
(3008,0160) Brachy Control Point Delivered Sequence
(3008,0162) Safe Position Exit Date
(3008,0164) Safe Position Exit Time

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(3008,0166) Safe Position Return Date
(3008,0168) Safe Position Return Time
(3008,0200) Current Treatment Status
(3008,0202) Treatment Status Comment
(3008,0220) Fraction Group Summary Sequence
(3008,0223) Referenced Fraction Number
(3008,0224) Fraction Group Type
(3008,0230) Beam Stopper Position
(3008,0240) Fraction Status Summary Sequence
(3008,0250) Treatment Date
(3008,0251) Treatment Time
(300A,0002) RT Plan Label
(300A,0003) RT Plan Name
(300A,0004) RT Plan Description
(300A,0006) RT Plan Date
(300A,0007) RT Plan Time
(300A,0009) Treatment Protocols
(300A,000A) Treatment Intent
(300A,000B) Treatment Sites
(300A,000C) RT Plan Geometry
(300A,000E) Prescription Description
(300A,0010) Dose Reference Sequence
(300A,0012) Dose Reference Number
(300A,0014) Dose Reference Structure Type
(300A,0015) Nominal Beam Energy Unit
(300A,0016) Dose Reference Description
(300A,0018) Dose Reference Point Coordinates
(300A,001A) Nominal Prior Dose
(300A,0020) Dose Reference Type
(300A,0021) Constraint Weight
(300A,0022) Delivery Warning Dose
(300A,0023) Delivery Maximum Dose
(300A,0025) Target Minimum Dose
(300A,0026) Target Prescription Dose
(300A,0027) Target Maximum Dose
(300A,0028) Target Underdose Volume Fraction
(300A,002A) Organ At Risk Full Volume Dose
(300A,002B) Organ At Risk Limit Dose
(300A,002C) Organ At Risk Maximum Dose
(300A,002D) Organ At Risk Overdose Volume Fraction
(300A,0040) Tolerance Table Sequence
(300A,0042) Tolerance Table Number
(300A,0043) Tolerance Table Label
(300A,0044) Gantry Angle Tolerance
(300A,0046) Beam Limiting Device Angle Tolerance
(300A,0048) Beam Limiting Device Tolerance Sequence
(300A,004A) Beam Limiting Device Position Tolerance
(300A,004C) Patient Support Angle Tolerance
(300A,004E) Table Top Eccentric Angle Tolerance
(300A,0051) Table Top Vertical Position Tolerance
(300A,0052) Table Top Longitudinal Position Tolerance
(300A,0053) Table Top Lateral Position Tolerance
(300A,0055) RT Plan Relationship
(300A,0070) Fraction Group Sequence
(300A,0071) Fraction Group Number
(300A,0078) Number Of Fractions Planned
(300A,0079) Number Of Fractions Per Day
(300A,007A) Repeat Fraction Cycle Length
(300A,007B) Fraction Pattern
(300A,0080) Number Of Beams
(300A,0082) Beam Dose Specification Point
(300A,0084) Beam Dose

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(300A,0086) Beam Meterset
(300A,00A0) Number Of Brachy Application Setups
(300A,00A2) Brachy Application Setup Dose Specification Point
(300A,00A4) Brachy Application Setup Dose
(300A,00B0) Beam Sequence
(300A,00B2) Treatment Machine Name
(300A,00B3) Primary Dosimeter Unit
(300A,00B4) Source Axis Distance
(300A,00B6) Beam Limiting Device Sequence
(300A,00B8) RT Beam Limiting Device Type
(300A,00BA) Source To Beam Limiting Device Distance
(300A,00BC) Number Of Leaf Jaw Pairs
(300A,00BE) Leaf Position Boundaries
(300A,00C0) Beam Number
(300A,00C2) Beam Name
(300A,00C3) Beam Description
(300A,00C4) Beam Type
(300A,00C6) Radiation Type
(300A,00C7) Highdose Technique Type
(300A,00C8) Reference Image Number
(300A,00CA) Planned Verification Image Sequence
(300A,00CC) Imaging Device Specific Acquisition Parameters
(300A,00CE) Treatment Delivery Type
(300A,00D0) Number Of Wedges
(300A,00D1) Wedge Sequence
(300A,00D2) Wedge Number
(300A,00D3) Wedge Type
(300A,00D4) Wedge ID
(300A,00D5) Wedge Angle
(300A,00D6) Wedge Factor
(300A,00D8) Wedge Orientation
(300A,00DA) Source To Wedge Tray Distance
(300A,00E0) Number Of Compensators
(300A,00E1) Material ID
(300A,00E2) Total Compensator Tray Factor
(300A,00E3) Compensator Sequence
(300A,00E4) Compensator Number
(300A,00E5) Compensator ID
(300A,00E6) Source To Compensator Tray Distance
(300A,00E7) Compensator Rows
(300A,00E8) Compensator Columns
(300A,00E9) Compensator Pixel Spacing
(300A,00EA) Compensator Position
(300A,00EB) Compensator Transmission Data
(300A,00EC) Compensator Thickness Data
(300A,00ED) Number Of Boli
(300A,00EE) Compensator Type
(300A,00F0) Number Of Blocks
(300A,00F2) Total Block Tray Factor
(300A,00F4) Block Sequence
(300A,00F5) Block Tray ID
(300A,00F6) Source To Block Tray Distance
(300A,00F8) Block Type
(300A,00FA) Block Divergence
(300A,00FB) Block Mounting Position
(300A,00FC) Block Number
(300A,00FE) Block Name
(300A,0100) Block Thickness
(300A,0102) Block Transmission
(300A,0104) Block Number Of Points
(300A,0106) Block Data
(300A,0107) Applicator Sequence

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(300A,0108) Applicator ID
(300A,0109) Applicator Type
(300A,010A) Applicator Description
(300A,010C) Cumulative Dose Reference Coefficient
(300A,010E) Final Cumulative Meterset Weight
(300A,0110) Number Of Control Points
(300A,0111) Control Point Sequence
(300A,0112) Control Point Index
(300A,0114) Nominal Beam Energy
(300A,0115) Dose Rate Set
(300A,0116) Wedge Position Sequence
(300A,0118) Wedge Position
(300A,011A) Beam Limiting Device Position Sequence
(300A,011C) Leaf Jaw Positions
(300A,011E) Gantry Angle
(300A,011F) Gantry Rotation Direction
(300A,0120) Beam Limiting Device Angle
(300A,0121) Beam Limiting Device Rotation Direction
(300A,0122) Patient Support Angle
(300A,0123) Patient Support Rotation Direction
(300A,0124) Table Top Eccentric Axis Distance
(300A,0125) Table Top Eccentric Angle
(300A,0126) Table Top Eccentric Rotation Direction
(300A,0128) Table Top Vertical Position
(300A,0129) Table Top Longitudinal Position
(300A,012A) Table Top Lateral Position
(300A,012C) Isocenter Position
(300A,012E) Surface Entry Point
(300A,0130) Source To Surface Distance
(300A,0134) Cumulative Meterset Weight
(300A,0180) Patient Setup Sequence
(300A,0182) Patient Setup Number
(300A,0184) Patient Additional Position
(300A,0190) Fixation Device Sequence
(300A,0192) Fixation Device Type
(300A,0194) Fixation Device Label
(300A,0196) Fixation Device Description
(300A,0198) Fixation Device Position
(300A,01A0) Shielding Device Sequence
(300A,01A2) Shielding Device Type
(300A,01A4) Shielding Device Label
(300A,01A6) Shielding Device Description
(300A,01A8) Shielding Device Position
(300A,01B0) Setup Technique
(300A,01B2) Setup Technique Description
(300A,01B4) Setup Device Sequence
(300A,01B6) Setup Device Type
(300A,01B8) Setup Device Label
(300A,01BA) Setup Device Description
(300A,01BC) Setup Device Parameter
(300A,01D0) Setup Reference Description
(300A,01D2) Table Top Vertical Setup Displacement
(300A,01D4) Table Top Longitudinal Setup Displacement
(300A,01D6) Table Top Lateral Setup Displacement
(300A,0200) Brachy Treatment Technique
(300A,0202) Brachy Treatment Type
(300A,0206) Treatment Machine Sequence
(300A,0210) Source Sequence
(300A,0212) Source Number
(300A,0214) Source Type
(300A,0216) Source Manufacturer
(300A,0218) Active Source Diameter

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(300A,021A) Active Source Length
(300A,0222) Source Encapsulation Nominal Thickness
(300A,0224) Source Encapsulation Nominal Transmission
(300A,0226) Source Isotope Name
(300A,0228) Source Isotope Half Life
(300A,022A) Reference Air Kerma Rate
(300A,022C) Air Kerma Rate Reference Date
(300A,022E) Air Kerma Rate Reference Time
(300A,0230) Application Setup Sequence
(300A,0232) Application Setup Type
(300A,0234) Application Setup Number
(300A,0236) Application Setup Name
(300A,0238) Application Setup Manufacturer
(300A,0240) Template Number
(300A,0242) Template Type
(300A,0244) Template Name
(300A,0250) Total Reference Air Kerma
(300A,0260) Brachy Accessory Device Sequence
(300A,0262) Brachy Accessory Device Number
(300A,0263) Brachy Accessory Device ID
(300A,0264) Brachy Accessory Device Type
(300A,0266) Brachy Accessory Device Name
(300A,026A) Brachy Accessory Device Nominal Thickness
(300A,026C) Brachy Accessory Device Nominal Transmission
(300A,0280) Channel Sequence
(300A,0282) Channel Number
(300A,0284) Channel Length
(300A,0286) Channel Total Time
(300A,0288) Source Movement Type
(300A,028A) Number Of Pulses
(300A,028C) Pulse Repetition Interval
(300A,0290) Source Applicator Number
(300A,0291) Source Applicator ID
(300A,0292) Source Applicator Type
(300A,0294) Source Applicator Name
(300A,0296) Source Applicator Length
(300A,0298) Source Applicator Manufacturer
(300A,029C) Source Applicator Wall Nominal Thickness
(300A,029E) Source Applicator Wall Nominal Transmission
(300A,02A0) Source Applicator Step Size
(300A,02A2) Transfer Tube Number
(300A,02A4) Transfer Tube Length
(300A,02B0) Channel Shield Sequence
(300A,02B2) Channel Shield Number
(300A,02B3) Channel Shield ID
(300A,02B4) Channel Shield Name
(300A,02B8) Channel Shield Nominal Thickness
(300A,02BA) Channel Shield Nominal Transmission
(300A,02C8) Final Cumulative Time Weight
(300A,02D0) Brachy Control Point Sequence
(300A,02D2) Control Point Relative Position
(300A,02D4) Control Point 3D Position
(300A,02D6) Cumulative Time Weight
(300A,02E0) Compensator Divergence
(300A,02E1) Compensator Mounting Position
(300A,02E2) Source To Compensator Distance
(300C,0002) Referenced RT Plan Sequence
(300C,0004) Referenced Beam Sequence
(300C,0006) Referenced Beam Number
(300C,0007) Referenced Reference Image Number
(300C,0008) Start Cumulative Meterset Weight
(300C,0009) End Cumulative Meterset Weight

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(300C,000A) Referenced Brachy Application Setup Sequence
(300C,000C) Referenced Brachy Application Setup Number
(300C,000E) Referenced Source Number
(300C,0020) Referenced Fraction Group Sequence
(300C,0022) Referenced Fraction Group Number
(300C,0040) Referenced Verification Image Sequence
(300C,0042) Referenced Reference Image Sequence
(300C,0050) Referenced Dose Reference Sequence
(300C,0051) Referenced Dose Reference Number
(300C,0055) Brachy Referenced Dose Reference Sequence
(300C,0060) Referenced Structure Set Sequence
(300C,006A) Referenced Patient Setup Number
(300C,0080) Referenced Dose Sequence
(300C,00A0) Referenced Tolerance Table Number
(300C,00B0) Referenced Bolus Sequence
(300C,00C0) Referenced Wedge Number
(300C,00D0) Referenced Compensator Number
(300C,00E0) Referenced Block Number
(300C,00F0) Referenced Control Point Index
(300E,0002) Approval Status
(300E,0004) Review Date
(300E,0005) Review Time
(300E,0008) Reviewer Name
(4008,0040) Results ID
(4008,0042) Results ID Issuer
(4008,0050) Referenced Interpretation Sequence
(4008,0100) Interpretation Recorded Date
(4008,0101) Interpretation Recorded Time
(4008,0102) Interpretation Recorder
(4008,0103) Reference To Recorded Sound
(4008,0108) Interpretation Transcription Date
(4008,0109) Interpretation Transcription Time
(4008,010A) Interpretation Transcriber
(4008,010B) Interpretation Text
(4008,010C) Interpretation Author
(4008,0111) Interpretation Approver Sequence
(4008,0112) Interpretation Approval Date
(4008,0113) Interpretation Approval Time
(4008,0114) Physician Approving Interpretation
(4008,0115) Interpretation Diagnosis Description
(4008,0117) Interpretation Diagnosis Code Sequence
(4008,0118) Results Distribution List Sequence
(4008,0119) Distribution Name
(4008,011A) Distribution Address
(4008,0200) Interpretation ID
(4008,0202) Interpretation ID Issuer
(4008,0210) Interpretation Type ID
(4008,0212) Interpretation Status ID
(4008,0300) Impressions
(4008,4000) Results Comments
(4FFE,0001) Mac Parameters Sequence
(5000,0005) Curve Dimensions
(5000,0010) Number Of Points
(5000,0020) Type Of Data
(5000,0022) Curve Description
(5000,0030) Axis Units
(5000,0040) Axis Labels
(5000,0103) Data Value Representation
(5000,0104) Minimum Coordinate Value
(5000,0105) Maximum Coordinate Value
(5000,0106) Curve Range
(5000,0110) Curve Data Descriptor

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(5000,0112) Coordinate Start Value
(5000,0114) Coordinate Step Value
(5000,2000) Audio Type
(5000,2002) Audio Sample Format
(5000,2004) Number Of Channels
(5000,2006) Number Of Samples
(5000,2008) Sample Rate
(5000,200A) Total Time
(5000,200C) Audio Sample Data
(5000,200E) Audio Comments
(5000,2500) Curve Label
(5000,2600) Referenced Overlay Sequence 50Xx
(5000,2610) Referenced Overlay Group
(5000,3000) Curve Data
(5200,9229) Shared Functional Groups Sequence
(5200,9230) Per Frame Functional Groups Sequence
(6000,0010) Overlay Rows
(6000,0011) Overlay Columns
(6000,0012) Overlay Planes
(6000,0015) Number Of Frames In Overlay
(6000,0022) Overlay Description
(6000,0040) Overlay Type
(6000,0045) Overlay Subtype
(6000,0050) Overlay Origin
(6000,0051) Image Frame Origin
(6000,0052) Overlay Plane Origin
(6000,0100) Overlay Bits Allocated
(6000,0102) Overlay Bit Position
(6000,1100) Overlay Descriptor Gray Retired
(6000,1101) Overlay Descriptor Red Retired
(6000,1102) Overlay Descriptor Green Retired
(6000,1103) Overlay Descriptor Blue Retired
(6000,1200) Overlays Gray Retired
(6000,1201) Overlays Red Retired
(6000,1202) Overlays Green Retired
(6000,1203) Overlays Blue Retired
(6000,1301) ROI Area
(6000,1302) ROI Mean
(6000,1303) ROI Standard Deviation
(6000,1500) Overlay Label
(6000,3000) Overlay Data
(FFFA,FFFA) Digital Signatures Sequence

9 Revision History

Revision	Date	Author	Description
1	1/19/2009	D.Beavers & J. Kiso	In section 3.1.2.4.3.2 Conformance for SOP Class Basic Film Box, the first item in the table ("Image Display Format") should have its range of values changed from "STANDARD\1,1" to "STANDARD\Col,Row
2	1/19/2009	D.Beavers & J. Kiso	Section 3.1.1.1 General "The maximum PDU size of 16K upon association initiation and accept maximum PDU sizes up to 16k on associations initiated by remote applications." CHANGE TO "The default PDU size of 16K is used for association initiation and for all locally initiated operations except C-STORE. Locally initiated C-STORE operations allow maximum PDU sizes to be customized from 4K to 128K. The default C-STORE PDU size is 16K."
3	1/19/2009	D.Beavers & J. Kiso	Section 3.1.2.4.3.2 Conformance for SOP Class Basic Film Box Film Size ID values include "8INX10IN", "8_5INx11IN", "10INx12IN", "10INx14IN", "11INx14IN", "11INx17IN", "14INx14IN", "14INx17IN", "24CMx24CM", "24CMx30CM", "A4", "A3", "A"
4	1/19/2009	D.Beavers & J. Kiso	Section 3.2.2 Additional Storage Options "TIMS offers the ability to store study data to network drives and USB storage devices as a convenience to the user. This operation is equivalent to copying the files that would be written to a CD or DVD (i.e, DICOMDIR and study files) to a folder on the network or USB device. It is important to note that this feature is not implemented in accordance with DICOM Supplement 87 of the 2004 DICOM Standard, which describes specialized DICOM transfer syntaxes and has other outlines restrictions." ADD THE FOLLOWING PARAGRAPH: "TIMS supports the attachment of document and audio files to studies. These attachments can be archived to external media, but are stored as separate, non-DICOM files. They are not embedded within the DICOM study and are not transferred during C-STORE operations."