DICOM Conformance Statement

TIMS Product Line

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CONTENTS

1　INTRODUCTION

1.1　Scope and Field of Application

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

| TIMS Medical Video Platform (TIMS MVP) | Version 5.0 |
| TIMS Review (TR) | Version 5.0 |

TIMS Review (TR) is a software-only version of TIMS MVP. As a software-only product, it does not include image capture capabilities, but can support the other TIMS MVP features.

Unless otherwise specified, the TIMS Medical Video Platform and TIMS Review descriptions can be applied interchangeably and are generically referred to as "TIMS" or "TIMS MVP".

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 products 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 Foresight Imaging 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 products 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, Foresight Imaging reserves the right to make changes to the TIMS MVP product architecture described in this document.

The user (or user's agent) should ensure that any equipment connected via DICOM to TIMS products 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

2.1 Application Data Flow Diagram – TIMS Medical Video Platform

The TIMS Medical Video Platform (TIMS MVP) is implemented as separate processes that share an Application Entity title. The non-media storage processes can initiate associations with remote Application Entities and can also accept associations from remote Application Entities as well.

The Implementation Model for TIMS MVP is depicted below:
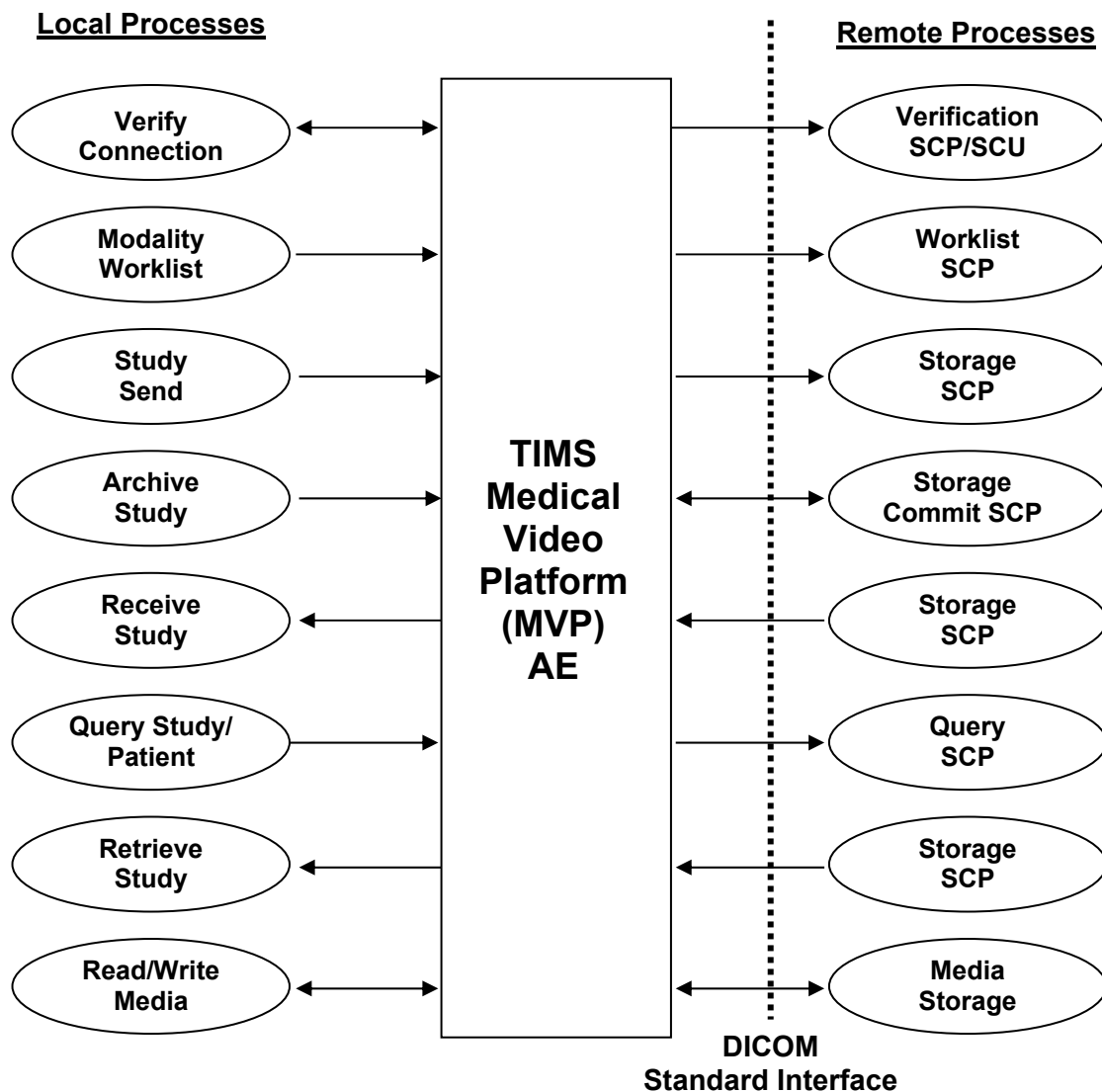
The TIMS Medical Video Platform (TIMS MVP) has three major areas:

- Connection Services: The processes responsible for study image transmission and reception. They provide options to format the data according to remote system requirements as well as the option to request storage commitment following successful transmission of a study. The processes provide echo verification of all defined server connections.

- Information Services: The processes responsible for querying a DICOM modality worklist for patient information.

- Media Services: The processes responsible for reading and writing study data to media storage (e.g., network drives, CD/DVD, flash drives). The processes support 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 – TIMS MVP

3.1 TIMS MVP DICOM Services AE Specifications

The TIMS MVP 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
Storage Commitment Push Model SOP Class	1.2.840.10008.1.20.1
DICOM Application Context Name	1.2.840.10008.3.1.1.1
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
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	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
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
Basic Voice Audio Waveform Storage	1.2.840.10008.5.1.4.1.1.9.4.1
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
NM (Nuclear Medicine) Image Storage	1.2.840.10008.5.1.4.1.1.20
Video Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1.1
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
DICOM Encapsulated PDF Storage Class	1.2.840.10008.5.1.4.1.1.104.1
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128
Radiotherapy Image Storage	1.2.840.10008.5.1.4.1.1.481.1
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

TIMS MVP provides 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
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
CT (Computer Tomography) Image Storage	1.2.840.10008.5.1.4.1.1.2
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
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
Basic Voice Audio Waveform Storage	1.2.840.10008.5.1.4.1.1.9.4.1
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
NM (Nuclear Medicine) Image Storage	1.2.840.10008.5.1.4.1.1.20
Video Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1.1
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
DICOM Encapsulated PDF Storage Class	1.2.840.10008.5.1.4.1.1.104.1
PET Image	1.2.840.10008.5.1.4.1.1.128
Radiotherapy Image Storage	1.2.840.10008.5.1.4.1.1.481.1
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

3.1.1 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 including C-STORE.

3.1.1.2   Number of Associations

The TIMS MVP connection services support single associations both as an SCU and SCP. By default the maximum number of associations that the connection services will support as an SCP is 1.

3.1.1.3   Asynchronous Nature

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

3.1.2   Association Initiation Policy

The TIMS MVP connection services initiate associations for the following activities:

- The TIMS MVP user wants to verify the DICOM communication with a remote system.
- The TIMS MVP user wants to send images from the local TIMS MVP database to a remote system.

The TIMS MVP information services initiate associations for the following activities:

- The TIMS MVP user wants to query the modality worklist server for patient information.
- The TIMS MVP user wants to query the contents of a remote system's database.
- The TIMS MVP user wants to initiate retrieval of images from a remote system's database to the local TIMS MVP database.

3.1.2.1   Verify Communication with a Remote System

3.1.2.1.1 Associated Real World Activity

The TIMS MVP connection services send 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 Negotiation**
Name	**UID**	**Name**	**UID**		
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 MVP connection services provide standard conformance.

3.1.2.2 Send Images to a Remote System

3.1.2.2.1 Associated Real World Activity

The TIMS MVP user makes a selection of a one or more image runs in the current study or multiple studies in the local database and presses the "Send" button which initiates the transfer of images from TIMS MVP to the remote system.

3.1.2.2.2 Proposed Presentation Contexts

Presentation Context Table for C-STORE to Remote System			
Abstract Syntax		**Transfer**	**Role**
Name	**UID**	**Syntax**	
Media Storage Directory Storage	1.2.840.10008.1.3.10	See Below	SCU
DICOM Application Context Name	1.2.840.10008.3.1.1.1	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	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
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
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
NM (Nuclear Medicine) Image Storage	1.2.840.10008.5.1.4.1.1.20	See Below	SCU
Video Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1.1	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

Presentation Context Table for C-STORE to Remote System			
Abstract Syntax		Transfer	Role
Name	UID	Syntax	
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
DICOM Encapsulated PDF Storage Class	1.2.840.10008.5.1.4.1.1.104.1	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

Transfer Syntaxes for C-STORE 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, JPEG Lossless, Non-Hierarchical, First-Order Prediction	1.2.840.10008.1.2.4.70
MPEG-4 AVC/H.264 High Profile / Level 4.1	1.2.840.10008.1.2.4.102
MPEG-4 AVC/H.264 BD-Compatible High Profile / Level 4.1	1.2.840.10008.1.2.4.103
MPEG-4 AVC/H.264 High Profile / Level 4.2 for 2-D Video	1.2.840.10008.1.2.4.104

3.1.2.2.3 SOP Specific Conformance Statement for SOP Class Storage

TIMS MVP 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 sends out all attributes that it received (this includes private attributes from other vendors).

3.1.2.3   Storage Commit on a Remote System

3.1.2.3.1 Associated Real World Activity

The TIMS MVP user wants to obtain a storage commitment from a remote host following a successful send of a DICOM study. When a TIMS MVP user successfully sends a study to a remote SCP, if the storage commitment feature is enabled and the remote SCP supports storage commitment, the storage commitment request is automatically sent to the remote SCP.

Storage commitment is an optional feature that can be enabled or disabled by the TIMS MVP administrator. When a remote SCP is configured in TIMS MVP, the administrator indicates whether the SCP supports storage commitment.

3.1.2.3.2 Proposed Presentation Contexts

Presentation Context Table for Remote Storage Commitment					
Abstract Syntax		Transfer Syntax		Role	Extended
Name	UID	Name	UID		Negotiation
Storage Commitment Push Model SOP Class	1.2.840.10008.1.20.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

3.1.2.3.3 SOP Specific Conformance Statement for Storage Commitment SCU

The TIMS MVP Storage Commitment SCU can send the commitment request for the following DICOM SOP Classes:

DICOM SOP Classes Supported for Storage Commitment	
Name	UID
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
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	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
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
Basic Voice Audio Waveform Storage	1.2.840.10008.5.1.4.1.1.9.4.1
RF (X-Ray Radiofluoroscopic) Image Storage	1.2.840.10008.5.1.4.1.1.12.2

DICOM SOP Classes Supported for Storage Commitment	
Name	**UID**
NM (Nuclear Medicine) Image Storage	1.2.840.10008.5.1.4.1.1.20
Video Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1.1
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
DICOM Encapsulated PDF Storage Class	1.2.840.10008.5.1.4.1.1.104.1
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128
Radiotherapy Image Storage	1.2.840.10008.5.1.4.1.1.481.1

3.1.2.3.4 Operations

TIMS MVP supports storage commitment as a follow-on operation after a successful send to a remote host that supports storage commitment.

- Negotiate and establish association with remote host (Storage and Storage Commitment SCP).

- Send the study to the remote DICOM AE via C-STORE.

- Close the association.

- If the study is transferred without failures, the following steps will be executed. If there are any failures, the storage commitment request is not sent.

- Negotiate and establish a new connection for sending the storage commitment request.

- Send an N-ACTION-REQ message with a list of the SOP class UIDs and SOP Instance UIDs from the sent study. Wait for an N-ACTION-RSP message.

- Close the association for sending the storage commitment request. The response will be received on a different association.

- Listen for an incoming connection and an N-EVENT-REPORT message from the storage commitment SCP.[1] Send back an N-EVENT-RSP message and close the association. NOTE: TIMS MVP can process reports on pending storage commitment operations in any order for any number of studies. Storage commitment reports on studies that are not being tracked by TIMS MVP are ignored.

- If any of the SOP Class UID/SOP Instance UIDs for the study are marked as having storage commitment failure, TIMS MVP treats the study as having failed storage commitment. If all of the SOP Class UID/SOP Instance UIDs for the

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[1] TIMS MVP will always accept a single association at any time to receive storage commitment responses.

study are marked as having storage commitment success, TIMS MVP treats the entire study as having succeeded storage commitment. If some of the SOP Class UID/SOP Instance UIDs are not yet reported, TIMS MVP waits until the first failure report or all of the UIDs are reported as successfully committed.

- There is no provision to retry a failed storage commitment request. The entire C-STORE and storage commitment process must be repeated manually by the TIMS MVP user.

The TIMS MVP study database explicitly lists the most recent successfully completed storage commitment (if any) for each study. If there are no prior storage commitments, the study database will indicate any pending storage commitment operations. All storage commitment requests and responses are written to a log file.

TIMS MVP does not automatically delete a study in response to a successful storage commitment.

3.1.2.3.4.1 Storage Commitment Request

The following attributes are sent as part of the dataset for the N-ACTION-REQ message:

N-ACTION-REQ Attributes		
Attribute Name	Tag	Value
Transaction UID	(0008, 1195)	TIMS MVP generated UID value
Referenced SOP Sequence	(0008, 1199)	Pairs of SOP Class UID and SOP Instance UID pairs from the sent study
> Referenced SOP Class UID	(0008, 1150)	
> Referenced SOP Instance UID	(0008, 1155)	

- The Referenced Study Component Sequence is not sent.

- The Storage Media File-Set ID and Storage Media File-Set UID attributes are not supported.

3.1.2.3.4.2 Storage Commitment Response

The following attributes are read from the dataset received with the N-EVENT-REPORT message with SUCCESS status:

N-EVENT-REPORT Attributes (SUCCESS Status)		
Attribute Name	Tag	Value
Transaction UID	(0008, 1195)	Value from SCP
Retrieve AE Title	(0008, 0054)	Value from SCP
Referenced SOP Sequence	(0008, 1199)	Value from SCP
> Referenced SOP Class UID	(0008, 1150)	Value from SCP
> Referenced SOP Instance UID	(0008, 1155)	Value from SCP

The following attributes are read from the dataset received with the N-EVENT-REPORT message with FAILURE status:

N-EVENT-REPORT Attributes (FAILURE Status)		
Attribute Name	Tag	Value
Transaction UID	(0008, 1195)	Value from SCP
Retrieve AE Title	(0008, 0054)	Value from SCP
Referenced SOP Sequence	(0008, 1199)	Value from SCP
> Referenced SOP Class UID	(0008, 1150)	Value from SCP
> Referenced SOP Instance UID	(0008, 1155)	Value from SCP
Failed SOP Sequence	(0008, 1198)	Value from SCP
> Referenced SOP Class UID	(0008, 1150)	Value from SCP
> Referenced SOP Instance UID	(0008, 1155)	Value from SCP

3.1.2.4   Retrieve a Modality Worklist from a Remote System

3.1.2.4.1 Associated Real World Activity

A TIMS MVP user can query a Modality Worklist Server 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.

3.1.2.4.2 Proposed Presentation Contexts

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

3.1.2.4.3 SOP Specific Conformance Statement for SOP Class Modality Worklist Management

The TIMS MVP information services provide 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

Supported keys for Modality Worklist Management			
Module	**Description**	**Tag**	**Type**
	>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)	O
	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
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

Supported keys for Modality Worklist Management			
Module	Description	Tag	Type
	Contrast Allergies	(0010,2110)	O
	Pregnancy Status	(0010,21C0)	O
	Special Needs	(0038,0050)	O
	Patient State	(0038,0500)	O

The TIMS MVP information services expect the remote Modality Worklist SCP to perform any one of the following matching methods:

Matching methods for Modality Worklist Query
Single Value Matching
Universal Matching
Wild Card Matching
Range Matching

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

All fields listed above are always included in the query request to ask the Modality Worklist SCP to return them for each response. The TIMS MVP information services expect the Modality Worklist SCP to return values for all "R" attributes whereas the attributes marked with "O" may be optionally filled. Therefore, TIMS MVP treats these attributes as Type 3 Return Key Attributes.

3.1.2.5   Query a Remote Database

3.1.2.5.1 Associated Real World Activity

The TIMS MVP user 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.

3.1.2.5.2 Proposed Presentation Contexts

Presentation Context Table for Remote Database Query					
Abstract Syntax		Transfer Syntax		Role	Extended
Name	UID	Name	UID		Negotiation
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

3.1.2.5.3 SOP Specific Conformance Statement for SOP Class Query

The TIMS MVP supports the following keys 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

The following keys are supported for a Study Root Query:

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 MVP expects the remote Query SCP to perform one or more of the following matching methods:

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

3.1.2.6   Retrieve from a Remote System

3.1.2.6.1 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 and subsequently presses the Import button. This initiates the transfer of images from the remote system to the local TIMS MVP system's database.

3.1.2.6.2 Proposed Presentation Contexts

Presentation Context Table for Remote System Retrieve					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
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

3.1.2.6.3 SOP Specific Conformance Statement for SOP Class Retrieve

TIMS MVP provides standard conformance.

3.1.3   Association Acceptance Policy

The TIMS MVP connection services accept associations for the following activities:

- Verification of the DICOM communication between a remote system and TIMS MVP.
- Transfer of images from a remote system to TIMS MVP.

Association requests from applications whose AE Title is unknown may be rejected by the TIMS MVP connection services depending on how they are configured. The same applies to the case in which the AE Title for the connection services 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 MVP connection services 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 Negotiation
Name	UID	Name	UID		
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 MVP connection services provide standard conformance.

3.1.3.1.4 Presentation Context Acceptance Criteria

There are no specific rules for acceptance and prioritization of presentation contexts and the TIMS MVP connection services 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 TIMS Medical Video Platform via the TIMS MVP connection services. Once the transfer is completed the new images will automatically be included in the user's view of the TIMS MVP database and can be selected for display or other operations.

3.1.3.2.2 Accepted Presentation Contexts

Presentation Context Table for Receive from Remote System			
Abstract Syntax		**Transfer**	**Role**
Name	**UID**	**Syntax**	
Verification	1.2.840.10008.1.1	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
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	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
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
Basic Voice Audio Waveform Storage	1.2.840.10008.5.1.4.1.1.9.4.1	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
NM Image Storage	1.2.840.10008.5.1.4.1.1.20	See Below	SCP
Video Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1.1	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

Presentation Context Table for Receive from Remote System			
Abstract Syntax		**Transfer**	**Role**
Name	**UID**	**Syntax**	
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
DICOM Encapsulated PDF Storage Class	1.2.840.10008.5.1.4.1.1.104.1	See Below	SCP
PET Image	1.2.840.10008.5.1.4.1.1.128	See Below	SCP
Radiotherapy Image Storage	1.2.840.10008.5.1.4.1.1.481.1	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

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, JPEG Lossless, Non-Hierarchical, First-Order Prediction	1.2.840.10008.1.2.4.70
MPEG-4 AVC/H.264 High Profile / Level 4.1	1.2.840.10008.1.2.4.102
MPEG-4 AVC/H.264 BD-Compatible High Profile / Level 4.1	1.2.840.10008.1.2.4.103
MPEG-4 AVC/H.264 High Profile / Level 4.2 for 2-D Video	1.2.840.10008.1.2.4.104

3.1.3.2.3 SOP Specific Conformance Statement for SOP Class Storage

The TIMS MVP connection services conform 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 MVP database the transfer itself will complete successfully but the

existing image in the database will be kept and the newly received image will be discarded.[2]

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 TIMS MVP.

When receiving an MPEG-4 video/audio stream, the resulting dataset is always stored as an MPEG-4 stream. TIMS MVP does not convert between MPEG-4 and JPEG compressed images as part of the standard storage process.

TIMS MVP is able to receive and send any type of (color) image, i.e., images will not be rejected based on the value of the Photometric Interpretation tag (0028, 0004). However, TIMS MVP will only be able to display images with Photometric interpretation "MONOCHROME 2", "RGB" or "YBR PARTIAL 420" (MPEG-4-only).

3.1.3.2.4 Presentation Context Acceptance Criterion

There are no specific rules for acceptance and prioritization of presentation contexts and the TIMS MVP connection services 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.

In some situations, TIMS MVP will be too busy to accept incoming requests (e.g., during the processing of previously received studies). In such circumstances, TIMS will issue an A-ASSOCIATE-RJ response to an A-ASSOCIATE-RQ. The rejection result will be "rejected-transient" and the rejection reason is "temporary congestion."

TIMS MVP can be configured to disable incoming requests when disk usage exceeds a specific threshold. In such circumstances, TIMS will issue an A-ASSOCIATE-RJ response to an A-ASSOCIATE-RQ. The rejection result will be "rejected-transient" and the rejection reason is "unknown."

TIMS MVP will prefer to transmit DICOM data with no change of the initial data format (i.e., no change to the preferred transfer syntax). For example, if supported, TIMS MVP will prefer the "Explicit VR, Lossy JPEG 8-Bit Image Compression" above the "Little Endian, Explicit VR" transfer syntax. For encapsulated MPEG-4 video/audio stream datasets, TIMS MVP will only transmit the DICOM data using an MPEG-4 transfer syntax. If the receiving SCP does not support the specified MPEG-4 transfer syntax, the association will be rejected.

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[2] In future releases, the study may be merged to accommodate incremental sends. This is not currently available in TIMS MVP.

3.1.3.2.4.1 Operations

TIMS MVP 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 MVP offers a user interface to delete studies. Therefore TIMS MVP should not be used as a long-term archive. If the TIMS MVP user wants to retain the received studies (e.g., send them to a long-term storage after TIMS MVP no longer needs it), TIMS MVP must be configured as such.

TIMS MVP does not support the optional Storage Media File-Set ID & UID attributes.

3.2 TIMS MVP DICOM Media Server AE

TIMS MVP provides standard conformance to the DICOM Media Server 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
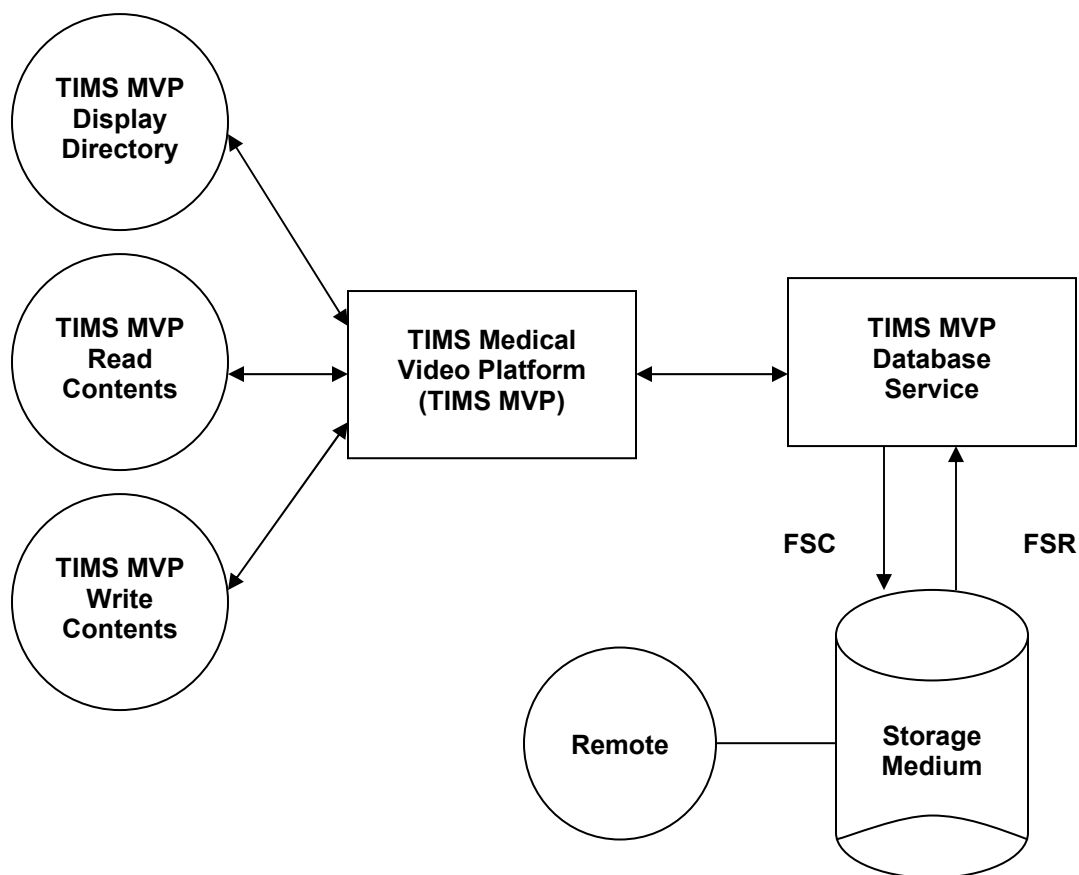
The TIMS MVP Media Server application flow consists of the following items:

- The TIMS MVP information services can act as both 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 MVP AE's user interface.

TIMS MVP 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 "TIMS5.0.xxxx." for TIMS MVP/TIMS Review version 5.0 build number xxxx (e.g., "TIMS5.0.1000").

3.2.2   Additional Storage Options

TIMS MVP 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.

Audio files are stored as DICOM Basic Voice Audio datasets and document files are stored as DICOM Encapsulated PDF datasets. When stored to a DICOM device (e.g., C-STORE), these datasets transmitted as part of the study (or can, optionally, be filtered out if the storage SCP does not support audio or PDF).

4   COMMUNICATION PROFILE

4.1   Supported Communication Stacks

The TIMS Medical Video Platform 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 Medical Video Platform services us the TCP/IP stack from the Microsoft Windows 10 operating system upon which it executes.

4.3.1   Physical Media Support

The TIMS Medical Video Platform is 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.

5.3 Storage of Image Drawing Overlay

TIMS MVP provides an optional capability to record and store a drawing as a DICOM overlay surface for an individual image run. When used, a single overlay that captures the freehand drawings and text annotations is stored for each series run. The overlay's width and height are the same as the video image.

The image overlay surface is stored in accordance with the DICOM Standard Part 3 (PS 3.3), section C.9.2. The overlay is stored using the Overlay Module tags. All overlays are stored in the same dataset as the image data; TIMS MVP does not support independent overlays (i.e., it does not store the overlay identification module attributes). Per the DICOM Standard, overlays are stored as one-bit images; TIMS MVP does not use the alpha channel image data to store overlay data. Overlay coloration is the responsibility of the study display application.

5.3.1 DICOM Tags Used by Image Drawing Overlay

TIMS MVP uses the following standard DICOM tags to store the image overlay surface.

Attribute Name	Tag	Notes
Overlay Rows	(6000,0010)	Number of rows in overlay (same as image rows)
Overlay Columns	(6000,0011)	Number of columns in overlay (same as image columns)
Overlay Description	(6000,0022)	User-defined comments; value is "TIMS"
Overlay Type	(6000,0040)	Indicates graphics overlay; value is "G"
Overlay Subtype	(6000,0045)	Intended purpose of overlay type; value is "USER"
Overlay Origin	(6000,0050)	Location of first overlay point relative to image pixels; value is "1\1" (upper left pixel of image)
Overlay Bits Allocated	(6000,0100)	Number of bits allocated in the overlay per pixel; value is "1"
Overlay Bit Position	(6000,0102)	Bit in which overlay is stored; value is "0"
ROI Area	(6000,1301)	Number of pixels in ROI area; value is "0"
ROI Mean	(6000,1302)	ROI mean; value is "0"
ROI Standard Deviation	(6000,1303)	ROI standard deviation; value is "0"

Attribute Name	Tag	Notes
Overlay Label	(6000,1500)	User-defined text label; value is "TIMS"
Overlay Data	(6000,3000)	Overlay pixel data (see PS3-C.9.2.1.1 for details)

5.3.2 Extension to DICOM Standard for Image Drawing Overlay

The TIMS MVP image overlay does not require extensions to the DICOM Standard.

5.4 Storage of Synchronized/Unsynchronized Audio Data

TIMS MVP can capture synchronized audio and video data. The primary purpose of this capability is to capture voice data relevant to the performed procedure.

TIMS MVP stores synchronized audio data using the DICOM Basic Voice Audio class, as documented in the DICOM Standard Part 3 (PS 3.3) in sections A34.2 and C.10.8 through C.10.10. TIMS MVP downscales the audio to meet the low fidelity requirements of the Basic Voice Audio dataset as well as storing a copy of the high fidelity audio in a private tag. This allows backward compatibility with the DICOM Standard as well as allowing better quality audio for systems that can extract it.

If the audio is synchronized with video images, the audio dataset maintains the reference links (referenced SOP class/instance UIDs) between the corresponding datasets. If the audio is not associated with a particular video run, it does not include these references.

The DICOM Basic Voice Audio method is only used with uncompressed or JPEG compressed images. If audio is included in an MPEG-4-based video run, it is included as an audio stream in the MPEG-4 data; a separate audio dataset is not used.

5.4.1 DICOM Tags Used by Audio

TIMS MVP stores audio data using the following tags, most of whose values are set based on the currently performed study. TIMS MVP can be configured to omit tag values that are not supported by a Storage SCP.

Attribute Name	Tag	Notes
File Meta Information Version	(0002,0001)	00\01
Media Storage SOP Class UID	(0002,0002)	1.2.840.10008.5.1.4.1.1.9.4.1
Media Storage SOP Instance UID	(0002,0003)	Based on TIMS MVP study value
Transfer Syntax UID	(0002,0010)	1.2.840.10008.1.2.1
Implementation Class UID	(0002,0012)	Based on TIMS MVP configuration setting
Implementation Version Name	(0002,0013)	Based on TIMS MVP configuration setting
Source Application Entity Title	(0002,0016)	TIMS
SOP Class UID	(0008,0016)	1.2.840.10008.5.1.4.1.1.9.4.1
SOP Instance UID	(0008,0018)	Based on TIMS MVP study value
Study Date	(0008,0020)	Based on TIMS MVP study value
Content Date	(0008,0023)	Based on TIMS MVP study value
Acquisition Datetime	(0008,002A)	Based on TIMS MVP study value

Attribute Name	Tag	Notes
Study Time	(0008,0030)	Based on TIMS MVP study value
Content Time	(0008,0033)	Based on TIMS MVP study value
Accession Number	(0008,0050)	Based on TIMS MVP study value
Modality	(0008,0060)	AU
Manufacturer	(0008,0070)	Foresight Imaging
Institution Name	(0008,0080)	Based on TIMS MVP study value
Referring Physician's Name	(0008,0090)	Based on TIMS MVP study value
Study Description	(0008,1030)	Based on TIMS MVP study value
Series Description	(0008,103E)	Based on TIMS MVP study value
Institution Department Name	(0008,1040)	Based on TIMS MVP study value
Referenced Instance Sequence	(0008,114A)	Based on TIMS MVP study value
>Item	(FFFE,E000)	
>>Referenced SOP Class UID	(0008,1150)	Based on TIMS MVP study value
>>Referenced SOP Instance UID	(0008,1155)	Based on TIMS MVP study value
Patient Name	(0010,0010)	Based on TIMS MVP study value
Patient ID	(0010,0020)	Based on TIMS MVP study value
Patient's Birth Date	(0010,0030)	Based on TIMS MVP study value
Patient's Sex	(0010,0040)	Based on TIMS MVP study value
Study Instance UID	(0020,000D)	Based on TIMS MVP study value
Series Instance UID	(0020,000E)	Based on TIMS MVP study value
Study ID	(0020,0010)	Based on TIMS MVP study value
Series Number	(0020,0011)	Based on TIMS MVP study value
Instance Number	(0020,0013)	Based on TIMS MVP study value
Private Creator [PRIVATE]	(0053,0053)	Foresight Imaging, LLC [VR LO]
Encapsulated File Extension [PRIVATE]	(0053,5300)	WAV [VR LO]
Encapsulated File Data [PRIVATE]	(0053,5301)	The original WAV file data as bytes [VR OB]
Waveform Sequence	(5400,0100)	
>Item	(FFFE,E000)	
>>Waveform Originality	(003A,0004)	ORIGINAL
>>Number of Waveform Channels	(003A,0005)	1 or 2
>>Number of Waveform Samples	(003A,0010)	
>>Sampling Frequency	(003A,001A)	8000
>>Channel Definition Sequence	(003A,0200)	
>>>Item	(FFFE,E000)	
>>>>Channel Status	(003A,0205)	OK
>>>>Channel Source Sequence	(003A,0208)	
>>>>>Item	(FFFE,E000)	
>>>>>>Code Value	(0008,0100)	109110 (Voice) 109111 (Operator Narrative) 110011 (Dictation)
>>>>>>Coding Scheme Designator	(0008,0102)	DCM
>>>>>>Coding Scheme Version	(0008,0103)	01
>>>>>>Code Meaning	(0008,0104)	Voice Operator Narrative Dictation
>>>>Channel Time Skew	(003A,0214)	0
>>>>Waveform Bits Stored	(003A,021A)	8 or 16
>>Waveform Bits Allocated	(5400,1004)	8 or 16

Attribute Name	Tag	Notes
>>Waveform Sample Interpretation	(5400,1006)	UB (8-bit, unsigned) SB (8-bit, signed) US (16-bit, unsigned) SS (16-bit, signed)
>>Waveform Data	(5400,1010)	

5.4.2 Extension to DICOM Standard for Synchronized Audio

The DICOM Standard Part 3 defines a fixed value of 8000 Hz for the Sampling Frequency (003A, 001A) tag. A downscaled copy of the captured audio is stored in the standard Waveform Data tag for backward compatibility.

TIMS MVP provides options for recording at higher sampling rates and stores the original, higher quality audio within the dataset using the private tags Encapsulated File Extension (0053, 5300) and Encapsulated File Data (0053, 5301). These tags are described later in the document.

5.5 Storage of Encapsulated PDF Document Data

TIMS MVP can import PDF documents and include them as DICOM data. TIMS MVP stores encapsulated PDF documents using the DICOM Encapsulated PDF Storage class, as documented in the DICOM Standard Part 3 (PS 3.3) in sections A.45 and C.24.

PDF documents are stored as DICOM data as well as raw PDF document files to facilitate reviewing in standard applications (e.g., Acrobat Reader). The PDF document files are stored as associated file attachments.

5.5.1 DICOM Tags Used by Encapsulated PDF Documents

By default, TIMS MVP stores encapsulated PDF document data using the following tags, most of whose values are set based on the currently performed study. TIMS MVP can be configured to omit tag values that are not supported by a Storage SCP.

Attribute Name	Tag	Notes
File Meta Information Version	(0002,0001)	00\01
Media Storage SOP Class UID	(0002,0002)	1.2.840.10008.5.1.4.1.1.104.1
Media Storage SOP Instance UID	(0002,0003)	Based on TIMS MVP study value
Transfer Syntax UID	(0002,0010)	1.2.840.10008.1.2.1
Implementation Class UID	(0002,0012)	Based on TIMS MVP configuration setting
Implementation Version Name	(0002,0013)	Based on TIMS MVP configuration setting
Source Application Entity Title	(0002,0016)	TIMS
SOP Class UID	(0008,0016)	1.2.840.10008.5.1.4.1.1.104.1
SOP Instance UID	(0008,0018)	Based on TIMS MVP study value
Study Date	(0008,0020)	Based on TIMS MVP study value
Content Date	(0008,0023)	Based on TIMS MVP study value
Acquisition Datetime	(0008,002A)	Based on TIMS MVP study value
Study Time	(0008,0030)	Based on TIMS MVP study value

Attribute Name	Tag	Notes
Content Time	(0008,0033)	Based on TIMS MVP study value
Accession Number	(0008,0050)	Based on TIMS MVP study value
Modality	(0008,0060)	DOC
Manufacturer	(0008,0070)	Foresight Imaging
Institution Name	(0008,0080)	Based on TIMS MVP study value
Referring Physician's Name	(0008,0090)	Based on TIMS MVP study value
Study Description	(0008,1030)	Based on TIMS MVP study value
Series Description	(0008,103E)	Based on TIMS MVP study value
Institution Department Name	(0008,1040)	Based on TIMS MVP study value
Referenced Instance Sequence	(0008,114A)	Based on TIMS MVP study value
>Item	(FFFE,E000)	
>>Referenced SOP Class UID	(0008,1150)	Based on TIMS MVP study value
>>Referenced SOP Instance UID	(0008,1155)	Based on TIMS MVP study value
Patient Name	(0010,0010)	Based on TIMS MVP study value
Patient ID	(0010,0020)	Based on TIMS MVP study value
Patient's Birth Date	(0010,0030)	Based on TIMS MVP study value
Patient's Sex	(0010,0040)	Based on TIMS MVP study value
Study Instance UID	(0020,000D)	Based on TIMS MVP study value
Series Instance UID	(0020,000E)	Based on TIMS MVP study value
Study ID	(0020,0010)	Based on TIMS MVP study value
Series Number	(0020,0011)	Based on TIMS MVP study value
Instance Number	(0020,0013)	Based on TIMS MVP study value
Burned In Annotation	(0028,0301)	Based on TIMS MVP study value
Document Title	(0042,0010)	Can be manually entered, based on PDF filename or left blank
Encapsulated Document	(0042,0011)	The raw PDF data
MIME Type of Encapsulated Document	(0042,0012)	application/pdf
List of MIME Types	(0042,0014)	1

5.5.2 Extension to DICOM Standard for Encapsulated PDF Documents

Encapsulating PDF documents does not require extensions to the DICOM Standard.

5.6 TIMS MVP Private Tag Definitions

DICOM datasets generated by TIMS MVP use private tags to store information that is solely of use to TIMS MVP for interpreting the dataset information or to provide enhanced data quality beyond the level specified by the DICOM Standard.

The TIMS MVP private data is not interpreted when a study is stored in implicit VR; TIMS MVP defaults to explicit VR for all DICOM datasets. When stored (or received) in implicit VR, the following limitations are experienced on a TIMS MVP system:

- DICOM audio quality defaults to the 8KHz level specified in the DICOM Standard

- Split datasets are not reconnected automatically by a TIMS MVP receiving the study

- Customization data (filters, tags, study/run information, etc.) is not available to a TIMS MVP receiving the study

5.6.1 Private Creator ID (0053, 0053)

TIMS MVP private tags are stored with a private creator ID of "Foresight Imaging, LLC" and are in the tag range (0053, 53xx).

5.6.2 Encapsulated File Extension (0053, 5300)

For Basic Voice Audio datasets the file extension of the original audio data is stored in this private tag. This tag provides a means to distinguish different audio encodings. Initially, only "WAV" is being supported.

The value representation for this tag is long string (LO).

5.6.3 Encapsulated File Data (0053, 5301)

The Basic Voice Audio dataset supports only low resolution audio. Higher quality audio data can be stored using this private tag. The typical use is to stream the entire audio file into a byte array and store it as this tag's value; the audio file extension should be written to (0053, 5300). The byte array may require padding.

The value representation for this tag is other byte string (OB).

5.6.4 Dataset Split Information (0053, 5310)

DICOM image datasets that exceed size limits may be split into multiple datasets when transmitted. If received by a TIMS MVP system, the datasets will be reassembled to their original size.

To allow split/combine of oversized datasets, the following split information is written to this private tag:

- Original dataset file number (before split)
- Incrementing counter of split files created from original dataset

The split information is written as a string with a space delimiter. The value representation for this tag is long string (LO).

5.6.5 Class Customization Data (0053, 5320)

If a specialized set of DICOM class customizations are used to generate the dataset, the list of custom modules and tags are written to this private tag. The customization information is written in JSON format. The value representation for this tag is unlimited text (UT).

5.6.6 DICOM Save Filter Data (0053, 5321)

If a specialized filter is used to generate the dataset, the save filter is written to this private tag. The filter is written in JSON format. The value representation for this tag is unlimited text (UT).

5.6.7 Primary UID Generator Configuration (0053, 5322)

This tag stores the configuration of a UID generator that might be used any time the DICOM creation process needs to create new UIDs that are related to the ones used in the original study.

The UID generator has three components:

- Retain study instance UID on edit (or always regenerate)

- Counter (next value to use)

- UID generator root string

These components are written as a string with a "|" separator. The value representation for this tag is long text (LT).

5.6.8 Secondary UID Generator Configuration (0053, 5323)

This tag stores the configuration of a second UID generator using the same format described in the previous section. The secondary UID generator might be used any time the DICOM creation process needs to create new UIDs that are not directly related to the ones used in the original study.

The value representation for this tag is long text (LT).

5.6.9 Custom Study Information (0053, 5324)

An optional text-based data file describing the study that can be used to pass additional TIMS-specific data that can be used if the study is received/imported into a TIMS MVP system. The information is written in JSON format. The value representation for this tag is unlimited text (UT).

5.6.10 Custom Run Information (0053, 5325)

An optional text-based data file describing the series that can be used to pass additional TIMS-specific data that can be used if the study is received/imported into a TIMS MVP system. The information is written in JSON format. The value representation for this tag is unlimited text (UT).

5.6.11 Class Filter Data (0053, 5326)

The DICOM class filter is written to this private tag. The filter is written in JSON format. The value representation for this tag is unlimited text (UT).

5.6.12 Procedural Score Card Data - Legacy (0053, 5327)

In earlier product versions, the TIMS MVP procedural score card data for the study was written to this private tag in IR-6 JSON format. The current version of MVP encodes the original UTF-8 to IR-6 and this tag is retained to support previous revisions of the product. The value representation for this tag is unlimited text (UT).

5.6.13 Reporting Data Package (0053, 5328)

The current version of MVP compresses and encrypts the study's reporting data into a data file when not in use. In earlier product versions, the TIMS MVP reporting data for the study was written (unencrypted) to the same file. The data file is encoded and stored as the value of this private tag. The value representation for this tag is unlimited text (UT).

5.6.14 Study-Level Notes Data - Legacy (0053, 532A)

In earlier product versions, the TIMS MVP study-level notes data was written to this private tag in IR-6 JSON format. The current version of MVP encodes the original UTF-8 to IR-6 and this tag is retained to support previous revisions of the product. The value representation for this tag is unlimited text (UT).

5.6.15 Run-Level Notes Data - Legacy (0053, 532B)

In earlier product versions, the TIMS MVP run-level notes data was written to this private tag in IR-6 JSON format. The current version of MVP encodes the original UTF-8 to IR-6 and this tag is retained to support previous revisions of the product. The value representation for this tag is unlimited text (UT).

5.6.16 Study-Level Notes Data (0053, 532C)

The TIMS MVP study-level notes data is written to this private tag. The data is written in JSON format with the original UTF-8 encoded to IR-6. The value representation for this tag is unlimited text (UT).

5.6.17 Run-Level Notes Data (0053, 532D)

The TIMS MVP run-level notes data is written to this private tag. The data is written in JSON format with the original UTF-8 encoded to IR-6. The value representation for this tag is unlimited text (UT).

5.6.18 Procedural Score Card Data (0053, 532E)

The TIMS MVP procedural score card data for the study is written to this private tag. The data is written in JSON format with the original UTF-8 encoded to IR-6. The value representation for this tag is unlimited text (UT).

5.6.19 Reporting Data (0053, 532F)

The TIMS MVP reporting data for the study is written to this private tag. The data includes the contents of a reporting folder encoded back into text. The value representation for this tag is unlimited text (UT).

5.6.20 Diagram Data (0053, 5330)

The TIMS MVP diagram data for the study is written to this private tag. The data includes the contents of a diagram folder encoded back into text. The value representation for this tag is unlimited text (UT).

5.6.21 SOP Instance UID Folder Map Data (0053, 5331)

The TIMS MVP SOP instance UID folder map data for the study is written to this private tag. The data contains information about folder location changes to allow receiving MVP systems to change folder location references. The value representation for this tag is unlimited text (UT).

5.6.22 Dataset Export Conversion Data (0053, 5332)

Information about the conversion of the original MVP data into a dataset is written to this private tag. The data contains information about this dataset's folder location change and flags to indicate state changes (e.g., conversion of MP4 to JPEG) that occurred. The value representation for this tag is unlimited text (UT).

5.6.23 PDF Creation Data (0053, 5333)

Information about the creation of an encapsulated PDF is written to this private tag. The value representation for this tag is unlimited text (UT).

5.6.24 Run Date/Time Adjustments Data (0053, 5334)

Information about MVP date/time adjustments is written to this private tag. The value representation for this tag is unlimited text (UT).

6   CONFIGURATIONS

The configuration of TIMS Medical Video Platform services is password protected and will typically be done by support personnel.

6.1   AE Title/Presentation Address Mapping

The AE title shared by the TIMS Medical Video Platform services is configurable and defaults to "TIMS". The port on which the TIMS MVP connection services listen is also configurable and defaults to 104.

All remote systems that want to communicate with the TIMS MVP connection services have to be configured. For systems that want to act as SCUs of the connections services 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 MVP services want to act as SCU the following information is needed:

- The AE title.

- The host name or IP address

- The port number.

7 SUPPORT OF EXTENDED CHARACTER SETS

The TIMS product line offers full support for the following character sets:

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

8 TIMS MVP: SUPPORTED DICOM TAGS

The TIMS Medical Video Platform (TIMS MVP) accesses DICOM study files in two primary manners:

- As a DICOM transmission device, TIMS MVP can receive and send DICOM study files.

- As a secondary capture device, TIMS MVP can create, edit, and view DICOM study files.

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

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

When TIMS MVP is used as a secondary capture device or to edit a previously transmitted study, 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. TIMS MVP will not otherwise generate data to populate tags that were not enabled in the shipped configuration of the product.

- Disabled sequence structures should not be enabled unless there is a method of populating them; manual entry of sequence structures is not supported.

- Some of these tags are used for specific dataset types (e.g., DICOMDIR, basic voice audio, etc.) and are not intended to be enabled in all dataset types as per the DICOM Standard.

The TIMS MVP private tag definitions described in Section 5 are not included in the following list as they are specific to the product family.

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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0008,0050)	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
(0008,0081)	Institution Address
(0008,0082)	Institution Code Sequence
(0008,0090)	Referring Physician's Name
(0008,0092)	Referring Physician Address
(0008,0094)	Referring Physician Telephone Numbers
(0008,0096)	Referring Physician Identification Sequence
(0008,009C)	Consulting Physician's Name
(0008,0100)	Code Value
(0008,0102)	Coding Scheme Designator
(0008,0103)	Coding Scheme Version
(0008,0104)	Code Meaning

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(0008,0105)	Mapping Resource
(0008,0106)	Context Group Version
(0008,0107)	Context Group Local Version
(0008,010B)	Context Group Extension Flag
(0008,010C)	Coding Scheme UID
(0008,010D)	Context Group Extension Creator UID
(0008,010F)	Context Identifier
(0008,0110)	Coding Scheme Identification Sequence
(0008,0112)	Coding Scheme Registry
(0008,0114)	Coding Scheme External ID
(0008,0115)	Coding Scheme Name
(0008,0116)	Coding Scheme 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)	Institution Department Name
(0008,1048)	Physician(s) of Record
(0008,1049)	Physician(s) of Record Identification Sequence
(0008,1050)	Performing Physician's Name
(0008,1052)	Performing Physician Identification Sequence
(0008,1060)	Name of Physician(s) Reading Study
(0008,1062)	Physician(s) Reading Study Identification Sequence
(0008,1070)	Operators' Name
(0008,1072)	Operator Identification Sequence
(0008,1080)	Admitting Diagnoses Description
(0008,1084)	Admitting Diagnoses Code Sequence
(0008,1090)	Manufacturer's Model Name
(0008,1110)	Referenced Study Sequence
(0008,1111)	Referenced Performed Procedure Step Sequence
(0008,1115)	Referenced Series Sequence
(0008,1120)	Referenced Patient Sequence
(0008,1125)	Referenced Visit Sequence
(0008,1130)	Referenced Overlay Sequence 0008

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0008,1190)	Retrieve URL
(0008,1195)	Transaction UID
(0008,1197)	Failure Reason
(0008,1198)	Failed SOP Sequence
(0008,1199)	Referenced SOP Sequence
(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
(0008,2129)	Number of Event Timers
(0008,212A)	Number of Views in Stage
(0008,2130)	Event Elapsed Time(s)
(0008,2132)	Event Timer Name(s)
(0008,2142)	Start Trim
(0008,2143)	Stop Trim
(0008,2144)	Recommended Display Frame Rate
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(0008,2246)	Transducer Orientation Modifier Sequence
(0008,3012)	Radiopharmaceutical Administration Event UID
(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 Presentation State Sequence
(0010,0010)	Patient Name
(0010,0020)	Patient ID
(0010,0021)	Issuer Of Patient ID
(0010,0030)	Patient's Birth Date
(0010,0032)	Patient's Birth Time
(0010,0040)	Patient's Sex
(0010,0050)	Patient Insurance Plan Code Sequence
(0010,0101)	Patient Primary Language Code Sequence
(0010,0102)	Patient Primary Language Code Modifier Sequence
(0010,0200)	Quality Control Subject
(0010,1000)	Other Patient IDs
(0010,1001)	Other Patient Names
(0010,1005)	Patient Birth Name
(0010,1010)	Patient's Age
(0010,1020)	Patient's Size
(0010,1030)	Patient's Weight
(0010,1040)	Patient Address
(0010,1060)	Patient Mother Birth Name
(0010,1080)	Military Rank
(0010,1081)	Branch Of Service

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(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
(0012,0071)	Clinical Trial Series ID
(0012,0072)	Clinical Trial Series Description
(0012,0081)	Clinical Trial Protocol Ethics Committee Name
(0012,0082)	Clinical Trial Protocol Ethics Committee Approval Number
(0018,0010)	Contrast/Bolus Agent
(0018,0012)	Contrast/Bolus Agent Sequence
(0018,0013)	Contrast/Bolus T1 Relaxivity
(0018,0014)	Contrast/Bolus Administration Route Sequence
(0018,0015)	Body Part Examined
(0018,0020)	Scanning Sequence
(0018,0021)	Sequence Variant

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0018,0031)	Radiopharmaceutical
(0018,0034)	Intervention Drug Name
(0018,0035)	Intervention Drug Start Time
(0018,0036)	Intervention Sequence
(0018,0037)	Therapy Type
(0018,0038)	Intervention Status
(0018,0039)	Therapy Description
(0018,003A)	Intervention Description
(0018,0040)	Cine Rate
(0018,0050)	Slice Thickness
(0018,0060)	KVP
(0018,0070)	Counts Accumulated
(0018,0071)	Acquisition Termination Condition
(0018,0072)	Effective 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(s)
(0018,0087)	Magnetic Field Strength
(0018,0088)	Spacing Between Slices

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0018,1000)	Device Serial Number
(0018,1003)	Device ID
(0018,1004)	Plate ID
(0018,1005)	Generator ID
(0018,1006)	Grid ID
(0018,1007)	Cassette ID
(0018,1008)	Gantry 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's Model Name
(0018,1019)	Secondary Capture Device Software Versions
(0018,101A)	Hardcopy Device Software Version
(0018,101B)	Hardcopy Device Manufacturer Model Name
(0018,1020)	Software Version(s)
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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)	Cardiac 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
(0018,1078)	Radiopharmaceutical Start DateTime
(0018,1079)	Radiopharmaceutical Stop DateTime
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(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
(0018,113A)	Table Type
(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
(0018,1147)	Field of View Shape
(0018,1149)	Field of View Dimension(s)
(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
(0018,1156)	Rectification Type
(0018,115A)	Radiation Mode
(0018,115E)	Image and Fluoroscopy Area Dose Product
(0018,1160)	Filter Type
(0018,1161)	Type of Filters

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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(s)
(0018,1191)	Anode Target Material
(0018,11A0)	Body Part Thickness
(0018,11A2)	Compression Force
(0018,11A4)	Paddle Description
(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)	Receive Coil Name
(0018,1251)	Transmit Coil Name
(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)	In-plane 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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(0018,1402)	Cassette Orientation
(0018,1403)	Cassette Size
(0018,1404)	Exposures on Plate
(0018,1405)	Relative X-Ray Exposure
(0018,1411)	Exposure Index
(0018,1412)	Target Exposure Index
(0018,1413)	Deviation Index
(0018,1450)	Column Angulation
(0018,1460)	Tomo Layer Height
(0018,1470)	Tomo Angle
(0018,1480)	Tomo Time
(0018,1490)	Tomo Type
(0018,1491)	Tomo Class
(0018,1495)	Number of Tomosynthesis Source Images
(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
(0018,1624)	Shutter Presentation Color CIELab Value
(0018,1700)	Collimator Shape
(0018,1702)	Collimator Left Vertical Edge

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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)	Bone 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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(0018,5050)	Depth of Scan Field
(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 X0
(0018,601A)	Region Location Min Y0
(0018,601C)	Region Location Max X1
(0018,601E)	Region Location Max Y1
(0018,6020)	Reference Pixel X0
(0018,6022)	Reference Pixel Y0
(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 Y0
(0018,6041)	TM-Line Position X1
(0018,6043)	TM-Line Position Y1

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0018,6060)	R Wave Time Vector
(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
(0018,7011)	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
(0018,7022)	Detector Element Spacing
(0018,7024)	Detector Active Shape
(0018,7026)	Detector Active Dimension(s)
(0018,7028)	Detector Active Origin
(0018,702A)	Detector Manufacturer Name
(0018,702B)	Detector Manufacturer's Model Name

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0018,7056)	Filter Beam Path Length Minimum
(0018,7058)	Filter Beam Path Length 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 uS
(0018,8151)	X-Ray Tube Current in uA
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0018,9083)	Metabolite Map Code Sequence
(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
(0018,9092)	Velocity Encoding Acquisition Sequence
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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 Synchronization 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
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0018,9240)	RF Echo Train Length
(0018,9241)	Gradient Echo Train Length
(0018,9250)	Arterial Spin Labeling Contrast
(0018,9251)	MR Arterial Spin Labeling Sequence
(0018,9252)	ASL Technique Description
(0018,9253)	ASL Slab Number
(0018,9254)	ASL Slab Thickness
(0018,9255)	ASL Slab Orientation
(0018,9256)	ASL Mid Slab Position
(0018,9257)	ASL Context
(0018,9258)	ASL Pulse Train Duration
(0018,9259)	ASL Crusher Flag
(0018,925A)	ASL Crusher Flow Limit
(0018,925B)	ASL Crusher Description
(0018,925C)	ASL Bolus Cut-off Flag
(0018,925D)	ASL Bolus Cut-off Timing Sequence
(0018,925E)	ASL Bolus Cut-off Technique
(0018,925F)	ASL Bolus Cut-off Delay Time
(0018,9260)	ASL Slab Sequence

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(0018,9295)	Chemical Shift Minimum Integration Limit in ppm
(0018,9296)	Chemical Shift Maximum Integration Limit in ppm
(0018,9305)	Revolution Time
(0018,9306)	Single Collimation Width
(0018,9307)	Total Collimation Width
(0018,9309)	Table Speed
(0018,9310)	Table Feed per Rotation
(0018,9311)	Spiral Pitch Factor
(0018,9313)	Data Collection Center (Patient)
(0018,9318)	Reconstruction Target Center (Patient)
(0018,9323)	Exposure Modulation Type
(0018,9324)	Estimated Dose Saving
(0018,9328)	Exposure Time in ms
(0018,9330)	X-Ray Tube Current in mA
(0018,9337)	Contrast/Bolus Agent Number
(0018,9338)	Contrast/Bolus Ingredient Code Sequence
(0018,9340)	Contrast Administration Profile Sequence
(0018,9341)	Contrast/Bolus Usage Sequence
(0018,9342)	Contrast/Bolus Agent Administered
(0018,9343)	Contrast/Bolus Agent Detected
(0018,9344)	Contrast/Bolus Agent Phase
(0018,9345)	CTDIvol
(0018,9351)	Calcium Scoring Mass Factor Patient
(0018,9352)	Calcium Scoring Mass Factor Device
(0018,9353)	Energy Weighting Factor
(0018,9425)	Contrast/Bolus Ingredient Opaque
(0018,9559)	Positioner Primary Angle Direction
(0018,9601)	Diffusion b-matrix Sequence
(0018,9602)	Diffusion b-value XX
(0018,9603)	Diffusion b-value XY
(0018,9604)	Diffusion b-value XZ
(0018,9605)	Diffusion b-value YY
(0018,9606)	Diffusion b-value YZ
(0018,9607)	Diffusion b-value ZZ
(0018,A001)	Contributing Equipment Sequence

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0020,0019)	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
(0020,0242)	SOP Instance UID of Concatenation Source
(0020,1000)	Series In Study
(0020,1002)	Images in Acquisition
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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)	Nominal Cardiac Trigger Delay Time
(0020,9154)	Nominal Cardiac Trigger Time Prior To R-Peak
(0020,9155)	Actual Cardiac Trigger Time Prior To R-Peak
(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
(0020,9241)	Nominal Percentage of Cardiac Phase
(0020,9245)	Nominal Percentage of Respiratory Phase
(0020,9246)	Starting Respiratory Amplitude
(0020,9247)	Starting Respiratory Phase
(0020,9248)	Ending Respiratory Amplitude
(0020,9249)	Ending Respiratory Phase
(0020,9250)	Respiratory Trigger Type
(0020,9251)	R-R Interval Time Nominal

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(0020,9252)	Actual Cardiac Trigger Delay Time
(0020,9253)	Respiratory Synchronization Sequence
(0020,9254)	Respiratory Interval Time
(0020,9255)	Nominal Respiratory Trigger Delay Time
(0020,9256)	Respiratory Trigger Delay Threshold
(0020,9257)	Actual Respiratory Trigger Delay Time
(0020,9311)	Dimension Organization Type
(0020,9421)	Dimension Description Label
(0020,9453)	Frame Label
(0022,0001)	Light Path Filter Pass-Through Wavelength
(0022,0002)	Light Path Filter Pass Band
(0022,0003)	Image Path Filter Pass-Through Wavelength
(0022,0004)	Image Path Filter Pass Band
(0022,0016)	Illumination Type Code Sequence
(0022,0017)	Light Path Filter Type Stack Code Sequence
(0022,0018)	Image Path Filter Type Stack Code Sequence
(0022,0019)	Lenses Code Sequence
(0022,001A)	Channel Description Code Sequence
(0022,0028)	Stereo Pairs Present
(0022,0055)	Illumination Wave Length
(0028,0002)	Samples per Pixel
(0028,0004)	Photometric Interpretation
(0028,0006)	Planar Configuration
(0028,0008)	Number of Frames
(0028,0009)	Frame Increment Pointer
(0028,000A)	Frame Dimension 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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0028,0300)	Quality Control Image
(0028,0301)	Burned In Annotation
(0028,1040)	Pixel Intensity Relationship
(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
(0028,1056)	VOI LUT Function
(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
(0028,1300)	Breast Implant Present
(0028,1350)	Partial View

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(0028,1351)	Partial View Description
(0028,135A)	Spatial Locations Preserved
(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 Foi
(0028,6022)	Frame Of Interest Description
(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
(0028,9416)	Subtraction Item ID
(0028,9454)	Mask Selection Mode

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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,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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(003A,0217)	Channel Maximum Value
(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
(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 Protocol 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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(0040,0260)	Performed Protocol Code Sequence
(0040,0270)	Scheduled Step Attributes Sequence
(0040,0275)	Request Attributes Sequence
(0040,0280)	Comments on the Performed Procedure Step
(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
(0040,0312)	X-Ray Output
(0040,0314)	Half Value Layer
(0040,0316)	Organ Dose
(0040,0318)	Organ Exposed
(0040,0320)	Billing Procedure Step Sequence
(0040,0321)	Film Consumption Sequence
(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
(0040,0556)	Acquisition Context Description
(0040,071A)	Image Center Point Coordinates Sequence
(0040,072A)	X Offset in Slide Coordinate System
(0040,073A)	Y Offset in Slide Coordinate System
(0040,074A)	Z Offset in Slide Coordinate System
(0040,08EA)	Measurement Units Code Sequence
(0040,1001)	Requested Procedure ID

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(0040,1002)	Reason for the Requested Procedure
(0040,1003)	Requested Procedure Priority
(0040,1004)	Patient Transport Arrangements
(0040,1005)	Requested Procedure Location
(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)	Person's Address
(0040,1103)	Person's 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
(0040,2008)	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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0040,8302)	Entrance Dose in mGy
(0040,9098)	Pixel Value Mapping Code 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
(0040,9220)	Quantity Definition Sequence
(0040,9224)	Real World Value Intercept
(0040,9225)	Real World Value Slope
(0040,A040)	Value Type
(0040,A043)	Concept Name Code Sequence
(0040,A120)	DateTime
(0040,A121)	Date
(0040,A122)	Time
(0040,A123)	Person Name
(0040,A124)	UID
(0040,A160)	Text Value

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(0040,A161)	Floating Point Value
(0040,A162)	Rational Numerator Value
(0040,A163)	Rational Denominator Value
(0040,A168)	Concept Code Sequence
(0040,A170)	Purpose of Reference Code Sequence
(0040,A301)	Numeric Value Qualifier Code Sequence
(0040,A30A)	Numeric Value
(0040,E011)	Retrieve Location UID
(0042,0010)	Document Title
(0042,0011)	Encapsulated Document
(0042,0012)	MIME Type of Encapsulated Document
(0042,0014)	List of MIME Types
(0048,0100)	Illuminator Type Code Sequence
(0048,0105)	Optical Path Sequence
(0048,0106)	Optical Path Identifier
(0048,0107)	Optical Path Description
(0048,0108)	Illumination Color Code Sequence
(0048,0111)	Condenser Lens Power
(0048,0112)	Objective Lens Power
(0048,0113)	Objective Lens Numerical Aperture
(0048,0120)	Palette Color Lookup Table 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
(0052,0001)	Contrast/Bolus Ingredient Percent by Volume
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0054,0039)	Phase Description
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(0054,0500)	Slice Progression Direction
(0054,0501)	Scan Progression Direction
(0054,1000)	Series Type
(0054,1001)	Units
(0054,1002)	Counts Source
(0054,1004)	Reprojection Method
(0054,1006)	SUV Type
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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 DateTime
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(0400,0401)	Digital Signature Purpose Code Sequence
(0400,0402)	Referenced Digital Signature Sequence
(0400,0403)	Referenced SOP Instance MAC Sequence
(0400,0404)	MAC
(0400,0500)	Encrypted Attributes Sequence
(0400,0510)	Encrypted Content Transfer Syntax UID
(0400,0520)	Encrypted Content
(0400,0550)	Modified Attributes Sequence
(2010,015E)	Illumination
(2010,0160)	Reflected Ambient Light
(2050,0020)	Presentation LUT Shape
(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
(3002,000D)	X-Ray Image Receptor Translation
(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
(3002,0040)	Fluence Map Sequence
(3002,0041)	Fluence Data Source
(3002,0042)	Fluence Data Scale
(3002,0050)	Primary Fluence Mode Sequence
(3002,0051)	Fluence Mode

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(3002,0052)	Fluence Mode ID
(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
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(3008,0016)	Measured Dose Value
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(300A,00F5)	Block Tray ID
(300A,00F6)	Source to Block Tray Distance
(300A,00F8)	Block Type
(300A,00F9)	Accessory Code
(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
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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,0140)	Table Top Pitch Angle
(300A,0144)	Table Top Roll Angle
(300A,014A)	Gantry Pitch Angle
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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
(300A,0420)	General Accessory Sequence
(300A,0421)	General Accessory ID
(300A,0422)	General Accessory Description
(300A,0423)	General Accessory Type
(300A,0424)	General Accessory Number
(300A,0425)	Source to General Accessory Distance

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(300A,0431)	Applicator Geometry Sequence
(300A,0432)	Applicator Aperture Shape
(300A,0433)	Applicator Opening
(300A,0434)	Applicator Opening X
(300A,0435)	Applicator Opening Y
(300A,0436)	Source to Applicator Mounting Position 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
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(5000,0104)	Minimum Coordinate Value
(5000,0105)	Maximum Coordinate Value
(5000,0106)	Curve Range
(5000,0110)	Curve Data Descriptor
(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
(5400,0100)	Waveform Sequence
(5400,1004)	Waveform Bits Allocated
(5400,1006)	Waveform Sample Interpretation
(5400,1010)	Waveform Data
(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

TIMS Medical Video Platform (TIMS MVP) Supported Tags	
(6000,0102)	Overlay Bit Position
(6000,1301)	ROI Area
(6000,1302)	ROI Mean
(6000,1303)	ROI Standard Deviation
(6000,1500)	Overlay Label
(6000,3000)	Overlay Data
(7FE0,0010)	Pixel Data
(FFFA,FFFA)	Digital Signatures Sequence

9 REVISION HISTORY

Revision	Date	Author	Description
1	01/19/2009	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	01/19/2009	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	01/19/2009	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	01/19/2009	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."

Revision	Date	Author	Description
5	01/22/2010	J. Kiso	Section 2.1: Updated the Application Dataflow Diagram and the descriptions of the TIMS System services. Section 3.1.2: Reordered sections to match Application Dataflow Diagram. Added Print Service to the bullet list of TIMS services. Section 3.1.2.4: Clarified that TIMS retrieves whole studies. Section 3.1.2.5: Clarified SCP type; fixed mislabeling of worklist SCP as query SCP. Section 3.1.2.6: Removed empty optional print management sections. Section 3.1.3.2.4: Clarified the example of transfer syntax preference. Section 3.2.2: Added reference to synchronized audio and file attachment storage. Added Section 5.3 ("Storage of Associated File Attachments"). Added Section 5.4 ("Storage of Synchronized Audio Data"). Section 6.2: Removed "Configurable Parameters" section. Section 8: Corrected list of supported Overlay Plane tags and added waveform tags used for synchronized audio storage.
6	02/26/2010	J. Kiso	Added Section 5.5 ("Storage of TIMS Fluoro-TRACE Overlays").
7	12/13/2010	J. Kiso	Clarified TIMS DICOM System from TIMS product line throughout the document. Added conformance statement for Storage Commit on a Remote System, including new section 3.1.2.3.
8	03/13/2012	J. Kiso	Added details on TIMS implementation of DICOM Encapsulated PDF Storage. Inserted missing Basic Voice Audio class entry in the DICOM receive class table in section 3.1.3.2.2. Resorted UID table entries in section 3.

Revision	Date	Author	Description
9	06/15/2012	J. Kiso	Replaced "gateway" references with TIMS DICOM Review Software.
10	02/15/2012	J. Kiso	Added TIMS 2.5 references
11	09/07/2013	J. Kiso	Added TIMS 2.6/3.1 references. Added new response to association request when TIMS exceeds disk space usage limits in section 3.1.3.2.4. Added "Burned In Annotation" tag to PDF tag list in section 5.6.1.
12	02/17/2016	J. Kiso	Added TIMS 3.2 references Added private tag information for encapsulating audio file data to sections 5.4 and 8
13	04/17/2017	T. Molinari	Added TIMS 3.3 references
14	01/14/2020	J. Kiso	Updated for TIMS MVP 4.0 release with significant rebranding of the product line names. Removed support for Windows 7.

Revision	Date	Author	Description
15	01/08/2021	J. Kiso	Updated for TIMS MVP 4. 2 release with the addition of MPEG-4-related transfer syntax support.
16	02/19/2021	J. Kiso	Updated for TIMS MVP 4.5 release with the addition of DICOM query and retrieve operations.
17	01/12/2023	J. Kiso	Updated for TIMS MVP 4.6 release with addition of MVP reporting/notes data and handling of UTF-8/IR-6 data for legacy product revisions
18	07/19/2023	J. Kiso	Updated for TIMS MVP 5.0 release