



DICOM Conformance Statement

MedDream SendToPACS V. 2.6.0

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1 Conformance Statement Overview

SendToPACS work as an image acquisition modality and as simple SCU. Its DICOM functionality allows to query the modality worklist and query/retrieve information. It supports the following network services:

Table 1. Network Services

| Networking SOP Classes | User of Service (SCU) | Provider of Service (SCP) |
|--|-----------------------|---------------------------|
| <i>Transfer</i> | | |
| Computed Radiography Image Storage | Yes | No |
| Digital X-Ray Image Storage - For Presentation | Yes | No |
| Digital X-Ray Image Storage - For Processing | Yes | No |
| Digital Mammography X-Ray Image Storage - For Presentation | Yes | No |
| Digital Mammography X-Ray Image Storage - For Processing | Yes | No |
| Digital Intra-Oral X-Ray Image Storage - For Presentation | Yes | No |
| Digital Intra-Oral X-Ray Image Storage - For Processing | Yes | No |
| CT Image Storage | Yes | No |
| Enhanced CT Image Storage | Yes | No |
| Legacy Converted Enhanced CT Image Storage | Yes | No |
| Ultrasound Multi-frame Image Storage (Retired) | Yes | No |
| Ultrasound Multi-frame Image Storage | Yes | No |
| MR Image Storage | Yes | No |
| Enhanced MR Image Storage | Yes | No |
| MR Spectroscopy Storage | Yes | No |
| Enhanced MR Color Image Storage | Yes | No |
| Legacy Converted Enhanced MR Image Storage | Yes | No |
| Nuclear Medicine Image Storage (Retired) | Yes | No |
| Ultrasound Image Storage (Retired) | Yes | No |
| Ultrasound Image Storage | Yes | No |
| Enhanced US Volume Storage | Yes | No |
| Secondary Capture Image Storage | Yes | No |
| Multi-frame Single Bit Secondary Capture Image Storage | Yes | No |
| Multi-frame Grayscale Byte Secondary Capture Image Storage | Yes | No |
| Multi-frame Grayscale Word Secondary Capture Image Storage | Yes | No |
| Multi-frame True Color Secondary Capture Image Storage | Yes | No |
| Standalone Overlay Storage (Retired) | Yes | No |
| Standalone Curve Storage (Retired) | Yes | No |
| Waveform Storage - Trial (Retired) | Yes | No |
| 12-lead ECG Waveform Storage | Yes | No |
| General ECG Waveform Storage | Yes | No |
| Ambulatory ECG Waveform Storage | Yes | No |
| Hemodynamic Waveform Storage | Yes | No |
| Cardiac Electrophysiology Waveform Storage | Yes | No |
| Basic Voice Audio Waveform Storage | Yes | No |

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|---|-----|----|
| General Audio Waveform Storage | Yes | No |
| Arterial Pulse Waveform Storage | Yes | No |
| Respiratory Waveform Storage | Yes | No |
| Multi-channel Respiratory Waveform Storage | Yes | No |
| Routine Scalp Electroencephalogram Waveform Storage | Yes | No |
| Electromyogram Waveform Storage | Yes | No |
| Electrooculogram Waveform Storage | Yes | No |
| Sleep Electroencephalogram Waveform Storage | Yes | No |
| Body Position Waveform Storage | Yes | No |
| Standalone Modality LUT Storage (Retired) | Yes | No |
| Standalone VOI LUT Storage (Retired) | Yes | No |
| Grayscale Softcopy Presentation State Storage | Yes | No |
| Color Softcopy Presentation State Storage | Yes | No |
| Pseudo-Color Softcopy Presentation State Storage | Yes | No |
| Blending Softcopy Presentation State Storage | Yes | No |
| XA/XRF Grayscale Softcopy Presentation State Storage | Yes | No |
| Grayscale Planar MPR Volumetric Presentation State Storage | Yes | No |
| Compositing Planar MPR Volumetric Presentation State Storage | Yes | No |
| Advanced Blending Presentation State Storage | Yes | No |
| Volume Rendering Volumetric Presentation State Storage | Yes | No |
| Segmented Volume Rendering Volumetric Presentation State Storage | Yes | No |
| Multiple Volume Rendering Volumetric Presentation State Storage | Yes | No |
| X-Ray Angiographic Image Storage | Yes | No |
| Enhanced XA Image Storage | Yes | No |
| X-Ray Radiofluoroscopic Image Storage | Yes | No |
| Enhanced XRF Image Storage | Yes | No |
| X-Ray Angiographic Bi-Plane Image Storage (Retired) | Yes | No |
| X-Ray 3D Angiographic Image Storage 1.2.840.10008.5.1.4.1.1.13.1.1X-Ray 3D Craniofacial Image Storage | Yes | No |
| Breast Tomosynthesis Image Storage | Yes | No |
| Breast Projection X-Ray Image Storage - For Presentation | Yes | No |
| Breast Projection X-Ray Image Storage - For Processing | Yes | No |
| Intravascular Optical Coherence Tomography Image Storage - For Presentation | Yes | No |
| Intravascular Optical Coherence Tomography Image Storage - For Processing | Yes | No |
| Nuclear Medicine Image Storage | Yes | No |
| Parametric Map Storage | Yes | No |
| MR Image Storage Zero Padded (Retired) | Yes | No |
| Raw Data Storage | Yes | No |
| Spatial Registration Storage | Yes | No |
| Spatial Fiducials Storage | Yes | No |
| Deformable Spatial Registration Storage | Yes | No |
| Segmentation Storage | Yes | No |
| Surface Segmentation Storage | Yes | No |

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| Tractography Results Storage | Yes | No |
| Real World Value Mapping Storage | Yes | No |
| Surface Scan Mesh Storage | Yes | No |
| Surface Scan Point Cloud Storage | Yes | No |
| VL Image Storage - Trial (Retired) | Yes | No |
| VL Multi-frame Image Storage - Trial (Retired) | Yes | No |
| VL Endoscopic Image Storage | Yes | No |
| Video Endoscopic Image Storage | Yes | No |
| VL Microscopic Image Storage | Yes | No |
| Video Microscopic Image Storage | Yes | No |
| VL Slide-Coordinates Microscopic Image Storage | Yes | No |
| VL Photographic Image Storage | Yes | No |
| Video Photographic Image Storage | Yes | No |
| Ophthalmic Photography 8 Bit Image Storage | Yes | No |
| Ophthalmic Photography 16 Bit Image Storage | Yes | No |
| Stereometric Relationship Storage | Yes | No |
| Ophthalmic Tomography Image Storage | Yes | No |
| Wide Field Ophthalmic Photography Stereographic Projection Image Storage | Yes | No |
| Wide Field Ophthalmic Photography 3D Coordinates Image Storage | Yes | No |
| Ophthalmic Optical Coherence Tomography En Face Image Storage | Yes | No |
| Ophthalmic Optical Coherence Tomography B-scan Volume Analysis Storage | Yes | No |
| VL Whole Slide Microscopy Image Storage | Yes | No |
| Dermoscopic Photography Image Storage | Yes | No |
| Lensometry Measurements Storage | Yes | No |
| Autorefraction Measurements Storage | Yes | No |
| Keratometry Measurements Storage | Yes | No |
| Subjective Refraction Measurements Storage | Yes | No |
| Visual Acuity Measurements Storage | Yes | No |
| Spectacle Prescription Report Storage | Yes | No |
| Ophthalmic Axial Measurements Storage | Yes | No |
| Intraocular Lens Calculations Storage | Yes | No |
| Macular Grid Thickness and Volume Report Storage | Yes | No |
| Ophthalmic Visual Field Static Perimetry Measurements Storage | Yes | No |
| Ophthalmic Thickness Map Storage | Yes | No |
| Corneal Topography Map Storage | Yes | No |
| Text SR Storage - Trial (Retired) | Yes | No |
| Audio SR Storage - Trial (Retired) | Yes | No |
| Detail SR Storage - Trial (Retired) | Yes | No |
| Comprehensive SR Storage - Trial (Retired) | Yes | No |
| Basic Text SR Storage | Yes | No |
| Enhanced SR Storage | Yes | No |
| Comprehensive SR Storage | Yes | No |
| Comprehensive 3D SR Storage | Yes | No |

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|---|-----|----|
| Extensible SR Storage | Yes | No |
| Procedure Log Storage | Yes | No |
| Mammography CAD SR Storage | Yes | No |
| Key Object Selection Document Storage | Yes | No |
| Chest CAD SR Storage | Yes | No |
| X-Ray Radiation Dose SR Storage | Yes | No |
| Radiopharmaceutical Radiation Dose SR Storage | Yes | No |
| Colon CAD SR Storage | Yes | No |
| Implantation Plan SR Storage | Yes | No |
| Acquisition Context SR Storage | Yes | No |
| Simplified Adult Echo SR Storage | Yes | No |
| Patient Radiation Dose SR Storage | Yes | No |
| Planned Imaging Agent Administration SR Storage | Yes | No |
| Performed Imaging Agent Administration SR Storage | Yes | No |
| Content Assessment Results Storage | Yes | No |
| Encapsulated PDF Storage | Yes | No |
| Encapsulated CDA Storage | Yes | No |
| Encapsulated STL Storage | Yes | No |
| Encapsulated OBJ Storage | Yes | No |
| Encapsulated MTL Storage | Yes | No |
| Positron Emission Tomography Image Storage | Yes | No |
| Legacy Converted Enhanced PET Image Storage | Yes | No |
| Standalone PET Curve Storage (Retired) | Yes | No |
| Enhanced PET Image Storage | Yes | No |
| Basic Structured Display Storage | Yes | No |
| CT Defined Procedure Protocol Storage | Yes | No |
| CT Performed Procedure Protocol Storage | Yes | No |
| RT Image Storage | Yes | No |
| RT Dose Storage | Yes | No |
| RT Structure Set Storage | Yes | No |
| RT Beams Treatment Record Storage | Yes | No |
| RT Plan Storage | Yes | No |
| RT Brachy Treatment Record Storage | Yes | No |
| RT Treatment Summary Record Storage | Yes | No |
| RT Ion Plan Storage | Yes | No |
| RT Ion Beams Treatment Record Storage | Yes | No |
| RT Physician Intent Storage | Yes | No |
| RT Segment Annotation Storage | Yes | No |
| RT Radiation Set Storage | Yes | No |
| C-Arm Photon-Electron Radiation Storage | Yes | No |
| Tomotherapeutic Radiation Storage | Yes | No |
| Robotic-Arm Radiation Storage | Yes | No |
| RT Radiation Record Set Storage | Yes | No |

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|--|-----|----|
| RT Radiation Salvage Record Storage | Yes | No |
| Tomotherapeutic Radiation Record Storage | Yes | No |
| C-Arm Photon-Electron Radiation Record Storage | Yes | No |
| Robotic Radiation Record Storage | Yes | No |
| DICOS CT Image Storage | Yes | No |
| DICOS Digital X-Ray Image Storage - For Presentation | Yes | No |
| DICOS Digital X-Ray Image Storage - For Processing | Yes | No |
| DICOS Threat Detection Report Storage | Yes | No |
| DICOS 2D AIT Storage | Yes | No |
| DICOS 3D AIT Storage | Yes | No |
| DICOS Quadrupole Resonance (QR) Storage | Yes | No |
| Eddy Current Image Storage | Yes | No |
| Eddy Current Multi-frame Image Storage | Yes | No |
| RT Beams Delivery Instruction Storage - Trial (Retired) | Yes | No |
| RT Conventional Machine Verification - Trial (Retired) | Yes | No |
| RT Ion Machine Verification - Trial (Retired) | Yes | No |
| RT Beams Delivery Instruction Storage | Yes | No |
| RT Brachy Application Setup Delivery Instruction Storage | Yes | No |
| Hanging Protocol Storage | Yes | No |
| Colour Palette Storage | Yes | No |
| Generic Implant Template Storage | Yes | No |
| Implant Assembly Template Storage | Yes | No |
| Implant Template Group Storage | Yes | No |
| Private TomTec Annotation Storage | Yes | No |
| Private Toshiba US Image Storage | Yes | No |
| Private Fuji CR Image Storage | Yes | No |
| Private GE Collage Storage | Yes | No |
| Private ERAD Practice Builder Report Text Storage | Yes | No |
| Private ERAD Practice Builder Report Dictation Storage | Yes | No |
| Private Philips HP Live 3D 01 Storage | Yes | No |
| Private Philips HP Live 3D 02 Storage | Yes | No |
| Private GE 3D Model Storage | Yes | No |
| Private GE PET Raw Data Storage | Yes | No |
| Private GE RT Plan Storage | Yes | No |
| Private PixelMed Legacy Converted Enhanced CT Image Storage | Yes | No |
| Private PixelMed Legacy Converted Enhanced MR Image Storage | Yes | No |
| Private PixelMed Legacy Converted Enhanced PET Image Storage | Yes | No |
| Private PixelMed Floating Point Image Storage | Yes | No |
| Private Siemens CSA Non Image Storage | Yes | No |
| Private Siemens CT MR Volume Storage | Yes | No |
| Private Siemens AX Frame Sets Storage | Yes | No |
| Private Philips Specialised XA Storage | Yes | No |
| Private Philips CX Image Storage | Yes | No |

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|--|-----|----|
| Private Philips 3D Presentation State Storage | Yes | No |
| Private Philips VRML Storage | Yes | No |
| Private Philips Volume Set Storage | Yes | No |
| Private Philips Volume Storage (Retired) | Yes | No |
| Private Philips Volume Storage | Yes | No |
| Private Philips 3D Object Storage (Retired) | Yes | No |
| Private Philips 3D Object Storage | Yes | No |
| Private Philips Surface Storage (Retired) | Yes | No |
| Private Philips Surface Storage | Yes | No |
| Private Philips Composite Object Storage | Yes | No |
| Private Philips MR Cardio Profile Storage | Yes | No |
| Private Philips MR Cardio Storage (Retired) | Yes | No |
| Private Philips MR Cardio Storage | Yes | No |
| Private Philips CT Synthetic Image Storage | Yes | No |
| Private Philips MR Synthetic Image Storage | Yes | No |
| Private Philips MR Cardio Analysis Storage (Retired) | Yes | No |
| Private Philips MR Cardio Analysis Storage | Yes | No |
| Private Philips CX Synthetic Image Storage | Yes | No |
| Private Philips Perfusion Storage | Yes | No |
| Private Philips Perfusion Image Storage | Yes | No |
| Private Philips X-Ray MF Storage | Yes | No |
| Private Philips Live Run Storage | Yes | No |
| Private Philips Run Storage | Yes | No |
| Private Philips Reconstruction Storage | Yes | No |
| Private Philips MR Spectrum Storage | Yes | No |
| Private Philips MR Series Data Storage | Yes | No |
| Private Philips MR Color Image Storage | Yes | No |
| Private Philips MR Examcard Storage | Yes | No |
| Private PMOD Multi-frame Image Storage | Yes | No |
| <i>Workflow Management</i> | | |
| Modality Worklist Information Model – FIND | Yes | No |
| Patient Root Query/Retrieve Information Model - FIND | Yes | No |
| Study Root Query/Retrieve Information Model - FIND | Yes | No |
| Patient/Study Only Query/Retrieve Information Model - FIND | Yes | No |
| <i>Connectivity Verification</i> | | |
| Verification | Yes | No |

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3 Introduction

3.1 Revision History

| Version | Date | Author | Changes |
|---------|------------|--------------------|---|
| 1.0 | April 2021 | Kęstutis Freigofas | Initial draft |
| 1.1 | May 2021 | Kęstutis Freigofas | Fix Implementation Class UID |
| 2.0 | Jun 2021 | Kęstutis Freigofas | Update Content Date, Content Time value description |
| 2.1 | Sep 2021 | Kęstutis Freigofas | Change station name value |
| 2.2 | Nov 2021 | Kęstutis Freigofas | Add institution name |
| 2.3 | Jan 2022 | Kęstutis Freigofas | Additional fields |
| 2.4 | Feb 2022 | Kęstutis Freigofas | Change Additional fields VR to LT |
| 2.5 | Aug 2022 | Kęstutis Freigofas | Update version |
| 2.6 | Jun 2023 | Kęstutis Freigofas | Update IOD |

3.2 Audience

This document is intended for the following:

- Potential users
- System integrators of medical equipment

It is assumed that the reader is familiar with the DICOM standard.

3.3 Remarks

DICOM, by itself, does not guarantee interoperability. However, the Conformance Statement facilitates a first level validation for interoperability between different applications supporting the same DICOM functionality.

This Conformance Statement is not intended to replace validation with other DICOM equipment to ensure proper exchange of information intended.

The scope of this Conformance Statement is to facilitate communication with other vendors' medical equipment. The Conformance Statement should be read and understood in conjunction with the DICOM Standard. However, by itself it is not guaranteed to ensure the desired interoperability and successful interconnectivity with existing DICOM systems.

The user should be aware of the following important issues:

- Test procedures should be defined to validate the desired level of connectivity.
- The DICOM standard will evolve to meet the users' future requirements.

3.4 Definitions and Terms

Informal definitions are provided for the following terms used in this Conformance Statement. The DICOM Standard is the authoritative source for formal definitions of these terms.

Abstract Syntax

the information agreed to be exchanged between applications, generally equivalent to a Service/Object Pair (SOP) Class.

Examples: Verification SOP Class, Modality Worklist Information Model Find SOP Class, Secondary Capture Image Storage SOP Class.

Application Entity (AE)

an end point of a DICOM information exchange, including the DICOM network or media interface software; i.e., the software that sends or receives DICOM information objects or messages.

Application Entity Title

the externally known name of an Application Entity, used to identify a DICOM application to other DICOM applications on the network.

Application Context

the specification of the type of communication used between Application Entities.

Example: DICOM network protocol.

Association

a network communication channel set up between Application Entities.

Attribute

a unit of information in an object definition; a data element identified by a tag. The information may be a complex data structure (Sequence), itself composed of lower level data elements.

Examples: Patient ID (0010,0020), Accession Number (0008,0050), Photometric Interpretation (0028,0004), Procedure Code Sequence (0008,1032).

Information Object Definition (IOD)

the specified set of Attributes that comprise a type of data object; does not represent a specific instance of the data object, but rather a class of similar data objects that have the same properties. The Attributes may be specified as Mandatory (Type 1), Required but possibly unknown (Type 2), or Optional (Type 3), and there may be conditions associated with the use of an Attribute (Types 1C and 2C).

Examples: MR Image IOD, CT Image IOD, Print Job IOD.

Module

a set of Attributes within an Information Object Definition that are logically related to each other.

Example: Patient Module includes Patient Name, Patient ID, Patient Birth Date, and Patient Sex.

Negotiation

first phase of Association establishment that allows Application Entities to agree on the types of data to be exchanged and how that data will be encoded.

Presentation Context

the set of DICOM network services used over an Association, as negotiated between Application Entities; includes Abstract Syntaxes and Transfer Syntaxes.

Protocol Data Unit (PDU)

a packet (piece) of a DICOM message sent across the network. Devices must specify the maximum size packet they can receive for DICOM messages.

Query Key

A input value for a query process. Query Keys denote the set of DICOM tags that are sent from the SCU to SCP and thus control the query result.

Service Class Provider (SCP)

role of an Application Entity that provides a DICOM network service; typically, a server that performs operations requested by another Application Entity (Service Class User).

Examples: Picture Archiving and Communication System (image storage SCP, and image query/retrieve SCP), Radiology Information System (modality worklist SCP).

Service Class User (SCU)

role of an Application Entity that uses a DICOM network service; typically, a client.

Examples: imaging modality (image storage SCU, and modality worklist SCU), imaging workstation (image query/retrieve SCU)

Service/Object Pair (SOP) Class

the specification of the network or media transfer (service) of a particular type of data (object); the fundamental unit of DICOM interoperability specification.

Examples: Ultrasound Image Storage Service, Basic Grayscale Print Management.

Service/Object Pair (SOP) Instance

an information object; a specific occurrence of information exchanged in a SOP Class. Examples: a specific x-ray image.

Tag

a 32-bit identifier for a data element, represented as a pair of four-digit hexadecimal numbers, the "group" and the "element". If the "group" number is odd, the tag is for a private (manufacturer-specific) data element.

Examples: (0010,0020) [Patient ID], (07FE,0010) [Pixel Data], (0019,0210) [private data element]

Transfer Syntax

the encoding used for exchange of DICOM information objects and messages.

Examples: JPEG compressed (images), little endian explicit value representation.

Unique Identifier (UID)

a globally unique "dotted decimal" string that identifies a specific object or a class of objects; an ISO-8824 Object Identifier.

Examples: Study Instance UID, SOP Class UID, SOP Instance UID.

Value Representation (VR)

the format type of an individual DICOM data element, such as text, an integer, a person's name, or a code. DICOM information objects can be transmitted with either explicit identification of the type of each data element

(Explicit VR), or without explicit identification (Implicit VR); with Implicit VR, the receiving application must use a DICOM data dictionary to look up the format of each data element.

3.5 Abbreviations

The following acronyms are used in this document.

- AE — Application Entity
- AET — Application Entity Title
- DICOM — Digital Imaging and Communication in Medicine
- DIMSE — DICOM Message Service Element
- ILE — Implicit VR Little Endian
- ISO — International Standards Organization
- LUT — Look-up Table
- MWL — Modality Worklist
- Q/R — Query/Retrieve
- NEMA — National Electrical Manufacturers Association
- PDU — Protocol Data Unit
- SCP — Storage Class Provider
- SCU — Storage Class User
- SOP — Service Object Pair
- TCP/IP — Transmission Control Protocol/Internet Protocol
- TLS — Transport Layer Security
- UID — Unique Identifier
- VR — Value Representation

3.6 References

NEMA PS3 / ISO 12052, Digital Imaging and Communications in Medicine (DICOM) Standard, National Electrical Manufacturers Association, Rosslyn, VA, USA (available free at <http://medical.nema.org/>)

4 Networking

4.1 Implementation Model

SendToPACS is a Windows application that converts images, videos and PDF into DICOM Part 10 compliant files. Application will send these images and other DICOM images to remote equipment using the DICOM protocol. Application uses the DICOM Worklist Management service to populate information in generated DICOM datasets. It is logically divided into different DICOM Application Entities: Verification Client, Storage Client and Modality Worklist or Query/Retrieve client. Modality worklist client and Query/Retrieve client use the same Title. All AEs share the same main SendToPACS Title.

These Clients are basically modified third-party libraries build-in SendToPACS main JAVA application.

4.1.1 Implementation Data Flow

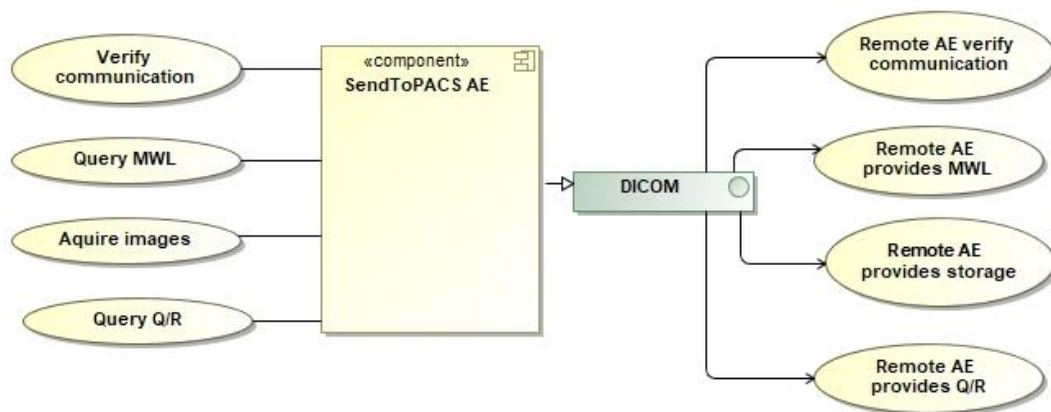


Figure 1. SendToPACS Data Flow Diagram

4.1.2 Functional Definition of AEs

4.1.2.1 Functional Definition of Verification Client Application Entity

The Verification Client Application Entity is a Verification SCU. It connects to the presentation address given as the Called Application Entity Title and establishes an Association with Presentation Context of the Verification Service Class. A message is then shown to the operator detailing whether the association was established successfully or not.

4.1.2.2 Functional Definition of Storage Client Application Entity

The Storage Client Application Entity is a Storage SCU. It connects to the presentation address given as the Called Application Entity Title and establishes an Association with Presentation Context of the Storage Service Class. Then it sends any supported DICOM Instances specified by the operator, over a Storage Request.

4.1.2.3 Functional Definition of Modality Worklist Client Application Entity

The Modality Worklist Client Application Entity connects at the presentation address given as a Called Application Entity Title. It will propose Associations with Presentation Context for SOP Class of the Modality Worklist Service Class. When a WORKLIST-FIND request is sent, Modality Worklist Client AE will wait on the same Association for a C-FIND response and then release the Association. The operator is provided with a set of worklist items matching the query request.

4.1.2.4 Functional Definition of Query/Retrieve client Application Entity

The Query/Retrieve Client Application Entity connects at the presentation address given as a Called Application Entity Title. It will propose Associations with Presentation Context for SOP Class of the Query/Retrieve Information Service Class. When a Query/Retrieve Information Model-FIND request is sent, Modality Query/Retrieve Client AE will wait on the same Association for a C-FIND response and then release the Association. The operator is provided with a set of information items matching the query request.

4.1.3 Sequencing of Real-World Activities

See Fig. 2 on the next page for illustration.

Acquire images/videos/PDF/DICOM

SendToPACS interface allows to select (drag and drop) multiple images, video, PDF or DICOM files for processing. DICOM files will be scanned for information about study and patient attributes to change.

Enter or update patient and study data

After selecting files, operator must fill information form about patient and study for (NON-DICOM) image/videos or PDF files. Information can be selected from MWL AE, Q/R AE, from scanned DICOM files or fill manually dialog form. SendToPACS allow to change patient and study information for DICOM files, that belongs the same study. Can fill similar form as NON-DICOM files.

Store images

The operator decides that the study contains enough information and start update and conversion.
All DICOM files will be updated with changed attributes.
All images and videos are checked (if need – change format or re-encode) before conversion to DICOM.
If check succeeds – proceeds image, video and PDF file conversion to DICOM format.
Finally, for DICOM files, if operator checked *Decompress* settings for remote AE - will apply pixel data decompression.
If everything succeeds – start send DICOM files to remote Storage AE.

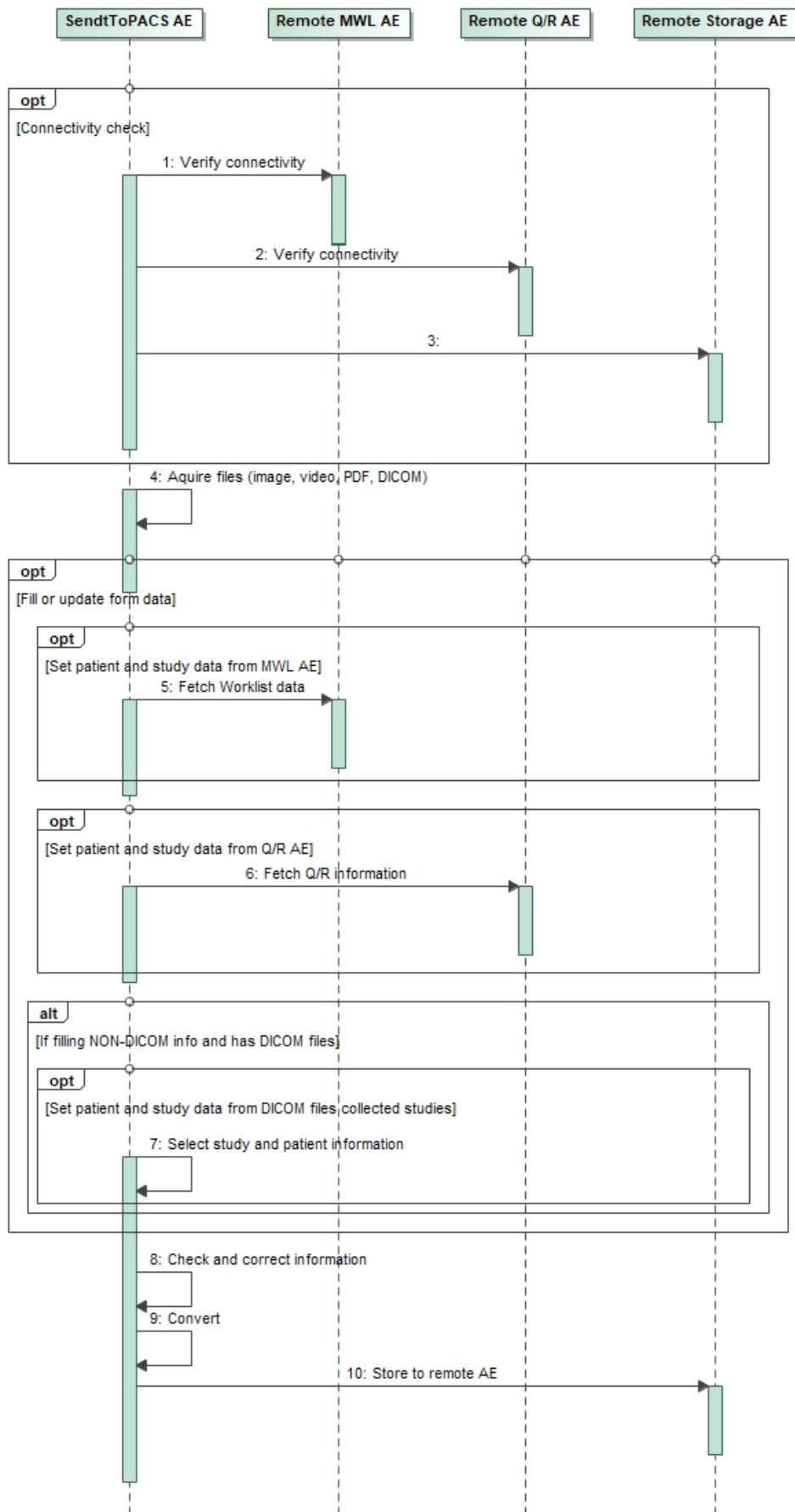


Figure 2. A typical diagnostic case

4.2 AE Specifications

4.2.1 Verification Client AE Specification

4.2.1.1 SOP Classes

SendToPACS Verification Client Application Entity provides Standard Conformance to the following SOP Classes:

Table 2. SOP Classes for Verification Client AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|------------------------|-------------------|-----|-----|
| Verification SOP Class | 1.2.840.10008.1.1 | Yes | No |

4.2.1.2 Associations Policies

4.2.1.2.1 General

The Verification Client AE will propose Association Requests for the Verification Service.

The Verification Client AE itself does not accept Associations.

The DICOM standard application context name for DICOM 3.0 is always accepted and proposed:

Table 3. DICOM application context name for Verification Client AE

| | |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |
|--------------------------|-----------------------|

4.2.1.2.2 Number of Associations

Only a single Association is active at the moment. This is a direct result of the operator pressing a button dedicated to a particular Remote AE.

4.2.1.2.3 Asynchronous Nature

The Verification Client does not support asynchronous communication (multiple outstanding transactions over a single Association).

4.2.1.2.4 Implementation Identifying Information

The implementation information for this Application Entity is:

Table 4. DICOM Implementation Class and Version for Verification Client AE

| | |
|-----------------------------|---------------------|
| Implementation Class UID | 1.3.6.1.4.1.44316.3 |
| Implementation Version Name | MSENDTOPACS |

4.2.1.3 Association Initiation Policy

4.2.1.3.1 Activity – Verify DICOM Communication

4.2.1.3.1.1 Description and Sequencing of Activity

This activity is available as part of the configuration process. When the user has entered Title, IP and Port of a particular Remote AE press a nearby "Echo" button to immediately verify accessibility of that single AE.

Only the Verification SOP class is proposed. After the Remote AE accepts the association, a C-ECHO message is exchanged.

A message will appear stating results of the check.

4.2.1.3.1.2 Proposed Presentation Contexts

Table 5. Accepted Presentation Contexts for Verification Client AE

| Abstract Syntax | | Transfer Syntax | | Role | Ext. Neg. |
|------------------------|-------------------|---------------------------|-------------------|------|-----------|
| Name | UID | Name List | UID List | | |
| Verification SOP Class | 1.2.840.10008.1.1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |

4.2.1.3.1.3 SOP Specific Conformance for Verification SOP Class

SendToPACS Verification Client provides standard conformance to the DICOM Verification Service Class as a SCU.

4.2.2 Storage Client Application Entity Specification

4.2.2.1 SOP Classes

SendToPACS Storage Client Application Entity provides Standard Conformance to the following SOP Classes:

Table 6. SOP Classes for Storage Client AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|-------------------------------|-----|-----|
| Computed Radiography Image Storage | 1.2.840.10008.5.1.4.1.1.1 | Yes | No |
| Digital X-Ray Image Storage - For Presentation | 1.2.840.10008.5.1.4.1.1.1.1 | Yes | No |
| Digital X-Ray Image Storage - For Processing | 1.2.840.10008.5.1.4.1.1.1.1.1 | Yes | No |
| Digital Mammography X-Ray Image Storage - For Presentation | 1.2.840.10008.5.1.4.1.1.1.2 | Yes | No |
| Digital Mammography X-Ray Image Storage - For Processing | 1.2.840.10008.5.1.4.1.1.1.2.1 | Yes | No |
| Digital Intra-Oral X-Ray Image Storage - For Presentation | 1.2.840.10008.5.1.4.1.1.1.3 | Yes | No |
| Digital Intra-Oral X-Ray Image Storage - For Processing | 1.2.840.10008.5.1.4.1.1.1.3.1 | Yes | No |
| CT Image Storage | 1.2.840.10008.5.1.4.1.1.2 | Yes | No |
| Enhanced CT Image Storage | 1.2.840.10008.5.1.4.1.1.2.1 | Yes | No |
| Legacy Converted Enhanced CT Image Storage | 1.2.840.10008.5.1.4.1.1.2.2 | Yes | No |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Yes | No |
| Ultrasound Multi-frame Image Storage | 1.2.840.10008.5.1.4.1.1.3.1 | Yes | No |
| MR Image Storage | 1.2.840.10008.5.1.4.1.1.4 | Yes | No |
| Enhanced MR Image Storage | 1.2.840.10008.5.1.4.1.1.4.1 | Yes | No |
| MR Spectroscopy Storage | 1.2.840.10008.5.1.4.1.1.4.2 | Yes | No |
| Enhanced MR Color Image Storage | 1.2.840.10008.5.1.4.1.1.4.3 | Yes | No |
| Legacy Converted Enhanced MR Image Storage | 1.2.840.10008.5.1.4.1.1.4.4 | Yes | No |
| Nuclear Medicine Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.5 | Yes | No |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | Yes | No |
| Ultrasound Image Storage | 1.2.840.10008.5.1.4.1.1.6.1 | Yes | No |
| Enhanced US Volume Storage | 1.2.840.10008.5.1.4.1.1.6.2 | Yes | No |
| Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7 | Yes | No |
| Multi-frame Single Bit Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.1 | Yes | No |
| Multi-frame Grayscale Byte Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.2 | Yes | No |
| Multi-frame Grayscale Word Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.3 | Yes | No |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | Yes | No |

| | | | |
|--|-------------------------------|-----|----|
| Standalone Overlay Storage (Retired) | 1.2.840.10008.5.1.4.1.1.8 | Yes | No |
| Standalone Curve Storage (Retired) | 1.2.840.10008.5.1.4.1.1.9 | Yes | No |
| Waveform Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.9.1 | Yes | No |
| 12-lead ECG Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.1.1 | Yes | No |
| General ECG Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.1.2 | Yes | No |
| Ambulatory ECG Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.1.3 | Yes | No |
| Hemodynamic Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.2.1 | Yes | No |
| Cardiac Electrophysiology Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.3.1 | Yes | No |
| Basic Voice Audio Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.4.1 | Yes | No |
| General Audio Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.4.2 | Yes | No |
| Arterial Pulse Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.5.1 | Yes | No |
| Respiratory Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.6.1 | Yes | No |
| Multi-channel Respiratory Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.6.2 | Yes | No |
| Routine Scalp Electroencephalogram Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.7.1 | Yes | No |
| Electromyogram Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.7.2 | Yes | No |
| Electrooculogram Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.7.3 | Yes | No |
| Sleep Electroencephalogram Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.7.4 | Yes | No |
| Body Position Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.8.1 | Yes | No |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 | Yes | No |
| Standalone VOI LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.11 | Yes | No |
| Grayscale Softcopy Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.1 | Yes | No |
| Color Softcopy Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.2 | Yes | No |
| Pseudo-Color Softcopy Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.3 | Yes | No |
| Blending Softcopy Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.4 | Yes | No |
| XA/XRF Grayscale Softcopy Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.5 | Yes | No |
| Grayscale Planar MPR Volumetric Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.6 | Yes | No |
| Compositing Planar MPR Volumetric Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.7 | Yes | No |
| Advanced Blending Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.8 | Yes | No |
| Volume Rendering Volumetric Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.9 | Yes | No |
| Segmented Volume Rendering Volumetric Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.10 | Yes | No |
| Multiple Volume Rendering Volumetric Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.11 | Yes | No |
| X-Ray Angiographic Image Storage | 1.2.840.10008.5.1.4.1.1.12.1 | Yes | No |

| | | | |
|---|----------------------------------|-----|----|
| Enhanced XA Image Storage | 1.2.840.10008.5.1.4.1.1.12.1.1 | Yes | No |
| X-Ray Radiofluoroscopic Image Storage | 1.2.840.10008.5.1.4.1.1.12.2 | Yes | No |
| Enhanced XRF Image Storage | 1.2.840.10008.5.1.4.1.1.12.2.1 | Yes | No |
| X-Ray Angiographic Bi-Plane Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.12.3 | Yes | No |
| X-Ray 3D Craniofacial Image Storage | 1.2.840.10008.5.1.4.1.1.13.1.2 | Yes | No |
| Breast Tomosynthesis Image Storage | 1.2.840.10008.5.1.4.1.1.13.1.3 | Yes | No |
| Breast Projection X-Ray Image Storage - For Presentation | 1.2.840.10008.5.1.4.1.1.13.1.4 | Yes | No |
| Breast Projection X-Ray Image Storage - For Processing | 1.2.840.10008.5.1.4.1.1.13.1.5 | Yes | No |
| Intravascular Optical Coherence Tomography Image Storage - For Presentation | 1.2.840.10008.5.1.4.1.1.14.1 | Yes | No |
| Intravascular Optical Coherence Tomography Image Storage - For Processing | 1.2.840.10008.5.1.4.1.1.14.2 | Yes | No |
| Nuclear Medicine Image Storage | 1.2.840.10008.5.1.4.1.1.20 | Yes | No |
| Parametric Map Storage | 1.2.840.10008.5.1.4.1.1.30 | Yes | No |
| MR Image Storage Zero Padded (Retired) | 1.2.840.10008.5.1.4.1.1.40 | Yes | No |
| Raw Data Storage | 1.2.840.10008.5.1.4.1.1.66 | Yes | No |
| Spatial Registration Storage | 1.2.840.10008.5.1.4.1.1.66.1 | Yes | No |
| Spatial Fiducials Storage | 1.2.840.10008.5.1.4.1.1.66.2 | Yes | No |
| Deformable Spatial Registration Storage | 1.2.840.10008.5.1.4.1.1.66.3 | Yes | No |
| Segmentation Storage | 1.2.840.10008.5.1.4.1.1.66.4 | Yes | No |
| Surface Segmentation Storage | 1.2.840.10008.5.1.4.1.1.66.5 | Yes | No |
| Tractography Results Storage | 1.2.840.10008.5.1.4.1.1.66.6 | Yes | No |
| Real World Value Mapping Storage | 1.2.840.10008.5.1.4.1.1.67 | Yes | No |
| Surface Scan Mesh Storage | 1.2.840.10008.5.1.4.1.1.68.1 | Yes | No |
| Surface Scan Point Cloud Storage | 1.2.840.10008.5.1.4.1.1.68.2 | Yes | No |
| VL Image Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.77.1 | Yes | No |
| VL Multi-frame Image Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.77.2 | Yes | No |
| VL Endoscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.1 | Yes | No |
| Video Endoscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.1.1 | Yes | No |
| VL Microscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.2 | Yes | No |
| Video Microscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.2.1 | Yes | No |
| VL Slide-Coordinates Microscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.3 | Yes | No |
| VL Photographic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.4 | Yes | No |
| Video Photographic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.4.1 | Yes | No |
| Ophthalmic Photography 8 Bit Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.1 | Yes | No |
| Ophthalmic Photography 16 Bit Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.2 | Yes | No |
| Stereometric Relationship Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.3 | Yes | No |
| Ophthalmic Tomography Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.4 | Yes | No |

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|--|----------------------------------|-----|----|
| Wide Field Ophthalmic Photography Stereographic Projection Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.5 | Yes | No |
| Wide Field Ophthalmic Photography 3D Coordinates Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.6 | Yes | No |
| Ophthalmic Optical Coherence Tomography En Face Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.7 | Yes | No |
| Ophthalmic Optical Coherence Tomography B-scan Volume Analysis Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.8 | Yes | No |
| VL Whole Slide Microscopy Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.6 | Yes | No |
| Dermoscopic Photography Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.7 | Yes | No |
| Lensometry Measurements Storage | 1.2.840.10008.5.1.4.1.1.78.1 | Yes | No |
| Autorefractometry Measurements Storage | 1.2.840.10008.5.1.4.1.1.78.2 | Yes | No |
| Keratometry Measurements Storage | 1.2.840.10008.5.1.4.1.1.78.3 | Yes | No |
| Subjective Refraction Measurements Storage | 1.2.840.10008.5.1.4.1.1.78.4 | Yes | No |
| Visual Acuity Measurements Storage | 1.2.840.10008.5.1.4.1.1.78.5 | Yes | No |
| Spectacle Prescription Report Storage | 1.2.840.10008.5.1.4.1.1.78.6 | Yes | No |
| Ophthalmic Axial Measurements Storage | 1.2.840.10008.5.1.4.1.1.78.7 | Yes | No |
| Intraocular Lens Calculations Storage | 1.2.840.10008.5.1.4.1.1.78.8 | Yes | No |
| Macular Grid Thickness and Volume Report Storage | 1.2.840.10008.5.1.4.1.1.79.1 | Yes | No |
| Ophthalmic Visual Field Static Perimetry Measurements Storage | 1.2.840.10008.5.1.4.1.1.80.1 | Yes | No |
| Ophthalmic Thickness Map Storage | 1.2.840.10008.5.1.4.1.1.81.1 | Yes | No |
| Corneal Topography Map Storage | 1.2.840.10008.5.1.4.1.1.82.1 | Yes | No |
| Text SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.1 | Yes | No |
| Audio SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.2 | Yes | No |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 | Yes | No |
| Comprehensive SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.4 | Yes | No |
| Basic Text SR Storage | 1.2.840.10008.5.1.4.1.1.88.11 | Yes | No |
| Enhanced SR Storage | 1.2.840.10008.5.1.4.1.1.88.22 | Yes | No |
| Comprehensive SR Storage | 1.2.840.10008.5.1.4.1.1.88.33 | Yes | No |
| Comprehensive 3D SR Storage | 1.2.840.10008.5.1.4.1.1.88.34 | Yes | No |
| Extensible SR Storage | 1.2.840.10008.5.1.4.1.1.88.35 | Yes | No |
| Procedure Log Storage | 1.2.840.10008.5.1.4.1.1.88.40 | Yes | No |
| Mammography CAD SR Storage | 1.2.840.10008.5.1.4.1.1.88.50 | Yes | No |
| Key Object Selection Document Storage | 1.2.840.10008.5.1.4.1.1.88.59 | Yes | No |
| Chest CAD SR Storage | 1.2.840.10008.5.1.4.1.1.88.65 | Yes | No |
| X-Ray Radiation Dose SR Storage | 1.2.840.10008.5.1.4.1.1.88.67 | Yes | No |
| Radiopharmaceutical Radiation Dose SR Storage | 1.2.840.10008.5.1.4.1.1.88.68 | Yes | No |
| Colon CAD SR Storage | 1.2.840.10008.5.1.4.1.1.88.69 | Yes | No |
| Implantation Plan SR Storage | 1.2.840.10008.5.1.4.1.1.88.70 | Yes | No |
| Acquisition Context SR Storage | 1.2.840.10008.5.1.4.1.1.88.71 | Yes | No |

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|---|--------------------------------|-----|----|
| Simplified Adult Echo SR Storage | 1.2.840.10008.5.1.4.1.1.88.72 | Yes | No |
| Patient Radiation Dose SR Storage | 1.2.840.10008.5.1.4.1.1.88.73 | Yes | No |
| Planned Imaging Agent Administration SR Storage | 1.2.840.10008.5.1.4.1.1.88.74 | Yes | No |
| Performed Imaging Agent Administration SR Storage | 1.2.840.10008.5.1.4.1.1.88.75 | Yes | No |
| Content Assessment Results Storage | 1.2.840.10008.5.1.4.1.1.90.1 | Yes | No |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 | Yes | No |
| Encapsulated CDA Storage | 1.2.840.10008.5.1.4.1.1.104.2 | Yes | No |
| Encapsulated STL Storage | 1.2.840.10008.5.1.4.1.1.104.3 | Yes | No |
| Encapsulated OBJ Storage | 1.2.840.10008.5.1.4.1.1.104.4 | Yes | No |
| Encapsulated MTL Storage | 1.2.840.10008.5.1.4.1.1.104.5 | Yes | No |
| Positron Emission Tomography Image Storage | 1.2.840.10008.5.1.4.1.1.128 | Yes | No |
| Legacy Converted Enhanced PET Image Storage | 1.2.840.10008.5.1.4.1.1.128.1 | Yes | No |
| Standalone PET Curve Storage (Retired) | 1.2.840.10008.5.1.4.1.1.129 | Yes | No |
| Enhanced PET Image Storage | 1.2.840.10008.5.1.4.1.1.130 | Yes | No |
| Basic Structured Display Storage | 1.2.840.10008.5.1.4.1.1.131 | Yes | No |
| CT Defined Procedure Protocol Storage | 1.2.840.10008.5.1.4.1.1.200.1 | Yes | No |
| CT Performed Procedure Protocol Storage | 1.2.840.10008.5.1.4.1.1.200.2 | Yes | No |
| RT Image Storage | 1.2.840.10008.5.1.4.1.1.481.1 | Yes | No |
| RT Dose Storage | 1.2.840.10008.5.1.4.1.1.481.2 | Yes | No |
| RT Structure Set Storage | 1.2.840.10008.5.1.4.1.1.481.3 | Yes | No |
| RT Beams Treatment Record Storage | 1.2.840.10008.5.1.4.1.1.481.4 | Yes | No |
| RT Plan Storage | 1.2.840.10008.5.1.4.1.1.481.5 | Yes | No |
| RT Brachy Treatment Record Storage | 1.2.840.10008.5.1.4.1.1.481.6 | Yes | No |
| RT Treatment Summary Record Storage | 1.2.840.10008.5.1.4.1.1.481.7 | Yes | No |
| RT Ion Plan Storage | 1.2.840.10008.5.1.4.1.1.481.8 | Yes | No |
| RT Ion Beams Treatment Record Storage | 1.2.840.10008.5.1.4.1.1.481.9 | Yes | No |
| RT Physician Intent Storage | 1.2.840.10008.5.1.4.1.1.481.10 | Yes | No |
| RT Segment Annotation Storage | 1.2.840.10008.5.1.4.1.1.481.11 | Yes | No |
| RT Radiation Set Storage | 1.2.840.10008.5.1.4.1.1.481.12 | Yes | No |
| C-Arm Photon-Electron Radiation Storage | 1.2.840.10008.5.1.4.1.1.481.13 | Yes | No |
| Tomotherapeutic Radiation Storage | 1.2.840.10008.5.1.4.1.1.481.14 | Yes | No |
| Robotic-Arm Radiation Storage | 1.2.840.10008.5.1.4.1.1.481.15 | Yes | No |
| RT Radiation Record Set Storage | 1.2.840.10008.5.1.4.1.1.481.16 | Yes | No |
| RT Radiation Salvage Record Storage | 1.2.840.10008.5.1.4.1.1.481.17 | Yes | No |
| Tomotherapeutic Radiation Record Storage | 1.2.840.10008.5.1.4.1.1.481.18 | Yes | No |
| C-Arm Photon-Electron Radiation Record Storage | 1.2.840.10008.5.1.4.1.1.481.19 | Yes | No |
| Robotic Radiation Record Storage | 1.2.840.10008.5.1.4.1.1.481.20 | Yes | No |
| DICOS CT Image Storage | 1.2.840.10008.5.1.4.1.1.501.1 | Yes | No |

| | | | |
|--|---------------------------------|-----|----|
| DICOS Digital X-Ray Image Storage - For Presentation | 1.2.840.10008.5.1.4.1.1.501.2.1 | Yes | No |
| DICOS Digital X-Ray Image Storage - For Processing | 1.2.840.10008.5.1.4.1.1.501.2.2 | Yes | No |
| DICOS Threat Detection Report Storage | 1.2.840.10008.5.1.4.1.1.501.3 | Yes | No |
| DICOS 2D AIT Storage | 1.2.840.10008.5.1.4.1.1.501.4 | Yes | No |
| DICOS 3D AIT Storage | 1.2.840.10008.5.1.4.1.1.501.5 | Yes | No |
| DICOS Quadrupole Resonance (QR) Storage | 1.2.840.10008.5.1.4.1.1.501.6 | Yes | No |
| Eddy Current Image Storage | 1.2.840.10008.5.1.4.1.1.601.1 | Yes | No |
| Eddy Current Multi-frame Image Storage | 1.2.840.10008.5.1.4.1.1.601.2 | Yes | No |
| RT Beams Delivery Instruction Storage - Trial (Retired) | 1.2.840.10008.5.1.4.34.1 | Yes | No |
| RT Conventional Machine Verification - Trial (Retired) | 1.2.840.10008.5.1.4.34.2 | Yes | No |
| RT Ion Machine Verification - Trial (Retired) | 1.2.840.10008.5.1.4.34.3 | Yes | No |
| RT Beams Delivery Instruction Storage | 1.2.840.10008.5.1.4.34.7 | Yes | No |
| RT Brachy Application Setup Delivery Instruction Storage | 1.2.840.10008.5.1.4.34.10 | Yes | No |
| Hanging Protocol Storage | 1.2.840.10008.5.1.4.38.1 | Yes | No |
| Color Palette Storage | 1.2.840.10008.5.1.4.39.1 | Yes | No |
| Generic Implant Template Storage | 1.2.840.10008.5.1.4.43.1 | Yes | No |
| Implant Assembly Template Storage | 1.2.840.10008.5.1.4.44.1 | Yes | No |
| Implant Template Group Storage | 1.2.840.10008.5.1.4.45.1 | Yes | No |
| Private TomTec Annotation Storage | 1.2.276.0.48.5.1.4.1.1.7 | Yes | No |
| Private Toshiba US Image Storage | 1.2.392.200036.9116.7.8.1.1.1 | Yes | No |
| Private Fuji CR Image Storage | 1.2.392.200036.9125.1.1.2 | Yes | No |
| Private GE Collage Storage | 1.2.528.1.1001.5.1.1.1 | Yes | No |
| Private ERAD Practice Builder Report Text Storage | 1.2.826.0.1.3680043.293.1.0.1 | Yes | No |
| Private ERAD Practice Builder Report Dictation Storage | 1.2.826.0.1.3680043.293.1.0.2 | Yes | No |
| Private Philips HP Live 3D 01 Storage | 1.2.840.113543.6.6.1.3.10001 | Yes | No |
| Private Philips HP Live 3D 02 Storage | 1.2.840.113543.6.6.1.3.10002 | Yes | No |
| Private GE 3D Model Storage | 1.2.840.113619.4.26 | Yes | No |
| Private GE PET Raw Data Storage | 1.2.840.113619.4.30 | Yes | No |
| Private GE RT Plan Storage | 1.2.840.113619.4.5.249 | Yes | No |
| Private PixelMed Legacy Converted Enhanced CT Image Storage | 1.3.6.1.4.1.5962.301.1 | Yes | No |
| Private PixelMed Legacy Converted Enhanced MR Image Storage | 1.3.6.1.4.1.5962.301.2 | Yes | No |
| Private PixelMed Legacy Converted Enhanced PET Image Storage | 1.3.6.1.4.1.5962.301.3 | Yes | No |
| Private PixelMed Floating Point Image Storage | 1.3.6.1.4.1.5962.301.9 | Yes | No |
| Private Siemens CSA Non Image Storage | 1.3.12.2.1107.5.9.1 | Yes | No |

| | | | |
|--|---------------------------------|-----|----|
| Private Siemens CT MR Volume Storage | 1.3.12.2.1107.5.99.3.10 | Yes | No |
| Private Siemens AX Frame Sets Storage | 1.3.12.2.1107.5.99.3.11 | Yes | No |
| Private Philips Specialised XA Storage | 1.3.46.670589.2.3.1.1 | Yes | No |
| Private Philips CX Image Storage | 1.3.46.670589.2.4.1.1 | Yes | No |
| Private Philips 3D Presentation State Storage | 1.3.46.670589.2.5.1.1 | Yes | No |
| Private Philips VRML Storage | 1.3.46.670589.2.8.1.1 | Yes | No |
| Private Philips Volume Set Storage | 1.3.46.670589.2.11.1.1 | Yes | No |
| Private Philips Volume Storage (Retired) | 1.3.46.670589.5.0.1 | Yes | No |
| Private Philips Volume Storage | 1.3.46.670589.5.0.1.1 | Yes | No |
| Private Philips 3D Object Storage (Retired) | 1.3.46.670589.5.0.2 | Yes | No |
| Private Philips 3D Object Storage | 1.3.46.670589.5.0.2.1 | Yes | No |
| Private Philips Surface Storage (Retired) | 1.3.46.670589.5.0.3 | Yes | No |
| Private Philips Surface Storage | 1.3.46.670589.5.0.3.1 | Yes | No |
| Private Philips Composite Object Storage | 1.3.46.670589.5.0.4 | Yes | No |
| Private Philips MR Cardio Profile Storage | 1.3.46.670589.5.0.7 | Yes | No |
| Private Philips MR Cardio Storage (Retired) | 1.3.46.670589.5.0.8 | Yes | No |
| Private Philips MR Cardio Storage | 1.3.46.670589.5.0.8.1 | Yes | No |
| Private Philips CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Yes | No |
| Private Philips MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Yes | No |
| Private Philips MR Cardio Analysis Storage (Retired) | 1.3.46.670589.5.0.11 | Yes | No |
| Private Philips MR Cardio Analysis Storage | 1.3.46.670589.5.0.11.1 | Yes | No |
| Private Philips CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Yes | No |
| Private Philips Perfusion Storage | 1.3.46.670589.5.0.13 | Yes | No |
| Private Philips Perfusion Image Storage | 1.3.46.670589.5.0.14 | Yes | No |
| Private Philips X-Ray MF Storage | 1.3.46.670589.7.8.1618510091 | Yes | No |
| Private Philips Live Run Storage | 1.3.46.670589.7.8.1618510092 | Yes | No |
| Private Philips Run Storage | 1.3.46.670589.7.8.16185100129 | Yes | No |
| Private Philips Reconstruction Storage | 1.3.46.670589.7.8.16185100130 | Yes | No |
| Private Philips MR Spectrum Storage | 1.3.46.670589.11.0.0.12.1 | Yes | No |
| Private Philips MR Series Data Storage | 1.3.46.670589.11.0.0.12.2 | Yes | No |
| Private Philips MR Color Image Storage | 1.3.46.670589.11.0.0.12.3 | Yes | No |
| Private Philips MR Examcard Storage | 1.3.46.670589.11.0.0.12.4 | Yes | No |
| Private PMOD Multi-frame Image Storage | 2.16.840.1.114033.5.1.4.1.1.130 | Yes | No |

Non-DICOM (images, videos, PDF) files will be converted to Secondary Capture Image Storage or Encapsulated PDF Storage IOD. SendToPACS allows to change to other SOP Class UID, but final DICOM file content will be Secondary Capture Image Storage or Encapsulated PDF Storage IOD.

4.2.2.2 Associations Policies

4.2.2.2.1 General

The Storage Client AE proposes Association Requests for the Storage Service.

The Storage Client AE itself does not accept Associations.

The DICOM standard application context name for DICOM 3.0 is always accepted and proposed:

Table 7. DICOM application context name for Storage Client AE

| | |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |
|--------------------------|-----------------------|

4.2.2.2.2 Number of Associations

Only a single Association is active at the moment. DICOM instances are sent one at a time.

4.2.2.2.3 Asynchronous Nature

The Storage Client does not support asynchronous communication (multiple outstanding transactions over a single Association).

4.2.2.2.4 Implementation Identifying Information

The implementation information for this Application Entity is:

Table 8. DICOM Implementation Class and Version for Storage Client AE

| | |
|-----------------------------|---------------------|
| Implementation Class UID | 1.3.6.1.4.1.44316.3 |
| Implementation Version Name | MDSENDTOPACS |

4.2.2.3 Association Initiation Policy

4.2.2.3.1 Activity – Send DICOM Instances

4.2.2.3.1.1 Description and Sequencing of Activity

See Fig. 3 on next page for illustration.

SendToPACS always sends as many items as possible and the failure for every instance is indicated during process.

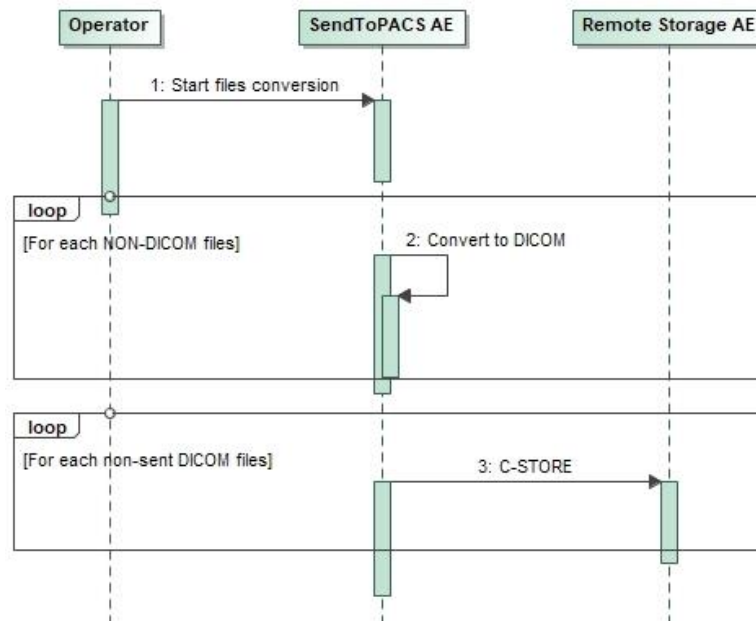


Figure 3. Storing images to Remote AE

4.2.2.3.1.2 Proposed Presentation Contexts

Table 9. Proposed Presentation Contexts for Storage Client AE

| Abstract Syntax | | Transfer Syntax | | Role | Ext. Neg. |
|--|-------------------------------|---|----------|------|-----------|
| Name | UID | Name List | UID List | | |
| Computed Radiography Image Storage | 1.2.840.10008.5.1.4.1.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Digital X-Ray Image Storage - For Presentation | 1.2.840.10008.5.1.4.1.1.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Digital X-Ray Image Storage - For Processing | 1.2.840.10008.5.1.4.1.1.1.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Digital Mammography X-Ray Image Storage - For Presentation | 1.2.840.10008.5.1.4.1.1.1.2 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Digital Mammography X-Ray Image Storage - For Processing | 1.2.840.10008.5.1.4.1.1.1.2.1 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Digital Intra-Oral X-Ray Image Storage - For Presentation | 1.2.840.10008.5.1.4.1.1.1.3 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Digital Intra-Oral X-Ray Image Storage - For Processing | 1.2.840.10008.5.1.4.1.1.1.3.1 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| CT Image Storage | 1.2.840.10008.5.1.4.1.1.2 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Enhanced CT Image Storage | 1.2.840.10008.5.1.4.1.1.2.1 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Legacy Converted Enhanced CT Image Storage | 1.2.840.10008.5.1.4.1.1.2.2 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Ultrasound Multi-frame Image Storage | 1.2.840.10008.5.1.4.1.1.3.1 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| MR Image Storage | 1.2.840.10008.5.1.4.1.1.4 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Enhanced MR Image Storage | 1.2.840.10008.5.1.4.1.1.4.1 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| MR Spectroscopy Storage | 1.2.840.10008.5.1.4.1.1.4.2 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Enhanced MR Color Image Storage | 1.2.840.10008.5.1.4.1.1.4.3 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Legacy Converted Enhanced MR Image Storage | 1.2.840.10008.5.1.4.1.1.4.4 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Nuclear Medicine Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.5 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Ultrasound Image Storage | 1.2.840.10008.5.1.4.1.1.6.1 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Enhanced US Volume Storage | 1.2.840.10008.5.1.4.1.1.6.2 | Transfer Syntaxes for Storage Services (see Table 10) | | SCU | None |
| Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7 | Transfer Syntaxes for Storage Services (see Table 23) | | SCU | None |

| | | | | |
|--|-------------------------------|---|-----|------|
| Multi-frame Single Bit Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Multi-frame Grayscale Byte Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Multi-frame Grayscale Word Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Standalone Overlay Storage (Retired) | 1.2.840.10008.5.1.4.1.1.8 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Standalone Curve Storage (Retired) | 1.2.840.10008.5.1.4.1.1.9 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Waveform Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.9.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| 12-lead ECG Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| General ECG Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.1.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Ambulatory ECG Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.1.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Hemodynamic Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.2.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Cardiac Electrophysiology Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.3.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Basic Voice Audio Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.4.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| General Audio Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.4.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Arterial Pulse Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.5.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Respiratory Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.6.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Multi-channel Respiratory Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.6.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Routine Scalp Electroencephalogram Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.7.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Electromyogram Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.7.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Electrooculogram Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.7.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Sleep Electroencephalogram Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.7.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Body Position Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.8.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Standalone VOI LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.11 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |

| | | | | |
|---|--|---|-----|------|
| Grayscale Softcopy Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Color Softcopy Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Pseudo-Color Softcopy Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Blending Softcopy Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| XA/XRF Grayscale Softcopy Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.5 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Grayscale Planar MPR Volumetric Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.6 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Compositing Planar MPR Volumetric Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.7 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Advanced Blending Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.8 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Volume Rendering Volumetric Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.9 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Segmented Volume Rendering Volumetric Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.10 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Multiple Volume Rendering Volumetric Presentation State Storage | 1.2.840.10008.5.1.4.1.1.11.11 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| X-Ray Angiographic Image Storage | 1.2.840.10008.5.1.4.1.1.12.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Enhanced XA Image Storage | 1.2.840.10008.5.1.4.1.1.12.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| X-Ray Radiofluoroscopic Image Storage | 1.2.840.10008.5.1.4.1.1.12.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Enhanced XRF Image Storage | 1.2.840.10008.5.1.4.1.1.12.2.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| X-Ray Angiographic Bi-Plane Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.12.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| X-Ray 3D Angiographic Image Storage X-Ray 3D Craniofacial Image Storage | 1.2.840.10008.5.1.4.1.1.13.1.11.2.84 0.10008.5.1.4.1.1.13.1.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Breast Tomosynthesis Image Storage | 1.2.840.10008.5.1.4.1.1.13.1.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Breast Projection X-Ray Image Storage - For Presentation | 1.2.840.10008.5.1.4.1.1.13.1.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Breast Projection X-Ray Image Storage - For Processing | 1.2.840.10008.5.1.4.1.1.13.1.5 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Intravascular Optical Coherence Tomography Image Storage - For Presentation | 1.2.840.10008.5.1.4.1.1.14.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Intravascular Optical Coherence Tomography Image Storage - For Processing | 1.2.840.10008.5.1.4.1.1.14.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Nuclear Medicine Image Storage | 1.2.840.10008.5.1.4.1.1.20 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |

| | | | | |
|--|----------------------------------|---|-----|------|
| Parametric Map Storage | 1.2.840.10008.5.1.4.1.1.30 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| MR Image Storage Zero Padded (Retired) | 1.2.840.10008.5.1.4.1.1.40 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Raw Data Storage | 1.2.840.10008.5.1.4.1.1.66 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Spatial Registration Storage | 1.2.840.10008.5.1.4.1.1.66.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Spatial Fiducials Storage | 1.2.840.10008.5.1.4.1.1.66.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Deformable Spatial Registration Storage | 1.2.840.10008.5.1.4.1.1.66.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Segmentation Storage | 1.2.840.10008.5.1.4.1.1.66.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Surface Segmentation Storage | 1.2.840.10008.5.1.4.1.1.66.5 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Tractography Results Storage | 1.2.840.10008.5.1.4.1.1.66.6 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Real World Value Mapping Storage | 1.2.840.10008.5.1.4.1.1.67 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Surface Scan Mesh Storage | 1.2.840.10008.5.1.4.1.1.68.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Surface Scan Point Cloud Storage | 1.2.840.10008.5.1.4.1.1.68.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| VL Image Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.77.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| VL Multi-frame Image Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.77.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| VL Endoscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Video Endoscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| VL Microscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Video Microscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.2.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| VL Slide-Coordinates Microscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| VL Photographic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Video Photographic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.4.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Ophthalmic Photography 8 Bit Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Ophthalmic Photography 16 Bit Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Stereometric Relationship Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Ophthalmic Tomography Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Wide Field Ophthalmic Photography Stereographic Projection Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.5 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |

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|--|----------------------------------|---|-----|------|
| Wide Field Ophthalmic Photography 3D Coordinates Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.6 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Ophthalmic Optical Coherence Tomography En Face Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.7 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Ophthalmic Optical Coherence Tomography B-scan Volume Analysis Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.8 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| VL Whole Slide Microscopy Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.6 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Dermoscopic Photography Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.7 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Lensometry Measurements Storage | 1.2.840.10008.5.1.4.1.1.78.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Autorefractometry Measurements Storage | 1.2.840.10008.5.1.4.1.1.78.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Keratometry Measurements Storage | 1.2.840.10008.5.1.4.1.1.78.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Subjective Refraction Measurements Storage | 1.2.840.10008.5.1.4.1.1.78.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Visual Acuity Measurements Storage | 1.2.840.10008.5.1.4.1.1.78.5 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Spectacle Prescription Report Storage | 1.2.840.10008.5.1.4.1.1.78.6 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Ophthalmic Axial Measurements Storage | 1.2.840.10008.5.1.4.1.1.78.7 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Intraocular Lens Calculations Storage | 1.2.840.10008.5.1.4.1.1.78.8 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Macular Grid Thickness and Volume Report Storage | 1.2.840.10008.5.1.4.1.1.79.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Ophthalmic Visual Field Static Perimetry Measurements Storage | 1.2.840.10008.5.1.4.1.1.80.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Ophthalmic Thickness Map Storage | 1.2.840.10008.5.1.4.1.1.81.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Corneal Topography Map Storage | 1.2.840.10008.5.1.4.1.1.82.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Text SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Audio SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Comprehensive SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Basic Text SR Storage | 1.2.840.10008.5.1.4.1.1.88.11 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Enhanced SR Storage | 1.2.840.10008.5.1.4.1.1.88.22 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Comprehensive SR Storage | 1.2.840.10008.5.1.4.1.1.88.33 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |

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|---|-------------------------------|---|-----|------|
| Comprehensive 3D SR Storage | 1.2.840.10008.5.1.4.1.1.88.34 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Extensible SR Storage | 1.2.840.10008.5.1.4.1.1.88.35 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Procedure Log Storage | 1.2.840.10008.5.1.4.1.1.88.40 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Mammography CAD SR Storage | 1.2.840.10008.5.1.4.1.1.88.50 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Key Object Selection Document Storage | 1.2.840.10008.5.1.4.1.1.88.59 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Chest CAD SR Storage | 1.2.840.10008.5.1.4.1.1.88.65 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| X-Ray Radiation Dose SR Storage | 1.2.840.10008.5.1.4.1.1.88.67 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Radiopharmaceutical Radiation Dose SR Storage | 1.2.840.10008.5.1.4.1.1.88.68 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Colon CAD SR Storage | 1.2.840.10008.5.1.4.1.1.88.69 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Implantation Plan SR Storage | 1.2.840.10008.5.1.4.1.1.88.70 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Acquisition Context SR Storage | 1.2.840.10008.5.1.4.1.1.88.71 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Simplified Adult Echo SR Storage | 1.2.840.10008.5.1.4.1.1.88.72 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Patient Radiation Dose SR Storage | 1.2.840.10008.5.1.4.1.1.88.73 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Planned Imaging Agent Administration SR Storage | 1.2.840.10008.5.1.4.1.1.88.74 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Performed Imaging Agent Administration SR Storage | 1.2.840.10008.5.1.4.1.1.88.75 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Content Assessment Results Storage | 1.2.840.10008.5.1.4.1.1.90.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Encapsulated CDA Storage | 1.2.840.10008.5.1.4.1.1.104.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Encapsulated STL Storage | 1.2.840.10008.5.1.4.1.1.104.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Encapsulated OBJ Storage | 1.2.840.10008.5.1.4.1.1.104.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Encapsulated MTL Storage | 1.2.840.10008.5.1.4.1.1.104.5 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Positron Emission Tomography Image Storage | 1.2.840.10008.5.1.4.1.1.128 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Legacy Converted Enhanced PET Image Storage | 1.2.840.10008.5.1.4.1.1.128.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Standalone PET Curve Storage (Retired) | 1.2.840.10008.5.1.4.1.1.129 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Enhanced PET Image Storage | 1.2.840.10008.5.1.4.1.1.130 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Basic Structured Display Storage | 1.2.840.10008.5.1.4.1.1.131 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |

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|--|---------------------------------|---|-----|------|
| CT Defined Procedure Protocol Storage | 1.2.840.10008.5.1.4.1.1.200.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| CT Performed Procedure Protocol Storage | 1.2.840.10008.5.1.4.1.1.200.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Image Storage | 1.2.840.10008.5.1.4.1.1.481.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Dose Storage | 1.2.840.10008.5.1.4.1.1.481.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Structure Set Storage | 1.2.840.10008.5.1.4.1.1.481.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Beams Treatment Record Storage | 1.2.840.10008.5.1.4.1.1.481.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Plan Storage | 1.2.840.10008.5.1.4.1.1.481.5 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Brachy Treatment Record Storage | 1.2.840.10008.5.1.4.1.1.481.6 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Treatment Summary Record Storage | 1.2.840.10008.5.1.4.1.1.481.7 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Ion Plan Storage | 1.2.840.10008.5.1.4.1.1.481.8 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Ion Beams Treatment Record Storage | 1.2.840.10008.5.1.4.1.1.481.9 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Physician Intent Storage | 1.2.840.10008.5.1.4.1.1.481.10 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Segment Annotation Storage | 1.2.840.10008.5.1.4.1.1.481.11 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Radiation Set Storage | 1.2.840.10008.5.1.4.1.1.481.12 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| C-Arm Photon-Electron Radiation Storage | 1.2.840.10008.5.1.4.1.1.481.13 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Tomotherapeutic Radiation Storage | 1.2.840.10008.5.1.4.1.1.481.14 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Robotic-Arm Radiation Storage | 1.2.840.10008.5.1.4.1.1.481.15 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Radiation Record Set Storage | 1.2.840.10008.5.1.4.1.1.481.16 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Radiation Salvage Record Storage | 1.2.840.10008.5.1.4.1.1.481.17 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Tomotherapeutic Radiation Record Storage | 1.2.840.10008.5.1.4.1.1.481.18 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| C-Arm Photon-Electron Radiation Record Storage | 1.2.840.10008.5.1.4.1.1.481.19 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Robotic Radiation Record Storage | 1.2.840.10008.5.1.4.1.1.481.20 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| DICOS CT Image Storage | 1.2.840.10008.5.1.4.1.1.501.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| DICOS Digital X-Ray Image Storage - For Presentation | 1.2.840.10008.5.1.4.1.1.501.2.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| DICOS Digital X-Ray Image Storage - For Processing | 1.2.840.10008.5.1.4.1.1.501.2.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| DICOS Threat Detection Report Storage | 1.2.840.10008.5.1.4.1.1.501.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |

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|--|-------------------------------|---|-----|------|
| DICOS 2D AIT Storage | 1.2.840.10008.5.1.4.1.1.501.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| DICOS 3D AIT Storage | 1.2.840.10008.5.1.4.1.1.501.5 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| DICOS Quadrupole Resonance (QR) Storage | 1.2.840.10008.5.1.4.1.1.501.6 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Eddy Current Image Storage | 1.2.840.10008.5.1.4.1.1.601.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Eddy Current Multi-frame Image Storage | 1.2.840.10008.5.1.4.1.1.601.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Beams Delivery Instruction Storage - Trial (Retired) | 1.2.840.10008.5.1.4.34.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Conventional Machine Verification - Trial (Retired) | 1.2.840.10008.5.1.4.34.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Ion Machine Verification - Trial (Retired) | 1.2.840.10008.5.1.4.34.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Beams Delivery Instruction Storage | 1.2.840.10008.5.1.4.34.7 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| RT Brachy Application Setup Delivery Instruction Storage | 1.2.840.10008.5.1.4.34.10 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Hanging Protocol Storage | 1.2.840.10008.5.1.4.38.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Color Palette Storage | 1.2.840.10008.5.1.4.39.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Generic Implant Template Storage | 1.2.840.10008.5.1.4.43.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Implant Assembly Template Storage | 1.2.840.10008.5.1.4.44.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Implant Template Group Storage | 1.2.840.10008.5.1.4.45.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private TomTec Annotation Storage | 1.2.276.0.48.5.1.4.1.1.7 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Toshiba US Image Storage | 1.2.392.200036.9116.7.8.1.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Fuji CR Image Storage | 1.2.392.200036.9125.1.1.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private GE Collage Storage | 1.2.528.1.1001.5.1.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private ERAD Practice Builder Report Text Storage | 1.2.826.0.1.3680043.293.1.0.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private ERAD Practice Builder Report Dictation Storage | 1.2.826.0.1.3680043.293.1.0.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips HP Live 3D 01 Storage | 1.2.840.113543.6.6.1.3.10001 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips HP Live 3D 02 Storage | 1.2.840.113543.6.6.1.3.10002 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private GE 3D Model Storage | 1.2.840.113619.4.26 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private GE PET Raw Data Storage | 1.2.840.113619.4.30 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private GE RT Plan Storage | 1.2.840.113619.4.5.249 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |

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|--|-------------------------|---|-----|------|
| Private PixelMed Legacy Converted Enhanced CT Image Storage | 1.3.6.1.4.1.5962.301.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private PixelMed Legacy Converted Enhanced MR Image Storage | 1.3.6.1.4.1.5962.301.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private PixelMed Legacy Converted Enhanced PET Image Storage | 1.3.6.1.4.1.5962.301.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private PixelMed Floating Point Image Storage | 1.3.6.1.4.1.5962.301.9 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Siemens CSA Non Image Storage | 1.3.12.2.1107.5.9.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Siemens CT MR Volume Storage | 1.3.12.2.1107.5.99.3.10 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Siemens AX Frame Sets Storage | 1.3.12.2.1107.5.99.3.11 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips Specialised XA Storage | 1.3.46.670589.2.3.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips CX Image Storage | 1.3.46.670589.2.4.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips 3D Presentation State Storage | 1.3.46.670589.2.5.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips VRML Storage | 1.3.46.670589.2.8.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips Volume Set Storage | 1.3.46.670589.2.11.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips Volume Storage (Retired) | 1.3.46.670589.5.0.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips Volume Storage | 1.3.46.670589.5.0.1.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips 3D Object Storage (Retired) | 1.3.46.670589.5.0.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips 3D Object Storage | 1.3.46.670589.5.0.2.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips Surface Storage (Retired) | 1.3.46.670589.5.0.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips Surface Storage | 1.3.46.670589.5.0.3.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips Composite Object Storage | 1.3.46.670589.5.0.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips MR Cardio Profile Storage | 1.3.46.670589.5.0.7 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips MR Cardio Storage (Retired) | 1.3.46.670589.5.0.8 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips MR Cardio Storage | 1.3.46.670589.5.0.8.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips MR Cardio Analysis Storage (Retired) | 1.3.46.670589.5.0.11 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |

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|--|---------------------------------|---|-----|------|
| Private Philips MR Cardio Analysis Storage | 1.3.46.670589.5.0.11.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips Perfusion Storage | 1.3.46.670589.5.0.13 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips Perfusion Image Storage | 1.3.46.670589.5.0.14 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips X-Ray MF Storage | 1.3.46.670589.7.8.1618510091 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips Live Run Storage | 1.3.46.670589.7.8.1618510092 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips Run Storage | 1.3.46.670589.7.8.16185100129 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips Reconstruction Storage | 1.3.46.670589.7.8.16185100130 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips MR Spectrum Storage | 1.3.46.670589.11.0.0.12.1 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips MR Series Data Storage | 1.3.46.670589.11.0.0.12.2 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips MR Color Image Storage | 1.3.46.670589.11.0.0.12.3 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private Philips MR Examcard Storage | 1.3.46.670589.11.0.0.12.4 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |
| Private PMOD Multi-frame Image Storage | 2.16.840.1.114033.5.1.4.1.1.130 | Transfer Syntaxes for Storage Services (see Table 10) | SCU | None |

Table 10. Proposed Transfer Syntaxes for Storage Services

| Name | UID |
|---|------------------------|
| Implicit VR Little Endian ¹ | 1.2.840.10008.1.2 |
| Explicit VR Little Endian | 1.2.840.10008.1.2.1 |
| Deflated Explicit VR Little Endian | 1.2.840.10008.1.2.1.99 |
| Explicit VR Big Endian | 1.2.840.10008.1.2.2 |
| JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 |
| JPEG Extended (Process 2 & 4) | 1.2.840.10008.1.2.4.51 |
| JPEG Extended (Process 3 & 5) (Retired) | 1.2.840.10008.1.2.4.52 |
| JPEG Spectral Selection, Non-Hierarchical (Process 6 & 8) (Retired) | 1.2.840.10008.1.2.4.53 |
| JPEG Spectral Selection, Non-Hierarchical (Process 7 & 9) (Retired) | 1.2.840.10008.1.2.4.54 |
| JPEG Full Progression, Non-Hierarchical (Process 10 & 12) (Retired) | 1.2.840.10008.1.2.4.55 |
| JPEG Full Progression, Non-Hierarchical (Process 11 & 13) (Retired) | 1.2.840.10008.1.2.4.56 |
| JPEG Lossless, Non-Hierarchical (Process 14) | 1.2.840.10008.1.2.4.57 |
| JPEG Lossless, Non-Hierarchical (Process 15) (Retired) | 1.2.840.10008.1.2.4.58 |
| JPEG Extended, Hierarchical (Process 16 & 18) (Retired) | 1.2.840.10008.1.2.4.59 |
| JPEG Extended, Hierarchical (Process 17 & 19) (Retired) | 1.2.840.10008.1.2.4.60 |
| JPEG Spectral Selection, Hierarchical (Process 20 & 22) (Retired) | 1.2.840.10008.1.2.4.61 |
| JPEG Spectral Selection, Hierarchical (Process 21 & 23) (Retired) | 1.2.840.10008.1.2.4.62 |
| JPEG Full Progression, Hierarchical (Process 24 & 26) (Retired) | 1.2.840.10008.1.2.4.63 |

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| JPEG Full Progression, Hierarchical (Process 25 & 27) (Retired) | 1.2.840.10008.1.2.4.64 |
| JPEG Lossless, Hierarchical (Process 28) (Retired) | 1.2.840.10008.1.2.4.65 |
| JPEG Lossless, Hierarchical (Process 29) (Retired) | 1.2.840.10008.1.2.4.66 |
| JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1]) | 1.2.840.10008.1.2.4.70 |
| JPEG-LS Lossless Image Compression | 1.2.840.10008.1.2.4.80 |
| JPEG-LS Lossy (Near-Lossless) Image Compression | 1.2.840.10008.1.2.4.81 |
| JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 |
| JPEG 2000 Image Compression | 1.2.840.10008.1.2.4.91 |
| JPEG 2000 Part 2 Multi-component Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.92 |
| JPEG 2000 Part 2 Multi-component Image Compression | 1.2.840.10008.1.2.4.93 |
| JPIP Referenced | 1.2.840.10008.1.2.4.94 |
| JPIP Referenced Deflate | 1.2.840.10008.1.2.4.95 |
| MPEG-2 Main Profile @ Main Level | 1.2.840.10008.1.2.4.100 |
| MPEG-2 Main Profile @ High Level | 1.2.840.10008.1.2.4.101 |
| 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 2D Video | 1.2.840.10008.1.2.4.104 |
| MPEG-4 AVC/H.264 High Profile / Level 4.2 For 3D Video | 1.2.840.10008.1.2.4.105 |
| MPEG-4 AVC/H.264 Stereo High Profile / Level 4.2 | 1.2.840.10008.1.2.4.106 |
| HEVC/H.265 Main Profile / Level 5.1 | 1.2.840.10008.1.2.4.107 |
| HEVC/H.265 Main 10 Profile / Level 5.1 | 1.2.840.10008.1.2.4.108 |
| RLE Lossless | 1.2.840.10008.1.2.5 |
| RFC 2557 MIME encapsulation (Retired) | 1.2.840.10008.1.2.6.1 |
| XML Encoding (Retired) | 1.2.840.10008.1.2.6.2 |
| SMPTE ST 2110-20 Uncompressed Progressive Active Video | 1.2.840.10008.1.2.7.1 |
| SMPTE ST 2110-20 Uncompressed Interlaced Active Video | 1.2.840.10008.1.2.7.2 |
| SMPTE ST 2110-30 PCM Digital Audio | 1.2.840.10008.1.2.7.3 |

¹ ILE is offered together with each compressed syntax due to a corresponding requirement in the DICOM Standard. However, the Storage Client is incapable of converting between transfer syntaxes. The storage operation will only succeed if the SCP supports the original compressed syntax.

4.2.2.3.1.3 SOP Specific Conformance for Storage SOP Classes

The associated Activity with the Storage Client is the storage of medical DICOM data specified by the operator over the network to the SCP. The Storage Client AE will indicate a failure if it is unable to send any of the specified instances. It always attempts to send all remaining instances despite of failure with a particular one.

During the conversion to DICOM operation, the DICOM instances are created with JPEG Baseline transfer syntax (for image) and one of compressed video syntaxes MPEG-2 or MPEG-4 (conversion support 1.2.840.10008.1.2.4.100, 1.2.840.10008.1.2.4.101, 1.2.840.10008.1.2.4.102, 1.2.840.10008.1.2.4.103) from Table 10.

During the PDF files conversion to DICOM, the DICOM instances are created with Explicit VR Little Endian.

Operator can define other SOP Class UID by file extension (JPG, MP4, PDF), but conversion will be either Secondary Capture Image Storage or Encapsulated PDF Storage IOD.

If the remote Storage SCP returns the compression-related context marked as unsupported, then the Client will abort the Association as it does not perform any transfer syntax conversions, too. **Storage SCPs compatible must support JPEG Baseline (Process 1), a particular compressed video transfer syntax (conversion support 1.2.840.10008.1.2.4.100, 1.2.840.10008.1.2.4.101, 1.2.840.10008.1.2.4.102, 1.2.840.10008.1.2.4.103) from Table 10 and Explicit VR Little Endian.**

Table 11. Storage Client C-STORE Response Status Handling Behavior

| Service Status | Further Meaning | Error Code | Behavior |
|----------------|-----------------------------------|------------|---|
| Success | Success | 0000 | The Composite SOP Instance was successfully received and stored in the system repository by the SCP. Send the next instance. |
| Warning | Data Element Coercion | B000 | The SCP has corrected some Data Element(s) to avoid a conflict. Warning indication message might be copied to the application logs. Assume that the Instance has been stored successfully and send the next instance. |
| | Elements Discarded | B006 | Some Data Element(s) were discarded by the SCP. Warning indication message might be copied to the application logs. Assume that the Instance has been stored successfully and send the next instance. |
| | Data Set does not match SOP Class | B007 | Assume that the SCP has stored the Instance anyway. Warning indication message might be copied to the application logs. Send the next instance. |
| Error | Others | Others | Any unrecognized Error Code is considered an indication that the Instance wasn't stored. Error indication message might be copied to the application logs and an overall "failure" message will be displayed at the end of the operation. Send the next instance. |

4.2.3 Modality Worklist Client Application Entity Specification

4.2.3.1 SOP Classes

Table 12. SOP Classes for Modality Worklist Client AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|------------------------|-----|-----|
| Modality Worklist Information Model – FIND | 1.2.840.10008.5.1.4.31 | Yes | No |

4.2.3.2 Associations Policies

4.2.3.2.1 General

At a command from the operator, the Modality Worklist Client AE attempts to establish an association with the specified Remote AE. When the association is established, a C-FIND request is made to retrieve a worklist using the defined matching keys. The Modality Worklist Client waits for any C-FIND response. The established association remains active until a C-FIND response from the remote AE indicates the end of worklist items, or until a timeout period expires. The Modality Worklist Client AE itself does not accept Associations.

The DICOM standard application context name for DICOM 3.0 is always accepted and proposed:

Table 13. DICOM application context name for Modality Worklist Client AE

| | |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |
|--------------------------|-----------------------|

4.2.3.2.2 Number of Associations

Only a single Association is active at the moment. The results are displayed to the operator only after receiving them from SCP entirely.

4.2.3.2.3 Asynchronous Nature

The Modality Worklist Client does not support asynchronous communication (multiple outstanding transactions over a single Association).

4.2.3.2.4 Implementation Identifying Information

The implementation information for this Application Entity is:

Table 14. DICOM Implementation Class and Version for Modality Worklist Client AE

| | |
|-----------------------------|---------------------|
| Implementation Class UID | 1.3.6.1.4.1.44316.3 |
| Implementation Version Name | MSENDTOPACS |

4.2.3.3 Association Initiation Policy

4.2.3.3.1 Activity – Query Modality Worklist

4.2.3.3.1.1 Description and Sequencing of Activity

The Modality Worklist SCU is governed by the WORKLIST configuration and search dialog that provides study and patient data for the next acquisition.

The dialog allows to enter patient ID, patient name (first name or last name, or middle name, or full name separated parts by "^"), date (Scheduled Procedure Step Sequence > scheduled procedure step start date), modality (Scheduled Procedure Step Sequence > Modality), station AE Title (Scheduled Procedure Step Sequence > Scheduled Station AE Title).

From the settings, operator can set scheduled AE Title, modality that will be set as default values in the dialog.

MWL Server AE, that do not return results with specific character set attribute – can set character set from settings (to correct result).

Wildcards (checkbox near input) can be checked to patient ID and patient name search parameters in the same dialog. This automatically will add wildcard symbols "*" at the beginning and the end of search parameter. Some other MWL Servers prohibits wildcard or have other pattern – must uncheck wildcard checkbox and manually add "*" or other wildcard symbols, to the search parameter.

Maximum search result is 1000 items.

After receiving search results, the application updates the list from which an existing patient can be chosen.

The operator can select an entry and press the button at the bottom at the list. This will update patient and study dialog form for further process.

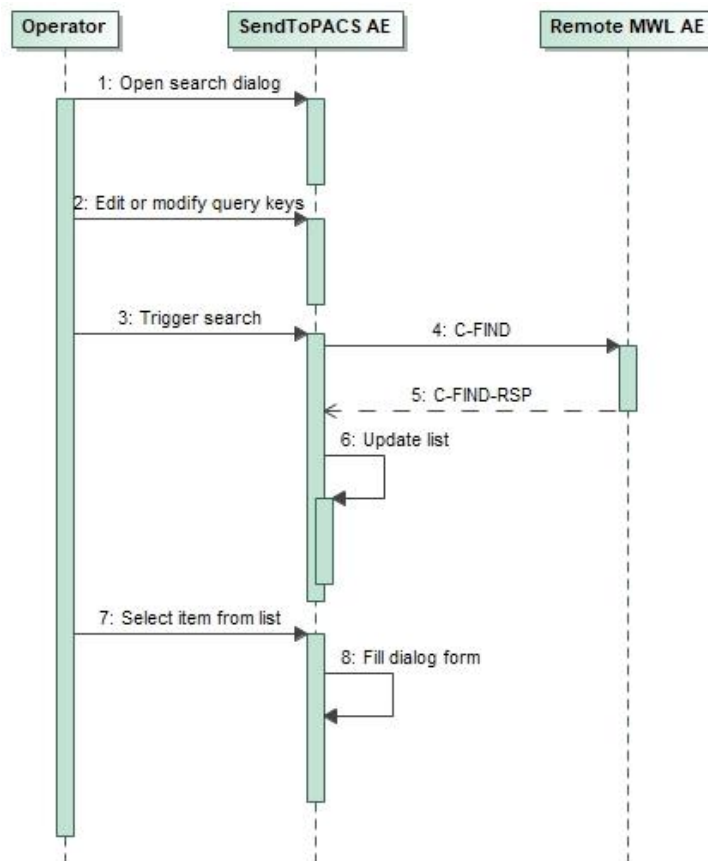


Figure 4. Searching in a Modality Worklist

4.2.3.3.2.2 Proposed Presentation Contexts

Table 15. Proposed Presentation Contexts for Modality Worklist Client AE

| Abstract Syntax | | Transfer Syntax | | Role | Ext. Neg. |
|-----------------|------------------------|---------------------------|-------------------|------|-----------|
| Name | UID | Name List | UID List | | |
| | 1.2.840.10008.5.1.4.31 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |

| | | | | |
|--|---------------------------|---------------------|--|--|
| Modality Worklist Information Model – FIND | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |

4.2.3.3.2.3 SOP Specific Conformance for Modality Worklist SOP Class

Table 16. Modality Worklist Client C-STORE Response Status Handling Behavior

| Service Status | Further Meaning | Error Code | Behavior |
|----------------|------------------------|------------|---|
| Success | Matching is complete | 0000 | This is the last response and the Client will release the Association after collecting results. Then the pick-list will be updated. |
| Pending | Matching is continuing | FF00 | The Client waits for another response. |

Table 17. Modality Worklist Client Communication Failure Behavior

| Exception | Behavior |
|---|--|
| Association aborted by the SCP or the network layers indicate communication loss (i.e. low-level TCP/IP socket closure) | Error message might go to the application logs. The pick-list is updated with as many entries as possible. |

The attributes listed below will be requested in a query. The corresponding matching keys are empty if the operator didn't specify a particular value.

Table 18. Modality Worklist C-FIND SCU Supported Elements

| Tag | VR | Attribute Name | Query key | Displayed | Imported |
|--------------|----|-----------------------------------|-----------|-----------|----------|
| (0008,0050) | SH | Accession Number | — | X | X |
| (0008,0090) | PN | Referring Physician Name | — | X | X |
| (0008,1110) | SQ | Referenced Study Sequence | | | |
| >(0008,1150) | UI | Referenced SOP Class UID | — | X | X |
| >(0008,1155) | UI | Referenced SOP Instance UID | — | X | X |
| (0008,1125) | SQ | Referenced Patient Sequence | | | |
| >(0008,1150) | UI | Referenced SOP Class UID | — | X | X |
| >(0008,1155) | UI | Referenced SOP Instance UID | — | X | X |
| (0010,0010) | PN | Patient's Name | P | X | X |
| (0010,0020) | LO | Patient ID | P | X | X |
| (0010,0021) | LO | Issuer of Patient ID | — | X | X |
| (0010,0030) | DA | Patient's Birth Date | — | X | X |
| (0010,0040) | CS | Patient's Sex | — | X | X |
| (0010,1030) | DS | Patient's Weight | — | X | X |
| (0010,2000) | LO | Medical Alerts | — | X | X |
| (0010,2110) | LO | Allergies | — | X | X |
| (0010,21b0) | LT | Additional Patient History | — | X | X |
| (0010,21c0) | US | Pregnancy Status | — | F | F |
| (0020,000D) | UI | Study Instance UID | — | X | X |
| (0032,1032) | PN | Requesting Physician | — | X | — |
| (0032,1033) | PN | Requesting Service | — | X | — |
| (0032,1060) | LO | Requested Procedure Description | — | X | X |
| (0032,1064) | SQ | Requested Procedure Code Sequence | | | |
| >(0008,0100) | SH | Code Value | — | X | X |
| >(0008,0102) | SH | Coding Scheme Designator | — | X | X |
| >(0008,0103) | SH | Coding Scheme Version | — | X | X |

| | | | | | |
|---------------|----|--|---|---|---|
| >(0008,0104) | LO | Code Meaning | — | X | X |
| (0038,0010) | LO | Admission ID | — | X | X |
| (0038,0050) | LO | Special Needs | — | X | — |
| (0038,0300) | LO | Current Patient Location | — | X | — |
| (0038,0500) | LO | Patient State | — | X | X |
| (0040,0100) | SQ | Scheduled Procedure Step Sequence | | | |
| >(0008,0060) | SH | Modality | C | X | X |
| >(0032,1070) | LO | Requested Contrast Agent | — | X | — |
| >(0040,0001) | AE | Scheduled Station AE Title | C | X | — |
| >(0040,0002) | DA | Scheduled Procedure Step Start Date | X | X | — |
| >(0040,0003) | TM | Scheduled Procedure Step Start Time | — | X | — |
| >(0040,0006) | PN | Scheduled Performing Physician's Name | — | X | — |
| >(0040,0007) | LO | Scheduled Procedure Step Description | — | X | X |
| >(0040,0008) | SQ | Scheduled Protocol Code Sequence | | | |
| >>(0008,0100) | SH | Code Value | — | X | X |
| >>(0008,0102) | SH | Coding Scheme Designator | — | X | X |
| >>(0008,0103) | SH | Coding Scheme Version | — | X | X |
| >>(0008,0104) | LO | Code Meaning | — | X | X |
| >(0040,0009) | SH | Scheduled Procedure Step ID | — | X | X |
| >(0040,0010) | SH | Scheduled Station Name | — | X | — |
| >(0040,0011) | SH | Scheduled Procedure Step Location | — | X | — |
| >(0040,0012) | LO | Pre-Medication | — | X | — |
| >(0040,0020) | CS | Scheduled Procedure Step Status | — | X | — |
| (0040,1001) | SH | Requested Procedure ID | X | X | X |
| (0040,1003) | SH | Requested Procedure Priority | — | X | — |
| (0040,1004) | LO | Patient Transport Arrangements | — | X | — |
| (0040,2016) | LO | Placer Order Number / Imaging Service Request | — | X | — |
| (0040,2017) | LO | Filler Order Number / Imaging Service Request | — | X | — |
| (0040,3001) | LO | Confidentiality Constraint on Patient Data Description | — | X | — |

Values for the **Query Key** column:

X

An exact match.

F

An exact match. If value is incorrect or missing some symbols due program conversion from server – will try to fix.

P

A partial match. Automatically adds leading and trailing wildcards. If both last name and first name is specified, then the pattern becomes *last*first*.

C

An exact match. The value comes from configuration as default value, but can be changed by operator and become as an exact match (**X**).

Values for the **Imported** column:

X

Imported into the application and might be used in the resulting SOP instances. See also the table in [8.1.3 Attribute Mapping](#).

Can set Query/Retrieve Level for MWL storage AE: STUDY, SERIES, PATIENT, IMAGE. **Default value is empty and it should not require to set other level.** Operator can change this in search dialog "Model level".

4.2.4 Query/Retrieve Client Application Entity Specification

4.2.4.1 SOP Classes

Table 19. SOP Classes for Query/Retrieve Client AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|-----------------------------|-----|-----|
| Patient Root Query/Retrieve Information Model - FIND | 1.2.840.10008.5.1.4.1.2.1.1 | Yes | No |
| Study Root Query/Retrieve Information Model - FIND | 1.2.840.10008.5.1.4.1.2.2.1 | Yes | No |
| Patient/Study Only Query/Retrieve Information Model - FIND | 1.2.840.10008.5.1.4.1.2.3.1 | Yes | No |

4.2.4.2 Associations Policies

4.2.4.2.1 General

At a command from the operator, the Query/Retrieve Client AE attempts to establish an association with the specified Remote AE. When the association is established, a C-FIND request is made to retrieve an information using the defined matching keys. The Query/Retrieve Client waits for any C-FIND response. The established association remains active until a C-FIND response from the remote AE indicates the end of items, or until a timeout period expires.

The Query/Retrieve Client AE itself does not accept Associations.

The DICOM standard application context name for DICOM 3.0 is always accepted and proposed:

Table 20. DICOM application context name for Query/Retrieve Client AE

| | |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |
|--------------------------|-----------------------|

4.2.4.2.2 Number of Associations

Only a single Association is active at the moment. The results are displayed to the operator only after receiving them from SCP entirely.

4.2.4.2.3 Asynchronous Nature

The Modality Worklist Client does not support asynchronous communication (multiple outstanding transactions over a single Association).

4.2.4.2.4 Implementation Identifying Information

The implementation information for this Application Entity is:

Table 21. DICOM Implementation Class and Version for Query/Retrieve Client AE

| | |
|-----------------------------|---------------------|
| Implementation Class UID | 1.3.6.1.4.1.44316.3 |
| Implementation Version Name | MSENDTOPACS |

4.2.4.3 Association Initiation Policy

4.2.4.3.1 Activity – Query query/retrieve information

4.2.4.3.1.1 Description and Sequencing of Activity

The Query/Retrieve SCU is governed by the WORKLIST configuration and search dialog that provides study and patient data for the next acquisition.

The dialog allows to enter patient ID and patient name (first name or last name, or middle name, or full name separated parts by "^").

Remote Q/R AE, that do not return results with specific character set attribute – can set character set from settings (to correct result).

Wildcards (checkbox near input) can be checked to patient ID and patient name search parameters in the same dialog. This automatically will add wildcard symbols "*" at the beginning and the end of search parameter. Some other Storage

servers prohibits wildcard or have other pattern – must uncheck wildcard checkbox and manually add "*" or other wildcard symbols, to the search parameter.

Maximum search result is 1000 items. Some record will be duplicates, but final result will be unique record (will collect and becomes smaller list).

After receiving search results, the application updates the list from which an existing patient can be chosen.

The operator can select an entry and press the button at the bottom at the list. This will update patient and study dialog form for further process.

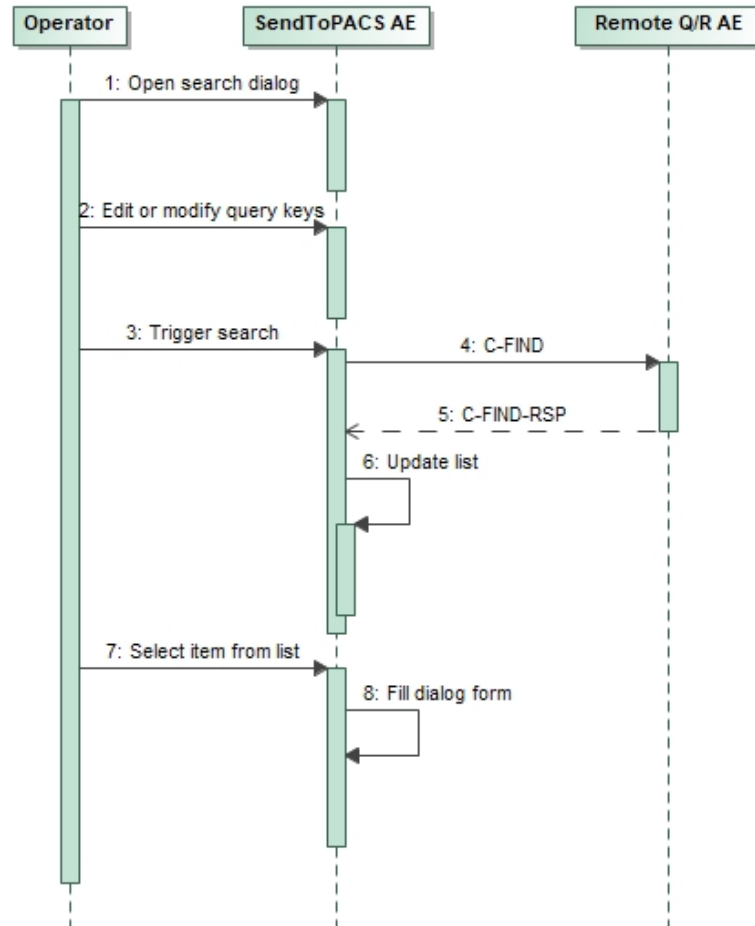


Figure 5. Searching in query/retrieve

4.2.4.3.2.2 Proposed Presentation Contexts

Table 22. Proposed Presentation Contexts for Query/Retrieve Client AE

| Abstract Syntax | | Transfer Syntax | | Role | Ext. Neg. |
|--|-----------------------------|---------------------------|---------------------|------|-----------|
| Name | UID | Name List | UID List | | |
| Patient Root Query/Retrieve Information 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 |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| Study Root Query/Retrieve Information Model - FIND | 1.2.840.10008.5.1.4.1.2.2.1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| Patient/Study Only Query/Retrieve Information Model - FIND | 1.2.840.10008.5.1.4.1.2.3.1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |

4.2.4.3.2.3 SOP Specific Conformance for Query/Retrieve SOP Class

Table 23. Query/Retrieve Client C-STORE Response Status Handling Behavior

| Service Status | Further Meaning | Error Code | Behavior |
|----------------|------------------------|------------|---|
| Success | Matching is complete | 0000 | This is the last response and the Client will release the Association after collecting results. Then the pick-list will be updated. |
| Pending | Matching is continuing | FF00 | The Client waits for another response. |

Table 24. Query/Retrieve Client Communication Failure Behavior

| Exception | Behavior |
|---|--|
| Association aborted by the SCP or the network layers indicate communication loss (i.e. low-level TCP/IP socket closure) | Error message might go to the application logs. The pick-list is updated with as many entries as possible. |

Can set Query/Retrieve Level: STUDY, SERIES, PATIENT, IMAGE. Operator can change this in search dialog "Model level".

Table 25. Query/Retrieve C-FIND SCU Supported levels

| Exception | Default | Query custom Levels |
|--|---------|-------------------------------|
| Patient Root Query/Retrieve Information Model - FIND | PATIENT | STUDY, SERIES, PATIENT, IMAGE |
| Study Root Query/Retrieve Information Model - FIND | STUDY | |
| Patient/Study Only Query/Retrieve Information Model - FIND | STUDY | |

The attributes listed below will be requested in a query. The corresponding matching keys are empty if the operator didn't specify a particular value.

Table 26. Query/Retrieve C-FIND SCU Supported Elements

| Tag | VR | Attribute Name | Query key | Displayed | Imported |
|-------------|----|----------------------|-----------|-----------|----------|
| (0010,0010) | PN | Patient's Name | P | X | X |
| (0010,0020) | LO | Patient ID | P | X | X |
| (0010,0021) | LO | Issuer of Patient ID | — | X | — |
| (0010,0030) | DA | Patient's Birth Date | — | X | X |
| (0010,0040) | CS | Patient's Sex | — | X | X |
| (0010,1030) | DS | Patient's Weight | — | X | — |

Values for the **Query Key** column:

X

An exact match.

P

A partial match. Automatically adds leading and trailing wildcards. If both last name and first name is specified, then the pattern becomes *last*first*.

Values for the **Imported** column:

X

Imported into the application and might be used in the resulting SOP instances. See also the table in [8.1.3 Attribute Mapping](#).

4.3 Network Interfaces

DICOM Upper Layer over TCP/IP is supported.

4.3.1 Physical Network Interface

SendToPACS is indifferent to the physical medium over which TCP/IP executes. It inherits the TCP/IP stack from the operating system or, in case of Storage Client, from Java Runtime Environment.

4.3.2 Additional Protocols

No additional protocols are supported.

4.3.3 IPv4 and IPv6 Support

Only IPv4 is explicitly supported and was tested.

4.4 Configuration

4.4.1 AE Title/Presentation Address Mapping

The remote AE Titles and TCP ports are configurable in application settings.

4.4.1.1 Local AE Titles

A single AE Title is shared among all local AEs and is configurable in application settings. Clients will use it as the Calling AE Title.

Table 27. AE Title Configuration Table

| Application Entity | Default AE Title | Default TCP/IP Port |
|--------------------------|------------------|---------------------|
| Verification Client | SENDTOPACS | — |
| Storage Client | | |
| Modality Worklist Client | | |
| Query/Retrieve Client | | |

A client chooses any free TCP/IP port offered by the Windows Sockets layer. The IP address is managed by the operating system and can be configured there.

4.4.1.2 Remote AE Titles

AETs for Storage SCP, MWL SCP and Q/R SCP are configurable (MWL and Q/R is displayed in the same list). It's up to the operator to ensure that Remote AEs accept the configured local title (Calling AE Title).

4.4.2 Parameters

SendToPACS configuration parameters relevant to DICOM communication are as follows.

Table 28. Configuration Parameter Table

| Parameter | Configurable? | Default Value |
|---|---------------|------------------|
| <i>General Parameters</i> | | |
| Proposed Called AETs | Yes | Assigned by user |
| Proposed Calling AET | Yes | SENDTOPACS |
| Time-out waiting for TCP/IP connect | No | 10s |
| Maximum PDU size the AE can receive | No | 16384 |
| Maximum PDU size the AE can send | No | 16384 |
| Support for the Basic TLS Secure Transport Connection Profile | No | Off |
| Time-out waiting for a DIMSE-RSP | No | 0s |
| Time-out waiting for a DIMSE-RQ | No | 0s |
| Time-out waiting for receiving A-ASSOCIATE-AC | No | 10s |
| Time-out waiting for receiving A-RELEASE-RP | No | 50ms |

| | | |
|--|----|-------|
| Time delay for Socket close after sending A-ABORT | No | 0s |
| <i>Verification Client</i> | | |
| Client execution time (application limits client) | No | 10s |
| <i>Storage Client AE</i> | | |
| Pack Command and Data PDVs in one PDU | No | False |
| Client execution time to process one study (application limits client) | No | 7200s |
| <i>Modality Worklist Client</i> | | |
| Client execution time to receive data (application limits client) | No | 10s |

5 Media Interchange

SendToPACS does not support Media Interchange.

6 Support of Extended Character Sets

SendToPACS allows to set and change character set to converting SOP instance to DICOM format in general settings. Operator, during configuration, can set Storage SCP, MWL SCP and Q/R SCP (MWL and Q/R is displayed in the same list) character set. This will represent as default character set in case MWL or Q/R SCP do not provide with result.

For Storage SCP, character set will be set as default to fill patient and study information form. Operator can change character set for own purpose and send SOP Instance to Storage SCP with different character set.

Recommended to set correct and constant specific character set for Storage SCP.

Supported character set:

- <empty> - Default repertoire (no specific character set will be added),
- ISO_IR 100 - Latin alphabet No. 1,
- ISO_IR 101 - Latin alphabet No. 2,
- ISO_IR 109 - Latin alphabet No. 3,
- ISO_IR 110 - Latin alphabet No. 4,
- ISO_IR 148 - Latin alphabet No. 5,
- ISO_IR 144 - Cyrillic,
- ISO_IR 127 - Arabic,
- ISO_IR 126 - Greek,
- ISO_IR 138 - Hebrew,
- ISO_IR 13 - Japanese,
- ISO_IR 166 - Thai,
- ISO 2022 IR 6", Default repertoire,
- ISO 2022 IR 100 - Latin alphabet No. 1,
- ISO 2022 IR 101 - Latin alphabet No. 2,
- ISO 2022 IR 109 - Latin alphabet No. 3,
- ISO 2022 IR 110 - Latin alphabet No. 4,
- ISO 2022 IR 148 - Latin alphabet No. 5,
- ISO 2022 IR 144 - Cyrillic,
- ISO 2022 IR 127 - Arabic,
- ISO 2022 IR 126 - Greek,
- ISO 2022 IR 138 - Hebrew,
- ISO 2022 IR 13 - Japanese,
- ISO 2022 IR 166 - Thai,
- ISO 2022 IR 87 - Japanese,
- ISO 2022 IR 159 - Japanese,
- ISO 2022 IR 149 - Korean,
- ISO 2022 IR 58 - Simplified Chinese,
- GB18030 - GB18030,
- ISO_IR 192 - Unicode in UTF-8

7 Security

The DICOM capabilities of SendToPACS do not support any specific security measures.

It is assumed that the Software is used within a secured environment. It is assumed that a secured environment includes at a minimum:

- firewall or router protections to ensure that the Software only has network access to approved external hosts and services;
- appropriate secure network channels (e.g. such as a Virtual Private Network) for any communication with external hosts and services outside the locally secured environment.

Other network security procedures such as automated intrusion detection may be appropriate in some environments.

Additional security features may be established by the local security policy and are beyond the scope of this conformance statement.

8 Annexes

8.1 IOD Contents

Abbreviations used for presence of values (PoV):

VNAP

Value Not Always Present (attribute has zero length if no value is present) – Applicable for Type 2, 2C.

ANAP

Attribute is not always present – Applicable for Type 3

ALWAYS

Attribute is always present with a value – Applicable for Type 1

EMPTY

Attribute is sent without a value – Applicable for Type 2

Abbreviations used for sources of data:

USER

Attribute value is generated from user input.

AUTO

Attribute value is generated automatically.

MWL

Attribute value is the same as the value received using a DICOM service such as Modality Worklist, Modality Performed Procedure Step, etc.

Q/R

Attribute value is the same as the value received using a DICOM service such as Query/Retrieve.

CONFIG

Attribute value is a configurable parameter.

8.1.1 File Meta Information

Table 29. DICOM File Meta Information

| Tag | Type | VR | Name | Description | PoV | Source |
|-------------|------|----|------------------------------------|--|--------|--------------|
| — | 1 | — | File Preamble | A fixed 128-byte field available for Application Profile or implementation specified use. If not used by an Application Profile or a specific implementation all bytes shall be set to 00H. | ALWAYS | AUTO |
| — | 1 | — | DICOM Prefix | Four bytes containing the character string "DICM". This Prefix is intended to be used to recognize that this File is or not a DICOM File. | ALWAYS | AUTO |
| (0002,0000) | 1 | UL | File Meta Information Group Length | Number of bytes following this File Meta Element (end of the Value field) up to and including the last File Meta Element of the Group 2 File Meta Information | ALWAYS | AUTO |
| (0002,0001) | 1 | OB | File Meta Information Version2021 | This is a two bytes field where each bit identifies a version of this File Meta Information header. In version 1 the first byte value is 00H and the second value byte value is 01H. <i>Always "00\01"</i> | ALWAYS | AUTO |
| (0002,0002) | 1 | UI | Media Storage SOP Class UID | Uniquely identifies the SOP Class associated with the Data Set. <i>For image/videos "1.2.840.10008.5.1.4.1.1.7"</i> <i>For PDF "1.2.840.10008.5.1.4.1.1.104.1"</i> <i>Operator can define different SOP Class UID and will own risk, but final DICOM file content will be</i> | ALWAYS | AUTO, CONFIG |

| | | | | | | |
|-------------|---|----|--------------------------------|---|--------|--------------|
| | | | | <i>Secondary Capture Image Storage or Encapsulated PDF Storage IOD.</i> | | |
| (0002,0003) | 1 | UI | Media Storage SOP Instance UID | Uniquely identifies the SOP Instance associated with the Data Set placed in the file and following the File Meta Information. <i>Duplicates (0008,0018) — see Table 37</i> | ALWAYS | AUTO |
| (0002,0010) | 1 | UI | Transfer Syntax UID | Uniquely identifies the Transfer Syntax used to encode the following Data Set. This Transfer Syntax does not apply to the File Meta Information. <i>Constant value that depends on instance type and configuration:</i> <i>for image — "1.2.840.10008.1.2.4.50"</i> <i>for videos — one of "1.2.840.10008.1.2.4.100", "1.2.840.10008.1.2.4.101", "1.2.840.10008.1.2.4.102", "1.2.840.10008.1.2.4.103" as per configuration</i> <i>for PDF — "1.2.840.10008.1.2.1"</i> | ALWAYS | AUTO, CONFIG |
| (0002,0012) | 1 | UI | Implementation Class UID | Uniquely identifies the implementation that wrote this file and its content. It provides an unambiguous identification of the type of implementation that last wrote the file in the event of interchange problems. It follows the same policies as defined by PS3.7 (association negotiation). <i>Always "1.3.6.1.4.1.44316.3"</i> | ALWAYS | AUTO |
| (0002,0013) | 3 | SH | Implementation Version Name | Identifies a version for an Implementation Class UID (0002,0012) using up to 16 characters of the repertoire identified in Section 8.5. It follows the same policies as defined by PS3.7 (association negotiation). <i>Always "MSENDTOPACS"</i> | ALWAYS | AUTO |

8.1.2 Created SOP Instances

8.1.2.1 Secondary Capture IOD modules

Table 30. Use of Modules

| IE | Module | Usage |
|-----------|------------------------|-----------|
| Patient | | |
| | Patient | MANDATORY |
| | Clinical Trial Subject | OPTIONAL |
| Study | | |
| | General Study | MANDATORY |
| | Patient Study | OPTIONAL |
| | Clinical Trial Study | OPTIONAL |
| Series | | |
| | General Series | MANDATORY |
| | Clinical Trial Series | OPTIONAL |
| Equipment | | |

| | | |
|-------|---------------------------|-----------|
| | General Equipment | OPTIONAL |
| | SC Equipment | MANDATORY |
| Image | | |
| | General Image | MANDATORY |
| | General Reference | OPTIONAL |
| | Image Pixel | MANDATORY |
| | Device | OPTIONAL |
| | Specimen | OPTIONAL |
| | SC Image | MANDATORY |
| | Overlay Plane | OPTIONAL |
| | Modality LUT | OPTIONAL |
| | VOI LUT | OPTIONAL |
| | ICC Profile | OPTIONAL |
| | SOP Common | MANDATORY |
| | Common Instance Reference | OPTIONAL |

8.1.2.2 Encapsulated PDF IOD modules

Table 31. Use of Modules

| IE | Module | Usage |
|-----------------------|------------------------------|-----------|
| Patient | | |
| | Patient | MANDATORY |
| | Clinical Trial Subject | OPTIONAL |
| Study | | |
| | General Study | MANDATORY |
| | Patient Study | OPTIONAL |
| | Clinical Trial Study | OPTIONAL |
| Series | | |
| | Encapsulated Document Series | MANDATORY |
| | Clinical Trial Series | OPTIONAL |
| Equipment | | |
| | General Equipment | OPTIONAL |
| | SC Equipment | MANDATORY |
| Encapsulated Document | | |
| | Encapsulated Document | MANDATORY |
| | SOP Common | MANDATORY |

8.1.2.3 IOD modules

Table 32. Module "Patient"

| Tag | Type | VR | Name | Description | PoV | Source |
|-------------|------|----|----------------|----------------------|--------|----------------|
| (0010,0010) | 2 | PN | Patient's Name | Patient's full name. | ALWAYS | MWL, Q/R, USER |

| | | | | | | |
|--------------|---|----|-----------------------------|---|--------|----------------|
| (0010,0020) | 2 | LO | Patient ID | Primary hospital identification number or code for the patient. | ALWAYS | MWL, Q/R, USER |
| (0010,0030) | 2 | DA | Patient's Birth Date | Birth date of the patient. | VNAP | MWL, Q/R, USER |
| (0010,0040) | 2 | CS | Patient's Sex | Sex of the named patient. Enumerated Values: M = male F = female | VNAP | MWL, Q/R, USER |
| 0010,0021) | 3 | LO | Issuer of Patient ID | Identifier of the Assigning Authority (system, organization, agency, or department) that issued the Patient ID. | ANAP | MWL |
| (0008,1120) | 3 | SQ | Referenced Patient Sequence | A sequence that provides reference to a Patient SOP Class/Instance pair. Only a single Item is permitted in this Sequence. | ANAP | MWL |
| >(0008,1150) | 1 | UI | Referenced SOP Class UID | Uniquely identifies the referenced SOP Class. | ALWAYS | MWL |
| >(0008,1155) | 1 | UI | Referenced SOP Instance UID | Uniquely identifies the referenced SOP Instance. | ALWAYS | MWL |

Table 33. Secondary Capture IOD - Module "General Study"

| Tag | Type | VR | Name | Description | PoV | Source |
|--------------|------|----|----------------------------|--|--------|-----------------|
| (0020,000D) | 1 | UI | Study Instance UID | Unique identifier for the Study. <i>Unscheduled case: "1.3.6.1.4.1.44316.3." extended by software version number, date and time information, "1" as study level attribute, time in milliseconds and additional randomness.</i> <i>Scheduled case: copied from MWL (0020,000d).</i> | ALWAYS | MWL, USER, AUTO |
| (0008,0020) | 2 | DA | Study Date | Date the Study started. Date, when procedure step was started. | ALWAYS | USER |
| (0008,0030) | 2 | TM | Study Time | Time the Study started. Time, when procedure step was started. | ALWAYS | USER |
| (0008,0090) | 2 | PN | Referring Physician's Name | Name of the patient's referring physician. <i>Always empty.</i> <i>Scheduled case: copied from MWL (0008,0090).</i> | VNAP | MWL |
| (0020,0010) | 2 | SH | Study ID | User or equipment generated Study identifier. <i>Scheduled case: copied from MWL (0040,1001)</i> | VNAP | MWL, USER |
| (0008,1030) | 3 | LO | Study Description | Description or classification of the Study (component) performed. <i>Scheduled case: copied from MWL (0032,1060)</i> | ANAP | MWL, USER |
| (0008,0050) | 2 | SH | Accession Number | A RIS-generated number that identifies the order for the Study. <i>Scheduled case: copied from MWL (0008,0050)</i> | ANAP | MWL, USER |
| (0008,1032) | 3 | SQ | Procedure Code Sequence | A Sequence that conveys the type of procedure performed. One or more Items are permitted in this Sequence. <i>Scheduled case: copied from MWL (0032,1064)</i> | ANAP | MWL |
| >(0008,0100) | 1C | SH | Code Value | The identifier of the Coded Entry. | ANAP | MWL |
| >(0008,0102) | 1C | SH | Coding Scheme Designator | The identifier of the coding scheme in which the Coded Entry is defined. | ANAP | MWL |

| | | | | | | |
|--------------|----|----|-----------------------------|---|--------|-----|
| >(0008,0103) | 1C | SH | Coding Scheme Version | An identifier of the version of the coding scheme if necessary, to resolve ambiguity. | ANAP | MWL |
| >(0008,0104) | 1 | LO | Code Meaning | Text that conveys the meaning of the Coded Entry. | ALWAYS | MWL |
| (0008,1110) | 3 | SQ | Referenced Study Sequence | A Sequence that provides reference to a Study SOP Class/Instance pair. One or more Items are permitted in this Sequence. | ANAP | MWL |
| >(0008,1150) | 1 | UI | Referenced SOP Class UID | Uniquely identifies the referenced SOP Class. | ALWAYS | MWL |
| >(0008,1155) | 1 | UI | Referenced SOP Instance UID | Uniquely identifies the referenced SOP Instance. | ALWAYS | MWL |

Table 34. Module "Patient Study"

| Tag | Type | VR | Name | Description | PoV | Source |
|-------------|------|----|----------------------------|---|------|--------|
| (0010,1030) | 3 | DS | Patient's Weight | Weight of the Patient, in kilograms. | ANAP | MWL |
| (0010,2000) | 3 | LO | Medical Alerts | Conditions to which medical staff should be alerted (e.g., contagious condition, drug allergies, etc.) | ANAP | MWL |
| (0010,2110) | 3 | LO | Allergies | Description of prior reaction to contrast agents, or other patient allergies or adverse reactions. | ANAP | MWL |
| (0010,21C0) | 3 | US | Pregnancy Status | Describes pregnancy state of Patient. Enumerated Values: 0001 not pregnant 0002 possibly pregnant 0003 definitely pregnant 0004 unknown <i>If value from MWL is one of the numbers: 1, 2, 3, 4 – will add 000 to the beginning to form correct value.</i> | ANAP | MWL |
| (0038,0500) | 3 | LO | Patient State | Description of Patient state (comatose, disoriented, vision impaired, etc.) | ANAP | MWL |
| (0010,21B0) | 3 | LT | Additional Patient History | Additional information about the Patient's medical history. | ANAP | MWL |
| (0038,0010) | 3 | LO | Admission ID | Identifier of the Visit as assigned by the healthcare provider | ANAP | MWL |

Table 35. Module "General Series"

| Tag | Type | VR | Name | Description | PoV | Source |
|-------------|------|----|---------------------|---|--------|-------------|
| (0008,0060) | 1 | CS | Modality | Source equipment that produced the Secondary Capture Series. <i>"OT" by default from settings Scheduled case: copied from MWL (0040,0100)>(0008,0060</i> | ALWAYS | MWL, CONFIG |
| (0020,000E) | 1 | UI | Series Instance UID | Unique identifier of the Series. <i>"1.3.6.1.4.1.44316.3." extended by software version number, date and time information, "2" as series level attribute, series number and additional randomness.</i> | ALWAYS | AUTO |
| (0020,0011) | 2 | IS | Series Number | A number that identifies this Series. | ALWAYS | USER |
| (0020,0060) | 2C | CS | Laterality | Laterality of (paired) body part examined. Required if the body part examined is a paired structure and Image Laterality (0020,0062) or Frame Laterality | EMPTY | AUTO |

| | | | | | | |
|---------------|----|----|--------------------------------------|---|--------|------|
| | | | | (0020,9072) or Measurement Laterality (0024,0113) are not sent. Enumerated Values: R right L left <i>Always empty. It is generally unknown which body part is visible in the non-DICOM file. The user interface also doesn't provide means to specify that.</i> | | |
| (0008,0021) | 3 | DA | Series Date | Date the Series started. | ALWAYS | AUTO |
| (0008,0031) | 3 | TM | Series Time | Time the Series started. | ALWAYS | AUTO |
| (0008,103E) | 3 | LO | Series Description | Description of the Series. | ALWAYS | AUTO |
| (0040,0275) | 3 | SQ | Request Attributes Sequence | Sequence that contains Attributes from the Imaging Service Request. One or more Items are permitted in this Sequence. | ANAP | MWL |
| >(0040,1001) | 1C | SH | Requested Procedure ID | Identifier that identifies the Requested Procedure in the Imaging Service Request. Required if procedure was scheduled. May be present otherwise. <i>Scheduled case: copied from MWL (0040,1001)</i> | ANAP | MWL |
| >(0032,1060) | 3 | LO | Requested Procedure Description | Institution-generated administrative description or classification of Requested Procedure. <i>Scheduled case: copied from MWL (0032,1060)</i> | ANAP | MWL |
| >(0040,0009) | 1C | SH | Scheduled Procedure Step ID | Identifier that identifies the Scheduled Procedure Step. Required if procedure was scheduled. <i>Scheduled case: copied from MWL (0032,1064)>(0040,0009) or (0040,1001)</i> | ANAP | MWL |
| >(0040,0007) | 3 | LO | Scheduled Procedure Step Description | Institution-generated description or classification of the Scheduled Procedure Step to be performed. <i>Scheduled case: copied from MWL (0032,1064)>(0040,0007)</i> | ANAP | MWL |
| >(0040,0008) | 3 | SQ | Scheduled Protocol Code Sequence | Sequence describing the Scheduled Protocol following a specific coding scheme. One or more Items are permitted in this Sequence. <i>Scheduled case: copied from MWL (0040,0100)>(0040,0008)</i> | ALWAYS | MWL |
| >>(0008,0100) | 1C | SH | Code Value | The identifier of the Coded Entry. <i>Scheduled case: copied from MWL (0040,0100)>(0040,0008)>(0008,0100)</i> | ANAP | MWL |
| >>(0008,0102) | 1C | SH | Coding Scheme Designator | The identifier of the coding scheme in which the Coded Entry is defined. <i>Scheduled case: copied from MWL (0040,0100)>(0040,0008)>(0008,0102)</i> | ANAP | MWL |
| >>(0008,0103) | 1C | SH | Coding Scheme Version | An identifier of the version of the coding scheme if necessary, to resolve ambiguity. | ANAP | MWL |

| | | | | | | |
|---------------|---|----|---------------|--|--------|-----|
| | | | | <i>Scheduled case: copied from MWL (0040,0100)>(0040,0008)>(0008,0103)</i> | | |
| >>(0008,0104) | 1 | LO | Code Meaning | Text that conveys the meaning of the Coded Entry. <i>Scheduled case: copied from MWL (0040,0100)>(0040,0008)>(0008,0104)</i> | ALWAYS | MWL |
| (0018,1030) | 3 | LO | Protocol Name | User-defined description of the conditions under which the Series was performed. <i>Scheduled case: copied from MWL (0032,1060)</i> | ANAP | MWL |

Table 36. Module "Encapsulated Document Series"

| Tag | Type | VR | Name | Description | PoV | Source |
|--------------|------|----|--------------------------------------|--|--------|-------------|
| (0008,0060) | 1 | CS | Modality | Source equipment that produced the Secondary Capture Series. <i>"OT" by default from settings Scheduled case: copied from MWL (0040,0100)>(0008,0060)</i> | ALWAYS | MWL, CONFIG |
| (0020,000E) | 1 | UI | Series Instance UID | Unique identifier of the Series. <i>"1.3.6.1.4.1.44316.3." extended by software version number, date and time information, "2" as series level attribute, series number and additional randomness.</i> | ALWAYS | AUTO |
| (0020,0011) | 2 | IS | Series Number | A number that identifies this Series. | ALWAYS | USER |
| (0008,0021) | 3 | DA | Series Date | Date the Series started. | ALWAYS | AUTO |
| (0008,0031) | 3 | TM | Series Time | Time the Series started. | ALWAYS | AUTO |
| (0008,103E) | 3 | LO | Series Description | Description of the Series. | ALWAYS | AUTO |
| (0040,0275) | 3 | SQ | Request Attributes Sequence | Sequence that contains Attributes from the Imaging Service Request. One or more Items are permitted in this Sequence. | ANAP | MWL |
| >(0040,1001) | 1C | SH | Requested Procedure ID | Identifier that identifies the Requested Procedure in the Imaging Service Request. Required if procedure was scheduled. May be present otherwise. <i>Scheduled case: copied from MWL (0040,1001)</i> | ALWAYS | MWL |
| >(0032,1060) | 3 | LO | Requested Procedure Description | Institution-generated administrative description or classification of Requested Procedure. <i>Scheduled case: copied from MWL (0032,1060)</i> | ANAP | MWL |
| >(0040,0009) | 1C | SH | Scheduled Procedure Step ID | Identifier that identifies the Scheduled Procedure Step. Required if procedure was scheduled. <i>Scheduled case: copied from MWL (0032,1064)>(0040,0009)</i> | ANAP | MWL |
| >(0040,0007) | 3 | LO | Scheduled Procedure Step Description | Institution-generated description or classification of the Scheduled Procedure Step to be performed. <i>Scheduled case: copied from MWL (0032,1064)>(0040,0007)</i> | ANAP | MWL |

| | | | | | | |
|---------------|----|----|----------------------------------|---|--------|-----|
| >(0040,0008) | 3 | SQ | Scheduled Protocol Code Sequence | Sequence describing the Scheduled Protocol following a specific coding scheme. One or more Items are permitted in this Sequence. <i>Scheduled case: copied from MWL (0040,0100)>(0040,0008)</i> | ANAP | MWL |
| >>(0008,0100) | 1C | SH | Code Value | The identifier of the Coded Entry. <i>Scheduled case: copied from MWL (0040,0100)>(0040,0008)>(0008,0100)</i> | ANAP | MWL |
| >>(0008,0102) | 1C | SH | Coding Scheme Designator | The identifier of the coding scheme in which the Coded Entry is defined. <i>Scheduled case: copied from MWL (0040,0100)>(0040,0008)>(0008,0102)</i> | ANAP | MWL |
| >>(0008,0103) | 1C | SH | Coding Scheme Version | An identifier of the version of the coding scheme if necessary, to resolve ambiguity. <i>Scheduled case: copied from MWL (0040,0100)>(0040,0008)>(0008,0103)</i> | ANAP | MWL |
| >>(0008,0104) | 1 | LO | Code Meaning | Text that conveys the meaning of the Coded Entry. <i>Scheduled case: copied from MWL (0040,0100)>(0040,0008)>(0008,0104)</i> | ALWAYS | MWL |
| (0018,1030) | 3 | LO | Protocol Name | User-defined description of the conditions under which the Series was performed. <i>Scheduled case: copied from MWL (0032,1060)</i> | ANAP | MWL |

Table 37. Module "General Equipment"

| Tag | Type | VR | Name | Description | PoV | Source |
|-------------|------|----|-------------------|---|--------|--------|
| (0008,0070) | 2 | LO | Manufacturer | Manufacturer of the equipment that produced the composite instances | EMPTY | AUTO |
| (0008,1010) | 3 | SH | Station Name | User defined name identifying the machine that produced the Composite Instances. <i>From configuration: settings Station Name</i> | ALWAYS | CONFIG |
| (0018,1020) | 3 | LO | Software Versions | Manufacturer's designation of software version of the equipment that produced the Composite Instances. <i>Software version number: X.X.X</i> | ALWAYS | AUTO |
| (0008,0080) | 3 | LO | Institution Name | Institution where the equipment that produced the Composite Instances is located. <i>From configuration: settings Institution Name</i> | ANAP | CONFIG |

Table 38. Secondary Capture IOD - Module "SC Equipment"

| Tag | Type | VR | Name | Description | PoV | Source |
|-------------|------|----|-----------------|---|--------|--------|
| (0008,0064) | 1 | CS | Conversion Type | Describes the kind of image conversion. Defined Terms: DV Digitized Video DI Digital Interface DF Digitized Film WSD Workstation SD Scanned Document SI Scanned Image DRW Drawing | ALWAYS | AUTO |

| | | | | | | |
|-------------|---|----|--|---|--------|------|
| | | | | SYN Synthetic Image <i>Always "SI" for image and "DV" for video.</i> | | |
| (0018,1016) | 3 | LO | Secondary Capture Device Manufacturer | Manufacturer of the Secondary Capture Device <i>Always "Softneta".</i> | ALWAYS | AUTO |
| (0018,1018) | 3 | LO | Secondary Capture Device Manufacturer's Model Name | Manufacturer's model number of the Secondary Capture Device <i>Always "MedDream SendToPACS".</i> | ALWAYS | AUTO |

Table 39. Module "General Image"

| Tag | Type | VR | Name | Description | PoV | Source |
|-------------|------|----|-------------------------|--|--------|--------|
| (0008,0008) | 3 | CS | Image Type | Image identification characteristics. See C.8.17.2.1.4 for specialization. Multi-value attribute containing 4 values: 1) Pixel Data Characteristics <i>"ORIGINAL" for original acquired images.</i> <i>Always "ORIGINAL" for video.</i> 2) Patient Examination Characteristics <i>Always "PRIMARY" for video.</i> 3) Modality Specific Characteristics <i>Always empty.</i> 4) Implementation specific identifiers <i>Always empty.</i> <i>For images this entire attribute is not present.</i> | ANAP | AUTO |
| (0008,0023) | 2C | DA | Content Date | The date the image pixel data creation started. Required if image is part of a Series in which the images are temporally related. May be present otherwise. <i>Will set file last modification date, but if it fails to take - will set study Date.</i> | ALWAYS | AUTO |
| (0008,0033) | 2C | TM | Content Time | The time the image pixel data creation started. Required if image is part of a Series in which the images are temporally related. May be present otherwise. <i>Will set file last modification time, but if it fails to take - will set study Time.</i> | ALWAYS | AUTO |
| (0020,0013) | 2 | IS | Instance Number | A number that identifies this image. | ALWAYS | AUTO |
| (0020,0020) | 2C | | Patient Orientation | Patient direction of the rows and columns of the image. Required if image does not require Image Orientation (Patient) (0020,0037) and Image Position (Patient) (0020,0032). May be present otherwise. See Section C.7.6.1.1.1 for further explanation. NOTE: IODs may have attributes other than Patient Orientation, Image Orientation, or Image Position (Patient) to describe orientation in which case this attribute will be zero length. <i>Always empty because in many scenarios (for example, endoscopy) the orientation is variable</i> | EMPTY | AUTO |
| (0028,2110) | 1 | CS | Lossy Image Compression | Specifies whether an Image has undergone lossy compression. Enumerated Values: 00 = Image has NOT | ALWAYS | AUTO |

| | | | | | | |
|--|--|--|--|--|--|--|
| | | | | <p>been subjected to lossy compression. 01 = Image has been subjected to lossy compression. See C.7.6.1.1.5 "01" if image is compressed "00" otherwise</p> <p><i>Always "01"</i></p> | | |
|--|--|--|--|--|--|--|

Table 40. Module "Image Pixel"

| Tag | Type | VR | Name | Description | PoV | Source |
|-------------|------|----|----------------------------|---|--------|--------|
| (0028,0002) | 1 | US | Samples Per Pixel | <p>Number of samples (planes) in this image. See Section C.7.6.3.1.1 for further explanation.</p> <p><i>Always "3"</i></p> | ALWAYS | AUTO |
| (0028,0004) | 1 | CS | Photometric Interpretation | <p>Specifies the intended interpretation of the pixel data. See Section C.7.6.3.1.2 for further explanation.</p> <p><i>Always "YBR_PARTIAL_420" for videos, "YBR_FULL_422" for image</i></p> | ALWAYS | AUTO |
| (0028,0006) | 1C | US | Planar Configuration | <p>Indicates whether the pixel data are sent color-by-plane or color-by-pixel. Required if Samples per Pixel (0028,0002) has a value greater than 1. Enumerated value shall be 0 (color-by-pixel).</p> <p><i>Always "0"</i></p> | ALWAYS | AUTO |
| (0028,0010) | 1 | US | Rows | Number of rows in the image. | ALWAYS | AUTO |
| (0028,0011) | 1 | US | Columns | Number of columns in the image | ALWAYS | AUTO |
| (0028,0100) | 1 | US | Bits Allocated | <p>Number of bits allocated for each pixel sample. Each sample shall have the same number of bits allocated. See PS 3.5 for further explanation.</p> <p><i>Always "8"</i></p> | ALWAYS | AUTO |
| (0028,0101) | 1 | US | Bits Stored | <p>Number of bits stored for each pixel sample. Each sample shall have the same number of bits stored. See PS 3.5 for further explanation.</p> <p><i>Always "8"</i></p> | ALWAYS | AUTO |
| (0028,0102) | 1 | US | High Bit | <p>Most significant bit for pixel sample data. Each sample shall have the same high bit. See PS 3.5 for further explanation.</p> <p><i>Always "7"</i></p> | ALWAYS | AUTO |
| (0028,0103) | 1 | US | Pixel Representation | <p>Data representation of the pixel samples. Each sample shall have the same pixel representation. Enumerated Values: 0000 = unsigned integer 0001 = 2's complement</p> <p><i>Always "0"</i></p> | ALWAYS | AUTO |
| (7FE0,0010) | 1C | OB | Pixel Data | <p>A data stream of the pixel samples that comprise the Image. See C.7.6.3.1.4 for further explanation. Required if Pixel Data Provider URL (0028,7FE0) is not present.</p> | ALWAYS | AUTO |

Table 41. Module "Encapsulated Document"

| Tag | Type | VR | Name | Description | PoV | Source |
|-------------|------|----|--------------|--|--------|--------|
| (0008,0023) | 2C | DA | Content Date | <p>The date the image pixel data creation started. Required if image is part of a Series in which the images are temporally related. May be present otherwise.</p> | ALWAYS | AUTO |

| | | | | | | |
|-------------|----|----|------------------------------------|---|--------|------|
| | | | | <i>Will set file last modification date, but if it fails to take - will set study Date.</i> | | |
| (0008,0033) | 2C | TM | Content Time | The time the image pixel data creation started. Required if image is part of a Series in which the images are temporally related. May be present otherwise. <i>Will set file last modification time, but if it fails to take - will set study Time.</i> | ALWAYS | AUTO |
| (0008,002A) | 2 | DT | Acquisition DateTime | The date and time that the original generation of the data in the document started. <i>Always empty.</i> | EMPTY | AUTO |
| (0020,0013) | 2 | IS | Instance Number | A number that identifies this image. | ALWAYS | AUTO |
| (0028,0301) | 1 | CS | Burned in Annotation | Indicates whether or not the encapsulated document contains sufficient burned in annotation to identify the patient and date the data was acquired. Enumerated Values: YES, NO Identification of patient and date as text in an encapsulated document (e.g., in an XML attribute or element) is equivalent to "burned in annotation". A de-identified document may use the value NO. If Modality (0008,0060) is M3D, the presence of identifying information embossed or engraved on any part of the model shall be indicated by a value of YES. <i>Always "NO"</i> | ALWAYS | AUTO |
| (0040,A043) | 2 | SQ | Document Class Code Sequence | A coded representation of the document title. Zero or one Item shall be included in this Sequence. <i>Always empty.</i> | EMPTY | AUTO |
| (0042,0010) | 2 | ST | Document Title | The title of the document. Note: In the case of a PDF encapsulated document, this may be the value of the "Title" entry in the "Document Information Directory" as encoded in the PDF data. <i>Always file name</i> | ALWAYS | AUTO |
| (0042,0011) | 1 | OB | Encapsulated Document | Encapsulated Document stream, containing a document encoded according to the MIME Type. <i>Always file content in bytes</i> | ALWAYS | AUTO |
| (0042,0012) | 1 | LO | MIME Type of Encapsulated Document | The type of the encapsulated document stream described using the MIME Media Type (see RFC 2046). <i>Always "application/pdf"</i> | ALWAYS | AUTO |

Table 42. Module "SOP Common"

| Tag | Type | VR | Name | Description | PoV | Source |
|-------------|------|----|------------------|---|--------|--------|
| (0008,0016) | 1 | UI | SOP Class UID | Uniquely identifies the SOP Class. See C.12.1.1.1 for further explanation. See also PS 3.4. <i>Always "1.2.840.10008.5.1.4.1.1.7".</i> | ALWAYS | AUTO |
| (0008,0018) | 1 | UI | SOP Instance UID | Uniquely identifies the SOP Instance. See C.12.1.1.1 for further explanation. See also PS 3.4. | ALWAYS | AUTO |

| | | | | | | |
|-------------|----|----|------------------------|--|--------|--------------------|
| | | | | "1.3.6.1.4.1.44316.3." extended by software version number, date and time information, "3" as instance level attribute, instance number and additional randomness. | | |
| (0008,0005) | 1C | CS | Specific Character Set | Character Set that expands or replaces the Basic Graphic Set. Required if an expanded or replacement character set is used. See C.12.1.1.2 for Defined Terms. Software settings defined to Storage SCP or selected by user. See 6 Support of Extended Character Sets. | ALWAYS | AUTO, USER, CONFIG |
| (0008,0012) | 3 | DA | Instance Creation Date | Date the SOP Instance was created. This is the date that the SOP Instance UID was assigned, and does not change during subsequent coercion of the instance. | ALWAYS | AUTO |
| (0008,0013) | 3 | TM | Instance Creation Time | Time the SOP Instance was created. This is the date that the SOP Instance UID was assigned, and does not change during subsequent coercion of the instance. | ALWAYS | AUTO |

8.1.3 Usage of Attributes from Received IODs

The usage of attributes of Modality Worklist IODs is described in chapter 4.2.3.3.1 Activity – Query Modality Worklist. The usage of attributes of Query/Retrieve IODs is described in chapter 4.2.4.3.1 Activity – Query query/retrieve information.

8.1.4 Attribute Mapping

The following attributes will be mapped from Modality Worklist to created SOP Instances:

Table 43. Attribute Mapping from MWL

| Attribute | Instance IOD | | MWL | |
|-----------|--------------|-----------------------------|--------------|---------------------------------|
| Exist | (0008,0050) | Accession Number | (0008,0050) | Accession Number |
| Exist | (0008,0090) | Referring Physician Name | (0008,0090) | Referring Physician Name |
| New | (0008,1110) | Referenced Study Sequence | (0008,1110) | Referenced Study Sequence |
| New | >(0008,1150) | Referenced SOP Class UID | >(0008,1150) | Referenced SOP Class UID |
| New | >(0008,1155) | Referenced SOP Instance UID | >(0008,1155) | Referenced SOP Instance UID |
| New | (0008,1120) | Referenced Patient Sequence | (0008,1120) | Referenced Patient Sequence |
| New | >(0008,1150) | Referenced SOP Class UID | >(0008,1150) | Referenced SOP Class UID |
| New | >(0008,1155) | Referenced SOP Instance UID | >(0008,1155) | Referenced SOP Instance UID |
| Exist | (0010,0010) | Patient's Name | (0010,0010) | Patient's Name |
| Exist | (0010,0020) | Patient ID | (0010,0020) | Patient ID |
| New | (0010,0021) | Issuer of Patient ID | (0010,0021) | Issuer of Patient ID |
| Exist | (0010,0030) | Patient's Birth Date | (0010,0030) | Patient's Birth Date |
| Exist | (0010,0040) | Patient's Sex | (0010,0040) | Patient's Sex |
| New | (0010,1030) | Patient's Weight | (0010,1030) | Patient's Weight |
| New | (0010,2000) | Medical Alerts | (0010,2000) | Medical Alerts |
| New | (0010,2110) | Allergies | (0010,2110) | Allergies |
| New | (0010,21b0) | Additional Patient History | (0010,21b0) | Additional Patient History |
| New | (0010,21c0) | Pregnancy Status | (0010,21c0) | Pregnancy Status |
| Exist | (0020,000D) | Study Instance UID | (0020,000D) | Study Instance UID |
| Exist | (0008,1030) | Study Description | (0032,1060) | Requested Procedure Description |
| New | (0018,1030) | Protocol Name | (0032,1060) | Requested Procedure Description |

| | | | | |
|-------|---------------|--------------------------------------|-------------------------|---|
| New | (0040,0275) | Request Attributes Sequence | | |
| New | >(0040,1001) | Requested Procedure ID | (0040,1001) | Requested Procedure ID |
| New | >(0032,1060) | Requested Procedure Description | (0032,1060) | Requested Procedure Description |
| New | >(0040,0009) | Scheduled Procedure Step ID | (0032,1064)>(0040,0009) | Scheduled Procedure Step Sequence>Scheduled Procedure Step ID or Requested Procedure ID |
| New | >(0040,0007) | Scheduled Procedure Step Description | (0032,1064)>(0040,0007) | Scheduled Procedure Step Sequence>Scheduled Procedure Step Description |
| New | >(0040,0008) | Scheduled Protocol Code Sequence | (0040,0100)>(0040,0008) | Scheduled Procedure Step Sequence>Scheduled Protocol Code Sequence |
| New | >>(0008,0100) | Code Value | >>(0008,0100) | Code Value |
| New | >>(0008,0102) | Coding Scheme Designator | >>(0008,0102) | Coding Scheme Designator |
| New | >>(0008,0103) | Coding Scheme Version | >>(0008,0103) | Coding Scheme Version |
| New | >>(0008,0104) | Code Meaning | >>(0008,0104) | Code Meaning |
| New | (0008,1032) | Procedure Code Sequence | (0032,1064) | Requested Procedure Code Sequence |
| New | >(0008,0100) | Code Value | >(0008,0100) | Code Value |
| New | >(0008,0102) | Coding Scheme Designator | >(0008,0102) | Coding Scheme Designator |
| New | >(0008,0103) | Coding Scheme Version | >(0008,0103) | Coding Scheme Version |
| New | >(0008,0104) | Code Meaning | >(0008,0104) | Code Meaning |
| New | (0038,0010) | Admission ID | (0038,0010) | Admission ID |
| New | (0038,0500) | Patient State | (0038,0500) | Patient State |
| Exist | (0008,0060) | Modality | (0040,0100)>(0008,0060) | Scheduled Procedure Step Sequence>Modality |
| Exist | (0020,0010) | Study ID | (0040,1001) | Requested Procedure ID |

New – indicates, that field will be added as new from MWL.

Exist – attribute will be added even MWL do not exist. If MWL has attributes – will be added.

The following attributes will be mapped from Query/Retrieve information to created SOP Instances:

Table 44. Attribute Mapping from Q/R

| Attribute | Instance IOD | | MWL | |
|-----------|--------------|----------------------|-------------|----------------------|
| Exist | (0010,0010) | Patient's Name | (0010,0010) | Patient's Name |
| Exist | (0010,0020) | Patient ID | (0010,0020) | Patient ID |
| Exist | (0010,0030) | Patient's Birth Date | (0010,0030) | Patient's Birth Date |
| Exist | (0010,0040) | Patient's Sex | (0010,0040) | Patient's Sex |

Exist – attribute will be added even Q/R do not exist.

8.1.5 Coerced/Modified Fields

Attributes from MWL, can be modified manually after importing from MWL.

8.1.6 Additional fields

Can set additional attribute via general settings "Additional Info tag". Can define private attribute (will set VR=LT) and other known DICOM standard attribute.

User can add this value to non-DICOM files in the main file list "Additional info" column.

If value is valid – will add attribute with user value during conversion to DICOM file.

8.2 Data Dictionary of Private Attributes

SendToPACS does not define any private attributes. User can set private attribute via general settings "Additional Info tag". Tag VR will be LT.

8.3 Coded Terminology and Templates

SendToPACS does not use any custom coded terminology.

8.4 Greyscale Image Consistency

Not applicable.

8.5 Standard Extended / Specialized/ Private SOP Classes

SendToPACS does not use any standard extensions.

8.6 Private Transfer Syntaxes

No Private Transfer Syntax is supported.