



Applies to Version 3.8

DICOM 3.0 Conformance Statement

1. Conformance Statement Overview

Table 1.1 <i>Network Services</i>		
<i>SOP Classes</i>	<i>User of Service (SCU)</i>	<i>Provider of Service (SCP)</i>
Query and Retrieve		
Study Root Query/Retrieve Information Model—Find	Yes	Yes
Study Root Query/Retrieve Information Model—Move	Yes	Yes
Transfer		
Stored Print Storage	Yes	Yes
Hardcopy Grayscale Image Storage	Yes	Yes
Hardcopy Color Image Storage	Yes	Yes
Computed Radiography Image Storage	Yes	Yes
Digital X-Ray Image Storage (Presentation)	Yes	Yes
Digital X-Ray Image Storage (Processing)	Yes	Yes
Digital Mammography Image Storage (Presentation)	Yes	Yes
Digital Mammography Image Storage (Processing)	Yes	Yes
Digital Intra-oral X-Ray Image Storage (Presentation)	Yes	Yes
Digital Intra-oral X-Ray Image Storage (Processing)	Yes	Yes
CT Image Storage	Yes	Yes
Ultrasound Multi-frame Image Storage (Retired)	Yes	Yes
MR Image Storage	Yes	Yes
Enhanced MR Image Storage	Yes	Yes
Enhanced MR Color Image Storage SOP Class	Yes	Yes
Nuclear Medicine Image Storage (Retired)	Yes	Yes
Ultrasound Image Storage	Yes	Yes
Enhanced US Volume Storage	Yes	Yes
Secondary Capture Image Storage	Yes	Yes
Multi-frame Single Bit Secondary Capture Image Storage	Yes	Yes
Multi-frame Grayscale Byte Secondary Capture Image Storage	Yes	Yes
Multi-frame Grayscale Word Secondary Capture Image Storage	Yes	Yes
Multi-frame True Color Secondary Capture Image Storage	Yes	Yes
Stand-alone Overlay Storage	Yes	Yes
Stand-alone Curve Storage	Yes	Yes
12-Lead ECG Waveform	Yes	Yes
General ECG Waveform	Yes	Yes

Ambulatory ECG Waveform	Yes	Yes
Hemodynamic Waveform	Yes	Yes
Cardiac Electrophysiology Waveform	Yes	Yes
Basic Voice Audio Waveform	Yes	Yes
General Audio Waveform	Yes	Yes
Arterial Pulse Waveform	Yes	Yes
Respiratory Pulse Waveform	Yes	Yes
Stand-alone Modality LUT Storage	Yes	Yes
Stand-alone VOI LUT Storage	Yes	Yes
Grayscale Softcopy Presentation State Storage	Yes	Yes
Color Softcopy Presentation State Storage	Yes	Yes
Pseudo Color Softcopy Presentation State Storage	Yes	Yes
Blended Softcopy Presentation State Storage	Yes	Yes
XA/XRF Grayscale Softcopy Presentation State Storage	Yes	Yes
X-Ray Angiographic Image Storage	Yes	Yes
X-Ray Radiofluoroscopic Image Storage	Yes	Yes
Enhanced XRF Image Storage	Yes	Yes
X-Ray 3D Angiographic Image	Yes	Yes
X-Ray 3D Craniofacial Image	Yes	Yes
Breast Tomosynthesis Image	Yes	Yes
Intravascular Optical Coherence Tomography Image (Presentation)	Yes	Yes
Intravascular Optical Coherence Tomography Image (Processing)	Yes	Yes
Nuclear Medicine Image Storage	Yes	Yes
Raw Data Storage	Yes	Yes
Spatial Registration Storage	Yes	Yes
Spatial Fiducials Storage	Yes	Yes
Deformable Spatial Registration Storage	Yes	Yes
Segmentation Storage	Yes	Yes
Surface Segmentation Storage	Yes	Yes
Real World Value Mapping Storage	Yes	Yes
Surface Scan Mesh Storage	Yes	Yes
Surface Scan Point Cloud Storage	Yes	Yes
VL Endoscopic Image Storage	Yes	Yes
Video Endoscopic Storage SOP Class	Yes	Yes
VL Microscopic Image	Yes	Yes
Video Microscopic Image Storage	Yes	Yes

VL Slide-Coordinates Microscopic Image Storage	Yes	Yes
VL Photographic Image Storage	Yes	Yes
Ophthalmic Photography IOD 8 Bit Image Storage	Yes	Yes
Ophthalmic Photography IOD 16 Bit Image Storage	Yes	Yes
Stereometric Relationship Image Storage	Yes	Yes
Ophthalmic Tomography Image Storage	Yes	Yes
VL Whole Slide Microscopy Image Storage	Yes	Yes
Lensometry Measurements Storage	Yes	Yes
Autorefraction Measurements Storage	Yes	Yes
Keratometry Measurements Storage	Yes	Yes
Subjective Refraction Measurements Storage	Yes	Yes
Visual Acuity Storage Measurements Storage	Yes	Yes
Spectacle Prescription Report Storage	Yes	Yes
Ophthalmic Axial Measurements Storage	Yes	Yes
Intraocular Lens Calculations Storage	Yes	Yes
Macular Grid Thickness and Volume Report	Yes	Yes
Ophthalmic Visual Field Static Perimetry Measurements Storage	Yes	Yes
Ophthalmic Thickness Map Storage	Yes	Yes
Corneal Topography Map Storage	Yes	Yes
Basic Text SR	Yes	Yes
Enhanced SR	Yes	Yes
Comprehensive SR	Yes	Yes
Comprehensive 3D SR	Yes	Yes
Procedure Log	Yes	Yes
Mammography CAD SR	Yes	Yes
Key Image Object Storage SOP Class	Yes	Yes
Chest CAD SR	Yes	Yes
X-Ray Radiation Dose SR	Yes	Yes
Colon CAD SR	Yes	Yes
Implantation Plan SR Document Storage	Yes	Yes
Encapsulated PDF Storage SOP Class	Yes	Yes
Encapsulated CDA Storage	Yes	Yes
Positron Emission Tomography Image Storage	Yes	Yes
Standalone PET Curve Storage	Yes	Yes
Enhanced PET Image Storage	Yes	Yes
Basic Structured Display Storage	Yes	Yes

RT Image Storage	Yes	Yes
RT Dose Storage	Yes	Yes
RT Structure Set Storage	Yes	Yes
RT Beams Treatment Record Storage	Yes	Yes
RT Plan Storage	Yes	Yes
RT Brachy Treatment Record Storage	Yes	Yes
RT Treatment Summary Record Storage	Yes	Yes
RT Ion Plan Storage	Yes	Yes
RT Ion Beams Treatment Record Storage	Yes	Yes
RT Beams Delivery Instruction Storage	Yes	Yes
Hanging Protocol Storage	Yes	Yes
Color Palette Storage	Yes	Yes
Generic Implant Template Storage	Yes	Yes
Implant Assembly Template Storage	Yes	Yes
Implant Template Group Storage	Yes	Yes
Fuji Private CR Storage	Yes	Yes
GE Private 3D Model Storage	Yes	Yes
GE Private PET Raw Data Storage	Yes	Yes
Siemens Private CSA Non-image Storage	Yes	Yes
Philips 3D Private Presentation State Storage	Yes	Yes
Philips Private MR Examcard Data Storage	Yes	Yes
Philips Private MR Series Data Storage	Yes	Yes
Philips Private MR Spectrum Storage	Yes	Yes

Table 1.2
Media Services

<i>Media Storage Application Profile</i>	<i>Write Files (FSC)</i>	<i>Read Files (FSR)</i>
CD—Recordable		
General Purpose CD-R	See conformance note	Yes
General Purpose Secure CD-R	See conformance note	No
DVD—Recordable		
General Purpose DVD-R	See conformance note	No
General Purpose Secure DVD-R	See conformance note	No

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3. Introduction

This document describes the conformance of the Vertex Application Suite to the DICOM 3.0 Standard [DICOM].

3.1. Revision History

Revision	Author	Comments	Date
1	Cyrus Samari	Created	9/18/2015
2	Dion Barrier	Revised	04/27/2020

3.2. Legal Notices

3.2.1. Copyright Notice

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3.2.3. Contact Address

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3.3. Definitions, Terms and Abbreviations

AE	Application Entity
ANSI	American National Standard Institute
DICOM	Digital Imaging and Communications in Medicine
FSR	File Set Reader
FSC	File Set Creator
IOD	Information Object Definition
ISO	International Organization for Standardization
NEMA	National Electrical Manufacturers Association
SCP	Service Class Provider
SCU	Service Class User
SOP	Service-Object Pair
TCP/IP	Transmission Control Protocol/Internet Protocol
UID	Unique Identifier
XML	eXtensible Markup Language

3.4. References

[DICOM]	Digital Imaging and Communications in Medicine (DICOM), NEMA PS 3.1-3.18, 2007
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4. Implementation Model

4.1. Storage SCP AE

4.1.1. Application Data Flow Diagram

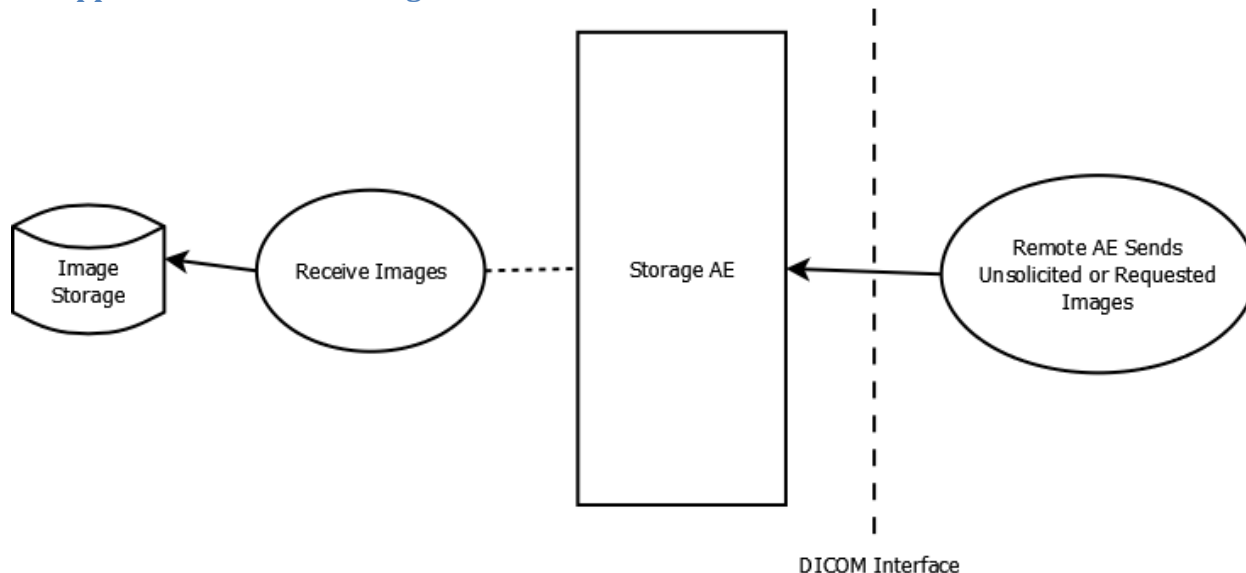


Figure 4.1—Storage SCP AE Dataflow

4.1.2. Functional Definition of AE

The Storage SCP AE accepts connections to the configured AE title's presentation address. Associations having presentation contexts with Storage SOP classes will be accepted.

4.1.2.1. Receive Images

The Receive Images operation is initiated by a successful association with a remote AE requesting to store images. Images received from the remote AE are sent to an image storage system(s). The system(s) to which received images are sent are determined by configuration for the destination AE title.

4.1.3. Sequencing of Real World Activities

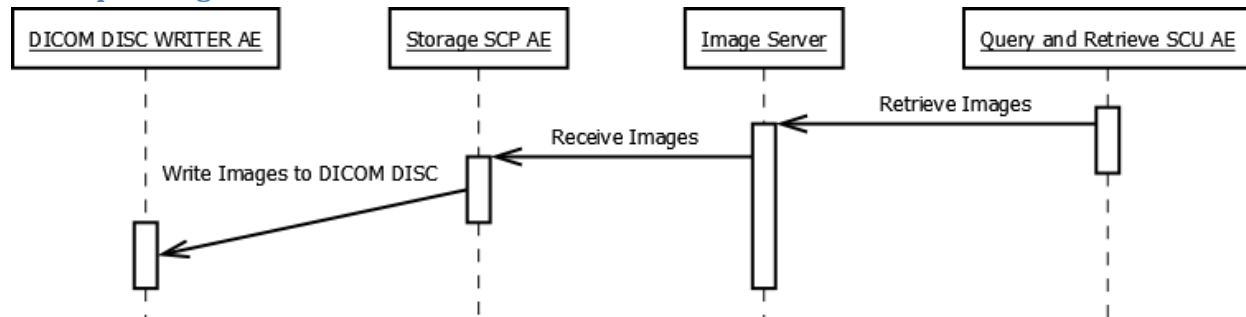


Figure 4.2—Example Real World Activity for Storage SCP AE

4.2. Storage SCU AE

4.2.1. Application Data Flow Diagram

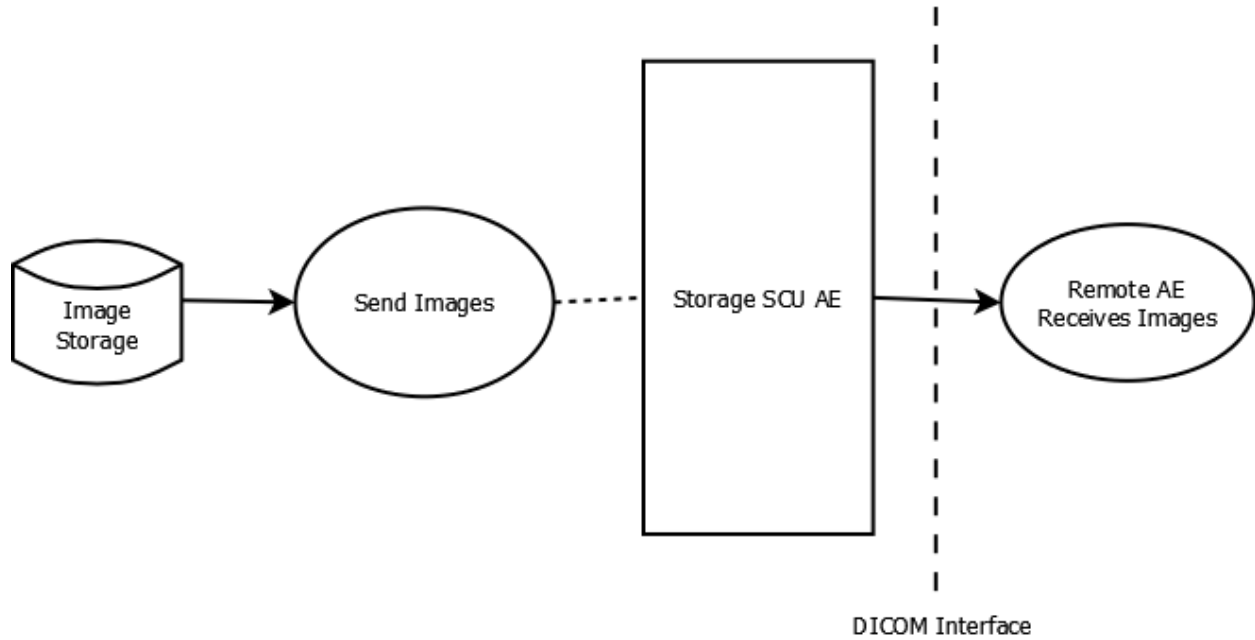


Figure 4.3—Storage SCU AE Dataflow

4.2.2. Functional Definition of AE

4.2.2.1. Send Images

The Send Images operation is initiated in response to Query and Retrieve or DICOM DISC media import operations. An association is initiated with the destination AE and is followed by a transfer of the requested images using C-Store operations.

4.2.3. Sequencing of Real World Activities

Not Applicable

4.3. DICOM DISC Writer AE

4.3.1. Application Data Flow Diagram

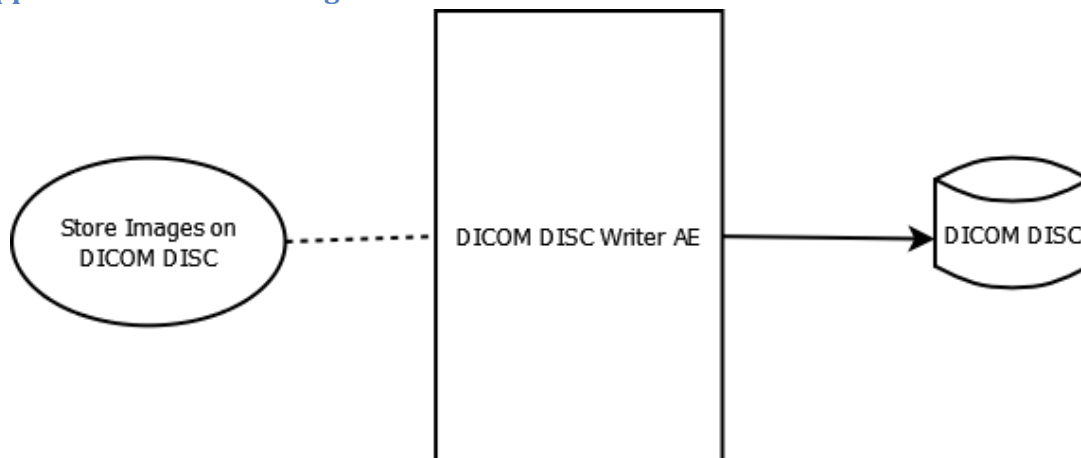


Figure 4.4—DICOM DISC Writer AE Dataflow

4.3.2. Functional Definition of AE

4.3.2.1. *Store Images on DICOM DISC*

The operation Store Images on DICOM DISC is initiated by the existence of a job production order in the build queue. Images bundled with the job will be conveyed to a DICOM DISC. Job production orders may include the following options:

- **Data Encryption**—writes images in Secure DICOM File Format.
- **Re-identification**—modifies patient demographic information.
- **DISC Write Verification**—verifies successful creation of DISC media.
- **Include Structured Reports**—retrieves associated structured reports from image source.

4.3.3. Sequencing of Real World Activities

Not applicable

4.4. Query and Retrieve SCU AE

4.4.1. Application Data Flow Diagram

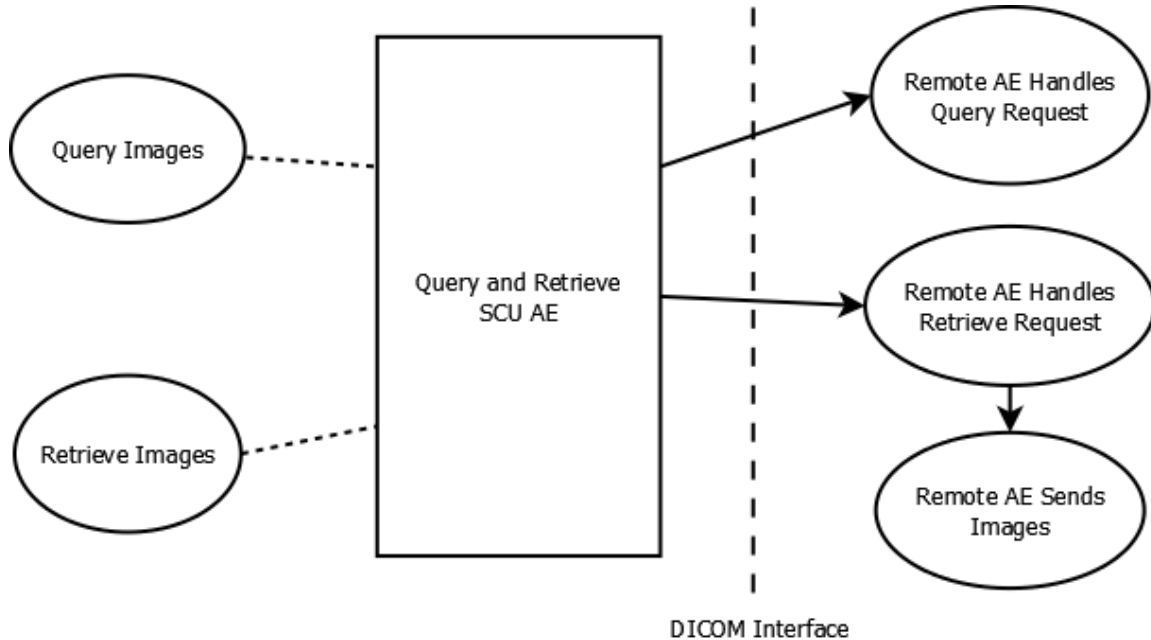


Figure 4.5—Query and Retrieve SCU AE Dataflow

4.4.2. Functional Definitions of AE

4.4.2.1. Query Images

Query Images establishes an association with a DICOM Query/Retrieve SCP using a presentation context having a Find SOP class. A Find request is sent with user specified query fields.

4.4.2.2. Retrieve Images

Retrieve Images establishes an association with a DICOM Query/Retrieve SCP using a presentation context having a Move SOP class. A Move request is sent for selected studies.

4.4.3. Sequencing of Real World Activities

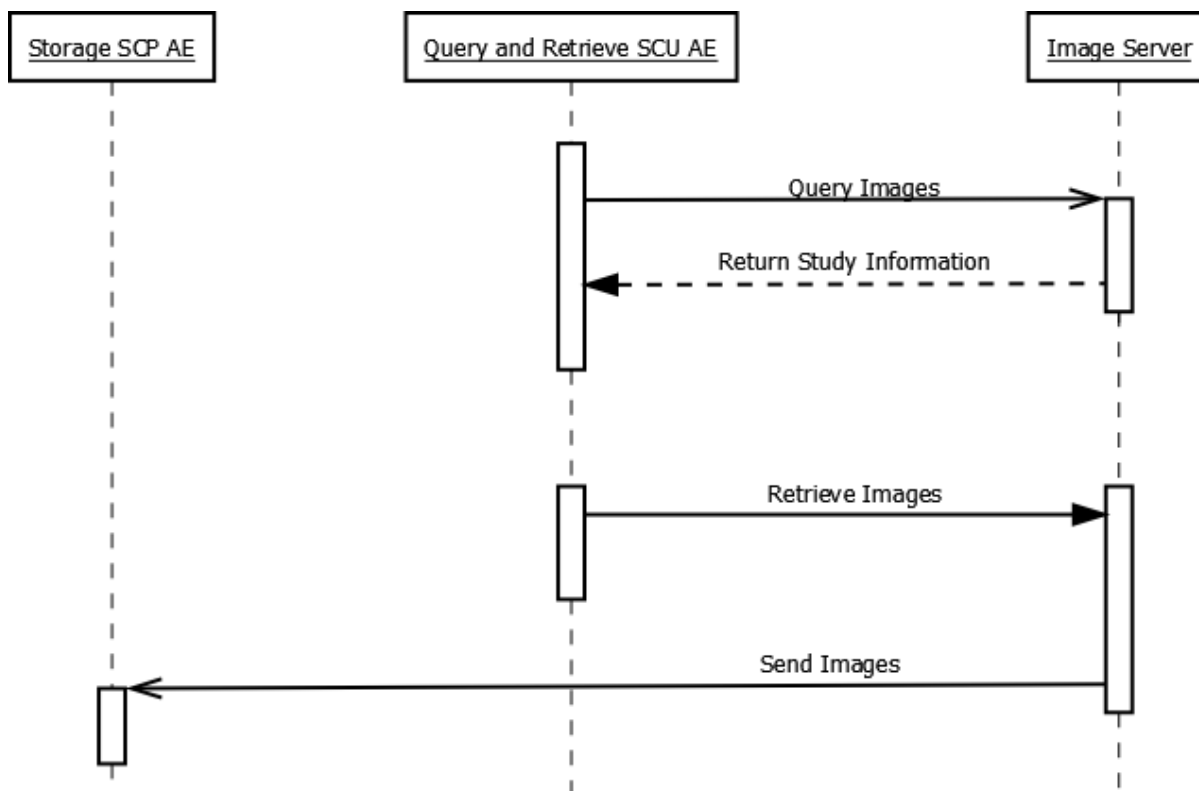


Figure 4.6—Example Real World Activity for Query and Retrieve SCU AE

4.5. Query and Retrieve SCP AE

4.5.1. Application Data Flow Diagram

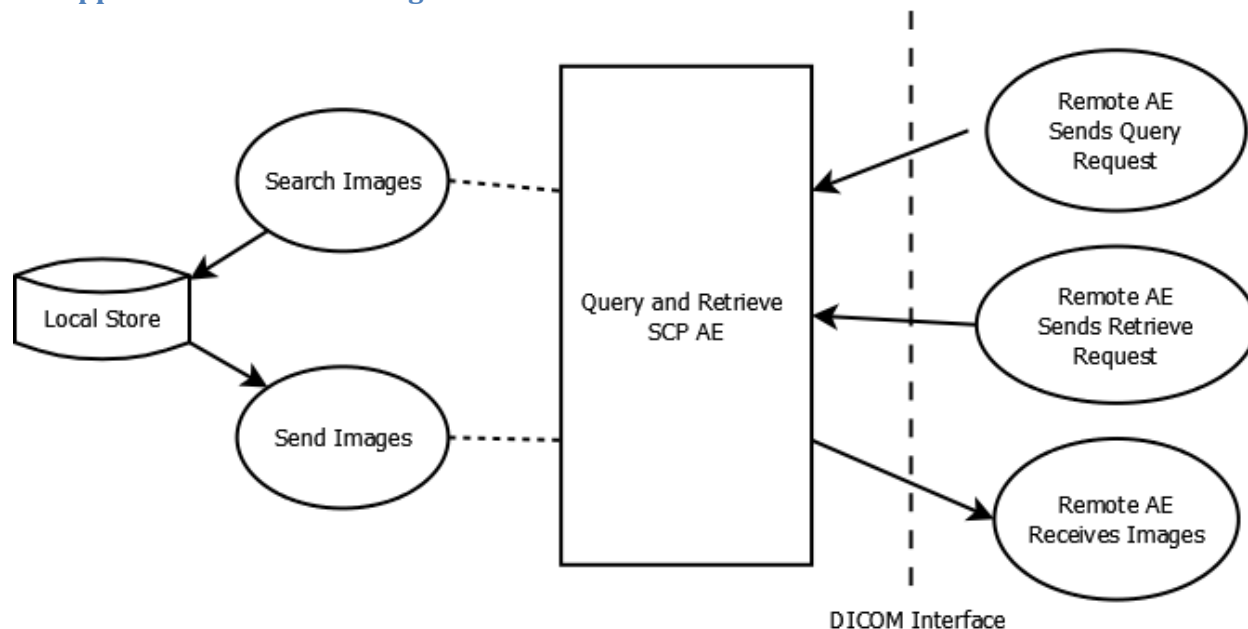


Figure 4.7—Query and Retrieve SCP AE Dataflow

4.5.2. Functional Definitions of AE

The Query and Retrieve SCP AE accepts connections to the configured AE title's presentation address. Associations having presentation contexts with Find or Move SOP classes will be accepted.

4.5.2.1. Search Images

Search Images is initiated by a Find request to the addressed local store. Search Images searches the host file system area assigned to the addressed local store for matches to user provided search criterion. Results are returned to the calling SCU.

4.5.2.2. Send Images

Send Objects is initiated by a Move request to the addressed local store. Send Images initiates Store requests through the Storage SCU AE for the image instances corresponding to the received Move request.

4.5.3. Sequencing of Real World Activities

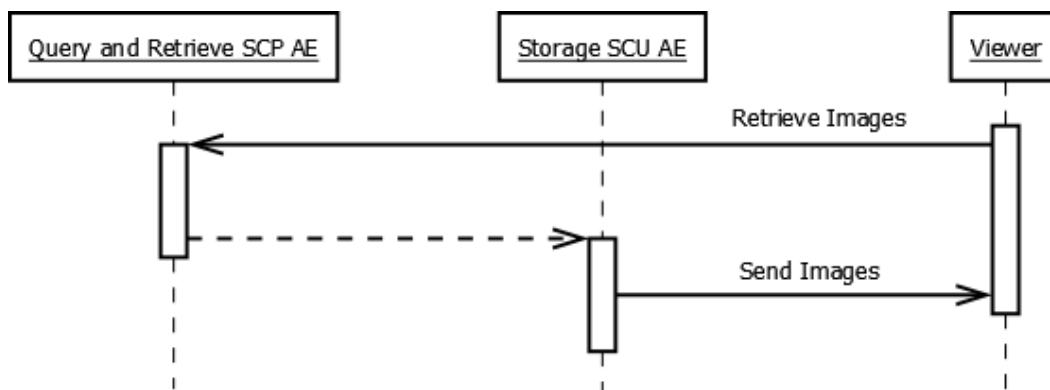


Figure 4.8—Example Real World Activity for Storage SCU AE

4.6. Importer AE

4.6.1. Application Data Flow Diagram

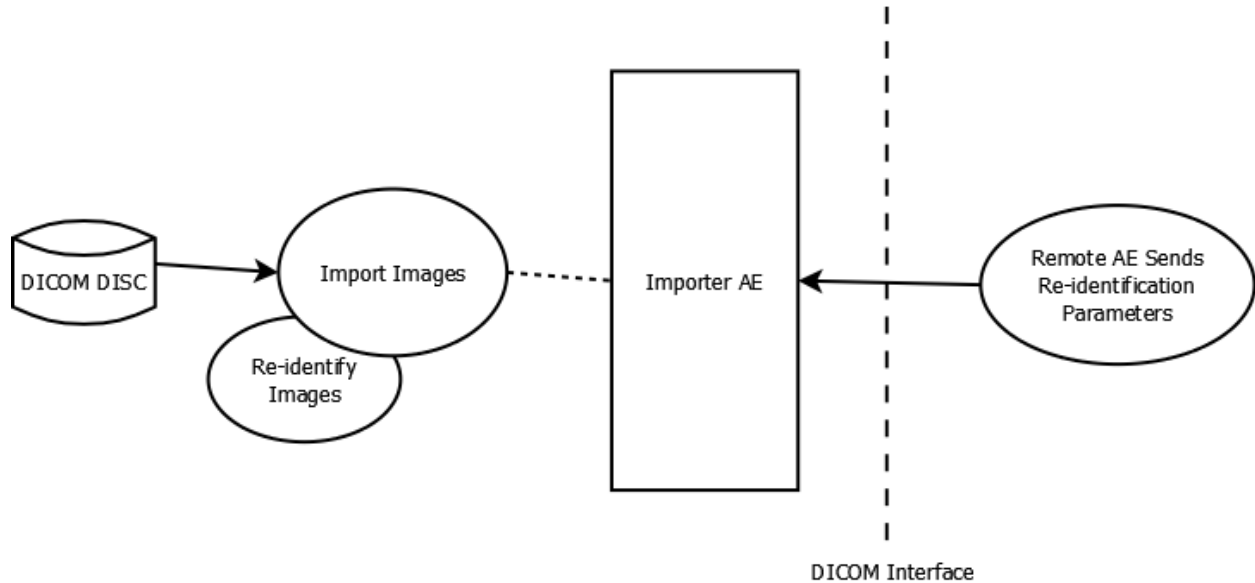


Figure 4.9—Importer AE Dataflow

4.6.2. Functional Definitions of AE

The Importer AE is a FSR enabling the importation of DICOM part 10 files from removable DICOM disc media.

4.6.2.1. Import Images

Import Images reads in a DICOM file set and sends Store requests to a user selected Storage. Import Images includes the ability to re-identify patient demographic using one of the following user selected source options:

- **Query and Retrieve SCP**
- **Modality Worklist Management SCP**
- **User-entered Values**

4.6.3. Sequencing of Real World Activities

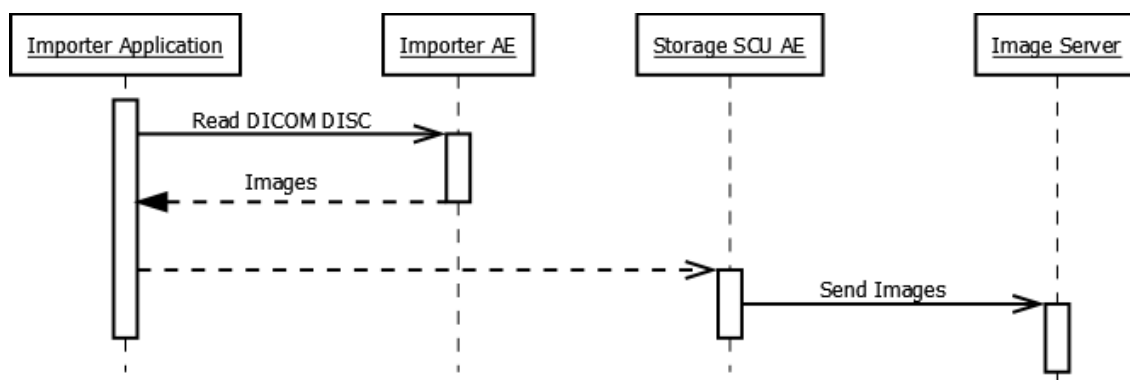


Figure 4.10—Example Real World Activity for Importer AE

4.7. Verification AE

4.7.1. Application Data Flow Diagram

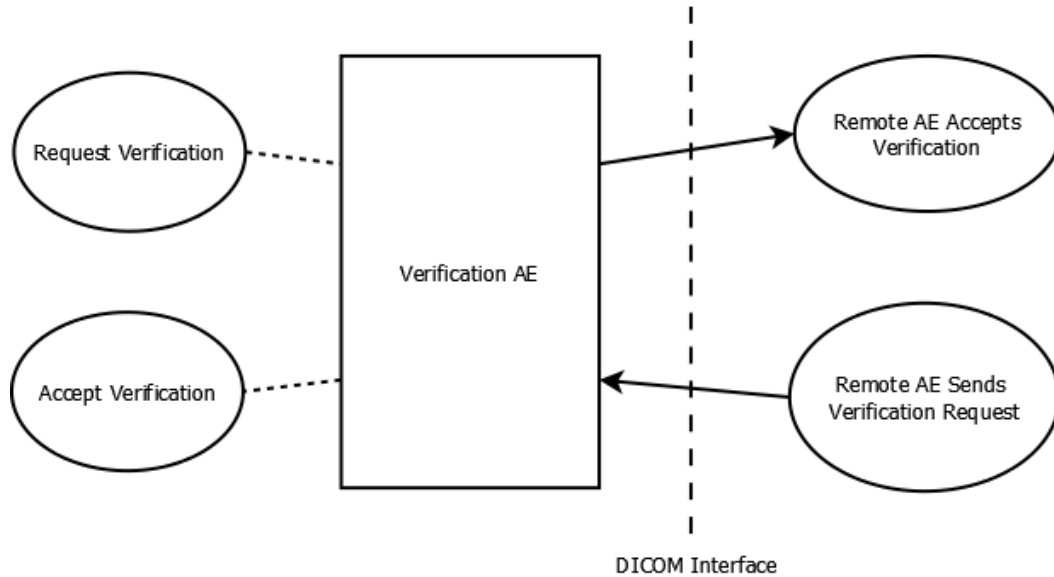


Figure 4.11—Verification AE Dataflow

4.7.2. Functional Definitions of AE

4.7.2.1. Request Verification

The Verification AE acts as an SCU by sending requests with a presentation context having a Verification SOP class.

4.7.2.2. Accept Verification

The Verification AE acts as an SCP by accepting connections for associations having presentation contexts for Verification SOP classes.

4.7.3. Sequencing of Real World Activities

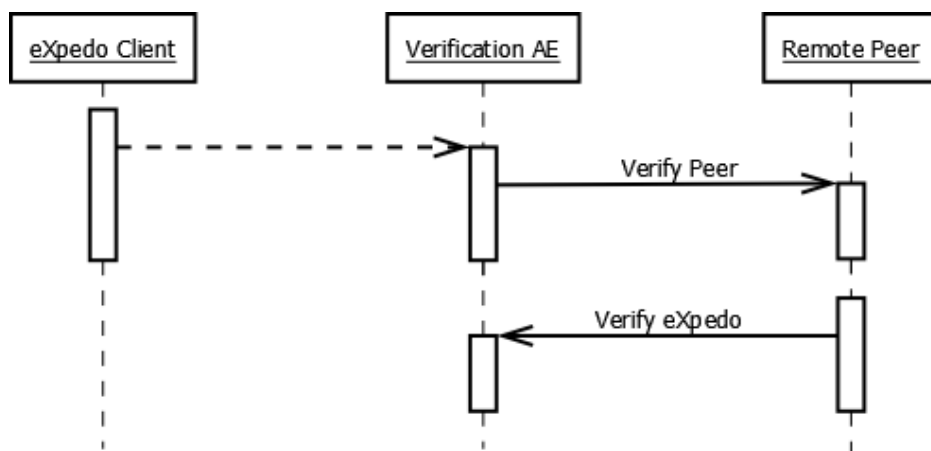


Figure 4.12—Example Real World Activity for Verification AE

5. AE Specifications

5.1. Storage SCP AE

5.1.1. SOP Classes

The Storage SCP AE provides Standard Conformance to the following SOP classes:

Table 5.1
Supported SOP Classes

<i>SOP Class Name</i>	<i>SOP Class UID</i>	<i>SCU</i>	<i>SCP</i>
Stored Print Storage	1.2.840.10008.5.1.1.27	No	Yes
Hardcopy Grayscale Image Storage	1.2.840.10008.5.1.1.29	No	Yes
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30	No	Yes
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	No	Yes
Digital X-Ray Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.1	No	Yes
Digital X-Ray Image Storage (Processing)	1.2.840.10008.5.1.4.1.1.1.1.1	No	Yes
Digital Mammography Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.2	No	Yes
Digital Mammography Image Storage (Processing)	1.2.840.10008.5.1.4.1.1.1.2.1	No	Yes
Digital Intra-oral X-Ray Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.3	No	Yes
Digital Intra-oral X-Ray Image Storage (Processing)	1.2.840.10008.5.1.4.1.1.1.3.1	No	Yes
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	No	Yes
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	No	Yes
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	No	Yes
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	No	Yes
Enhanced MR Image Storage	1.2.840.10008.5.1.4.1.1.4.1	No	Yes
Enhanced MR Color Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.3	No	Yes
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	No	Yes
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6	No	Yes
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	No	Yes
Enhanced US Volume Storage	1.2.840.10008.5.1.4.1.1.6.2	No	Yes
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	No	Yes
Multi-frame Single Bit Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.1	No	Yes
Multi-frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2	No	Yes
Multi-frame Grayscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3	No	Yes
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	No	Yes
Stand-alone Overlay Storage	1.2.840.10008.5.1.4.1.1.8	No	Yes
Stand-alone Curve Storage	1.2.840.10008.5.1.4.1.1.9	No	Yes
12-Lead ECG Waveform	1.2.840.10008.5.1.4.1.1.9.1.1	No	Yes
General ECG Waveform	1.2.840.10008.5.1.4.1.1.9.1.2	No	Yes
Ambulatory ECG Waveform	1.2.840.10008.5.1.4.1.1.9.1.3	No	Yes
Hemodynamic Waveform	1.2.840.10008.5.1.4.1.1.9.2.1	No	Yes
Cardiac Electrophysiology Waveform	1.2.840.10008.5.1.4.1.1.9.3.1	No	Yes
Basic Voice Audio Waveform	1.2.840.10008.5.1.4.1.1.9.4.1	No	Yes
General Audio Waveform	1.2.840.10008.5.1.4.1.1.9.4.2	No	Yes
Arterial Pulse Waveform	1.2.840.10008.5.1.4.1.1.9.5.1	No	Yes
Respiratory Pulse Waveform	1.2.840.10008.5.1.4.1.1.9.6.1	No	Yes

Stand-alone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10	No	Yes
Stand-alone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11	No	Yes
Grayscale Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.1	No	Yes
Color Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.2	No	Yes
Pseudo Color Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.3	No	Yes
Blended Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.4	No	Yes
XA/XRF Grayscale Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.5	No	Yes
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	No	Yes
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2	No	Yes
Enhanced XRF Image Storage	1.2.840.10008.5.1.4.1.1.12.2.1	No	Yes
X-Ray 3D Angiographic Image	1.2.840.10008.5.1.4.1.1.13.1.1	No	Yes
X-Ray 3D Craniofacial Image	1.2.840.10008.5.1.4.1.1.13.1.2	No	Yes
Breast Tomosynthesis Image	1.2.840.10008.5.1.4.1.1.13.1.3	No	Yes
Intravascular Optical Coherence Tomography Image (Presentation)	1.2.840.10008.5.1.4.1.1.14.1	No	Yes
Intravascular Optical Coherence Tomography Image (Processing)	1.2.840.10008.5.1.4.1.1.14.2	No	Yes
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	No	Yes
Raw Data Storage	1.2.840.10008.5.1.4.1.1.66	No	Yes
Spatial Registration Storage	1.2.840.10008.5.1.4.1.1.66.1	No	Yes
Spatial Fiducials Storage	1.2.840.10008.5.1.4.1.1.66.2	No	Yes
Deformable Spatial Registration Storage	1.2.840.10008.5.1.4.1.1.66.3	No	Yes
Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.4	No	Yes
Surface Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.5	No	Yes
Real World Value Mapping Storage	1.2.840.10008.5.1.4.1.1.67	No	Yes
Surface Scan Mesh Storage	1.2.840.10008.5.1.4.1.1.68.1	No	Yes
Surface Scan Point Cloud Storage	1.2.840.10008.5.1.4.1.1.68.2	No	Yes
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	No	Yes
Video Endoscopic Storage SOP Class	1.2.840.10008.5.1.4.1.1.77.1.1.1	No	Yes
VL Microscopic Image	1.2.840.10008.5.1.4.1.1.77.1.2	No	Yes
Video Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2.1	No	Yes
VL Slide-Coordinates Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3	No	Yes
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	No	Yes
Ophthalmic Photography IOD 8 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.1	No	Yes
Ophthalmic Photography IOD 16 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.2	No	Yes
Stereometric Relationship Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.3	No	Yes
Ophthalmic Tomography Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.4	No	Yes
VL Whole Slide Microscopy Image Storage	1.2.840.10008.5.1.4.1.1.77.1.6	No	Yes
Lensometry Measurements Storage	1.2.840.10008.5.1.4.1.1.78.1	No	Yes
Autorefraction Measurements Storage	1.2.840.10008.5.1.4.1.1.78.2	No	Yes
Keratometry Measurements Storage	1.2.840.10008.5.1.4.1.1.78.3	No	Yes
Subjective Refraction Measurements Storage	1.2.840.10008.5.1.4.1.1.78.4	No	Yes
Visual Acuity Storage Measurements Storage	1.2.840.10008.5.1.4.1.1.78.5	No	Yes
Spectacle Prescription Report Storage	1.2.840.10008.5.1.4.1.1.78.6	No	Yes
Ophthalmic Axial Measurements Storage	1.2.840.10008.5.1.4.1.1.78.7	No	Yes
Intraocular Lens Calculations Storage	1.2.840.10008.5.1.4.1.1.78.8	No	Yes
Macular Grid Thickness and Volume Report	1.2.840.10008.5.1.4.1.1.79.1	No	Yes

Ophthalmic Visual Field Static Perimetry Measurements Storage	1.2.840.10008.5.1.4.1.1.80.1	No	Yes
Ophthalmic Thickness Map Storage	1.2.840.10008.5.1.4.1.1.81.1	No	Yes
Corneal Topography Map Storage	1.2.840.10008.5.1.4.1.1.82.1	No	Yes
Basic Text SR	1.2.840.10008.5.1.4.1.1.88.11	No	Yes
Enhanced SR	1.2.840.10008.5.1.4.1.1.88.22	No	Yes
Comprehensive SR	1.2.840.10008.5.1.4.1.1.88.33	No	Yes
Comprehensive 3D SR	1.2.840.10008.5.1.4.1.1.88.34	No	Yes
Procedure Log	1.2.840.10008.5.1.4.1.1.88.40	No	Yes
MammographyCADSR	1.2.840.10008.5.1.4.1.1.88.50	No	Yes
Key Image Object Storage SOP Class	1.2.840.10008.5.1.4.1.1.88.59	No	Yes
Chest CAD SR	1.2.840.10008.5.1.4.1.1.88.65	No	Yes
X-Ray Radiation Dose SR	1.2.840.10008.5.1.4.1.1.88.67	No	Yes
Colon CAD SR	"1.2.840.10008.5.1.4.1.1.88.69	No	Yes
Implantation Plan SR Document Storage	1.2.840.10008.5.1.4.1.1.88.70	No	Yes
Encapsulated PDF Storage SOP Class	1.2.840.10008.5.1.4.1.1.104.1	No	Yes
Encapsulated CDA Storage	1.2.840.10008.5.1.4.1.1.104.2	No	Yes
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128	No	Yes
Standalone PET Curve Storage	1.2.840.10008.5.1.4.1.1.129	No	Yes
Enhanced PET Image Storage	1.2.840.10008.5.1.4.1.1.130	No	Yes
Basic Structured Display Storage	1.2.840.10008.5.1.4.1.1.131	No	Yes
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1	No	Yes
RT Dose Storage	1.2.840.10008.5.1.4.1.1.481.2	No	Yes
RT Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3	No	Yes
RT Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.4	No	Yes
RT Plan Storage	1.2.840.10008.5.1.4.1.1.481.5	No	Yes
RT Brachy Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.6	No	Yes
RT Treatment Summary Record Storage	1.2.840.10008.5.1.4.1.1.481.7	No	Yes
RT Ion Plan Storage	1.2.840.10008.5.1.4.1.1.481.8	No	Yes
RT Ion Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.9	No	Yes
RT Beams Delivery Instruction Storage	1.2.840.10008.5.1.4.34.7	No	Yes
Hanging Protocol Storage	1.2.840.10008.5.1.4.38.1	No	Yes
Color Palette Storage	1.2.840.10008.5.1.4.39.1	No	Yes
Generic Implant Template Storage	1.2.840.10008.5.1.4.43.1	No	Yes
Implant Assembly Template Storage	1.2.840.10008.5.1.4.44.1	No	Yes
Implant Template Group Storage	1.2.840.10008.5.1.4.45.1	No	Yes
Fuji Private CR Storage	1.2.392.200036.9125.1.1.2	No	Yes
GE Private 3D Model Storage	1.2.840.113619.4.26	No	Yes
GE Private PET Raw Data Storage	1.2.840.113619.4.30	No	Yes
Siemens Private CSA Non-image Storage	1.3.12.2.1107.5.9.1	No	Yes
Philips 3D Private Presentation State Storage	1.3.46.670589.2.5.1.1	No	Yes
Philips Private MR Examcard Data Storage	1.3.46.670589.11.0.0.12.4	No	Yes
Philips Private MR Series Data Storage	1.3.46.670589.11.0.0.12.2	No	Yes
Philips Private MR Spectrum Storage	1.3.46.670589.11.0.0.12.1	No	Yes

5.1.2. Association Establishment Policies

5.1.2.1. General

The DICOM standard Application context shall be specified.

<i>Application Context Name</i>	1.2.840.10008.3.1.1.1
---------------------------------	-----------------------

5.1.2.2. Number of Associations

The Storage SCP AE is internally limited by configuration in the number of simultaneous associations it may accept.

<i>Maximum Number of Simultaneous Associations (acceptor)</i>	100 (default)
---	---------------

5.1.2.3. Asynchronous Nature

Multiple outstanding operations over a single association are not supported.

<i>Maximum Number of Outstanding Asynchronous Transactions</i>	1
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5.1.2.4. Implementation Identifying Information

<i>Implementation Class UID</i>	2.16.840.1.114444
<i>Implementation Version Name</i>	VERTEX{x} ¹

5.1.3. Association Initiation by Real World Activity

The Storage SCP AE never initiates an association.

5.1.4. Association Acceptance Policy

The Storage SCP AE accepts associations from remote AEs offering valid Presentation Contexts.

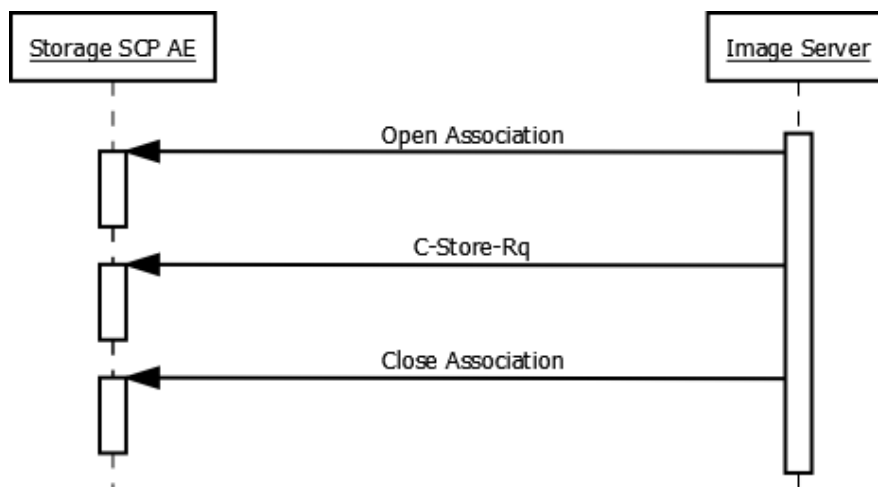


Figure 5.1—Receive Images Activity

5.1.4.1. Accepted Presentation Contexts

Note: transfer syntax support is consistent across Storage classes.

¹ "{x}" representing the application version number. E.g. "2.7.0.6"

Table 5.2

Accepted Presentation Contexts

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
See Table 5.1	See Table 5.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
		JPEG Process 1 Baseline	1.2.840.10008.1.2.4.50	SCP	None
		JPEG Process Ext 24	1.2.840.10008.1.2.4.51	SCP	None
		JPEG Process 14 Lossless	1.2.840.10008.1.2.4.57	SCP	None
		JPEG Process 14 Lossless SV1	1.2.840.10008.1.2.4.70	SCP	None
		JPEG Lossless	1.2.840.10008.1.2.4.80	SCP	None
		JPEG Near Lossless	1.2.840.10008.1.2.4.81	SCP	None
		JPEG 2000 Near Lossless	1.2.840.10008.1.2.4.90	SCP	None
		JPEG 2000	1.2.840.10008.1.2.4.91	SCP	None
		MPEG 2	1.2.840.10008.1.2.4.100	SCP	None

Table 5.3

Storage SCP AE C-Store Status Return Reasons

Service Status	Further Meaning	Error Code	Reason
Refused	Out of resources	A700	Out of resources
Failed	Identifier Mismatch	A900	Identifier/SOP Class mismatch
	Not Supported	C001	Option is not supported on the Vertex system
	Volume Not Found	C002	Unable to find specified local store
	Not Responding	C003	The server is not responding. Try again later
	Not Authorized	C004	The system could not log you on
	Presentation Context Missing	C006	Cannot understand
Cancel	Request Cancelled	FE00	Cancelled
Pending	Pending	FF00	Pending
Success	Success	0000	Success

5.2. Storage SCU AE

5.2.1. SOP Classes

The Storage SCU AE provides Standard Conformance to the following SOP classes:

Table 5.4
Supported SOP Classes

<i>SOP Class Name</i>	<i>SOP Class UID</i>	<i>SCU</i>	<i>SCP</i>
Stored Print Storage	1.2.840.10008.5.1.1.27	Yes	No
Hardcopy Grayscale Image Storage	1.2.840.10008.5.1.1.29	Yes	No
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30	Yes	No
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	Yes	No
Digital X-Ray Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.1	Yes	No
Digital X-Ray Image Storage (Processing)	1.2.840.10008.5.1.4.1.1.1.1.1	Yes	No
Digital Mammography Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.2	Yes	No
Digital Mammography Image Storage (Processing)	1.2.840.10008.5.1.4.1.1.1.2.1	Yes	No
Digital Intra-oral X-Ray Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.3	Yes	No
Digital Intra-oral X-Ray Image Storage (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
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
Enhanced MR Color Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.3	Yes	No
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	Yes	No
Ultrasound Image Storage	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
Stand-alone Overlay Storage	1.2.840.10008.5.1.4.1.1.8	Yes	No
Stand-alone Curve Storage	1.2.840.10008.5.1.4.1.1.9	Yes	No
12-Lead ECG Waveform	1.2.840.10008.5.1.4.1.1.9.1.1	Yes	No
General ECG Waveform	1.2.840.10008.5.1.4.1.1.9.1.2	Yes	No
Ambulatory ECG Waveform	1.2.840.10008.5.1.4.1.1.9.1.3	Yes	No
Hemodynamic Waveform	1.2.840.10008.5.1.4.1.1.9.2.1	Yes	No
Cardiac Electrophysiology Waveform	1.2.840.10008.5.1.4.1.1.9.3.1	Yes	No
Basic Voice Audio Waveform	1.2.840.10008.5.1.4.1.1.9.4.1	Yes	No
General Audio Waveform	1.2.840.10008.5.1.4.1.1.9.4.2	Yes	No
Arterial Pulse Waveform	1.2.840.10008.5.1.4.1.1.9.5.1	Yes	No
Respiratory Pulse Waveform	1.2.840.10008.5.1.4.1.1.9.6.1	Yes	No
Stand-alone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10	Yes	No
Stand-alone VOI LUT Storage	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
Blended 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
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	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 3D Angiographic Image	1.2.840.10008.5.1.4.1.1.13.1.1	Yes	No
X-Ray 3D Craniofacial Image	1.2.840.10008.5.1.4.1.1.13.1.2	Yes	No
Breast Tomosynthesis Image	1.2.840.10008.5.1.4.1.1.13.1.3	Yes	No
Intravascular Optical Coherence Tomography Image (Presentation)	1.2.840.10008.5.1.4.1.1.14.1	Yes	No
Intravascular Optical Coherence Tomography Image (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
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
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
NoYesVL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	Yes	No
Video Endoscopic Storage SOP Class	1.2.840.10008.5.1.4.1.1.77.1.1.1	Yes	No
VL Microscopic Image	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
Ophthalmic Photography IOD 8 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.1	Yes	No
Ophthalmic Photography IOD 16 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.2	Yes	No
Stereometric Relationship Image 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
VL Whole Slide Microscopy Image Storage	1.2.840.10008.5.1.4.1.1.77.1.6	Yes	No
Lensometry Measurements Storage	1.2.840.10008.5.1.4.1.1.78.1	Yes	No
Autorefractive 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 Storage 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	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
Basic Text SR	1.2.840.10008.5.1.4.1.1.88.11	Yes	No

Enhanced SR	1.2.840.10008.5.1.4.1.1.88.22	Yes	No
Comprehensive SR	1.2.840.10008.5.1.4.1.1.88.33	Yes	No
Comprehensive 3D SR	1.2.840.10008.5.1.4.1.1.88.34	Yes	No
Procedure Log	1.2.840.10008.5.1.4.1.1.88.40	Yes	No
Mammography CAD SR	1.2.840.10008.5.1.4.1.1.88.50	Yes	No
Key Image Object Storage SOP Class	1.2.840.10008.5.1.4.1.1.88.59	Yes	No
Chest CAD SR	1.2.840.10008.5.1.4.1.1.88.65	Yes	No
X-Ray Radiation Dose SR	1.2.840.10008.5.1.4.1.1.88.67	Yes	No
Colon CAD SR	"1.2.840.10008.5.1.4.1.1.88.69	Yes	No
Implantation Plan SR Document Storage	1.2.840.10008.5.1.4.1.1.88.70	Yes	No
Encapsulated PDF Storage SOP Class	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
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128	Yes	No
Standalone PET Curve Storage	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
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 Beams Delivery Instruction Storage	1.2.840.10008.5.1.4.34.7	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
Fuji Private CR Storage	1.2.392.200036.9125.1.1.2	Yes	No
GE Private 3D Model Storage	1.2.840.113619.4.26	Yes	No
GE Private PET Raw Data Storage	1.2.840.113619.4.30	Yes	No
Siemens Private CSA Non-image Storage	1.3.12.2.1107.5.9.1	Yes	No
Philips 3D Private Presentation State Storage	1.3.46.670589.2.5.1.1	Yes	No
Philips Private MR Examcard Data Storage	1.3.46.670589.11.0.0.12.4	Yes	No
Philips Private MR Series Data Storage	1.3.46.670589.11.0.0.12.2	Yes	No
Philips Private MR Spectrum Storage	1.3.46.670589.11.0.0.12.1	Yes	No

5.2.2. Association Establishment Policies

5.2.2.1. General

The DICOM standard Application context shall be specified.

<i>Application Context Name</i>	1.2.840.10008.3.1.1.1
---------------------------------	-----------------------

5.2.2.2. Number of Associations

The Storage SCU AE is not internally limited in the number of simultaneous associations it may initiate.

<i>Maximum Number of Simultaneous Associations (initiator)</i>	No Limit
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5.2.2.3. Asynchronous Nature

Multiple outstanding operations over a single association are not supported.

<i>Maximum Number of Outstanding Asynchronous Transactions</i>	1
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5.2.2.4. Implementation Identifying Information

<i>Implementation Class UID</i>	2.16.840.1.114444
<i>Implementation Version Name</i>	VERTEX{x} ²

5.2.3. Association Initiation by Real World Activity

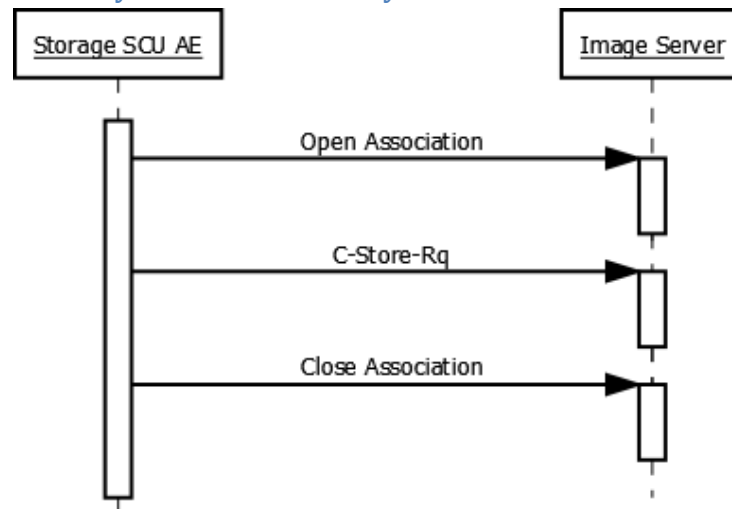


Figure 5.2—Send Images Activity

² "{x}" representing the application version number. E.g. "2.7.0.6"

Table 5.5

Proposed Presentation Contexts

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
See Table 5.4	See Table 5.4	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
		JPEG Process 1 Baseline	1.2.840.10008.1.2.4.50	SCU	None
		JPEG Process Ext 24	1.2.840.10008.1.2.4.51	SCU	None
		JPEG Process 14 Lossless	1.2.840.10008.1.2.4.57	SCU	None
		JPEG Process 14 Lossless SV1	1.2.840.10008.1.2.4.70	SCU	None
		JPEG Lossless	1.2.840.10008.1.2.4.80	SCU	None
		JPEG Near Lossless	1.2.840.10008.1.2.4.81	SCU	None
		JPEG 2000 Near Lossless	1.2.840.10008.1.2.4.90	SCU	None
		JPEG 2000	1.2.840.10008.1.2.4.91	SCU	None
		MPEG 2	1.2.840.10008.1.2.4.100	SCU	None

5.2.4. Association Acceptance Policy

The Storage SCU AE never accepts an association.

5.3. DICOM DISC Writer AE

5.3.1.1. Conformance to DICOM Interchange of the Media Storage Service

DICOM DISC Writer AE supports DICOM Interchange of the Media Storage Service. It provides standard conformance as a FSC as defined in part 10 of the DICOM standard.

NOTE: The DICOM DISC Writer AE is agnostic with respect to transfer syntax as an FSC for Image Storage classes. Image instances included in a build job production order receive no conversion/post-processing. Standard conformant application profiles are only possible if images to be written already match profile transfer syntax options.

Table 5.6 <i>Supported Application Profiles</i>			
<i>Application Profiles Supported</i>	<i>Real-World Activity</i>	<i>Roles</i>	<i>SC Option</i>
STD-GEN-CD	Store Images on DICOM DISC	FSC	Interchange
STD-GEN-SEC-CD	Store Images on DICOM DISC	FSC	Interchange
STD-GEN-DVD	Store Images on DICOM DISC	FSC	Interchange
STD-GEN-SEC-DVD	Store Images on DICOM DISC	FSC	Interchange

5.3.2. File Meta Information

<i>Implementation Class UID</i>	2.16.840.1.114444
<i>Implementation Version Name</i>	VERTEX{x} ³

5.3.3. Real World Activity—Store Images on DICOM DISC

The DICOM DISC Writer AE acts as an FSC to export SOP instances associated with DICOM DISC build jobs.

The user is able to provide DISC production options that include the re-identification of patient demographics, encryption of DICOM files⁴ as well as DISC verification.

5.3.3.1. Options

DICOM DISC Writer AE supports the SOP classes and Transfer Syntaxes listed in the table below.

Table 5.7 <i>Supported IODs, SOP Classes and Transfer Syntaxes</i>			
<i>IOD</i>	<i>SOP Class UID</i>	<i>Transfer Syntax</i>	<i>Transfer Syntax UID</i>
Basic Directory	1.2.840.10008.1.3.10	Explicit VR Little Endian Uncompressed	1.2.840.10008.1.2.1
Stored Print Storage	1.2.840.10008.5.1.1.27	Refer to Conformance Note.	Refer to Conformance Note.
Hardcopy Grayscale Image Storage	1.2.840.10008.5.1.1.29		
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30		
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1		

³ "{x}" representing the application version number. E.g. "2.7.0.6"

⁴ Refer to the Security section of this document for DICOM conformance specifics.

Digital X-Ray Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.1		
Digital X-Ray Image Storage (Processing)	1.2.840.10008.5.1.4.1.1.1.1.1		
Digital Mammography Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.2		
Digital Mammography Image Storage (Processing)	1.2.840.10008.5.1.4.1.1.1.2.1		
Digital Intra-oral X-Ray Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.3		
Digital Intra-oral X-Ray Image Storage (Processing)	1.2.840.10008.5.1.4.1.1.1.3.1		
CT Image Storage	1.2.840.10008.5.1.4.1.1.2		
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3		
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1		
MR Image Storage	1.2.840.10008.5.1.4.1.1.4		
Enhanced MR Image Storage	1.2.840.10008.5.1.4.1.1.4.1		
Enhanced MR Color Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.3		
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5		
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6		
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1		
Enhanced US Volume Storage	1.2.840.10008.5.1.4.1.1.6.2		
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7		
Multi-frame Single Bit Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.1		
Multi-frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2		
Multi-frame Grayscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3		
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4		
Stand-alone Overlay Storage	1.2.840.10008.5.1.4.1.1.8		
Stand-alone Curve Storage	1.2.840.10008.5.1.4.1.1.9		
12-Lead ECG Waveform	1.2.840.10008.5.1.4.1.1.9.1.1		
General ECG Waveform	1.2.840.10008.5.1.4.1.1.9.1.2		
Ambulatory ECG Waveform	1.2.840.10008.5.1.4.1.1.9.1.3		
Hemodynamic Waveform	1.2.840.10008.5.1.4.1.1.9.2.1		
Cardiac Electrophysiology Waveform	1.2.840.10008.5.1.4.1.1.9.3.1		
Basic Voice Audio Waveform	1.2.840.10008.5.1.4.1.1.9.4.1		
General Audio Waveform	1.2.840.10008.5.1.4.1.1.9.4.2		
Arterial Pulse Waveform	1.2.840.10008.5.1.4.1.1.9.5.1		
Respiratory Pulse Waveform	1.2.840.10008.5.1.4.1.1.9.6.1		
Stand-alone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10		
Stand-alone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11		

Grayscale Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.1		
Color Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.2		
Pseudo Color Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.3		
Blended Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.4		
XA/XRF Grayscale Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.5		
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1		
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2		
Enhanced XRF Image Storage	1.2.840.10008.5.1.4.1.1.12.2.1		
X-Ray 3D Angiographic Image	1.2.840.10008.5.1.4.1.1.13.1.1		
X-Ray 3D Craniofacial Image	1.2.840.10008.5.1.4.1.1.13.1.2		
Breast Tomosynthesis Image	1.2.840.10008.5.1.4.1.1.13.1.3		
Intravascular Optical Coherence Tomography Image (Presentation)	1.2.840.10008.5.1.4.1.1.14.1		
Intravascular Optical Coherence Tomography Image (Processing)	1.2.840.10008.5.1.4.1.1.14.2		
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20		
Raw Data Storage	1.2.840.10008.5.1.4.1.1.66		
Spatial Registration Storage	1.2.840.10008.5.1.4.1.1.66.1		
Spatial Fiducials Storage	1.2.840.10008.5.1.4.1.1.66.2		
Deformable Spatial Registration Storage	1.2.840.10008.5.1.4.1.1.66.3		
Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.4		
Surface Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.5		
Real World Value Mapping Storage	1.2.840.10008.5.1.4.1.1.67		
Surface Scan Mesh Storage	1.2.840.10008.5.1.4.1.1.68.1		
Surface Scan Point Cloud Storage	1.2.840.10008.5.1.4.1.1.68.2		
NoYesVL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1		
Video Endoscopic Storage SOP Class	1.2.840.10008.5.1.4.1.1.77.1.1.1		
VL Microscopic Image	1.2.840.10008.5.1.4.1.1.77.1.2		
Video Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2.1		
VL Slide-Coordinates Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3		
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4		
Ophthalmic Photography IOD 8 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.1		
Ophthalmic Photography IOD 16 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.2		
Stereometric Relationship Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.3		
Ophthalmic Tomography Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.4		
VL Whole Slide Microscopy Image Storage	1.2.840.10008.5.1.4.1.1.77.1.6		
Lenometry Measurements Storage	1.2.840.10008.5.1.4.1.1.78.1		

Autorefraction Measurements Storage	1.2.840.10008.5.1.4.1.1.78.2		
Keratometry Measurements Storage	1.2.840.10008.5.1.4.1.1.78.3		
Subjective Refraction Measurements Storage	1.2.840.10008.5.1.4.1.1.78.4		
Visual Acuity Storage Measurements Storage	1.2.840.10008.5.1.4.1.1.78.5		
Spectacle Prescription Report Storage	1.2.840.10008.5.1.4.1.1.78.6		
Ophthalmic Axial Measurements Storage	1.2.840.10008.5.1.4.1.1.78.7		
Intraocular Lens Calculations Storage	1.2.840.10008.5.1.4.1.1.78.8		
Macular Grid Thickness and Volume Report	1.2.840.10008.5.1.4.1.1.79.1		
Ophthalmic Visual Field Static Perimetry Measurements Storage	1.2.840.10008.5.1.4.1.1.80.1		
Ophthalmic Thickness Map Storage	1.2.840.10008.5.1.4.1.1.81.1		
Corneal Topography Map Storage	1.2.840.10008.5.1.4.1.1.82.1		
Basic Text SR	1.2.840.10008.5.1.4.1.1.88.11		
Enhanced SR	1.2.840.10008.5.1.4.1.1.88.22		
Comprehensive SR	1.2.840.10008.5.1.4.1.1.88.33		
Comprehensive 3D SR	1.2.840.10008.5.1.4.1.1.88.34		
Procedure Log	1.2.840.10008.5.1.4.1.1.88.40		
Mammography CAD SR	1.2.840.10008.5.1.4.1.1.88.50		
Key Image Object Storage SOP Class	1.2.840.10008.5.1.4.1.1.88.59		
Chest CAD SR	1.2.840.10008.5.1.4.1.1.88.65		
X-Ray Radiation Dose SR	1.2.840.10008.5.1.4.1.1.88.67		
Colon CAD SR	"1.2.840.10008.5.1.4.1.1.88.69		
Implantation Plan SR Document Storage	1.2.840.10008.5.1.4.1.1.88.70		
Encapsulated PDF Storage SOP Class	1.2.840.10008.5.1.4.1.1.104.1		
Encapsulated CDA Storage	1.2.840.10008.5.1.4.1.1.104.2		
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128		
Standalone PET Curve Storage	1.2.840.10008.5.1.4.1.1.129		
Enhanced PET Image Storage	1.2.840.10008.5.1.4.1.1.130		
Basic Structured Display Storage	1.2.840.10008.5.1.4.1.1.131		
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1		
RT Dose Storage	1.2.840.10008.5.1.4.1.1.481.2		
RT Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3		
RT Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.4		
RT Plan Storage	1.2.840.10008.5.1.4.1.1.481.5		
RT Brachy Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.6		
RT Treatment Summary Record Storage	1.2.840.10008.5.1.4.1.1.481.7		
RT Ion Plan Storage	1.2.840.10008.5.1.4.1.1.481.8		
RT Ion Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.9		
RT Beams Delivery Instruction Storage	1.2.840.10008.5.1.4.34.7		
Hanging Protocol Storage	1.2.840.10008.5.1.4.38.1		
Color Palette Storage	1.2.840.10008.5.1.4.39.1		
Generic Implant Template Storage	1.2.840.10008.5.1.4.43.1		

Implant Assembly Template Storage	1.2.840.10008.5.1.4.44.1		
Implant Template Group Storage	1.2.840.10008.5.1.4.45.1		
Fuji Private CR Storage	1.2.392.200036.9125.1.1.2		
GE Private 3D Model Storage	1.2.840.113619.4.26		
GE Private PET Raw Data Storage	1.2.840.113619.4.30		
Siemens Private CSA Non-image Storage	1.3.12.2.1107.5.9.1		
Philips 3D Private Presentation State Storage	1.3.46.670589.2.5.1.1		
Philips Private MR Examcard Data Storage	1.3.46.670589.11.0.0.12.4		
Philips Private MR Series Data Storage	1.3.46.670589.11.0.0.12.2		
Philips Private MR Spectrum Storage	1.3.46.670589.11.0.0.12.1		

5.4. Query and Retrieve SCU AE

5.4.1. SOP Classes

The Query and Retrieve SCU AE provides Standard Conformance to the following SOP classes:

Table 5.8 <i>Supported SOP Classes</i>			
<i>SOP Class Name</i>	<i>SOP Class UID</i>	<i>SCU</i>	<i>SCP</i>
Study Root Query/Retrieve Information Model—Find	1.2.840.10008.5.1.4.1.2.2.1	Yes	No
Study Root Query/Retrieve Information Model—Move	1.2.840.10008.5.1.4.1.2.2.2	Yes	No

5.4.2. Association Establishment Policies

5.4.2.1. General

The DICOM standard Application context shall be specified.

<i>Application Context Name</i>	1.2.840.10008.3.1.1.1
---------------------------------	-----------------------

5.4.2.2. Number of Associations

The Query and Retrieve SCU AE is not internally limited in the number of simultaneous associations it may initiate.

<i>Maximum Number of Simultaneous Associations (initiator)</i>	No Limit
--	----------

5.4.2.3. Asynchronous Nature

Multiple outstanding operations over a single association are not supported.

<i>Maximum Number of Outstanding Asynchronous Transactions</i>	1
--	---

5.4.2.4. Implementation Identifying Information

<i>Implementation Class UID</i>	2.16.840.1.114444
<i>Implementation Version Name</i>	VERTEX{x} ⁵

5.4.3. Association Initiation by Real World Activity

⁵ "{x}" representing the application version number. E.g. "2.7.0.6"

5.4.3.1. Real World Activity—Query Images

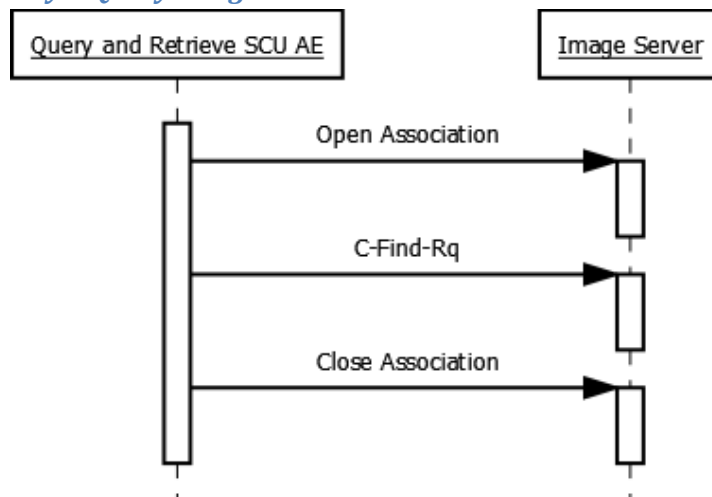


Figure 5.3—Query Images Activity

Table 5.9 <i>Proposed Presentation Contexts</i>					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Study Root Query/Retrieve Information Model—Find	1.840.10008.5.1.4.1.2.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

5.4.3.2. SOP Specific Conformance to C-Find SOP Class

Query and Retrieve AE SCU provides standard conformance to the C-Find SOP class. Only a single information model, Study Root is supported.

Table 5.10 <i>Study Root Request Identifier for Query and Retrieve SCU AE</i>	
<i>Name</i>	<i>Tag</i>
Study Level	
Patient's ID	(0010,0020)
Patient's Name	(0010,0010)
Patient's Sex	(0010,0040)
Study ID	(0020,0010)
Study Date	(0008,0020)
Study Accession No.	(0008,0050)
Study Description	(0008,1030)

5.4.3.3. Real World Activity—Retrieve Images

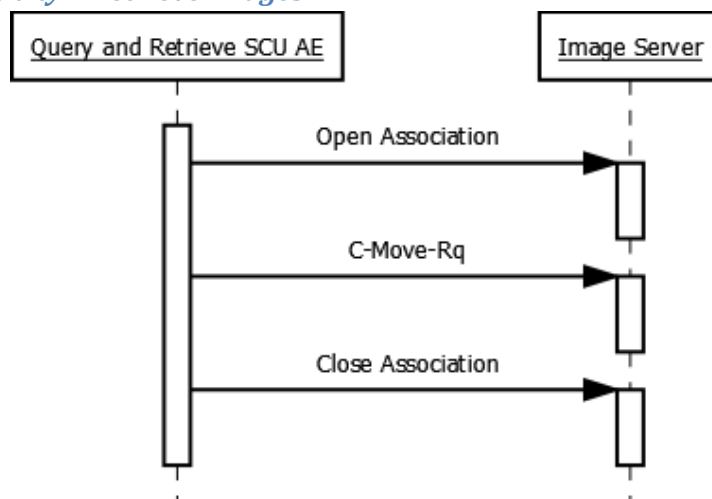


Figure 5.4—Retrieve Images Activity

Table 5.11 <i>Proposed Presentation Contexts</i>					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Study Root Query/Retrieve Information Model—Move	1.840.10008.5.1.4.1.2.2.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

5.4.4. Sop Specific Conformance to C-Move SOP Class

Query and Retrieve AE SCU provides standard conformance to the C-Move SOP class.

5.4.5. Association Acceptance Policy

The Query and Retrieve SCU AE does not accept associations.

5.5. Query and Retrieve SCP AE

5.5.1. SOP Classes

The Query and Retrieve SCP AE provides Standard Conformance to the following SOP classes:

Table 5.12 <i>Supported SOP Classes</i>			
<i>SOP Class Name</i>	<i>SOP Class UID</i>	<i>SCU</i>	<i>SCP</i>
Study Root Query/Retrieve Information Model—Find	1.2.840.10008.5.1.4.1.2.2.1	No	Yes
Study Root Query/Retrieve Information Model—Move	1.2.840.10008.5.1.4.1.2.2.2	No	Yes

5.5.2. Association Establishment Policies

5.5.2.1. General

The DICOM standard Application context shall be specified.

<i>Application Context Name</i>	1.2.840.10008.3.1.1.1
---------------------------------	-----------------------

5.5.2.2. Number of Associations

The Query and Retrieve SCP AE is internally limited by configuration in the number of simultaneous associations it may accept.

<i>Maximum Number of Simultaneous Associations (acceptor)</i>	100 (default)
---	---------------

5.5.2.3. Asynchronous Nature

Multiple outstanding operations over a single association are not supported.

<i>Maximum Number of Outstanding Asynchronous Transactions</i>	1
--	---

5.5.2.4. Implementation Identifying Information

<i>Implementation Class UID</i>	2.16.840.1.114444
<i>Implementation Version Name</i>	VERTEX{x} ⁶

5.5.3. Association Initiation by Real World Activity

The Query and Retrieve SCP AE never initiates an association.

5.5.4. Association Acceptance for Real World Activity

The Query and Retrieve SCP AE accepts associations from remote AEs offering valid Presentation Contexts.

⁶ "{x}" representing the application version number. E.g. "2.7.0.6"

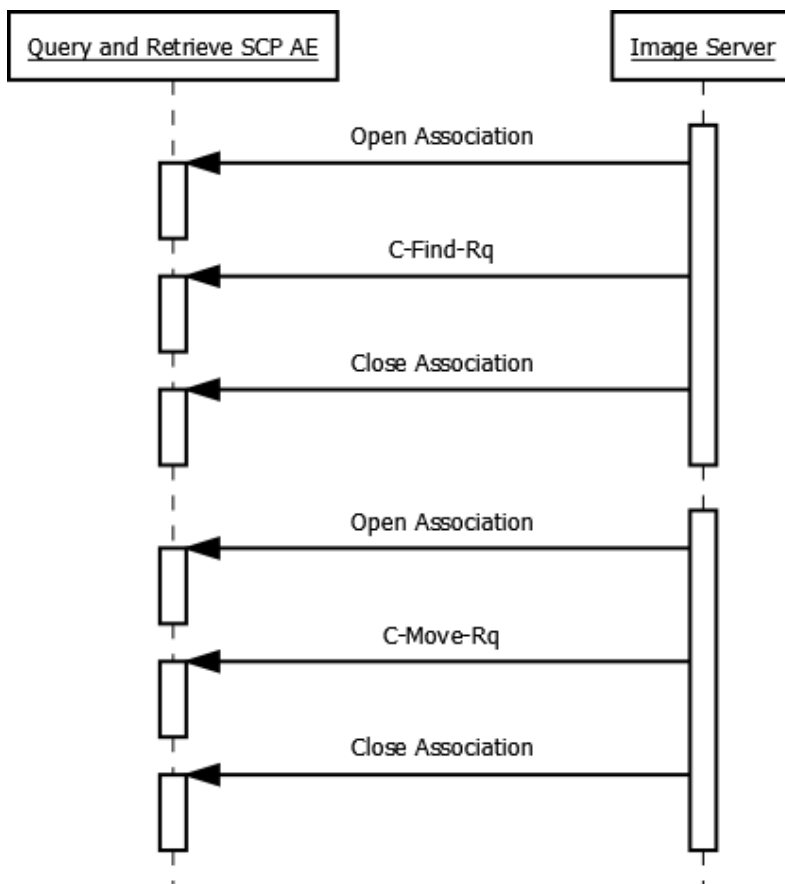


Figure 5.5—Search Images and Send Images

5.5.4.1. Accepted Presentation Contexts

Table 5.13 <i>Accepted Presentation Contexts</i>					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
See Table 5.12	See Table 5.12	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
		JPEG Process 1 Baseline	1.2.840.10008.1.2.4.50	SCP	None
		JPEG Process Ext 24	1.2.840.10008.1.2.4.51	SCP	None
		JPEG Process 14 Lossless	1.2.840.10008.1.2.4.57	SCP	None
		JPEG Process 14 Lossless SV1	1.2.840.10008.1.2.4.70	SCP	None
		JPEG Lossless	1.2.840.10008.1.2.4.80	SCP	None
		JPEG Near Lossless	1.2.840.10008.1.2.4.81	SCP	None
		JPEG 2000 Near Lossless	1.2.840.10008.1.2.4.90	SCP	None
		JPEG 2000	1.2.840.10008.1.2.4.91	SCP	None
		MPEG 2	1.2.840.10008.1.2.4.100	SCP	None
Table 5.14 <i>Study Root Request Identifier for Query and Retrieve SCP AE</i>					
<i>Name</i>		<i>Tag</i>	<i>Types of Matching</i>		

Study Level		
Patient's ID	(0010,0020)	S, U, W
Patient's Name	(0010,0010)	S, U, W
Patient's DOB	(0010,0030)	S, U
Patient's Sex	(0010,0040)	S, U
Study UID	(0020,000D)	S, U
Study ID	(0020,0010)	S, U
Study Date	(0008,0020)	R, U
Study Accession No.	(0008,0050)	S, U, W
Study Description	(0008,1030)	S, U, W
Legend: R= Range; S = Single Value; U = Universal; W = Wild Card		

NOTE: Wild card matching does not support the "OR" ('\') operator. Patient name matching does not support the "caret" (^) operator.

Table 5.15 Query and Retrieve SCP AE Status Return Reasons			
Service Status	Further Meaning	Error Code	Reason
Refused	Out of resources	A700	Out of resources
	Move Host Unknown	A801	Unknown move destination
Failed	Identifier Mismatch	A900	Identifier/SOP Class mismatch
	Not Supported	C001	Option is not supported on the Vertex system
	Volume Not Found	C002	Unable to find specified local store
	Not Responding	C003	The server is not responding. Try again later
	Not Authorized	C004	The system could not log you on
	Data File Missing	C005	File Not Found
	Presentation Context Missing	C006	Cannot understand
Cancel	Request Cancelled	FE00	Cancelled
Pending	Pending	FF00	Pending
Success	Success	0000	Success

5.6. Importer AE

5.6.1.1. Conformance to DICOM Interchange of the Media Storage Service

Importer AE supports DICOM Interchange of the Media Storage Service. It provides standard conformance as a FSR as defined part 10 of the DICOM standard.

NOTE: The Importer AE is agnostic with respect to transfer syntax as an FSR for Image Storage classes. Conversion/post-processing of images is delegated to the Storage SCU AE.

Table 5.16 <i>Supported Application Profiles</i>			
<i>Application Profiles Supported</i>	<i>Real-World Activity</i>	<i>Roles</i>	<i>SC Option</i>
STD-GEN-CD	Store Images on DICOM DISC	FSR	Interchange

5.6.2. Initiation by Real World Activity—Import Images

The Importer AE acts as an FSR to import DICOM image instance files into the user specified remote AE.

5.6.2.1. Options

Importer AE supports the SOP classes and Transfer Syntaxes listed in the table below.

Table 5.17 <i>Supported IODs, SOP Classes and Transfer Syntaxes</i>			
<i>IOD</i>	<i>SOP Class UID</i>	<i>Transfer Syntax</i>	<i>Transfer Syntax UID</i>
Basic Directory	1.2.840.10008.1.3.10	Explicit VR Little Endian Uncompressed	1.2.840.10008.1.2.1
Stored Print Storage	1.2.840.10008.5.1.1.27	Refer to Conformance Note.	Refer to Conformance Note.
Stored Print Storage	1.2.840.10008.5.1.1.27		
Hardcopy Grayscale Image Storage	1.2.840.10008.5.1.1.29		
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30		
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1		
Digital X-Ray Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.1		
Digital X-Ray Image Storage (Processing)	1.2.840.10008.5.1.4.1.1.1.1.1	Refer to Conformance Note.	Refer to Conformance Note.
Digital Mammography Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.2		

Digital Mammography Image Storage (Processing)	1.2.840.10008.5.1.4.1.1.1.2.1		
Digital Intra-oral X-Ray Image Storage (Presentation)	1.2.840.10008.5.1.4.1.1.1.3		
Digital Intra-oral X-Ray Image Storage (Processing)	1.2.840.10008.5.1.4.1.1.1.3.1		
CT Image Storage	1.2.840.10008.5.1.4.1.1.2		
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3		
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1		
MR Image Storage	1.2.840.10008.5.1.4.1.1.4		
Enhanced MR Image Storage	1.2.840.10008.5.1.4.1.1.4.1		
Enhanced MR Color Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.3		
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5		
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6		
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1		
Enhanced US Volume Storage	1.2.840.10008.5.1.4.1.1.6.2		
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7		
Multi-frame Single Bit Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.1		
Multi-frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2		
Multi-frame Grayscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3		
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4		

Stand-alone Overlay Storage	1.2.840.10008.5.1.4.1.1.8		
Stand-alone Curve Storage	1.2.840.10008.5.1.4.1.1.9		
12-Lead ECG Waveform	1.2.840.10008.5.1.4.1.1.9.1.1		
General ECG Waveform	1.2.840.10008.5.1.4.1.1.9.1.2		
Ambulatory ECG Waveform	1.2.840.10008.5.1.4.1.1.9.1.3		
Hemodynamic Waveform	1.2.840.10008.5.1.4.1.1.9.2.1		
Cardiac Electrophysiology Waveform	1.2.840.10008.5.1.4.1.1.9.3.1		
Basic Voice Audio Waveform	1.2.840.10008.5.1.4.1.1.9.4.1		
General Audio Waveform	1.2.840.10008.5.1.4.1.1.9.4.2		
Arterial Pulse Waveform	1.2.840.10008.5.1.4.1.1.9.5.1		
Respiratory Pulse Waveform	1.2.840.10008.5.1.4.1.1.9.6.1		
Stand-alone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10		
Stand-alone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11		
Grayscale Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.1		
Color Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.2		
Pseudo Color Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.3		
Blended Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.4		
XA/XRF Grayscale Softcopy Presentation State Storage	1.2.840.10008.5.1.4.1.1.11.5		
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1		
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2		

Enhanced XRF Image Storage	1.2.840.10008.5.1.4.1.1.12.2.1		
X-Ray 3D Angiographic Image	1.2.840.10008.5.1.4.1.1.13.1.1		
X-Ray 3D Craniofacial Image	1.2.840.10008.5.1.4.1.1.13.1.2		
Breast Tomosynthesis Image	1.2.840.10008.5.1.4.1.1.13.1.3		
Intravascular Optical Coherence Tomography Image (Presentation)	1.2.840.10008.5.1.4.1.1.14.1		
Intravascular Optical Coherence Tomography Image (Processing)	1.2.840.10008.5.1.4.1.1.14.2		
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20		
Raw Data Storage	1.2.840.10008.5.1.4.1.1.66		
Spatial Registration Storage	1.2.840.10008.5.1.4.1.1.66.1		
Spatial Fiducials Storage	1.2.840.10008.5.1.4.1.1.66.2		
Deformable Spatial Registration Storage	1.2.840.10008.5.1.4.1.1.66.3		
Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.4		
Surface Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.5		
Real World Value Mapping Storage	1.2.840.10008.5.1.4.1.1.67		
Surface Scan Mesh Storage	1.2.840.10008.5.1.4.1.1.68.1		
Surface Scan Point Cloud Storage	1.2.840.10008.5.1.4.1.1.68.2		
NoYesVL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1		
Video Endoscopic Storage SOP Class	1.2.840.10008.5.1.4.1.1.77.1.1.1		
VL Microscopic Image	1.2.840.10008.5.1.4.1.1.77.1.2		
Video Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2.1		
VL Slide-Coordinates Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3		
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4		

Ophthalmic Photography IOD 8 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.1		
Ophthalmic Photography IOD 16 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.2		
Stereometric Relationship Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.3		
Ophthalmic Tomography Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.4		
VL Whole Slide Microscopy Image Storage	1.2.840.10008.5.1.4.1.1.77.1.6		
Lensometry Measurements Storage	1.2.840.10008.5.1.4.1.1.78.1		
Autorefraction Measurements Storage	1.2.840.10008.5.1.4.1.1.78.2		
Keratometry Measurements Storage	1.2.840.10008.5.1.4.1.1.78.3		
Subjective Refraction Measurements Storage	1.2.840.10008.5.1.4.1.1.78.4		
Visual Acuity Storage Measurements Storage	1.2.840.10008.5.1.4.1.1.78.5		
Spectacle Prescription Report Storage	1.2.840.10008.5.1.4.1.1.78.6		
Ophthalmic Axial Measurements Storage	1.2.840.10008.5.1.4.1.1.78.7		
Intraocular Lens Calculations Storage	1.2.840.10008.5.1.4.1.1.78.8		
Macular Grid Thickness and Volume Report	1.2.840.10008.5.1.4.1.1.79.1		
Ophthalmic Visual Field Static Perimetry Measurements Storage	1.2.840.10008.5.1.4.1.1.80.1		
Ophthalmic Thickness Map Storage	1.2.840.10008.5.1.4.1.1.81.1		

Corneal Topography Map Storage	1.2.840.10008.5.1.4.1.1.82.1		
Basic Text SR	1.2.840.10008.5.1.4.1.1.88.11		
Enhanced SR	1.2.840.10008.5.1.4.1.1.88.22		
Comprehensive SR	1.2.840.10008.5.1.4.1.1.88.33		
Comprehensive 3D SR	1.2.840.10008.5.1.4.1.1.88.34		
Procedure Log	1.2.840.10008.5.1.4.1.1.88.40		
MammographyCADSR	1.2.840.10008.5.1.4.1.1.88.50		
Key Image Object Storage SOP Class	1.2.840.10008.5.1.4.1.1.88.59		
Chest CAD SR	1.2.840.10008.5.1.4.1.1.88.65		
X-Ray Radiation Dose SR	1.2.840.10008.5.1.4.1.1.88.67		
Colon CAD SR	"1.2.840.10008.5.1.4.1.1.88.69		
Implantation Plan SR Document Storage	1.2.840.10008.5.1.4.1.1.88.70		
Encapsulated PDF Storage SOP Class	1.2.840.10008.5.1.4.1.1.104.1		
Encapsulated CDA Storage	1.2.840.10008.5.1.4.1.1.104.2		
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128		
Standalone PET Curve Storage	1.2.840.10008.5.1.4.1.1.129		
Enhanced PET Image Storage	1.2.840.10008.5.1.4.1.1.130		
Basic Structured Display Storage	1.2.840.10008.5.1.4.1.1.131		
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1		
RT Dose Storage	1.2.840.10008.5.1.4.1.1.481.2		
RT Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3		
RT Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.4		
RT Plan Storage	1.2.840.10008.5.1.4.1.1.481.5		
RT Brachy Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.6		
RT Treatment Summary Record Storage	1.2.840.10008.5.1.4.1.1.481.7		
RT Ion Plan Storage	1.2.840.10008.5.1.4.1.1.481.8		
RT Ion Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.9		
RT Beams Delivery Instruction Storage	1.2.840.10008.5.1.4.34.7		

Hanging Protocol Storage	1.2.840.10008.5.1.4.38.1		
Color Palette Storage	1.2.840.10008.5.1.4.39.1		
Generic Implant Template Storage	1.2.840.10008.5.1.4.43.1		
Implant Assembly Template Storage	1.2.840.10008.5.1.4.44.1		
Implant Template Group Storage	1.2.840.10008.5.1.4.45.1		
Fuji Private CR Storage	1.2.392.200036.9125.1.1.2		
GE Private 3D Model Storage	1.2.840.113619.4.26		
GE Private PET Raw Data Storage	1.2.840.113619.4.30		
Siemens Private CSA Non-image Storage	1.3.12.2.1107.5.9.1		
Philips 3D Private Presentation State Storage	1.3.46.670589.2.5.1.1		
Philips Private MR Examcard Data Storage	1.3.46.670589.11.0.0.12.4		
Philips Private MR Series Data Storage	1.3.46.670589.11.0.0.12.2		
Philips Private MR Spectrum Storage	1.3.46.670589.11.0.0.12.1		

5.7. Verification AE

5.7.1. SOP Classes

The Verification AE provides Standard Conformance to the following SOP classes:

Table 5.18 <i>Supported SOP Classes</i>			
<i>SOP Class Name</i>	<i>SOP Class UID</i>	<i>SCU</i>	<i>SCP</i>
Verification	1.2.840.10008.1.1	Yes	Yes

5.7.2. Association Establishment Policies

5.7.2.1. General

The DICOM standard Application context shall be specified.

<i>Application Context Name</i>	1.2.840.10008.3.1.1.1
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5.7.2.2. Number of Associations

The Verification AE is not internally limited in the number of simultaneous associations it may initiate.

<i>Maximum Number of Simultaneous Associations (initiator)</i>	No Limit
<i>Maximum Number of Simultaneous Associations (acceptor)</i>	100 (default)

5.7.2.3. Asynchronous Nature

Multiple outstanding operations over a single association are not supported.

<i>Maximum Number of Outstanding Asynchronous Transactions</i>	1
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5.7.2.4. Implementation Identifying Information

<i>Implementation Class UID</i>	2.16.840.1.114444
<i>Implementation Version Name</i>	VERTEX{x} ⁷

⁷ "{x}" representing the application version number. E.g. "2.7.0.6"

5.7.3. Association Initiation by Real World Activity

5.7.3.1. Activity—Request Verification

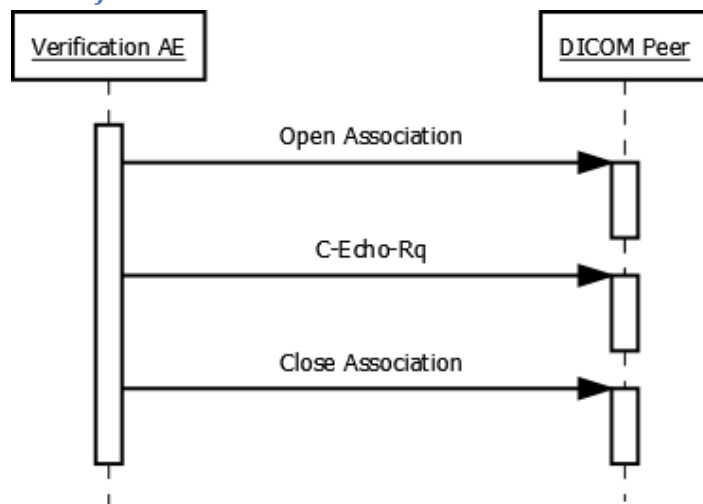


Figure 5.6—Request Verification Activity

Table 5.19 <i>Proposed Presentation Contexts</i>					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

5.7.4. Association Acceptance for Real World Activity—Accept Verification

The Verification AE accepts associations from remote AEs offering valid Presentation Contexts to fulfill the Accept Verification activity.

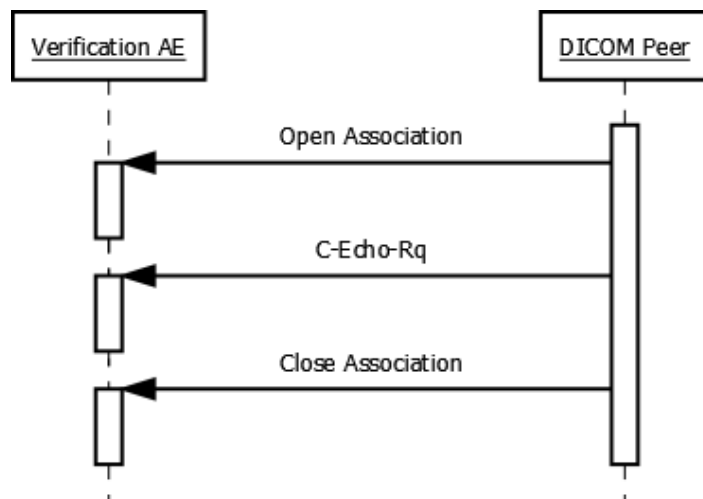


Figure 5.7—Accept Verification Activity

5.7.4.1. Accepted Presentation Contexts

Table 5.20 Accepted Presentation Contexts					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
		JPEG Process 1 Baseline	1.2.840.10008.1.2.4.50	SCP	None
		JPEG Process Ext 24	1.2.840.10008.1.2.4.51	SCP	None
		JPEG Process 14 Lossless	1.2.840.10008.1.2.4.57	SCP	None
		JPEG Process 14 Lossless SV1	1.2.840.10008.1.2.4.70	SCP	None
		JPEG Lossless	1.2.840.10008.1.2.4.80	SCP	None
		JPEG Near Lossless	1.2.840.10008.1.2.4.81	SCP	None
		JPEG 2000 Near Lossless	1.2.840.10008.1.2.4.90	SCP	None
		JPEG 2000	1.2.840.10008.1.2.4.91	SCP	None
		MPEG 2	1.2.840.10008.1.2.4.100	SCP	None

6. Communication Profiles

6.1. Supported Communication Stacks

DICOM Upper Layer over TCP/IP as defined by part 8 of the DICOM standard is supported.

6.2. TCP/IP Stack

The TCP/IP stack is inherited from the underlying host operating system.

6.3. API

The application makes use of the Windows Socket 2 interface.

6.4. Physical Media Support

Any physical medium supported by the host operating system can be used.

7. Support of Extended Character Sets

The Vertex Application Suite supports the ISO_IR 100 (ISO/IEC 8859-1) character set.

8. Configuration

Configuration of the Vertex Application Suite may be accomplished through the Windows client or by editing the underlying XML documents.

8.1. Configurable Parameters

8.1.1. Host Configuration

- Port number
- Binding address
- Maximum PDU size
- Maximum concurrent accepted connections
- Send/Receive buffer size
- Receive timeout
- Socket linger
- Socket keep-alive

8.1.2. Storage SCP AE

- AE Title
- Originator timeout

8.1.3. Query and Retrieve SCU AE

- AE Title

8.1.4. Query and Retrieve SCP AE

- AE Title

8.1.5. Peer Configuration

- AE title
- IP address
- Port number

9. Security

9.1. Security Profiles

The DICOM DISC Writer AE provides standard conformance to the Basic DICOM Media Security Profile.

9.2. Association Level Security

The Vertex local store is secured against an acceptable peer list.

9.3. Application Level Security

Clients of the Vertex Application Suite are secured with password protected user accounts.