

DICOM Conformance Statement

DICOM Gateway R1.2



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1. DICOM Conformance Statement Overview

Table 1: Web Services

Web Services	User Agent	Origin Server
Retrieve Transaction (WADO-RS)	No	Yes
Search Transaction (QIDO-RS)	No	Yes

Table 2: Network Services

SOP Class		User of Service (SCU)	Provider of Service (SCP)
Name	UID		
Query Retrieve			
Study Root QR Information Model - FIND SOP Class	1.2.840.10008.5.1.4.1.2.2.1	No	Yes
Study Root QR Information Model - MOVE SOP Class	1.2.840.10008.5.1.4.1.2.2.2	No	Yes
Transfer			
CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	Yes	Yes
Enhanced CT Image Storage	1.2.840.10008.5.1.4.1.1.2.1	Yes	Yes
Ultrasound Multi-frame Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.3.1	Yes	Yes
MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	Yes	Yes
Ultrasound Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.6.1	Yes	Yes
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	Yes	Yes
Nuclear Medicine Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.20	Yes	Yes
Computed Radiography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.1	Yes	Yes
Digital X-Ray Image Storage - For Pres. SOP	1.2.840.10008.5.1.4.1.1.1.1	Yes	Yes
Digital X-Ray Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.1.1	Yes	Yes
Digital Mammography X-Ray Image Storage - Pres. SOP	1.2.840.10008.5.1.4.1.1.1.2	Yes	Yes
Digital Mammography X-Ray Image Storage – For Processing	1.2.840.10008.5.1.4.1.1.1.2.1	Yes	Yes
12-Lead ECG Waveform Storage SOP Class	1.2.840.10008.5.1.4.1.1.9.1.1	Yes	Yes
General ECG Waveform Storage SOP Class	1.2.840.10008.5.1.4.1.1.9.1.2	Yes	Yes
Ambulatory ECG Waveform Storage SOP Class	1.2.840.10008.5.1.4.1.1.9.1.3	Yes	Yes
Multi-frame Single Bit Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.1	Yes	Yes
Multi-frame Grayscale Byte SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.2	Yes	Yes
Multi-frame Grayscale Word SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.3	Yes	Yes
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Yes	Yes
Grayscale Softcopy Presentation State Storage SOP Class	1.2.840.10008.5.1.4.1.1.11.1	Yes	Yes
X-Ray Angiographic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.1	Yes	Yes
X-Ray Radiofluoroscopic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.2	Yes	Yes
X-Ray 3D Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.13.1.1	Yes	Yes
Enhanced XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1.1	Yes	Yes
Enhanced XRF Image Storage	1.2.840.10008.5.1.4.1.1.12.2.1	Yes	Yes
Enhanced MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.1	Yes	Yes
MR Spectroscopy Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.2	Yes	Yes
Raw Data Storage SOP Class	1.2.840.10008.5.1.4.1.1.66	Yes	Yes
Spatial Registration Storage	1.2.840.10008.5.1.4.1.1.66.1	Yes	Yes
Enhanced SR SOP Class	1.2.840.10008.5.1.4.1.1.88.22	Yes	Yes
Hemodynamic Waveform Storage SOP Class	1.2.840.10008.5.1.4.1.1.9.2.1	Yes	Yes
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	Yes	Yes
Ophthalmic Photography 8 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.1	Yes	Yes

SOP Class		User of Service (SCU)	Provider of Service (SCP)
Name	UID		
Ophthalmic Photography 16 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.2	Yes	Yes
Keratometry Measurements Storage	1.2.840.10008.5.1.4.1.1.78.3	Yes	Yes
Ophthalmic Axial Measurements Storage	1.2.840.10008.5.1.4.1.1.78.7	Yes	Yes
Intraocular Lens Calculations Storage	1.2.840.10008.5.1.4.1.1.78.8	Yes	Yes
Basic Text SR SOP Class	1.2.840.10008.5.1.4.1.1.88.11	Yes	Yes
Comprehensive SR SOP Class	1.2.840.10008.5.1.4.1.1.88.33	Yes	Yes
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59	Yes	Yes
Chest CAD SR	1.2.840.10008.5.1.4.1.1.88.65	Yes	Yes
X-Ray Radiation Dose SR	1.2.840.10008.5.1.4.1.1.88.67	Yes	Yes
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Yes	Yes
Positron Emission Tomography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.128	Yes	Yes
RT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.1	Yes	Yes
RT Dose Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.2	Yes	Yes
RT Structure Set Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.3	Yes	Yes
RT Beams Treatment Record Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.4	Yes	Yes
RT Plan Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.5	Yes	Yes
RT Brachy Treatment Record Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.6	Yes	Yes
RT Treatment Summary Record Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.7	Yes	Yes
RT Ion Plan Storage	1.2.840.10008.5.1.4.1.1.481.8	Yes	Yes
Philips Private Grayscale Softcopy Presentation State Storage	1.3.46.670589.2.2.1.1	Yes	Yes
Philips Private X-Ray Image Storage	1.3.46.670589.2.3.1.1	Yes	Yes
Philips Private Xray MF Image	1.3.46.670589.7.8.1618510091	Yes	Yes
Philips Private Stent Boost WorkItem	1.3.46.670589.7.8.16185100912	Yes	Yes
Philips Private Live Run WorkItems	1.3.46.670589.7.8.1618510092	Yes	Yes
Philips Private Run WorkItems	1.3.46.670589.7.8.16185100129	Yes	Yes
Philips Private Reco WorkItems	1.3.46.670589.7.8.16185100130	Yes	Yes
Philips Private Three DCA WorkItem	1.3.46.670589.7.8.16185100913	Yes	Yes
Embedded Document	1.3.46.670589.2.8.1.1	Yes	Yes

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3. Introduction

DICOM Gateway is a critical component that connects the On-premise devices to the Cloud.

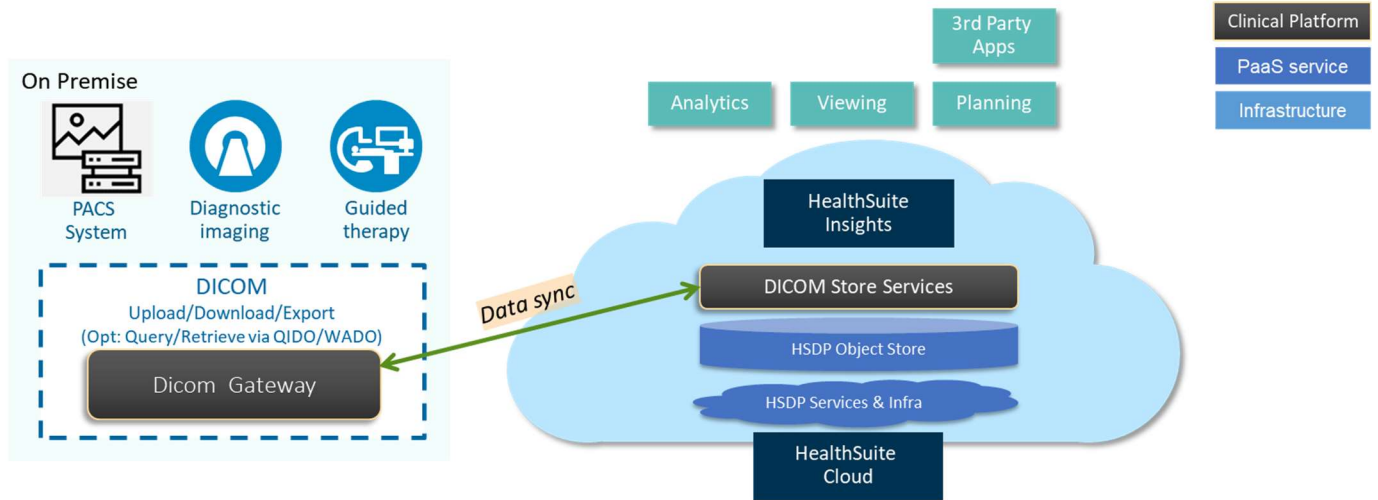


Figure 1: DICOM Gateway Release Workflow

The HSDP Cloud DICOM Store provides means for customer to store DICOM data on Cloud using DICOM REST interfaces. However, most of the devices, scanners and workstations in the hospitals do not understand DICOM REST interface and hence they cannot store data directly to DICOM Store on Cloud.

DICOM Gateway solves this problem by being a bridge between the On-Premise legacy systems that only communicate over Classic DICOM (using TCP/IP) and DICOM Store.

It provides means to ingest DICOM data from existing Philips and third-party Devices and Workstations on-premises via the classic DICOM C-Store interface. DICOM Gateways also provides retrieval of DICOM data from the Cloud DICOM Store to existing Philips and third-party Devices and Workstations.

The DICOM Gateway supports the native (TCP/IP based) connectivity services specified in the DICOM PS3.7

The key features of DICOM Gateway

- Network tolerant upload with caching to handle intermittent connectivity
- Low footprint & containerized deployment
- DICOM interoperability
- Security and Privacy compliant
- ATNA Complaint auditing

3.1 Revision History

Table 3: Revision History

Document Version	Date of Issue	Description of change
01	10-MAR-2022	First Release for DICOM Gateway R1.2

3.2 Audience

This Conformance Statement is intended for:

- (Potential) customers
- System integrators of medical equipment
- Marketing staff interested in system functionality
- Software designers implementing DICOM interfaces

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

3.3 Remarks

The DICOM Conformance Statement is contained in chapter 4 through 7 and follows the contents and structuring requirements of DICOM PS 3.2.

This DICOM Conformance Statement by itself does not guarantee successful interoperability of Philips equipment with non-Philips equipment. The user (or user's agent) should be aware of the following issues:

- **Interoperability**
Interoperability refers to the ability of application functions, distributed over two or more systems, to work successfully together. The integration of medical devices into an IT environment may require application functions that are not specified within the scope of DICOM. Consequently, using only the information provided by this Conformance Statement does not guarantee interoperability of Philips equipment with non-Philips equipment. It is the user's responsibility to analyze thoroughly the application requirements and to specify a solution that integrates Philips equipment with non-Philips equipment.
- **Validation**
Philips equipment has been carefully tested to assure that the actual implementation of the DICOM interface corresponds with this Conformance Statement. Where Philips equipment is linked to non-Philips equipment, the first step is to compare the relevant Conformance Statements. If the Conformance Statements indicate that successful information exchange should be possible, additional validation tests will be necessary to ensure the functionality, performance, accuracy and stability of image and image related data. It is the responsibility of the user (or user's agent) to specify the appropriate test suite and to carry out the additional validation tests.
- **New versions of the DICOM Standard**
The DICOM Standard will evolve in future to meet the user's growing requirements and to incorporate new features and technologies. Philips is actively involved in this evolution and plans to adapt its equipment to future versions of the DICOM Standard. In order to do so, Philips reserves the right to make changes to its products or to discontinue its delivery. The user should ensure that any non-Philips provider linking to Philips equipment also adapts to future versions of the DICOM Standard. If not, the incorporation of DICOM enhancements into Philips equipment may lead to loss of connectivity (in case of networking) and incompatibility (in case of media).

3.4 Definitions, Terms and Abbreviations

Table 4: Definitions, Terms and Abbreviations

Abbreviation/Term	Explanation
AE	Application Entity
ANSI	American National Standard Institute
CR	Computed Radiography
CT	Computed Tomography
DICOM	Digital Imaging and Communications in Medicine
DIMSE	DICOM Message Service Element
DX	Digital X-Ray
EBE	DICOM Explicit VR Big Endian
ELE	DICOM Explicit VR Little Endian
HIS	Hospital Information System
ILE	DICOM Implicit VR Little Endian
IOD	Information Object Definition
NEMA	National Electrical Manufacturers Association
NM	Nuclear Medicine
PDU	Protocol Data Unit
RF	X-Ray Radiofluoroscopic
RWA	Real-World Activity
SCP	Service Class Provider
SCU	Service Class User
SOP	Service Object Pair
TCP/IP	Transmission Control Protocol/Internet Protocol
UID	Unique Identifier
US	Ultrasound
XA	X-Ray Angiographic

3.5 References

[DICOM] Digital Imaging and Communications in Medicine, Parts 1 - 22 (NEMA PS 3.1- PS 3.22),
 National Electrical Manufacturers Association
 1300 North 17th Street
 Suite 900
 Arlington, Virginia 22209
 Internet: <https://www.dicomstandard.org/current>

Note that at any point in time the official standard consists of the most recent yearly edition of the base standard (currently 2022) plus all the supplements and correction items that have been approved as Final Text.

4. Networking

This section contains the networking related services (vs. the media related ones).

4.1 Implementation model

4.1.1 Application Data flow

The below overview diagram shows the general data flow of DICOM Data from the Gateway, to the HSDP DICOM Gateway, and other services.

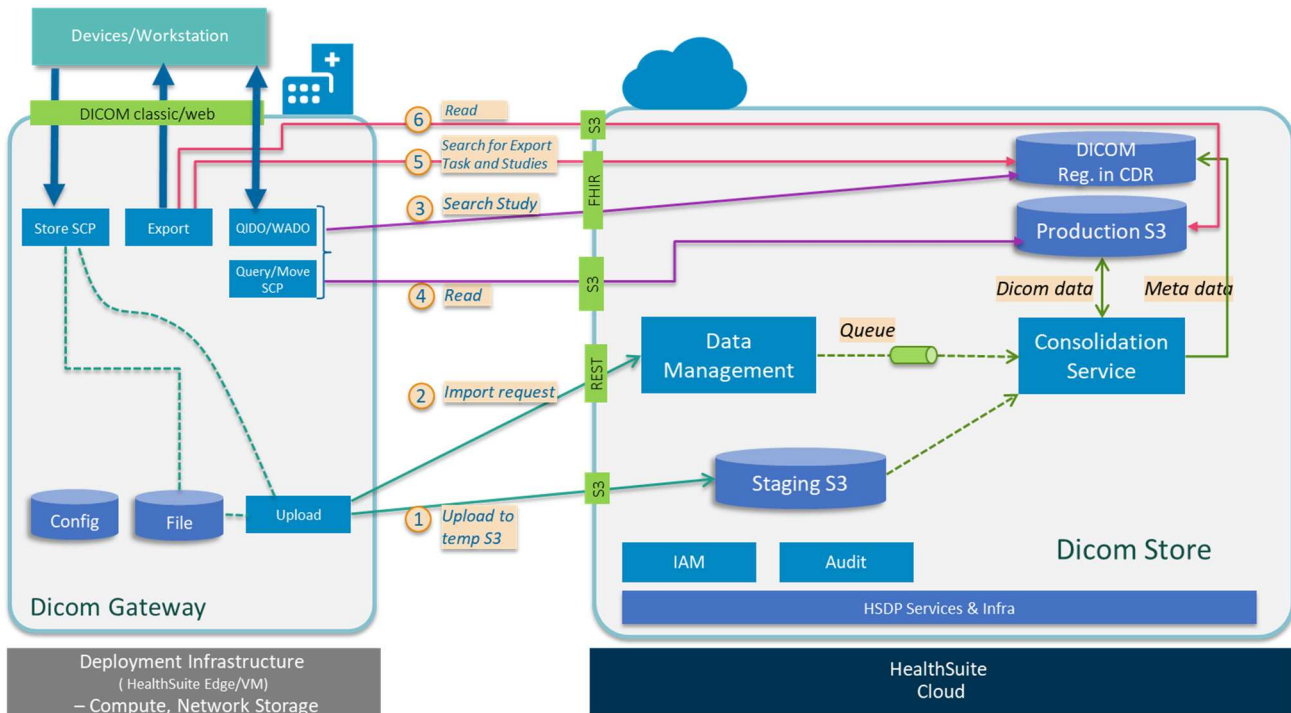


Figure 2: Data Flow Diagram

The connectivity with the client systems is established over secure HTTPS, extending the reach of the Cloud-hosted services as an extension of the hospital network

DICOM Gateway uses the following HSDP Services to do its operations

1. HSDP DICOM Store – The data is uploaded to and downloaded from DICOM Store
2. HSDP IAM – All communication with other HSDP services is authorized using IAM.
3. HSDP Log – All the service logs from DICOM Gateway services are drained to HSDP Log drainer.
4. HSDP S3 creds – The access to S3 is protected using S3 creds
5. HSDP Audit – All operations are audited using Audit service.
6. HSDP CDR – For Download capability CDR is accessed for the requested data

4.1.2 Functional Definition of AE's

4.1.2.1 Functional Definition of DICOM Gateway Web AE

DICOM Gateway Web AE implements the following DICOMWeb Services.

- Retrieve Transaction (WADO-RS) as Origin Server
- Search Transaction (QIDO-RS) as Origin Server

4.1.2.2 Functional Definition of DICOM Gateway AE

DICOM Gateway AE implements the following network transaction to achieve the following workflow.

- Image Import (Store as SCP)
- FIND as SCP
- MOVE as SCP
- Image Export (Store as SCU)

4.1.3 Sequencing of Real World Activities (Web AE)

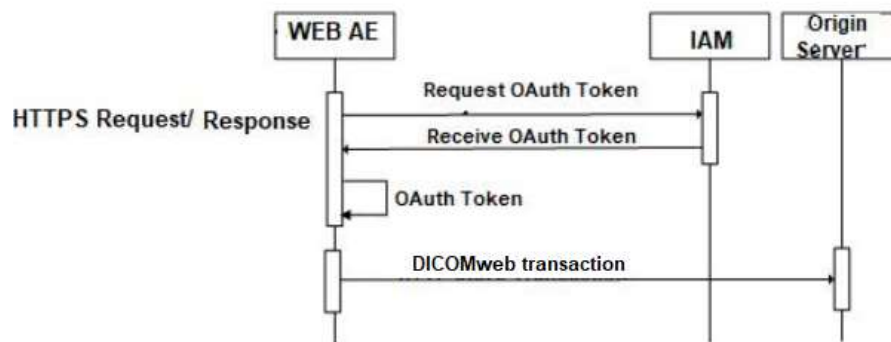


Figure 3 Sequencing of Real world activities Web AE

4.1.4 Sequencing of Real World Activities

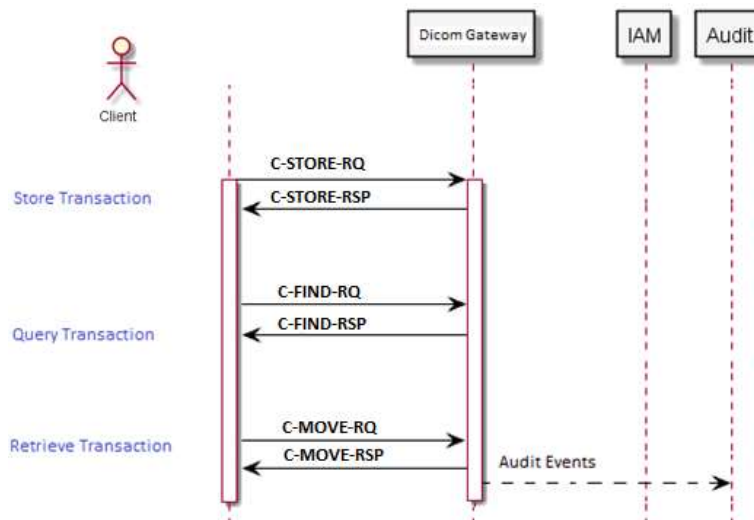


Figure 4 Sequencing of Real world activities

4.2 AE Specifications

The following table describes the common status code for all the transactions.

Table 5: Status Code Behaviour

Status	Code Status	Condition
Success	200 (Success)	Requested operation was processed without error.
Failure	401 (Unauthorized)	The OAuth access token used is not recognized.
	404 (Not found)	The target resource was not found
	406 (Not acceptable)	The Target Resource does not have a representation that would be acceptable to the user agent

4.2.1 HSDP DICOM Gateway Web AE

Detail of this specific DICOM Gateway is specified in this section.

The following services are described here

- DICOMWeb Retrieve Transaction
- DICOMWeb Search Transaction

The DICOM Gateway supports Re-identification of data sets during Search (QIDO-RS) and Retrieve (WADO-RS) transaction as Origin server.

4.2.1.1 Retrieve Transaction (WADO-RS) as Origin Server

The following target resources for Retrieve transaction types are supported:

4.2.1.1.1 DICOM resources

The DICOM Gateway service supports retrieval of DICOM data in application/DICOM format at the following levels:

- Study
- Series
- Instances

4.2.1.1.2 Metadata resources

The DICOM Gateway service shall retrieve DICOM metadata at the following levels

- Study
- Series
- Instance

Table 6: General Parameters

Parameters	Options
WADO	
Data Types Supported (Accept Type)	multipart/related; type="application/dicom" Application/dicom+json
Transfer Syntaxes Supported (transfer-syntax Accept parameter)	See Table 16 & 17
Query Parameters	-
Header Fields	WADO request Header

Parameters	Options
WADO	
	<pre>--header 'Accept: multipart/related; type="application/dicom" \ --header 'api-version: 1' \ --header 'Authorization: Bearer token WADO response header Content-Type Date transfer-encoding</pre>

4.2.1.1.3 Status Code Behavior

Table 7: Status Code Behaviour

Service Status	HTTP Status Code	Condition
Success	200_Success	Requested operation was processed without error.
	206_Partial Content	The Origin server tries to retrieve study has pixel and non-pixel data together
Failure	401_Unauthorized	When unauthorized/Expired Oauth token present in the request
	403_Forbidden	When the insufficient grant access is present in the request
	404_Gone	When the target resource is not available/deleted
	406_Not Acceptable	When unsupported media type is present in the request
	500_Internal Server Error	The origin server cannot process the request because of errors in the request header or parameters.

4.2.1.2 Search Transaction (QIDO-RS) as Origin Server

4.2.1.2.1 Supported Search Transactions

The following Search transaction types are supported:

- Search for all Studies
- Search for all Series
- Search for all Series belonging to a Study
- Search for all Instances belonging to a particular Series and Study

Table 8: General Parameters

Options	Restrictions
Data Types Supported (Accept Type)	Application/dicom+json

4.2.1.2.2 Supported Search keys

The following table lists the matching and return keys are supported at the Study level.

Table 9: Supported Matching and Return keys for Study Level

Attributes Name	Tag	Matching	Return	Type of Matching	Comments
Specific Character Set	(0008,0005)	N/A	Y	N/A	
Study Date	(0008,0020)	Y	Y	Single Value and Range matching	
Study Time	(0008,0030)	N	Y	N/A	

Attributes Name	Tag	Matching	Return	Type of Matching	Comments
Study Description	(0008,1030)	N	Y	N/A	
Accession Number	(0008,0050)	Y	Y	Single Value matching	
Patient Name	(0010,0010)	Y	Y	Wildcard	
Patient ID	(0010,0020)	Y	Y	Single Value matching	
Study ID	(0020,0010)	Y	Y	Single Value matching	
Study Instance UID	(0020,000D)	Y	Y	Single Value matching	
Modalities in Study	(0008,0061)	Y	Y	Single Value matching	
Patient's Birth Date	(0010,0030)	N	Y	N/A	
Patient's Sex	(0010,0040)	N	Y	N/A	
Time Zone Offset from UTC	(0008,0201)	N/A	Y	N/A	
Number of Study Related Series	(0020,1206)	N/A	Y	N/A	
Number of Study Related Instances	(0020,1208)	N/A	Y	N/A	
Private Creator ID	(2001,0010)	N/A	Y	N/A	
Last modified date time	(2001,10B3)	N/A	Y	N/A	

The following table lists the matching and return keys shall be supported at the Series level.

Table 10: Supported Matching and Return keys for Series Level

Attributes Name	Tag	Matching	Return	Type of Matching	Comments
Modality	(0008,0060)	Y	Y	Single Value matching	
Series Number	(0020,0011)	Y	Y	Single Value matching	
Series Instance UID	(0020,000E)	Y	Y	Single Value matching	
Series Description	(0008,103E)	N/A	Y	N/A	
Series Time	(0008,0031)	N/A	Y	N/A	
Series Date	(0008,0021)	N/A	Y	N/A	
Number of Series Related Instances	(0020,1209)	N/A	Y	N/A	
Time Zone Offset from UTC	(0008,0201)	N/A	Y	N/A	
Requested Procedure ID	(0040,1001)	C*	Y	Single Value matching	

The following table lists the matching and return keys shall be supported at the Instance level.

Table 11: Supported Matching and Return keys for Instance Level

Attributes Name	Tag	Matching	Return	Type of Matching	Comments
SOP Class UID	(0008,0016)	Y	Y	Single Value matching	
SOP Instance UID	(0008,0018)	Y	Y	Single Value matching	
Available Transfer Syntax UID	(0008,3002)	N/A	Y	N/A	
Instance Number	(0020,0013)	Y	Y	Single Value matching	
Retrieve URL	(0008,1190)	N/A	Y	N/A	
Number of Frame	(0028,0008)	N/A	Y	N/A	

Table 12: General Parameters

Options	Restrictions
Query parameter 'limit' and 'offset'	none

Options	Restrictions
Optional Attributes supported	No optional attributes supported, only the ones that are mentioned in the RS.

4.2.1.2.3 Status Code Behavior

Table 13: Status Code Behaviour

Service Status	HTTP Status Code	Condition
Success	200_Success	Requested operation was processed without error.
	204_No Content	The search completed successfully, but there were zero results.
	401_Unauthorized	When unauthorized/Expired Oauth token present in the request
	403_Forbidden	When the insufficient grant access is present in the request
	500_Internal Server error	The server cannot process the request because of an internal error.

4.2.2 HSDP DICOM Gateway AE

4.2.2.1 Association Policies

Each AE specification contains a description of the general association establishment and acceptance policies of the AE.

4.2.2.1.1 General

The DICOM standard application context is specified below.

Table 14: DICOM Application Context

Description	Value
Application Context Name	1.2.840.10008.3.1.1.1

4.2.2.1.2 Number of Associations

The number of simultaneous associations that an Application Entity may support as an Initiator or Acceptor is specified here.

Table 15: Number of associations as an Association Initiator for this AE

Description	Value
Maximum number of simultaneous associations	30

Table 16: Number of associations as an Association Acceptor for this AE

Description	Value
Maximum number of simultaneous associations	30

4.2.2.1.3 Asynchronous Nature

The DICOM Gateway does not support asynchronous operations.

Table 17: Asynchronous nature as an Association Initiator for this AE

Description	Value
Maximum number of outstanding asynchronous transactions	n/a

4.2.2.1.4 Implementation Identifying Information

The value supplied for Implementation Class UID and version name are documented here.

- Implementation Class UID: 1.3.46.670589.54.2.21.8
- Implementation Version Name: 21.8.0.0

4.2.2.1.5 Communication Failure Handling

The behavior of the AE during communication failure is summarized in the next table.

Table 18: Communication Failure Behavior

Exception	Behavior
ARTIM Timeout	The association setup fails; the reason is logged and reported to the user.

4.2.2.2 Association Initiation Policy

The Application Entity will respond to a received Association rejection as shown in the next table.

Table 19: Association Rejection response

Result	Source	Reason/Diagnosis	Behavior
1 - rejected-permanent	1 - DICOM UL service-user	1 - no-reason-given	Association is not established. The following error is logged. Association rejected by peer 1: REJECT_RESULT_permanent, 1: REJECT_SOURCE_dul_user, 1: REJECT_REASON_no_reason_given
		2 - application-context-name-not supported	Association is not established. The following error is logged. Association rejected by peer 1: REJECT_RESULT_permanent, 1: REJECT_SOURCE_dul_user, 2: REJECT_REASON_application_context_not_support
		3 - calling-AE-title-not-recognized	Association is not established. The following error is logged. Association rejected by peer 1: REJECT_RESULT_permanent, 1: REJECT_SOURCE_dul_user, 3: REJECT_REASON_calling_aetitle_not_recognized
		7 - called-AE-title-not-recognized	Association is not established. The following error is logged. Association rejected by peer 1: REJECT_RESULT_permanent, 1: REJECT_SOURCE_dul_user, 7: REJECT_REASON_called_aetitle_not_recognized
	2 - DICOM UL service-provider (ACSE related function)	1 - no-reason-given	Association is not established. The following error is logged. Error: UserRecoverable: impl.dicom.access.PEER: Associationrejected by peer 1: REJECT_RESULT_permanent, 2: REJECT_SOURCE_dul_provider (acse), 1: REJECT_REASON_no_reason_given
		2 - protocol-version-not-supported	Association is not established. The following error is logged. Association rejected by peer 1: REJECT_RESULT_permanent, 2: REJECT_SOURCE_dul_provider (acse), 2: REJECT_REASON_application_context_not_support
	3 - DICOM UL service-provider (Presentation related function)	1 - temporary-congestion	Association is not established. The following error is logged. Association rejected by peer 1: REJECT_RESULT_permanent, 3: REJECT_SOURCE_dul_provider (presentation), 1: REJECT_REASON_no_reason_given

Result	Source	Reason/Diagnosis	Behavior
		2 - local-limit-exceeded	Association is not established. The following error is logged. Association rejected by peer 1: REJECT_RESULT_permanent, 3: REJECT_SOURCE_dul_provider (presentation), 2: REJECT_REASON_application_context_not_support
2 - rejected-transient	1 - DICOM UL service-user	1 - no-reason-given	Association is not established. The following error is logged. Association rejected by peer 2: REJECT_RESULT_transient, 1: REJECT_SOURCE_dul_user, 1: REJECT_REASON_no_reason_given
		2 - application-context-name-not-supported	Association is not established. The following error is logged. Association rejected by peer 2: REJECT_RESULT_transient, 1: REJECT_SOURCE_dul_user, 2: REJECT_REASON_application_context_not_support
		3 - calling-AE-title-not-recognized	Association is not established. The following error is logged. Association rejected by peer 2: REJECT_RESULT_transient, 1: REJECT_SOURCE_dul_user, 3: REJECT_REASON_calling_aetitle_not_recognized
		7 - called-AE-title-not-recognized	Association is not established. The following error is logged. Association rejected by peer 2: REJECT_RESULT_transient, 1: REJECT_SOURCE_dul_user, 7: REJECT_REASON_called_aetitle_not_recognized
	2 - DICOM UL service-provider (ACSE related function)	1 - no-reason-given	Association is not established. The following error is logged. Association rejected by peer 2: REJECT_RESULT_transient, 2: REJECT_SOURCE_dul_provider (acse), 1: REJECT_REASON_no_reason_given
		2 - protocol-version-not-supported	Association is not established. The following error is logged. Association rejected by peer 2: REJECT_RESULT_transient, 2: REJECT_SOURCE_dul_provider (acse), 2: REJECT_REASON_application_context_not_support
	3 - DICOM UL service-provider(Presentation related function)	1 - temporary-congestion	Association is not established. The following error is logged. Association rejected by peer 2: REJECT_RESULT_transient, 3: REJECT_SOURCE_dul_provider (presentation), 1: REJECT_REASON_no_reason_given
		2 - local-limit-exceeded	Association is not established. The following error is logged. Association rejected by peer 2: REJECT_RESULT_transient, 3: REJECT_SOURCE_dul_provider (presentation), 2: REJECT_REASON_application_context_not_support

The behavior of the AE on receiving an Association abort is summarized in the next table.

Table 20: Association Abort Handling

Source	Reason/Diagnosis	Behavior when received	Sent when
0 - DICOM UL service-user (initiated abort)	0- reason-not-specified	When received, the DICOM Gateway terminates the connection with the following log: Association ABORTED by peer 0: ABORT_SOURCE_dul_user, 0: ABORT_REASON_not_specified	<ul style="list-style-type: none"> Abort is issued to an executing job that utilizes this network connection (ExportNetwork/ArchiveNetwork/DICOMCopy/DICOMMove) Any other problem than ones specified for DICOM Gateway SCU in the rows below. (Examples: Problem while decoding the DICOM stream, SCU was unable to send the Response to SCP, Error writing to SCU stream).
2 - DICOM UL service-provider (initiated abort)	0 - reason-not-specified	When received, the DICOM Gateway terminates the connection with the following log: Association ABORTED by peer 2: ABORT_SOURCE_dul_provider, 0: ABORT_REASON_not_specified	<ul style="list-style-type: none"> There are problems in SCU/SCP role negotiation. Any other problem than ones specified for DICOM Gateway SCU in the rows below. (Example: Problem while decoding the DICOM stream).
	1 - unrecognized-PDU	When received, the DICOM Gateway terminates the connection with the following log: Association ABORTED by peer 2: ABORT_SOURCE_dul_provider, 1: ABORT_REASON_unrecognized_pdu.	An unrecognized PDU type is received ⁴ .
	2 - unexpected-PDU	When received, The DICOM Gateway terminates the connection with the following log: Association ABORTED by peer 2: ABORT_SOURCE_dul_provider, 2: ABORT_REASON_unexpected_pdu.	The received PDU type is not expected in the current state of connection ⁵ .
	4 - unrecognized-PDU-parameter	When received, The DICOM Gateway terminates the connection with the following log: Association ABORTED by peer 2: ABORT_SOURCE_dul_provider, 4: ABORT_REASON_unrecognized_pdu_parameter.	An unrecognized Associate PDU item is received ¹ .
	5 - unexpected-PDU-parameter	When received, The DICOM Gateway terminates the connection with the following log: Association ABORTED by peer 2: ABORT_SOURCE_dul_provider, 5: ABORT_REASON_unexpected_pdu_parameter.	<ul style="list-style-type: none"> One of the Associate PDU items is received more than once². One of the Associate PDU items is received unexpectedly².
	6 - invalid-PDU-parameter-value	When received, The DICOM Gateway terminates the connection with the following log: Association ABORTED by peer 2: ABORT_SOURCE_dul_provider, 6: ABORT_REASON_invalid_pdu_parameter.	<ul style="list-style-type: none"> One of the Associate PDU items is received more than once³. One of the Associate PDU items is not received³. There is mismatch in the application context names between the SCU and the SCP. Illegal Asynchronous Operations Window invoke value is received. Illegal Asynchronous Operations Window perform value is received. Unknown presentation context id is received. Unknown abstract syntax is received. The length or the format of a received PDU item is invalid.

Notes:

1. Associate PDU items that are recognized:
- 0x10 APPLICATION CONTEXT
 - 0x20 PRESENTATION CONTEXT (RQ)
 - 0x21 PRESENTATION CONTEXT (AC)
 - 0x30 ABSTRACT SYNTAX

- 0x40 TRANSFER SYNTAX
- 0x50 USER INFO
- 0x51 MAXIMUM LENGTH
- 0x52 IMPLEMENTATION CLASS UID
- 0x54 SCP/SCU ROLE SELECTION
- 0x55 IMPLEMENTATION VERSION NAME

2. Associate PDU items for Unexpected-PDU parameter received more than once:

- 0x10 APPLICATION CONTEXT (SCU, SCP)
- 0x30 ABSTRACT SYNTAX (SCU, SCP)
- 0x40 TRANSFER SYNTAX (SCU)

Received unexpectedly:

- 0x20 PRESENTATION CONTEXT (RQ) (SCU)

3. Associate PDU items for Invalid-PDU parameter value:

Received more than once (SCU, SCP):

- 0x50 USER INFO
- 0x51 MAXIMUM LENGTH
- 0x52 IMPLEMENTATION CLASS UID
- 0x55 IMPLEMENTATION VERSION NAME

Received illegally:

- 0x21 PRESENTATION CONTEXT (AC) (SCP)

PDU items not received:

- 0x10 APPLICATION CONTEXT (SCU, SCP)
- 0x20 PRESENTATION CONTEXT (RQ) (SCP)
- 0x21 PRESENTATION CONTEXT (AC) (SCU)
- 0x50 USER INFO (SCU, SCP)
- 0x30 ABSTRACT SYNTAX (SCU)
- 0x40 TRANSFER SYNTAX (SCU)
- 0x51 MAXIMUM LENGTH (SCU, SCP)
- 0x52 IMPLEMENTATION CLASS UID (SCU)

4. PDU types that are recognized:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ
- 0x04 P-DATA-TF
- 0x05 A-RELEASE-RQ
- 0x06 A-RELEASE-RP
- 0x07 A-ABORT

5. Expected PDU's for following states:

STATE_IDLE:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ
- 0x05 A-RELEASE-RQ
- 0x06 A-RELEASE-RP

STATE_ASSOCIATED:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ
- 0x06 A-RELEASE-RP

STATE_ASSOCIATING (SCU):

- 0x01 A-ASSOCIATE-RQ
- 0x04 P-DATA-TF
- 0x05 A-RELEASE-RQ
- 0x06 A-RELEASE-RP

STATE_RELEASING:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ

STATE_WAIT_FOR_ASSOCIATE (SCP):

- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ
- 0x04 P-DATA-TF
- 0x05 A-RELEASE-RQ
- 0x06 A-RELEASE-RP
- 0x07 A-ABORT

STATE_WAIT_FOR_FINISH:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ
- 0x04 P-DATA-TF
- 0x05 A-RELEASE-RQ
- 0x06 A-RELEASE-RP

STATE_WAIT_FOR_DISCONNECT:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ

STATE_TIMED_OUT:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ
- 0x04 P-DATA-TF
- 0x05 A-RELEASE-RQ
- 0x06 A-RELEASE-RP
- 0x07 A-ABORT

Table 21: DICOM Command Communication Failure Behavior

Exception	Behavior
Reply Time-out	The association is aborted using A-ABORT and command marked as failed. The reason is logged and reported to the user.

4.2.2.2.1 (Real-World) Activity – Image Export

4.2.2.2.1.1 Description and Sequencing of Activities

Export service of DICOM Gateway exports the DICOM data from DICOM Store to a remote node on trigger of an Export Job. Export of data is done using C-STORE DIMSE interface to the specified remote node.

The DICOM Gateway initiates associations from configured systems that wish to store images in the DICOM Gateway database using the C-STORE command.

The DICOM Gateway supports re-identification of data sets during Export.

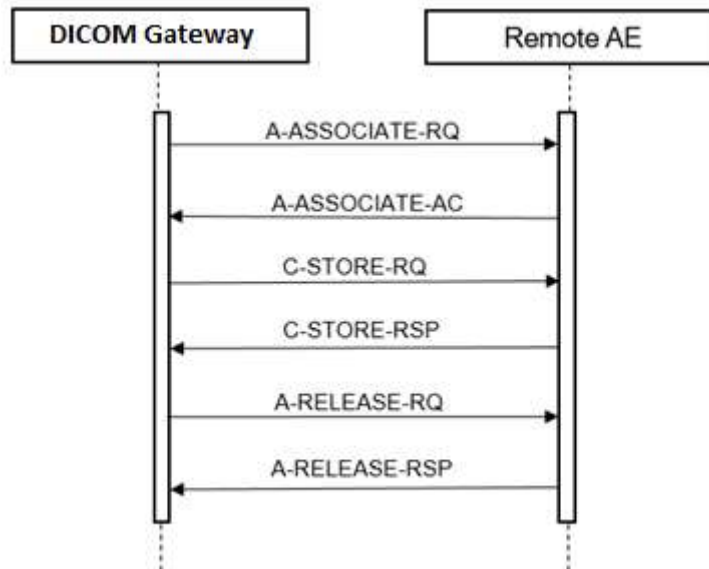


Figure 5 Data Flow Diagram – Image Export

4.2.2.2.1.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 22: Acceptable Presentation Contexts for (Real-World) Activity – Image Export

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Computed Radiography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)*	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Digital X-Ray Image Storage - For Pres. SOP	1.2.840.10008.5.1.4.1.1.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		RLE Lossless	1.2.840.10008.1.2.5		
Digital X-Ray Image Storage - For Proc. SOP	1.2.840.10008.5.1.4.1.1.1.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Digital Mammography X-Ray Image Storage - Pres. SOP	1.2.840.10008.5.1.4.1.1.1.2	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Digital Mammography X-Ray Image Storage - Proc. SOP	1.2.840.10008.5.1.4.1.1.1.2.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
Grayscale Softcopy Presentation State Storage SOP Class	1.2.840.10008.5.1.4.1.1.11.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
X-Ray Angiographic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.1	JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70	SCU	None
		RLE Lossless	1.2.840.10008.1.2.5		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
Enhanced XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1.1	RLE Lossless	1.2.840.10008.1.2.5	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
X-Ray Radiofluoroscopic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.2	JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70	SCU	None
		RLE Lossless	1.2.840.10008.1.2.5		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
Enhanced XRF Image Storage	1.2.840.10008.5.1.4.1.1.12.2.1	JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70	SCU	None
		RLE Lossless	1.2.840.10008.1.2.5		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50				

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Positron Emission Tomography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.128	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
X-Ray 3D Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.13.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Enhanced CT Image Storage	1.2.840.10008.5.1.4.1.1.2.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Nuclear Medicine Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.20	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Ultrasound Multi-frame Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.3.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Enhanced MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
MR Spectroscopy Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.2	JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70	SCU	None
		RLE Lossless	1.2.840.10008.1.2.5		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
RT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.1	RLE Lossless	1.2.840.10008.1.2.5	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
RT Dose Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.2	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
RT Structure Set Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.3	Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
RT Beams Treatment Record Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.4	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
RT Plan Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.5	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
RT Brachy Treatment Record Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.6	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		
RT Treatment Summary Record Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.7	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Ultrasound Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.6.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Raw Data Storage SOP Class	1.2.840.10008.5.1.4.1.1.66	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Spatial Registration Storage	1.2.840.10008.5.1.4.1.1.66.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
X-Ray Radiation Dose SR	1.2.840.10008.5.1.4.1.1.88.67	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Multi-frame Single Bit Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Multi-frame Grayscale Byte SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.2	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Multi-frame Grayscale Word SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.3	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Basic Text SR SOP Class	1.2.840.10008.5.1.4.1.1.88.11			SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Enhanced SR SOP Class	1.2.840.10008.5.1.4.1.1.88.22	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Comprehensive SR SOP Class	1.2.840.10008.5.1.4.1.1.88.33	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Chest CAD SR	1.2.840.10008.5.1.4.1.1.88.65	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
12-Lead ECG Waveform Storage SOP Class	1.2.840.10008.5.1.4.1.1.9.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
General ECG Waveform Storage SOP Class	1.2.840.10008.5.1.4.1.1.9.1.2	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Ambulatory ECG Waveform Storage SOP Class	1.2.840.10008.5.1.4.1.1.9.1.3	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Hemodynamic Waveform Storage SOP Class	1.2.840.10008.5.1.4.1.1.9.2.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		MPEG-4 AVC/H.264 High Profile / Level 4.1	1.2.840.10008.1.2.4.102		
		RLE Lossless	1.2.840.10008.1.2.5		
Ophthalmic Photography 8 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Ophthalmic Photography 16 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.2	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Keratometry Measurements Storage	1.2.840.10008.5.1.4.1.1.78.3	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.9		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Ophthalmic Axial Measurements Storage	1.2.840.10008.5.1.4.1.1.78.7	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Intraocular Lens Calculations Storage	1.2.840.10008.5.1.4.1.1.78.8	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
RT Ion Plan Storage	1.2.840.10008.5.1.4.1.1.481.8	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Grayscale Softcopy Presentation State Storage	1.3.46.670589.2.2.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private X-Ray Image Storage	1.3.46.670589.2.3.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Xray MF Image	1.3.46.670589.7.8.1618510091	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Stent Boost WorkItem	1.3.46.670589.7.8.16185100912	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Live Run WorkItems	1.3.46.670589.7.8.1618510092	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Run WorkItems	1.3.46.670589.7.8.16185100129	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Reco WorkItems	1.3.46.670589.7.8.16185100130	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Three DCA WorkItem	1.3.46.670589.7.8.16185100913	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Embedded Document	1.3.46.670589.2.8.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		

For Image Export requested in JPEG Baseline (Process 1): Default Transfer Syntax for Lossy JPEG 8 Bit Image Compression (1.2.840.10008.1.2.4.50), the Bits Stored value of the Image to be exported (stored data) should be either 8 or 16 bits.

4.2.2.2.1.3 SOP Specific Conformance for Storage SOP Classes

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

4.2.2.2.1.3.1 Dataset Specific Conformance for C-STORE-RSP

Detail regarding the Dataset Specific response behavior will be reported in this section.

This includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 23: Status Response

Service Status	Error Code	Further Meaning	Behavior
Success	0000	Successful stored	Progress of the export job is updated and connection is retained for the next store. If the store of all the SOP instances is completed then the connection is released.
Failure	A7xx	Refused: Out of Resources	Error is logged and the export job fails. Connection is released.
	A9xx	Error: Data Set does not match SOP Class	Error is logged and the export job fails. Connection is released.
	Cxxx	Error: cannot understand	Error is logged and the export job fails. Connection is released.
	0210	Duplicate Invocation	Error is logged and the export job fails. Connection is released.
	0211	Mistyped Argument	Error is logged and the export job fails. Connection is released.
	0117	Invalid Object Instance	Error is logged and the export job fails. Connection is released.
Warning	B000	Coercion of Data Elements	Warning is logged and the export job continues. Connection is not released.
	B007	Data Set does not match SOP Class	Warning is logged and the export job continues. Connection is not released.
	B006	Elements Discarded	Warning is logged and the export job continues. Connection is not released.

4.2.2.3 Association Acceptance Policy

The Application Entity may reject association attempts as shown in the below table.

Table 24: Association Rejection response

Result	Source	Reason/Diagnosis	Behavior
1 - rejected permanent	1 - DICOM UL service-user	1 - no-reason-given	Association is not established due to any problem other than that specified for DICOM Gateway SCP in the rows below. (Example: Problem while decoding the DICOM stream).
		2 - application-context-name-not-supported	An application context name other than 1.2.840.10008.3.1.1.1 is requested by the SCU during association.
		3 - calling-AE-title-not-recognized	The configuration does not contain a repository having the Calling AE Title as per the association request; There is a problem in configuration (related to composing the configuration from the SCU and the SCP configuration).
		7 - called-AE-title-not-recognized	The called AE Title in the association request does not match the AE Title as per the configuration.
	2 - DICOM UL service provider (ACSE related function)	1 - no-reason-given	Not used.
		2 - protocol-version-not-supported	Not used.
		3 - DICOM UL service provider (Presentation related function)	1 - temporary-congestion 2 - local-limit-exceeded
2 - rejected-transient	1 - DICOM UL service-user	1 - no-reason-given	Not used.
		2 - application-context-name-not-supported	Not used.
		3 - calling-AE-title-not-recognized	Not used.

Result	Source	Reason/Diagnosis	Behavior
		7 - called-AE-title-not-recognized	Not used.
	2 - DICOM UL service provider (ACSE related function)	1 - no-reason-given	Maximum number of associations is exceeded and an association request is received.
		2 - protocol-version-not-supported	Not used.
	3 - DICOM UL service provider (Presentation related function)	1 - temporary-congestion	Not used.
		2 - local-limit-exceeded	Not used.

The behavior of the AE on DICOM receiving an Association abort is summarized in the next table.

Table 25: Association Abort Policies

Source	Reason/Diagnosis	Behavior when received	Sent when
0 - DICOM UL service-user (initiated abort)	0 - reason-not-specified	When received, The Subsystem terminates the connection with the following log: Association ABORTED by peer 0: ABORT_SOURCE_dul_user, 0: ABORT_REASON_not_specified).	Association times out due to inactivity; Any other problem than ones specified for DICOM Gateway SCP in the rows below. (Examples: Problem while decoding the DICOM stream, Invalid request, Echo/Find/Move/N-Action SCP was unable to send the Response to SCU, Error writing to SCU stream).
2 - DICOM UL service-provider (initiated abort)	0 - reason-not-specified	When received, The Subsystem terminates the connection with the following log: Association ABORTED by peer 2: ABORT_SOURCE_dul_provider, 0: ABORT_REASON_not_specified	Import fails (Import SCP Performer returns fail status)
	1 - unrecognized-PDU	When received, The Subsystem terminates the connection with the following log: Association ABORTED by peer 2: ABORT_SOURCE_dul_provider, 1: ABORT_REASON_unrecognized_pdu	An unrecognized PDU type is received ⁴ .
	2 - unexpected-PDU	When received, The Subsystem terminates the connection with the following log: Association ABORTED by peer 2: ABORT_SOURCE_dul_provider, 2: ABORT_REASON_unexpected_pdu	The received PDU type is not expected in the current state of connection ⁵ .
	4 - unrecognized-PDU parameter	When received, The Subsystem terminates the connection with the following log: Association ABORTED by peer 2: ABORT_SOURCE_dul_provider, 4: ABORT_REASON_unrecognized_pdu_parameter	An unrecognized Associate PDU item is received ¹ .
	5 - unexpected-PDU parameter	When received, The Subsystem terminates the connection with the following log: Association ABORTED by peer 2: ABORT_SOURCE_dul_provider, 5: ABORT_REASON_unexpected_pdu_parameter	One of the Associate PDU items is received more than once ² ; One of the Associate PDU items is received unexpectedly ² .

Source	Reason/Diagnosis	Behavior when received	Sent when
	6 - invalid-PDU-parameter value	When received, The Subsystem terminates the connection with the following log: Association ABORTED by peer 2: ABORT_SOURCE_dul_provider, 6: ABORT_REASON_invalid_pdu_parameter	One of the Associate PDU items is received more than once3; One of the Associate PDU items is not received3; Empty Called AE Title String (space-only) is received; Empty Calling AE Title String (space-only) is received; Unknown abstract syntax is received; The length or the format of the received PDU item is invalid.

Notes:

1. Associate PDU items that are recognized:

- 0x10 APPLICATION CONTEXT
- 0x20 PRESENTATION CONTEXT (RQ)
- 0x21 PRESENTATION CONTEXT (AC)
- 0x30 ABSTRACT SYNTAX
- 0x40 TRANSFER SYNTAX
- 0x50 USER INFO
- 0x51 MAXIMUM LENGTH
- 0x52 IMPLEMENTATION CLASS UID
- 0x54 SCP/SCU ROLE SELECTION
- 0x55 IMPLEMENTATION VERSION NAME

2. Associate PDU items for Unexpected-PDU parameterReceived more than once:

- 0x10 APPLICATION CONTEXT (SCU, SCP)
- 0x30 ABSTRACT SYNTAX (SCU, SCP)
- 0x40 TRANSFER SYNTAX (SCU)

Received unexpectedly:

- 0x20 PRESENTATION CONTEXT (RQ) (SCU)

3. Associate PDU items for Invalid-PDU parameter value:

Received more than once (SCU, SCP):

- 0x50 USER INFO
- 0x51 MAXIMUM LENGTH
- 0x52 IMPLEMENTATION CLASS UID
- 0x55 IMPLEMENTATION VERSION NAME

Received illegally:

- 0x21 PRESENTATION CONTEXT (AC) (SCP)

PDU items not received:

- 0x10 APPLICATION CONTEXT (SCU, SCP)
- 0x20 PRESENTATION CONTEXT (RQ) (SCP)
- 0x21 PRESENTATION CONTEXT (AC) (SCU)
- 0x50 USER INFO (SCU, SCP)
- 0x30 ABSTRACT SYNTAX (SCU)
- 0x40 TRANSFER SYNTAX (SCU)
- 0x51 MAXIMUM LENGTH (SCU, SCP)
- 0x52 IMPLEMENTATION CLASS UID (SCU)

4. PDU types that are recognized:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ
- 0x04 P-DATA-TF
- 0x05 A-RELEASE-RQ
- 0x06 A-RELEASE-RP

- 0x07 A-ABORT

5. Expected PDU's for following states:

STATE_IDLE:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ
- 0x05 A-RELEASE-RQ
- 0x06 A-RELEASE-RP

STATE_ASSOCIATED:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ
- 0x06 A-RELEASE-RP

STATE_ASSOCIATING (SCU):

- 0x01 A-ASSOCIATE-RQ
- 0x04 P-DATA-TF
- 0x05 A-RELEASE-RQ
- 0x06 A-RELEASE-RP

STATE_RELEASING:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ

STATE_WAIT_FOR_ASSOCIATE (SCP):

- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ
- 0x04 P-DATA-TF
- 0x05 A-RELEASE-RQ
- 0x06 A-RELEASE-RP
- 0x07 A-ABORT

STATE_WAIT_FOR_FINISH:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ
- 0x04 P-DATA-TF
- 0x05 A-RELEASE-RQ
- 0x06 A-RELEASE-RP

STATE_WAIT_FOR_DISCONNECT:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ

STATE_TIMED_OUT:

- 0x01 A-ASSOCIATE-RQ
- 0x02 A-ASSOCIATE-AC
- 0x03 A-ASSOCIATE-RJ
- 0x04 P-DATA-TF
- 0x05 A-RELEASE-RQ
- 0x06 A-RELEASE-RP
- 0x07 A-ABORT

Table 26: Status Response

Service Status	Error Code	Further Meaning	Behavior
Success	0000	Confirmation	Confirm the verification request.

4.2.2.3.1 (Real-World) Activity – Image Import

4.2.2.3.1.1 Description and Sequencing of Activities

The DICOM Gateway accepts associations from configured systems that wish to store images in the DICOM Gateway database using the C-STORE command.

The DICOM Gateway will accept any standard DICOM data if it has Patient ID, Patient Name, Study Instance UID, SOP Instance UID and Series Instance UID. However, it has been verified for conformance with the below mentioned SOP Classes.

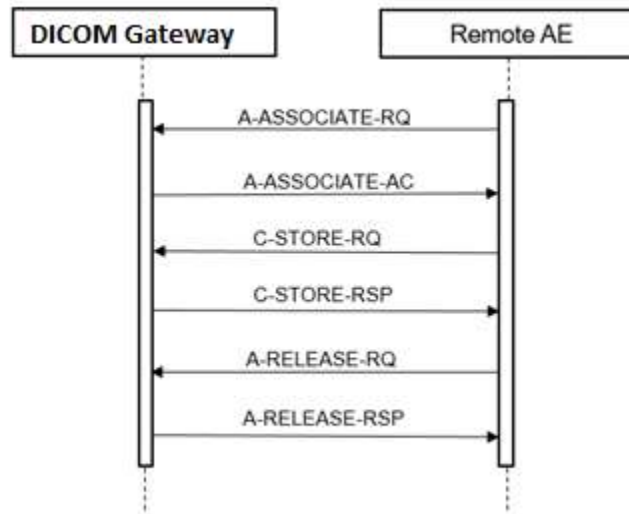


Figure 6 Data Flow Diagram – Image Import

4.2.2.3.1.2 Accepted Presentation Contexts

The presentation contexts are defined in the next table.

Table 27: Acceptable Presentation Contexts for (Real-World) Activity – Image Import

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Computed Radiography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
	1.2.840.10008.5.1.4.1.1.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Digital X-Ray Image Storage - For Pres. SOP		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Digital X-Ray Image Storage - For Proc. SOP	1.2.840.10008.5.1.4.1.1.1.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Digital Mammography X-Ray Image Storage - Pres. SOP	1.2.840.10008.5.1.4.1.1.1.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Digital Mammography X-Ray Image Storage - Proc. SOP	1.2.840.10008.5.1.4.1.1.1.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		RLE Lossless	1.2.840.10008.1.2.5		
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Grayscale Softcopy Presentation State Storage SOP Class	1.2.840.10008.5.1.4.1.1.11.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
X-Ray Angiographic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.1	RLE Lossless	1.2.840.10008.1.2.5	SCP	None
		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		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
Enhanced XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1.1	JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70	SCP	None
		RLE Lossless	1.2.840.10008.1.2.5		
		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		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
X-Ray Radiofluoroscopic	1.2.840.10008.5.1.4.1.1.12.2	JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50	SCP	None
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
		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		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Image Storage SOP Class		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Enhanced XRF Image Storage	1.2.840.10008.5.1.4.1.1.12.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Positron Emission Tomography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.128	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
X-Ray 3D Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.13.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Enhanced CT Image Storage	1.2.840.10008.5.1.4.1.1.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Nuclear Medicine Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.20	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Ultrasound Multi-frame Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.3.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Enhanced MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
MR Spectroscopy Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
RT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
RT Dose Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
RT Structure Set Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
RT Beams Treatment Record Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.4	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
RT Plan Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.5	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
RT Brachy Treatment Record Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.6	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
RT Treatment Summary Record Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.7	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Ultrasound Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.6.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Raw Data Storage SOP Class	1.2.840.10008.5.1.4.1.1.66	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Spatial Registration Storage	1.2.840.10008.5.1.4.1.1.66.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
X-Ray Radiation Dose SR	1.2.840.10008.5.1.4.1.1.88.67	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Multi-frame Single Bit Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Multi-frame Grayscale Byte SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Multi-frame Grayscale Word SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Multi-frame True Color Secondary	1.2.840.10008.5.1.4.1.1.7.4	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Capture Image Storage		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Basic Text SR SOP Class	1.2.840.10008.5.1.4.1.1.88.11	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Enhanced SR SOP Class	1.2.840.10008.5.1.4.1.1.88.22	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Comprehensive SR SOP Class	1.2.840.10008.5.1.4.1.1.88.33	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Chest CAD SR	1.2.840.10008.5.1.4.1.1.88.65	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
12-Lead ECG Waveform Storage SOP Class	1.2.840.10008.5.1.4.1.1.9.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
General ECG Waveform Storage SOP Class	1.2.840.10008.5.1.4.1.1.9.1.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Ambulatory ECG Waveform Storage SOP Class	1.2.840.10008.5.1.4.1.1.9.1.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Hemodynamic Waveform Storage SOP Class	1.2.840.10008.5.1.4.1.1.9.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		MPEG-4 AVC/H.264 High Profile / Level 4.1	1.2.840.10008.1.2.4.102		
		RLE Lossless	1.2.840.10008.1.2.5		
Ophthalmic Photography 8 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Ophthalmic Photography 16 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Keratometry Measurements Storage	1.2.840.10008.5.1.4.1.1.78.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Ophthalmic Axial Measurements Storage	1.2.840.10008.5.1.4.1.1.78.7	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Intraocular Lens Calculations Storage	1.2.840.10008.5.1.4.1.1.78.8	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
RT Ion Plan Storage	1.2.840.10008.5.1.4.1.1.481.8	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Grayscale Softcopy Presentation State Storage	1.3.46.670589.2.2.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Philips Private X-Ray Image Storage	1.3.46.670589.2.3.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Xray MF Image	1.3.46.670589.7.8.1618510091	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Stent Boost WorkItem	1.3.46.670589.7.8.16185100912	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Live Run WorkItems	1.3.46.670589.7.8.1618510092	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Run WorkItems	1.3.46.670589.7.8.16185100129	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Reco WorkItems	1.3.46.670589.7.8.16185100130	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Philips Private Three DCA WorkItem	1.3.46.670589.7.8.16185100913	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		
Embedded Document	1.3.46.670589.2.8.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70		
		RLE Lossless	1.2.840.10008.1.2.5		

Data ingestion using ILE (Implicit VR Little Endian) transfer syntax is not supported by default.

The DICOM Gateway accepts all contexts in the intersection of the proposed and acceptable Presentation Contexts. This means that multiple proposed presentation contexts with the same SOP class but different transfer syntaxes are accepted by the DICOM Gateway as far as those transfer syntaxes are part of the acceptable transfer syntaxes. There is no check for duplicate contexts and these are therefore accepted. All other Transfer Syntax (defined in the standard) are supported to be retrieved as is.

4.2.2.3.1.3 SOP Specific Conformance for Storage SOP Classes

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

The DICOM Gateway will only accept associations from configured systems. The DICOM Gateway may provide level 2 (full) conformance, depending on the implemented database. However it is configurable with "Allow any" parameter. If "Allow any" parameter is set to true, DICOM Gateway will accept data from unknown systems as well.

Remarks:

- Value Representation 'UN' (Unknown) is supported, and will be used for any attributes not known to DICOM Gateway and received per implicit transfer (ILE).

4.2.2.3.1.3.1 Dataset Specific Conformance for C-STORE-RSP

Detail regarding the Dataset Specific response behavior will be reported in this section.

This includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 28: Status Response

Service Status	Error Code	Further Meaning	Behavior
Success	0000	Successful command	Successful completion of the store request.
Failure	A700	Refused: out of resources	Not enough resources available to do a store.
	C000	Error: cannot understand	Any other exception generated during the store.

Note- Additional set of characters is getting added to the patient name having maximum number of characters.

This case is applicable only when patient name has maximum permissible characters in the value.

For a patient with less characters the extension is not done.

As the chance of having a patient with the maximum amount of characters in patient name is quite low the issue is accepted for this release.

4.2.2.3.2 (Real-World) Activity – FIND as SCP

4.2.2.3.2.1 Description and Sequencing of Activities

DICOM Gateway accepts associations from the remote database using the C-FIND command.

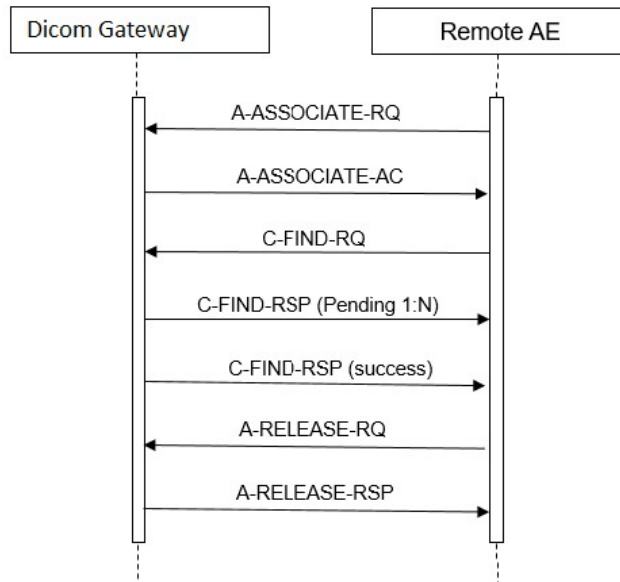


Figure 7 Data Flow Diagram – FIND as SCP

4.2.2.3.2.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 29: Proposed Presentation Contexts for (Real-World) Activity – FIND As SCP

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Study Root QR Information Model - FIND SOP Class	1.2.840.10008.5.1.4.1.2.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		

4.2.2.3.2.3 SOP Specific Conformance for Study Root QR Information Model - FIND SOP Class

4.2.2.3.2.3.1 Dataset Specific Conformance for Study Root QR Information Model - FIND SOP Class C-FIND-SCP

DICOM Gateway supports the following Query keys.

Table 30: Supported Query Keys for Study Root Information Model

Study Root QR Information Model - FIND SOP Class				
Attribute Name	Tag	VR	Type of Matching	Comment
Study level keys				
Query/Retrieve Level	0008,0052	CS	STUDY	
Study Date	0008,0020	DA	Single value, Universal, Range	
Study Time	0008,0030	TM	Universal	

Study Root QR Information Model - FIND SOP Class				
Attribute Name	Tag	VR	Type of Matching	Comment
Accession Number	0008,0050	SH	Single value, Universal	
Modalities in Study	0008,0061	CS	Universal	
Referring Physician Name	0008,0090	PN	Universal	
Patient's Name	0010,0010	PN	Universal, WildCard	
Patient ID	0010,0020	LO	Single value, Universal	
Study Instance UID	0020,000D	UI	Single value, Universal	
Study ID	0020,0010	SH	Single value, Universal	
Series level keys				
Query/Retrieve Level	0008,0052	CS	SERIES	
Modality	0008,0060	CS	Single value, Universal	
Series Instance UID	0020,000E	UI	Single value, Universal	
Series Number	0020,0011	IS	Single value, Universal	
Scheduled Procedure Step ID	0040,0009	SH	Universal	
Performed Procedure Step Start Date	0040,0244	DA	Universal	
Performed Procedure Step Start Time	0040,0245	TM	Universal	
Request Attributes Sequence	0040,0275	SQ	Universal	
Image level keys				
Query/Retrieve Level	0008,0052	CS	IMAGE	
Instance Number	(0020,0013)	IS	Single value, Universal	
SOP Instance UID	(0008,0018)	UI	Single value, Universal	
Number of Frames	(0028,0008)	IS	Universal	For Multi-frame image

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 31: Status Response

Service Status	Error Code	Further Meaning	Behavior*
Success	0000	Matching is complete – No final identifier is supplied	The C-FIND request handling is completed, no more C-FIND responses are sent.
Failure	A700	Refused – Out of resources	The reason is logged and association is released.
	C000	Failed – Unable to process	The C-FIND request cannot be parsed. The reason is logged.
Pending	FF00	Matches are continuing - Current match is supplied and any optional keys were supported in the same manner as required keys.	The C-FIND responses are continuing.
	FF01	Matches are continuing - Warning that one or more optional keys were not supported for existence and/or matching for this identifier	The C-FIND responses are continuing.
Cancel	FE00	Matching terminated due to Cancel request	C-Cancel is not implemented by the product. Response is sent after receiving the C-Cancel. Receiving system is not expecting this but are expected to be able to handle the incoming packages. As such no breaking workflow is created.

Note- Design choice of the product.

SUT is terminating the connection when non negotiated sop class is queried.

SUT should have sent reject (0112H) in C-FIND-RSP, instead SUT closes the connection gracefully by sending release.

Workflow is ending in the same way as there are no results send and connection is closed.

4.2.2.3.3 (Real-World) Activity – MOVE as SCP

4.2.2.3.3.1 Description and Sequencing of Activities

The Real World activity associated with the C-MOVE command is retrieval of images from DICOMStore via DICOMGateway and storage of the images to a remote system using a C-STORE command

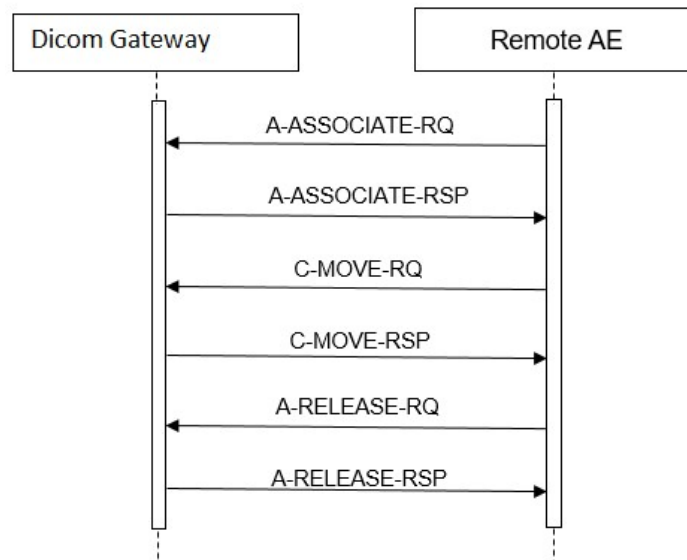


Figure 8 Data Flow Diagram – MOVE as SCP

4.2.2.3.3.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 32: Proposed Presentation Contexts for (Real-World) Activity – MOVE As SCP

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Study Root QR Information Model - MOVE SOP Class	1.2.840.10008.5.1.4.1.2.2.2	Implicit VR Little Endian	1.2.840.10008.1.2.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2		

4.2.2.3.3.3 SOP Specific Conformance for Study Root QR Information Model - MOVE SOP Class

4.2.2.3.3.3.1 Dataset Specific Conformance for Study Root QR Information Model - MOVE SOP Class C-MOVE-SCP

Table 33: Status Response

Service Status	Error Code	Further Meaning	Behavior
Success	0000	Sub-operations complete – No failures	The C-MOVE command has been completed. When the C-Move operation is successful.
Failure	A701	Refused – Out of resources - Unable to calculate number of matches	The reason is logged and association is released.
	C000	Failed – Unable to process	The C-MOVE request cannot be parsed. No Store Command will be sent. The reason is logged.
Warning	B000	Sub-operations complete – One or more failures	A response with this status code is sent when 1 or more export (sub-operation) jobs are failed.

Service Status	Error Code	Further Meaning	Behavior
Cancel	FE00	Sub-operations terminated due to Cancel indication	Move operation is terminated with a status code in response due to Cancel indication.
Pending	FF00	Sub-operations are continuing	The Move job continues.

4.3 Network Interfaces

4.3.1.1 Physical Network Interfaces

Physical Network Interfaces are based on the hosting environment of DICOM Gateway.

4.3.1.2 Additional Protocols

4.3.1.2.1 Basic TLS Secure Transport Connection Profile

DICOM Gateway supports secure TLS v1.0, 1.1 and 1.2.

4.3.1.2.2 Basic Time Synchronization Profile

Time Synchronization is managed by Hosting infrastructure.

4.3.1.2.3 Basic Application Level Confidentiality Profile

Not supported.

4.3.1.2.4 IPv4 and IPv6 Support

IPv4 and IPv6 Support as defined by the hosting environment.

4.3.1.3 Configuration

Not Applicable.

5. Media Interchange

Not Supported

6. Support of Character Sets

Any support for character sets in Network and Media services is described here.

Table 34: Supported DICOM Character Sets

Character Set Description	Defined Term	ESC Sequence	ISO Registration Number	Code Element	Character Set
Latin alphabet No. 1	ISO_IR 100	-	ISO-IR 100	G1	Supplementary set of ISO 8859
Default repertoire	ISO-IR 6	-	ISO-IR 6	G0	ISO 646
Latin alphabet No. 2	ISO_IR 101	-	ISO-IR 101	G1	Supplementary set of ISO 8859
Latin alphabet No. 3	ISO_IR 109	-	ISO-IR 109	G1	Supplementary set of ISO 8859
		-	ISO-IR 6	G0	ISO 646
Latin alphabet No. 4	ISO_IR 110	-	ISO-IR 110	G1	Supplementary set of ISO 8859
		-	ISO-IR 6	G0	ISO 646
Cyrillic	ISO_IR 144	-	ISO-IR 144	G1	Supplementary set of ISO 8859
		-	ISO-IR 6	G0	ISO 646
Latin alphabet No. 5	ISO_IR 148	-	ISO-IR 148	G1	Supplementary set of ISO 8859
		-	ISO-IR 6	G0	ISO 646
Thai	ISO_IR 166	-	ISO-IR 166	G1	TIS 620-2533 (1990)
		-	ISO-IR 6	G0	ISO 646
Korean	ISO 2022 IR 149	ESC 02/04 02/09 04/03	ISO-IR 149	G1	KS X 1001: Hangul and Hanja
Japanese	ISO 2022 IR 87	ESC 02/04 04/02	ISO-IR 87	G0	JIS X 0208: Kanji
UTF-8	ISO IR 192	-	ISO IR 192	-	

7. Security

7.1 Security Profiles

7.1.1 Security use Profiles

Not supported by DICOM Gateway

7.1.2 Security Transport Connection Profiles

Basic TLS Secure Transport Connection Profile.

DICOM Gateway supports secure TLS v1.0, 1.1 and 1.2 for C-STORE, C-FIND and C-MOVE operations.

7.1.3 Digital Signature Profiles

Not supported by DICOM Gateway.

7.1.4 Media Storage Security Profiles

Not supported by DICOM Gateway.

7.1.5 Attribute Confidentiality Profiles

DICOM Gateway does not support Attribute Confidentiality Profiles. However, user can configure DICOMGateway to anonymize some DICOM tags as specified below.

Below Table shows the full list of DICOM attributes that will be anonymized based on the configuration defined in ConfidentialityBaseProfile.

The following list dictates the meaning of each value as it appears in the operation column of the Table

D- Replace with a nonzero length value that may be a dummy value and consistent with the VR

X - Remove the specified element

Z- Replace with a zero length value, or a nonzero length value that may be a dummy value

Table 35: Confidentiality Profile Attributes

Attribute Name	VR	Tag	Operation
Patient ID	LO	00100020	Z
Patient's Birth Date	DA	00100030	D
Patient's Birth Time	TM	00100032	X\Z
Patient's Name	PN	00100010	Z
Issuer of Patient ID	LO	00100021	X\Z
Medical Record Locator	LO	00101090	X\Z
Military Rank	LO	00101080	X\Z
Referenced Patient Sequence	SQ	00081120	X\Z
Accession Number	SH	00080050	Z
Study Date	DA	00080020	D
Study Time	TM	00080030	D
Referring Physician's Address	ST	00080092	X\Z
Referring Physician's Name	PN	00080090	X\Z
Issuer of Service Episode ID Sequence	SQ	00380064	X\Z
Last Menstrual Date	DA	001021D0	D

Most Recent Treatment Date	DA	30080056	D
Observation Date 'Trial	DA	0040A192	D
Observation Time 'Trial	TM	0040A193	D
Performed Procedure Step End Date	DA	00400250	D
Performing Physician's Name	PN	00081050	X\Z
Placer Order Number / Imaging Service Request	LO	00402016	X\Z
Reason for Requested Procedure Code Sequence	SQ	0040100A	X\Z
Referenced Performed Procedure Step Sequence	SQ	00081111	X\Z
Referring Physician Identification Sequence	SQ	00080096	X\Z
Referring Physician's Telephone Numbers	SH	00080094	X\Z
Request Attributes Sequence	SQ	00400275	X\Z
Requested Procedure ID	SH	00401001	X\Z
Series Date	DA	00080021	D
Series Time	TM	00080031	D
Station Name	SH	00081010	X\Z
Acquisition Comments	LT	00184000	X\Z
Acquisition Date	DA	00080022	D
Acquisition DateTime	DT	0008002A	D
Acquisition Time	TM	00080032	D
Actual Human Performers Sequence	SQ	00404035	X\Z
Additional Patient History	LT	001021B0	X\Z
Address 'Trial	ST	0040A353	X\Z
Admission ID	LO	00380010	X\Z
Admitting Date	DA	00380020	D
Admitting Time	DA	00380021	D
Author Observer Sequence	SQ	0040A078	X\Z
Barcode Value	LT	22000005	Z
Branch of Service	LO	00101081	X\Z
Camera Owner Name	UT	0016004D	X\Z
Comments on Radiation Dose	ST	00400310	X\Z
Comments on the Performed Procedure Step	ST	00400280	X\Z
Consulting Physician Identification Sequence	SQ	0008009D	X\Z
Consulting Physician's Name	PN	0008009C	X\Z
Content Creator's Name	PN	00700084	X\Z
Content Date	DA	00080023	D
Content Time	TM	00080033	D
Country of Residence	LO	00102150	X\Z
Current Patient Location	LO	00380300	X\Z
Curve Date	DA	00080025	D
Curve Time	TM	00080035	D
End Acquisition DateTime	DT	00189517	D
Expected Completion DateTime	DT	00404011	D

First Treatment Date	DA	30080054	D
GPS Date Stamp	DT	0016008D	D
Human Performer's Name	PN	00404037	X\Z
Icon Image Sequence	SQ	00880200	X
Image Comments	LT	00204000	X\Z
Image Presentation Comments	LT	00284000	X\Z
Imaging Service Request Comments	LT	00402400	X\Z
Impressions	ST	40080300	X
Intended Phase Start Date	DA	3010004C	D
Intended Recipients of Results Identification Sequence	SQ	00401011	X\Z
Interpretation Diagnosis Description	LT	40080115	X\Z
Interpretation Transcriber	PN	4008010A	X\Z
Issuer of Admission ID Sequence	SQ	00380014	X\Z
Issuer of Service Episode ID	LO	00380061	X\Z
Issuer of the Container Identifier Sequence	SQ	00400513	X\Z
Name of Physician's Reading Study	PN	00081060	X\Z
Names of Intended Recipients of Results	PN	00401010	X\Z
Occupation	SH	00102180	X\Z
Operator Identification Sequence	SQ	00081072	X\Z
Order Callback Phone Number	SH	00402010	X\Z
Order Enterer's Location	SH	00402009	X\Z
Other Patient IDs	LO	00101000	X\Z
Other Patient IDs Sequence	SQ	00101002	X\Z
Other Patient Names	PN	00101001	X\Z
Overlay Time	TM	00080034	D
Override DateTime	DT	300A0760	D
Patient Comments	LT	00104000	X\Z
Patient State	LO	00380500	X\Z
Patient Transport Arrangements	LO	00401004	X\Z
Patient's Address	LO	00101040	X\Z
Patient's Birth Name	PN	00101005	X\Z
Patient's Institution Residence	LO	00380400	X\Z
Patient's Insurance Plan Code Sequence	SQ	00100050	X\Z
Patient's Mother's Birth Name	PN	00101060	X\Z
Patient's Primary Language Code Sequence	SQ	00100101	X\Z
Patient's Primary Language Modifier Code Sequence	SQ	00100102	X\Z
Patient's Religious Preference	LO	001021F0	X\Z
Patient's Telecom Information	LT	00102155	X\Z
Patient's Telephone Numbers	SH	00102154	X\Z
Performed Procedure Step End DateTime	DT	00404051	D
Performed Procedure Step End Time	TM	00400251	D
Performed Procedure Step ID	SH	00400253	X\Z

Performed Procedure Step Start Date	DA	00400244	D
Performed Procedure Step Start DateTime	DT	00404050	D
Performed Procedure Step Start Time	TM	00400245	D
Performed Station AE Title	AE	00400241	X\Z
Performed Station Geographic Location Code Sequence	SQ	00404030	X\Z
Performed Station Name Code Sequence	SQ	00404028	X\Z
Performing Physician Identification Sequence	SQ	00081052	X\Z
Person Identification Code Sequence	SQ	00401101	X\Z
Person Name	PN	0040A123	X\Z
Person's Address	ST	00401102	X\Z
Person's Telecom Information	LT	00401104	X\Z
Person's Telephone Numbers	LO	00401103	X\Z
Physician's of Record	PN	00081048	X\Z
Procedure Step Cancellation DateTime	DT	00404052	D
Recorded RT Control Point DateTime	DT	300A073A	D
Referenced Patient Alias Sequence	SQ	00380004	X\Z
Referenced Patient Photo Sequence	SQ	00101100	X
Region of Residence	LO	00102152	X\Z
Requesting Physician	PN	00321032	X\Z
RT Plan Date	DA	300A0006	D
RT Plan Time	TM	300A0007	D
Scheduled Human Performers Sequence	SQ	00404034	X\Z
Scheduled Patient Institution Residence	LO	0038001E	X\Z
Scheduled Performing Physician's Name	PN	00400006	X\Z
Scheduled Procedure Step End Date	DA	00400004	D
Scheduled Procedure Step End Time	TM	00400005	D
Scheduled Procedure Step Expiration DateTime	DT	00404008	D
Scheduled Procedure Step Modification DateTime	DT	00404010	D
Scheduled Procedure Step Start Date	DA	00400002	D
Scheduled Procedure Step Start DateTime	DT	00404005	D
Scheduled Procedure Step Start Time	TM	00400003	D
Scheduled Study Location	LO	00321020	X\Z
Source End DateTime	DT	0018936A	D
Source Start DateTime	DT	00189369	D
Start Acquisition DateTime	DT	00189516	D
Structure Set Date	DA	30060008	D
Structure Set Time	TM	30060009	D
Treatment Date	DA	30080250	D
Treatment Time	TM	30080251	D
Treatment Tolerance Violation DateTime	DT	300A0736	D
GPS Altitude	DS	00160076	X
GPS Altitude Ref	US	00160075	X

GPS Area Information	OB	0016008C	X
GPS Dest Bearing	DS	00160088	X
GPS Dest Distance	DS	0016008A	X
GPS Dest Distance Ref	CS	00160089	X
GPS Dest Longitude	DS	00160086	X
GPS Dest Longitude Ref	CS	00160085	X
GPS Dest Bearing Ref	CS	00160087	X
GPS Dest Latitude	DS	00160084	X
GPS Dest Latitude Ref	CS	00160083	X
GPS Differential	IS	0016008E	X
GPS DOP	DS	0016007B	X
GPS Img Direction	DS	00160081	X
GPS Img Direction Ref	CS	00160080	X
GPS Latitude	DS	00160072	X
GPS Latitude Ref	CS	00160071	X
GPS Longitude	DS	00160074	X
GPS Longitude Ref	CS	00160073	X
GPS Map Datum	UT	00160082	X
GPS Measure Mode	CS	0016007A	X
GPS Processing Method	OB	0016008B	X
GPS Satellites	UT	00160078	X
GPS Speed	DS	0016007D	X
GPS Speed Ref	CS	0016007C	X
GPS Status	CS	00160079	X
GPS Time Stamp	DT	00160077	X
GPS Track	DS	0016007F	X
GPS Track Ref	CS	0016007E	X
GPS Version ID	OB	00160070	X
Arbitrary	LT	40000010	X
Compensator Description	LT	300A02EB	X
Content Creator's Identification Code Sequence	SQ	00700086	X
Digital Signatures Sequence	SQ	FFFAFFFA	X
Distribution Address	LO	4008011A	X
Distribution Name	PN	40080119	X
Human Performer's Organization	LO	00404036	X
Impedance Measurement DateTime	DT	003A0314	D
Instance Coercion DateTime	DT	00080015	X
Institution Address	ST	00080081	X\Z
Institution Code Sequence	SQ	00080082	X\Z
Institution Name	LO	00080080	X\Z
Institutional Department Name	LO	00081040	X\Z
Institutional Department Type Code Sequence	SQ	00081041	X\Z

Insurance Plan Identification	LO	00101050	X
Intended Phase End Date	DA	3010004D	X
Interlock DateTime	DT	300A0741	X
Interpretation Approver Sequence	SQ	40080111	X
Interpretation Author	PN	4008010C	X
Interpretation ID Issuer	LO	40080202	X
Interpretation Recorder	PN	40080102	X
Interpretation Text	ST	4008010B	X
Issuer of Admission ID	LO	00380011	X
NonconformingModifiedAttributesSequence	SQ	04000551	X
Operators' Name	PN	00081070	X\Z
Order Callback Telecom Information	LT	00402011	X
Order Entered By	PN	00402008	X
Participant Sequence	SQ	0040A07A	X
Performed Location	SH	00400243	X
Performed Station Name	SH	00400242	X
Physician's of Record Identification Sequence	SQ	00081049	X
Physician's Reading Study Identification Sequence	SQ	00081062	X
Requested Procedure Location	LO	00401005	X
Responsible Organization	LO	00102299	X
Responsible Person	PN	00102297	X
Results Distribution List Sequence	SQ	40080118	X
Scheduled Performing Physician Identification Sequence	SQ	0040000B	X
Scheduled Procedure Step ID	SH	00400009	X\Z
Scheduled Procedure Step Location	SH	00400011	X
Scheduled Station AE Title	AE	00400001	X
Scheduled Station Geographic Location Code Sequence	SQ	00404027	X
Scheduled Station Name	SH	00400010	X
Scheduled Station Name Code Sequence	SQ	00404025	X
Scheduled Study Location AE Title	AE	00321021	X
Study ID Issuer	LO	00320012	X
Telephone Number 'Trial	LO	0040A354	X
Text Comments	LT	40004000	X
Text String	LO	20300020	X
Verifying Observer Name	PN	0040A075	X
Verifying Observer Sequence	SQ	0040A073	X
Verifying Organization	LO	0040A027	X

Note: Additionally the attributes are configurable by the user via Configuration to allow for the most flexibility: in case if there is any extended list or if user wants to override the ConfidentialityBaseProfile

Table 36: Safe Private Attributes

Data Element	Private Creator	VR	VM	Meaning
--------------	-----------------	----	----	---------

(7053,xx00)	Philips PET Private Group	DS	1	SUV Factor - Multiplying stored pixel values by Rescale Slope then this factor results in SUVbw in g/l
(7053,xx09)	Philips PET Private Group	DS	1	Activity Concentration Factor - Multiplying stored pixel values by Rescale Slope then this factor results in MBq/ml.
(00E1,xx21)	ELSCINT1	DS	1	DLP
(00E1,xx50)	ELSCINT1	DS	1	Acquisition Duration
(01E1,xx26)	ELSCINT1	CS	1	Phantom Type
(01F1,xx01)	ELSCINT1	CS	1	Acquisition Type
(01F1,xx07)	ELSCINT1	DS	1	Table Velocity
(01F1,xx26)	ELSCINT1	DS	1	Pitch
(01F1,xx27)	ELSCINT1	DS	1	Rotation Time
(0019,xx23)	GEMS_ACQU_01	DS	1	Table Speed [mm/rotation]
(0019,xx24)	GEMS_ACQU_01	DS	1	Mid Scan Time [sec]
(0019,xx27)	GEMS_ACQU_01	DS	1	Rotation Speed (Gantry Period)
(0019,xx9E)	GEMS_ACQU_01	LO	1	Internal Pulse Sequence Name
(0043,xx27)	GEMS_PARM_01	SH	1	Scan Pitch Ratio in the form "n.nnn:1"
(0045,xx01)	GEMS_HELIOS_01	SS	1	Number of Macro Rows in Detector
(0045,xx02)	GEMS_HELIOS_01	FL	1	Macro width at ISO Center
(0903,xx10)	GEIIS PACS	US	1	Reject Image Flag
(0903,xx11)	GEIIS PACS	US	1	Significant Flag
(0903,xx12)	GEIIS PACS	US	1	Confidential Flag
(2001,xx01)	Philips Imaging DD 001	FL	1	MR Image Chemical Shift
(2001,xx02)	Philips Imaging DD 001	IS	1	MR Image Chemical Shift Number
(2001,xx03)	Philips Imaging DD 001	FL	1	MR Image Diffusion B-Factor
(2001,xx04)	Philips Imaging DD 001	CS	1	MR Image Diffusion Direction
(2001,xx05)	Philips Imaging DD 001	SS	1	Graphic Annotation Parent ID
(2001,xx06)	Philips Imaging DD 001	CS	1	MR Image Enhanced
(2001,xx07)	Philips Imaging DD 001	CS	1	MR Image Type Edes
(2001,xx08)	Philips Imaging DD 001	IS	1	MR Image Phase Number
(2001,xx09)	Philips Imaging DD 001	FL	1	MR Image Prepulse Delay
(2001,xx0a)	Philips Imaging DD 001	IS	1	Image Plane Number
(2001,xx0b)	Philips Imaging DD 001	CS	1	Image Plane Orientation
(2001,xx0c)	Philips Imaging DD 001	CS	1	MR Series Arrhythmia Rejection
(2001,xx0e)	Philips Imaging DD 001	CS	1	MR Series Cardiac Cycled
(2001,xx0f)	Philips Imaging DD 001	SS	1	MR Series Cardiac Gate Width
(2001,xx10)	Philips Imaging DD 001	CS	1	MR Series Cardiac Sync
(2001,xx11)	Philips Imaging DD 001	FL	1	MR Series Diffusion Echo Time
(2001,xx12)	Philips Imaging DD 001	CS	1	MR Series Dynamic Series
(2001,xx13)	Philips Imaging DD 001	SL	1	MR Series Epi Factor
(2001,xx14)	Philips Imaging DD 001	SL	1	MR Series Nr Of Echoes
(2001,xx15)	Philips Imaging DD 001	SS	1	MR Series Nr Of Locations
(2001,xx16)	Philips Imaging DD 001	SS	1	MR Series Nr Of Phase Contrast Directions
(2001,xx17)	Philips Imaging DD 001	SL	1	MR Series Nr Of Phases
(2001,xx18)	Philips Imaging DD 001	SL	1	MR Series Nr Of Slices
(2001,xx19)	Philips Imaging DD 001	CS	1	MR Series Partial Matrix Scanned
(2001,xx1a)	Philips Imaging DD 001	FL	3	MR Series Pc Velocity
(2001,xx1b)	Philips Imaging DD 001	FL	1	MR Series Prepulse Delay
(2001,xx1c)	Philips Imaging DD 001	CS	1	MR Series Prepulse Type
(2001,xx1d)	Philips Imaging DD 001	IS	1	MR Series Reconstruction Number
(2001,xx1e)	Philips Imaging DD 001	CS	1	MR Series Reformat Accuracy

(2001,xx1f)	Philips Imaging DD 001	CS	1	MR Series Respiration Sync
(2001,xx21)	Philips Imaging DD 001	CS	1	MR Series Sel Part Inversion Recovery
(2001,xx22)	Philips Imaging DD 001	FL	1	MR Series Water Fat Shift
(2001,xx23)	Philips Imaging DD 001	DS	1	MR Series Flip Angle
(2001,xx24)	Philips Imaging DD 001	CS	1	MR Series Is Interactive
(2001,xx25)	Philips Imaging DD 001	SH	1	MR Series Echo Time Display
(2001,xx26)	Philips Imaging DD 001	CS	1	Presentation State Subtraction Active
(2001,xx27)	Philips Imaging DD 001	CS	1	Edge Enhancement Kernel Size
(2001,xx28)	Philips Imaging DD 001	FL	1	Edge Enhancement Gain Factor Sub
(2001,xx29)	Philips Imaging DD 001	FL	1	Edge Enhancement Gain Factor
(2001,xx2a)	Philips Imaging DD 001	CS	1	Edge Enhancement Taste Adapt Sub
(2001,xx2b)	Philips Imaging DD 001	CS	1	Edge Enhancement Taste Adapt
(2001,xx2c)	Philips Imaging DD 001	FL	1	Harmonization Factor
(2001,xx2d)	Philips Imaging DD 001	SS	1	Stack Number Of Slices
(2001,xx2e)	Philips Imaging DD 001	CS	1	Harmonization Kernel Size
(2001,xx2f)	Philips Imaging DD 001	FL	1	Harmonization Gain
(2001,xx30)	Philips Imaging DD 001	UL	1	Log Subtraction Gain Step Taste
(2001,xx31)	Philips Imaging DD 001	US	1	Mixing Nr Of Mask Image Numbers
(2001,xx32)	Philips Imaging DD 001	FL	1	Stack Radial Angle
(2001,xx33)	Philips Imaging DD 001	CS	1	Stack Radial Axis
(2001,xx34)	Philips Imaging DD 001	CS	1	Mixing Mask Operation Type
(2001,xx35)	Philips Imaging DD 001	SS	1	Stack Slice Number
(2001,xx36)	Philips Imaging DD 001	CS	1	Stack Type
(2001,xx37)	Philips Imaging DD 001	CS	1	Mixing Operation Type
(2001,xx38)	Philips Imaging DD 001	FL	1	Overlay Mix Factor
(2001,xx39)	Philips Imaging DD 001	FL	1	Overscan Factor
(2001,xx3a)	Philips Imaging DD 001	CS	1	Pixel Shift
(2001,xx3b)	Philips Imaging DD 001	FL	4	Pixel Shift Split Line Coordinates
(2001,xx3c)	Philips Imaging DD 001	FL	2	Pixel Shift Shift Vectora
(2001,xx3d)	Philips Imaging DD 001	UL	1	Contour Fill Color
(2001,xx3e)	Philips Imaging DD 001	FL	2	Pixel Shift Shift Vectorb
(2001,xx3f)	Philips Imaging DD 001	CS	1	Displayed Area Zoom Interpolation Meth
(2001,xx40)	Philips Imaging DD 001	CS	1	Pixel Shift Split Screen
(2001,xx41)	Philips Imaging DD 001	FL	1	Subtraction Land Marking Factor
(2001,xx42)	Philips Imaging DD 001	CS	1	Subtraction Land Marking Active
(2001,xx43)	Philips Imaging DD 001	IS	2	Ellips Displ Shut Major Ax Frst End Pnt
(2001,xx44)	Philips Imaging DD 001	IS	2	Ellips Displ Shut Major Ax Scnd End Pnt
(2001,xx45)	Philips Imaging DD 001	IS	2	Ellips Displ Shut Other Ax Frst End Pnt
(2001,xx46)	Philips Imaging DD 001	CS	1	Graphic Line Style
(2001,xx47)	Philips Imaging DD 001	FL	1	Graphic Line Width
(2001,xx48)	Philips Imaging DD 001	SS	1	Graphic Annotation Id
(2001,xx49)	Philips Imaging DD 001	IS	1	Trace First Image
(2001,xx4a)	Philips Imaging DD 001	CS	1	Trace Taste
(2001,xx4b)	Philips Imaging DD 001	CS	1	Interpolation Method
(2001,xx4c)	Philips Imaging DD 001	CS	1	Poly Line Begin Point Style
(2001,xx4d)	Philips Imaging DD 001	CS	1	Poly Line End Point Style
(2001,xx4e)	Philips Imaging DD 001	CS	1	Window Smoothing Taste
(2001,xx4f)	Philips Imaging DD 001	FD	1	Harmonization Offset
(2001,xx50)	Philips Imaging DD 001	LO	1	Graphic Marker Type
(2001,xx51)	Philips Imaging DD 001	IS	1	Overlay Plane Id
(2001,xx53)	Philips Imaging DD 001	CS	1	Presentation GI Trafo Invert
(2001,xx54)	Philips Imaging DD 001	FL	1	Contour Fill Transparency

(2001,xx55)	Philips Imaging DD 001	UL	1	Graphic Line Color
(2001,xx56)	Philips Imaging DD 001	CS	1	Graphic Type
(2001,xx57)	Philips Imaging DD 001	CS	1	Log Subtraction Taste
(2001,xx58)	Philips Imaging DD 001	UL	1	Series Xray Contrast Transfer Taste
(2001,xx59)	Philips Imaging DD 001	IS	1	Curve Id
(2001,xx5a)	Philips Imaging DD 001	ST	1	Graphic Annotation Model
(2001,xx5d)	Philips Imaging DD 001	ST	1	Measurement Text Units
(2001,xx5e)	Philips Imaging DD 001	ST	1	Measurement Text Type
(2001,xx5f)	Philips Imaging DD 001	SQ	1-n	Stack Sequence
(2001,xx60)	Philips Imaging DD 001	SL	1	MR Series Nr Of Stacks
(2001,xx61)	Philips Imaging DD 001	CS	1	Series Transmitted
(2001,xx62)	Philips Imaging DD 001	CS	1	Series Committed
(2001,xx63)	Philips Imaging DD 001	CS	1	Examination Source
(2001,xx64)	Philips Imaging DD 001	SH	1	Text Type
(2001,xx65)	Philips Imaging DD 001	SQ	1-n	Overlay Plane Sequence
(2001,xx66)	Philips Imaging DD 001	SQ	1-n	Image Curve
(2001,xx67)	Philips Imaging DD 001	CS	1	Linear Presentation GI Trafo Shape Sub
(2001,xx68)	Philips Imaging DD 001	SQ	1-n	Modality GI Trafo Sequence
(2001,xx69)	Philips Imaging DD 001	SQ	1-n	Display Shutter Sequence
(2001,xx6a)	Philips Imaging DD 001	SQ	1-n	Spatial Transformation Sequence
(2001,xx6b)	Philips Imaging DD 001	SQ	1-n	Edge Enhancement Sequence
(2001,xx6d)	Philips Imaging DD 001	LO	1	Text Font
(2001,xx6e)	Philips Imaging DD 001	SH	1	Series Type
(2001,xx6f)	Philips Imaging DD 001	SQ	1-n	Mixing Sequence
(2001,xx71)	Philips Imaging DD 001	CS	1	Graphic Constraint
(2001,xx72)	Philips Imaging DD 001	IS	2	Ellips Displ Shut Other Ax Scnd End Pnt
(2001,xx73)	Philips Imaging DD 001	SQ	1-n	Referenced Mask Image Sequence
(2001,xx74)	Philips Imaging DD 001	DS	1-n	Window Center Sub
(2001,xx75)	Philips Imaging DD 001	DS	1-n	Window Width Sub
(2001,xx76)	Philips Imaging DD 001	UL	1	Presentation State Xray Contrast Transfer Taste
(2001,xx77)	Philips Imaging DD 001	CS	1	GI Trafo Type
(2001,xx79)	Philips Imaging DD 001	SQ	1-n	Harmonisation Sequence
(2001,xx7a)	Philips Imaging DD 001	FL	1	Window Rounding Factor
(2001,xx7b)	Philips Imaging DD 001	IS	1	MR Series Acquisition Number
(2001,xx7c)	Philips Imaging DD 001	UL	1	Frame Number
(2001,xx7d)	Philips Imaging DD 001	OW/OB	1	Frame Pixel Data
(2001,xx7e)	Philips Imaging DD 001	US	1	Edge Enhancement Gain Taste
(2001,xx7f)	Philips Imaging DD 001	US	1	Edge Enhancement Gain Taste Sub
(2001,xx80)	Philips Imaging DD 001	LO	1	Text Anchor Point Alignment
(2001,xx81)	Philips Imaging DD 001	IS	1	MR Series Nr Of Dynamic Scans
(2001,xx82)	Philips Imaging DD 001	IS	1	MR Series Echo Train Length
(2001,xx83)	Philips Imaging DD 001	DS	1	MR Series Imaging Frequency
(2001,xx84)	Philips Imaging DD 001	DS	1	MR Series Inversion Time
(2001,xx85)	Philips Imaging DD 001	DS	1	MR Series Magnetic Field Strength
(2001,xx86)	Philips Imaging DD 001	IS	1	MR Series Nr Of Phase Encoding Steps
(2001,xx87)	Philips Imaging DD 001	SH	1	MR Series Nucleus
(2001,xx88)	Philips Imaging DD 001	DS	1	MR Series Number Of Averages
(2001,xx89)	Philips Imaging DD 001	DS	1	MR Series Percent Phase Field Of View
(2001,xx8a)	Philips Imaging DD 001	DS	1	MR Series Percent Sampling
(2001,xx8b)	Philips Imaging DD 001	SH	1	MR Series Transmitting Coil
(2001,xx8c)	Philips Imaging DD 001	CS	0-n	Needs Processing

(2001,xx90)	Philips Imaging DD 001	LO	1	Text Foreground Color
(2001,xx91)	Philips Imaging DD 001	LO	1	Text Background Color
(2001,xx92)	Philips Imaging DD 001	LO	1	Text Shadow Color
(2001,xx93)	Philips Imaging DD 001	LO	1	Text Style
(2001,xx94)	Philips Imaging DD 001	LO	1	Processing Order Specialization
(2001,xx9a)	Philips Imaging DD 001	SQ	1-n	Graphic Number Sequence
(2001,xx9b)	Philips Imaging DD 001	UL	1	Graphic Number
(2001,xx9d)	Philips Imaging DD 001	LO	1	Subtraction Type
(2001,xx9f)	Philips Imaging DD 001	US	2	Pixel Processing Kernel Size
(2001,xxa1)	Philips Imaging DD 001	CS	1	Is Raw Image
(2001,xxa2)	Philips Imaging DD 001	US	1	Log Subtraction Curve Taste
(2001,xxa3)	Philips Imaging DD 001	UL	1	Text Color Foreground
(2001,xxa4)	Philips Imaging DD 001	UL	1	Text Color Background
(2001,xxa5)	Philips Imaging DD 001	UL	1	Text Color Shadow
(2001,xxc0)	Philips Imaging DD 001	UL	1	Content Item Identifier
(2001,xxc1)	Philips Imaging DD 001	LO	1	Nested Object Type Name
(2001,xxc2)	Philips Imaging DD 001	FD	1	Subtraction Rescale Factor
(2001,xxc3)	Philips Imaging DD 001	UL	1	Subtraction Offset
(2001,xxc5)	Philips Imaging DD 001	SQ	0-1	Mask Image Lut Sequence
(2001,xxc6)	Philips Imaging DD 001	SQ	0-1	Gain Lut Sequence
(2001,xxc7)	Philips Imaging DD 001	SQ	0-1	Contrast Image Lut Sequence
(2001,xxca)	Philips Imaging DD 001	SQ	1	Reversed Modality Lut
(2001,xxcb)	Philips Imaging DD 001	IS	1	Redundant Overlay Plane Id
(2001,xxd0)	Philips Imaging DD 001	AT	1-n	Frame Index Pointer
(2001,xxd1)	Philips Imaging DD 001	US	1-n	Index Number Vector
(2001,xxd2)	Philips Imaging DD 001	US	1	Frame Detector Number
(2001,xxd3)	Philips Imaging DD 001	US	1	Frame Phase Number
(2001,xxd4)	Philips Imaging DD 001	US	1	Frame Rotation Number
(2001,xxd5)	Philips Imaging DD 001	US	1	Frame Rr Interval Number
(2001,xxd6)	Philips Imaging DD 001	US	1	Frame Time Slot Number
(2001,xxd7)	Philips Imaging DD 001	US	1	Frame Slice Number
(2001,xxd8)	Philips Imaging DD 001	US	1	Frame Angular View Number
(2001,xxd9)	Philips Imaging DD 001	US	1	Frame Time Slice Number
(2001,xxda)	Philips Imaging DD 001	CS	1	Is Arrowhead
(2001,xxdb)	Philips Imaging DD 001	US	1	PET Rr Interval Index
(2001,xxdc)	Philips Imaging DD 001	US	1	PET Time Slot Index
(2001,xxdd)	Philips Imaging DD 001	US	1	PET Time Slice Index
(2001,xxde)	Philips Imaging DD 001	US	1	PET Slice Index
(2001,xxdf)	Philips Imaging DD 001	UL	1	Voxel Number
(2001,xxe9)	Philips Imaging DD 001	SQ	0-n	Per Frame Voxels Functional Group
(2001,xxf1)	Philips Imaging DD 001	FL	6	MR Image Prospective Motion Correction
(2001,xxf2)	Philips Imaging DD 001	FL	1-n	MR Image Retrospective Motion Correction
(2001,xxf3)	Philips Imaging DD 001	CS	1	Dynamic Linear Voigl Trafo
(2001,xxf4)	Philips Imaging DD 001	UL	1	Color Key
(2001,xxf5)	Philips Imaging DD 001	CS	1	Rotated Text Allowed
(2001,xxf6)	Philips Imaging DD 001	UL	1	Number Of Represented Images
(2001,xxf7)	Philips Imaging DD 001	LO	0-n	Data Type Icons
(2001,xxf9)	Philips Imaging DD 001	SQ	0-n	Flagging Sequence
(2001,xxfb)	Philips Imaging DD 001	SQ	0-1	Bookmark Sequence
(2001,xxfc)	Philips Imaging DD 001	SQ	0-1	Ris Code Sequence
(2001,xxfd)	Philips Imaging DD 001	SQ	0-n	Workflow Step Sequence

(2001,xxff)	Philips Imaging DD 001	OW/OB	1	Volume Pixel
(2001,xx01)	Philips Imaging DD 002	US	1	Edr Setgp
(2001,xx02)	Philips Imaging DD 002	FD	1	Edr Setsk
(2001,xx03)	Philips Imaging DD 002	CS	1	Um Rank Type
(2001,xx04)	Philips Imaging DD 002	SS	1	Um Rank Number
(2001,xx05)	Philips Imaging DD 002	FD	1	Um Rank Enhancement
(2001,xx06)	Philips Imaging DD 002	US	1	Um Kernel Size
(2001,xx07)	Philips Imaging DD 002	CS	1	Um Gamma Type
(2001,xx08)	Philips Imaging DD 002	FD	1	Um Gamma Angle
(2001,xx09)	Philips Imaging DD 002	FD	1	Um Gamma Shift
(2001,xx0a)	Philips Imaging DD 002	FD	1	Um Gamma Center
(2001,xx0b)	Philips Imaging DD 002	FD	1	Drr Contrast Equalization
(2001,xx0c)	Philips Imaging DD 002	US	1	Drr Contrast Equalization Kernel Size
(2001,xx0d)	Philips Imaging DD 002	CS	1	Drr Sharp Lut Type
(2001,xx0e)	Philips Imaging DD 002	FD	1	Drr Sharpening
(2001,xx0f)	Philips Imaging DD 002	US	1	Drr Sharp Kernel Size
(2001,xx10)	Philips Imaging DD 002	SS	1	Drr Window Width
(2001,xx11)	Philips Imaging DD 002	SS	1	Drr Window Level
(2001,xx12)	Philips Imaging DD 002	CS	1	Drr Lut Type
(2001,xx13)	Philips Imaging DD 002	SS	1	Unique Processing Mode
(2001,xx14)	Philips Imaging DD 002	FD	1	Unique Contrast Balance
(2001,xx15)	Philips Imaging DD 002	FD	1	Unique Center Density
(2001,xx16)	Philips Imaging DD 002	FD	1	Unique Bright Density
(2001,xx17)	Philips Imaging DD 002	FD	1	Unique Detail Contrast
(2001,xx18)	Philips Imaging DD 002	CS	1	Unique Density Curve
(2001,xx19)	Philips Imaging DD 002	FD	1	Unique Density Min
(2001,xx1a)	Philips Imaging DD 002	FD	1	Unique Density Max
(2001,xx1b)	Philips Imaging DD 002	FD	1	Unique Gamma
(2001,xx1c)	Philips Imaging DD 002	FD	1	Unique Gamma Min
(2001,xx1d)	Philips Imaging DD 002	FD	1	Unique Gamma Max
(2001,xx1e)	Philips Imaging DD 002	FD	1	Unique Structure Preference
(2001,xx1f)	Philips Imaging DD 002	FD	1	Unique Noise Limit
(2001,xx20)	Philips Imaging DD 002	FD	1	Unique Noise Band
(2001,xx21)	Philips Imaging DD 002	FD	1	Unique Noise Step
(2001,xx22)	Philips Imaging DD 002	FD	1	Unique Noise Compensation
(2001,xx23)	Philips Imaging DD 002	FD	1	Unique Structure Boost
(2001,xx24)	Philips Imaging DD 002	FD	1	Unique Strong Contrast Limit
(2001,xx25)	Philips Imaging DD 002	FD	1	Unique Strong Contrast Factor
(2001,xx26)	Philips Imaging DD 002	FD	1	Unique Structure Boost Offset
(2001,xx27)	Philips Imaging DD 002	FD	1	Unique Weak Contrast Limit
(2001,xx28)	Philips Imaging DD 002	US	1	Unique Smooth Gain
(2001,xx29)	Philips Imaging DD 002	US	1	Unique Level
(2001,xx2a)	Philips Imaging DD 002	US	1	Unique Gain Up Single
(2001,xx2b)	Philips Imaging DD 002	SS	1	Unique Smh Limit One
(2001,xx2c)	Philips Imaging DD 002	FD	1	Unique Film Density Min
(2001,xx2d)	Philips Imaging DD 002	FD	1	Unique Film Density Max
(2001,xx2e)	Philips Imaging DD 002	SS	1	Unique Version
(2001,xx2f)	Philips Imaging DD 002	SS	1	Ranger Version
(2001,xx30)	Philips Imaging DD 002	SS	1	Ranger Mode
(2001,xx31)	Philips Imaging DD 002	SS	1	Ranger Field1
(2001,xx32)	Philips Imaging DD 002	SS	1	Ranger Field2
(2001,xx33)	Philips Imaging DD 002	SS	1	Ranger Percentile Key1

(2001,xx34)	Philips Imaging DD 002	SS	1	Ranger Percentile Key2
(2001,xx35)	Philips Imaging DD 002	FD	1	Ranger Dose1
(2001,xx36)	Philips Imaging DD 002	FD	1	Ranger Dose2
(2001,xx37)	Philips Imaging DD 002	FD	1	Ranger Manual Dose1
(2001,xx38)	Philips Imaging DD 002	FD	1	Ranger Manual Dose2
(2001,xx39)	Philips Imaging DD 002	CS	1	Unique Rox Shape
(2001,xx3a)	Philips Imaging DD 002	SQ	1	Ranger Set Sequence
(2001,xx3b)	Philips Imaging DD 002	SQ	0-n	Rox Sequence
(2001,xx3c)	Philips Imaging DD 002	SQ	1-n	Xray Edge Enhancement Sequence
(2001,xx3d)	Philips Imaging DD 002	SQ	0-1	Edr Lut Sequence
(2001,xx3e)	Philips Imaging DD 002	SS	1	Unique Dose Decades
(2001,xx3f)	Philips Imaging DD 002	SS	1	Unique Dose Unit
(2001,xx40)	Philips Imaging DD 002	SS	1	Unique Density Unit
(2001,xx50)	Philips Imaging DD 002	CS	1	Workflow Status
(2001,xx52)	Philips Imaging DD 002	LO	1	Workflow Step Id
(2001,xx53)	Philips Imaging DD 002	CS	1	Workflow Step Status
(2001,xx57)	Philips Imaging DD 002	SQ	0-1	Workflow Step Input Sequence
(2001,xx58)	Philips Imaging DD 002	SQ	0-1	Workflow Step Output Sequence
(2001,xx5a)	Philips Imaging DD 002	LO	1	Workflow Step Type
(2001,xx5c)	Philips Imaging DD 002	LO	1	Workflow Id
(2001,xx5d)	Philips Imaging DD 002	UL	1	Pixel Data Representation Rows
(2001,xx5e)	Philips Imaging DD 002	UL	1	Pixel Data Representation Columns
(2001,xx5f)	Philips Imaging DD 002	SQ	0-1	Private Dicom Extension Sequence
(2001,xx63)	Philips Imaging DD 002	ST	1	Isyntax Reference
(2001,xx64)	Philips Imaging DD 002	SQ	0-1	Workflow Step Job Params Sequence
(2001,xx65)	Philips Imaging DD 002	CS	1	Preserve Aspect
(2001,xx66)	Philips Imaging DD 002	CS	1	Interpolated
(2001,xx67)	Philips Imaging DD 002	LO	1	Error Flag
(2001,xx68)	Philips Imaging DD 002	LO	1	Error Message Id
(2001,xx6b)	Philips Imaging DD 002	LO	0-n	Suitable For
(2001,xx71)	Philips Imaging DD 002	CS	1	Submit Mpps Job
(2001,xx72)	Philips Imaging DD 002	FL	2	Displayed Area Bottom Right Hand Corner Fraction
(2001,xx73)	Philips Imaging DD 002	FL	2	Displayed Area Top Left Hand Corner Fraction
(2001,xx74)	Philips Imaging DD 002	LO	1	Interpolation Mode
(2001,xx75)	Philips Imaging DD 002	SS	0-n	Graphic Annotation Id Reference
(2001,xx01)	Philips Imaging DD 097	SQ	1	View Geometry
(2001,xx02)	Philips Imaging DD 097	FD	3	Frame Geometry Origin
(2001,xx03)	Philips Imaging DD 097	FD	2	Frame Geometry Extent
(2001,xx04)	Philips Imaging DD 097	FD	6	Frame Geometry Orientation
(2001,xx05)	Philips Imaging DD 097	SQ	1-n	Visual Sequence
(2001,xx06)	Philips Imaging DD 097	SQ	0-n	Cut Sequence
(2001,xx07)	Philips Imaging DD 097	FD	1	Visual Opacity
(2001,xx08)	Philips Imaging DD 097	SQ	1	Opacity Map Sequence
(2001,xx0a)	Philips Imaging DD 097	SQ	1-n	Light Sequence
(2001,xx0b)	Philips Imaging DD 097	SQ	1	Color Map Sequence
(2001,xx0d)	Philips Imaging DD 097	FD	1	Visual Threshold
(2001,xx0e)	Philips Imaging DD 097	SQ	0-n	Scene Sequence
(2001,xx0f)	Philips Imaging DD 097	FD	2	Frame Geometry Slab
(2001,xx12)	Philips Imaging DD 097	SQ	1	Gradient Map Sequence
(2001,xx17)	Philips Imaging DD 097	US	1	Display Rows
(2001,xx18)	Philips Imaging DD 097	US	1	Display Columns

(2001,xx19)	Philips Imaging DD 097	LO	1	Frame Geometry Type
(2001,xx1a)	Philips Imaging DD 097	FD	1	Light Intensity
(2001,xx1b)	Philips Imaging DD 097	UL	1	Light Color
(2001,xx1c)	Philips Imaging DD 097	FD	3	Light Origin
(2001,xx1d)	Philips Imaging DD 097	FD	3	Light Direction
(2001,xx1e)	Philips Imaging DD 097	FD	4-n	Color Map Samples
(2001,xx1f)	Philips Imaging DD 097	FD	2-n	Opacity Map Samples
(2001,xx21)	Philips Imaging DD 097	UL	1	Visual Color
(2001,xx22)	Philips Imaging DD 097	FD	1	Illumination Ambient
(2001,xx23)	Philips Imaging DD 097	FD	1	Illumination Diffuse
(2001,xx24)	Philips Imaging DD 097	FD	1	Illumination Specular
(2001,xx25)	Philips Imaging DD 097	FD	1	Illumination Specular Power
(2001,xx26)	Philips Imaging DD 097	FD	1	Depth Cue Begin
(2001,xx27)	Philips Imaging DD 097	FD	1	Depth Cue Lambda
(2001,xx28)	Philips Imaging DD 097	LO	1	Depth Cue Function
(2001,xx2a)	Philips Imaging DD 097	LO	1	Cut Set Type
(2001,xx2b)	Philips Imaging DD 097	FD	3	Cut Plane Origin
(2001,xx2c)	Philips Imaging DD 097	FD	3	Cut Plane Normal
(2001,xx2d)	Philips Imaging DD 097	UL	1	Volume Definition Number
(2001,xx2e)	Philips Imaging DD 097	SQ	0-1	Volume Mask Sequence
(2001,xx2f)	Philips Imaging DD 097	OB	1	Volume Mask Data
(2001,xx30)	Philips Imaging DD 097	SL	3	Volume Mask Offset
(2001,xx31)	Philips Imaging DD 097	SL	3	Volume Mask Size
(2001,xx32)	Philips Imaging DD 097	SL	2	Volume Mask Alignment
(2001,xx36)	Philips Imaging DD 097	LO	1	Light Anchor
(2001,xx37)	Philips Imaging DD 097	FD	3	Cone Geometry Origin
(2001,xx38)	Philips Imaging DD 097	FD	9	Cone Geometry Orientation
(2001,xx39)	Philips Imaging DD 097	FD	1	Cone Geometry View Distance
(2001,xx3a)	Philips Imaging DD 097	FD	2	Cone Geometry Slab Extent
(2001,xx3b)	Philips Imaging DD 097	FD	2	Cone Geometry Field Of View
(2001,xx3c)	Philips Imaging DD 097	SQ	1	Intensity Map Sequence
(2001,xx3d)	Philips Imaging DD 097	FD	1-n	Intensity Map Samples
(2001,xx3e)	Philips Imaging DD 097	SQ	0-n	Mesh Sequence
(2001,xx40)	Philips Imaging DD 097	UL	1	Mesh Color
(2001,xx41)	Philips Imaging DD 097	LO	1	Mesh Draw Style
(2001,xx42)	Philips Imaging DD 097	SQ	0-n	Mesh Section Sequence
(2001,xx44)	Philips Imaging DD 097	LO	1	Mesh Section Vertex Connectivity
(2001,xx45)	Philips Imaging DD 097	SL	1	Mesh Section Vertex Size
(2001,xx46)	Philips Imaging DD 097	LO	1	Mesh Section Vertex Format
(2001,xx47)	Philips Imaging DD 097	OB	1-n	Mesh Section Vertex Data
(2001,xx49)	Philips Imaging DD 097	SQ	1	Referenced Volume Definition Sequence
(2001,xx4a)	Philips Imaging DD 097	OB	1-n	Mesh Section Index Data
(2001,xx4b)	Philips Imaging DD 097	SL	1	Mesh Section Index Size
(2001,xx4c)	Philips Imaging DD 097	LO	1	Shutter Interaction Type
(2001,xxa1)	Philips Imaging DD 097	CS	####	Volume Type
(2001,xxa2)	Philips Imaging DD 097	FD	3	Volume Origin
(2001,xxa3)	Philips Imaging DD 097	FD	9	Volume Axis
(2001,xxa4)	Philips Imaging DD 097	FD	2	Volume Pixel Spacing
(2001,xxa5)	Philips Imaging DD 097	FD	1-n	Volume Slice Spacing
(2001,xxa6)	Philips Imaging DD 097	US	1	Volume Slices
(2001,xxa8)	Philips Imaging DD 097	IS	1-n	Referenced Volume Definition Number
(2001,xxa9)	Philips Imaging DD 097	SQ	0-n	Linear Modality GI Trafo Sequence

(2001,xxaa)	Philips Imaging DD 097	FD	1-n	Volume Slice Offsets
(2001,xxab)	Philips Imaging DD 097	IS	1	Number Of Volume Definitions
(2001,xx00)	Philips Imaging DD 129	SQ	1	Presentation State Sequence
(2001,xx01)	Philips Imaging DD 129	SQ	1	Embedded Original Presentation State Sequence
(2001,xx02)	Philips Imaging DD 129	SQ	0-1	Planar Intersection Sequence
(2001,xx03)	Philips Imaging DD 129	UL	1	Plane Separator Line Color
(2001,xx04)	Philips Imaging DD 129	SQ	1-n	Plane Sequence
(2001,xx05)	Philips Imaging DD 129	FD	4	Plane Equation
(2001,xx06)	Philips Imaging DD 129	FD	1	Plane Opacity
(2001,xx07)	Philips Imaging DD 129	CS	1	Plane Enabled
(2001,xx08)	Philips Imaging DD 129	CS	1	Plane Selected
(2001,xx09)	Philips Imaging DD 129	UL	1	Plane Highlight Color
(0025,xx01)	Philips ST80i	OW	1	ST80i Stress Study file data
(0019,xx0C)	SIEMENS MR HEADER	IS	1	B Value
(0019,xx0D)	SIEMENS MR HEADER	CS	1	Diffusion Directionality
(0019,xx0E)	SIEMENS MR HEADER	FD	3	Diffusion Gradient Direction
(0019,xx27)	SIEMENS MR HEADER	FD	6	B Matrix
(0043,xx39)	GEMS_PARM_01	IS	4	1 st value is B Value
(0043,xx6F)	GEMS_PARM_01	DS	####	Scanner Table Entry + Gradient Coil Selected
(0025,xx07)	GEMS_SERS_01	SL	1	Images in Series
(7E01,xx01)	HOLOGIC, Inc.	LO	1	Codec Version
(7E01,xx02)	HOLOGIC, Inc.	SH	1	Codec Content Type
(7E01,xx10)	HOLOGIC, Inc.	SQ	1	High Resolution Data Sequence
(7E01,xx11)	HOLOGIC, Inc.	SQ	1	Low Resolution Data Sequence
(7E01,xx12)	HOLOGIC, Inc.	OB	1	Codec Content
(0099,xx01)	NQHeader	UI	1	Version
(0099,xx02)	NQHeader	UI	1	Analyzed Series UID
(0099,xx04)	NQHeader	SS	1	Return Code
(0099,xx05)	NQHeader	LT	1	Return Message
(0099,xx10)	NQHeader	FL	1	MI
(0099,xx20)	NQHeader	SH	1	Units
(0099,xx21)	NQHeader	FL	1	ICV
(0199,xx01)	NQLeft	FL	1	Left Cortical White Matter
(0199,xx02)	NQLeft	FL	1	Left Cortical Gray Matter
(0199,xx03)	NQLeft	FL	1	Left 3rd Ventricle
(0199,xx04)	NQLeft	FL	1	Left 4th Ventricle
(0199,xx05)	NQLeft	FL	1	Left 5th Ventricle
(0199,xx06)	NQLeft	FL	1	Left Lateral Ventricle
(0199,xx07)	NQLeft	FL	1	Left Inferior Lateral Ventricle
(0199,xx08)	NQLeft	FL	1	Left Inferior CSF
(0199,xx09)	NQLeft	FL	1	Left Cerebellar White Matter
(0199,xx0a)	NQLeft	FL	1	Left Cerebellar Gray Matter
(0199,xx0b)	NQLeft	FL	1	Left Hippocampus
(0199,xx0c)	NQLeft	FL	1	Left Amygdala
(0199,xx0d)	NQLeft	FL	1	Left Thalamus
(0199,xx0e)	NQLeft	FL	1	Left Caudate
(0199,xx0f)	NQLeft	FL	1	Left Putamen
(0199,xx10)	NQLeft	FL	1	Left Pallidum
(0199,xx11)	NQLeft	FL	1	Left Ventral Diencephalon
(0199,xx12)	NQLeft	FL	1	Left Nucleus Accumbens
(0199,xx13)	NQLeft	FL	1	Left Brain Stem

(0199,xx14)	NQLeft	FL	1	Left Exterior CSF
(0199,xx15)	NQLeft	FL	1	Left WM Hypo
(0199,xx16)	NQLeft	FL	1	Left Other
(0299,xx01)	NQRight	FL	1	Right Cortical White Matter
(0299,xx02)	NQRight	FL	1	Right Cortical Gray Matter
(0299,xx03)	NQRight	FL	1	Right 3rd Ventricle
(0299,xx04)	NQRight	FL	1	Right 4th Ventricle
(0299,xx05)	NQRight	FL	1	Right 5th Ventricle
(0299,xx06)	NQRight	FL	1	Right Lateral Ventricle
(0299,xx07)	NQRight	FL	1	Right Inferior Lateral Ventricle
(0299,xx08)	NQRight	FL	1	Right Inferior CSF
(0299,xx09)	NQRight	FL	1	Right Cerebellar White Matter
(0299,xx0a)	NQRight	FL	1	Right Cerebellar Gray Matter
(0299,xx0b)	NQRight	FL	1	Right Hippocampus
(0299,xx0c)	NQRight	FL	1	Right Amygdala
(0299,xx0d)	NQRight	FL	1	Right Thalamus
(0299,xx0e)	NQRight	FL	1	Right Caudate
(0299,xx0f)	NQRight	FL	1	Right Putamen
(0299,xx10)	NQRight	FL	1	Right Pallidum
(0299,xx11)	NQRight	FL	1	Right Ventral Diencephalon
(0299,xx12)	NQRight	FL	1	Right Nucleus Accumbens
(0299,xx13)	NQRight	FL	1	Right Brain Stem
(0299,xx14)	NQRight	FL	1	Right Exterior CSF
(0299,xx15)	NQRight	FL	1	Right WM Hypo
(0299,xx16)	NQRight	FL	1	Right Other
(2005,xx0D)	Philips MR Imaging DD 001	FL	1	Scale Intercept
(2005,xx0E)	Philips MR Imaging DD 001	FL	1	Scale Slope
(0119,xx00)	SIEMENS Ultrasound SC2000	LO	1	Acoustic Meta Information Version
(0119,xx01)	SIEMENS Ultrasound SC2000	OB	1	Common Acoustic Meta Information
(0119,xx02)	SIEMENS Ultrasound SC2000	SQ	1	Multi Stream Sequence
(0119,xx03)	SIEMENS Ultrasound SC2000	SQ	1	Acoustic Data Sequence
(0119,xx04)	SIEMENS Ultrasound SC2000	OB	1	Per Transaction Acoustic Control Information
(0119,xx05)	SIEMENS Ultrasound SC2000	UL	1	Acoustic Data Offset
(0119,xx06)	SIEMENS Ultrasound SC2000	UL	1	Acoustic Data Length
(0119,xx07)	SIEMENS Ultrasound SC2000	UL	1	Footer Offset
(0119,xx08)	SIEMENS Ultrasound SC2000	UL	1	Footer Length
(0119,xx09)	SIEMENS Ultrasound SC2000	SS	1	Acoustic Stream Number
(0119,xx10)	SIEMENS Ultrasound SC2000	SH	1	Acoustic Stream Type
(0119,xx11)	SIEMENS Ultrasound SC2000		1	Stage Timer Time
(0119,xx12)	SIEMENS Ultrasound SC2000		1	Stop Watch Time
(0119,xx13)	SIEMENS Ultrasound SC2000	IS	1	Volume Rate
(0119,xx21)	SIEMENS Ultrasound SC2000	SH	1	
(0129,xx00)	SIEMENS Ultrasound SC2000	SQ	1	MPR View Sequence
(0129,xx02)	SIEMENS Ultrasound SC2000	UI	1	Bookmark UID
(0129,xx03)	SIEMENS Ultrasound SC2000		1	Plane Origin Vector
(0129,xx04)	SIEMENS Ultrasound SC2000		1	Row Vector
(0129,xx05)	SIEMENS Ultrasound SC2000		1	Column Vector
(0129,xx06)	SIEMENS Ultrasound SC2000	SQ	1	Visualization Sequence
(0129,xx07)	SIEMENS Ultrasound SC2000	UI	1	Bookmark UID
(0129,xx08)	SIEMENS Ultrasound SC2000	OB	1	Visualization Information
(0129,xx09)	SIEMENS Ultrasound SC2000	SQ	1	Application State Sequence

(0129,xx10)	SIEMENS Ultrasound SC2000	OB	1	Application State Information
(0129,xx11)	SIEMENS Ultrasound SC2000	SQ	1	Referenced Bookmark Sequence
(0129,xx12)	SIEMENS Ultrasound SC2000	UI	1	Referenced Bookmark UID
(0129,xx20)	SIEMENS Ultrasound SC2000	SQ	1	Cine Parameters Sequence
(0129,xx21)	SIEMENS Ultrasound SC2000	OB	1	Cine Parameters Schema
(0129,xx22)	SIEMENS Ultrasound SC2000	OB	1	Values of Cine Parameters
(0129,xx29)	SIEMENS Ultrasound SC2000	OB	1	
(0129,xx30)	SIEMENS Ultrasound SC2000	CS	1	Raw Data Object Type
(0139,xx01)	SIEMENS Ultrasound SC2000	SL	1	Physio Capture ROI
(0149,xx01)	SIEMENS Ultrasound SC2000	FD	1-n	Vector of BROI Points
(0149,xx02)	SIEMENS Ultrasound SC2000	FD	1-n	Start/End Timestamps of Strip Stream
(0149,xx03)	SIEMENS Ultrasound SC2000	FD	1-n	Timestamps of Visible R-waves
(7FD1,xx01)	SIEMENS Ultrasound SC2000	OB	1	Acoustic Image and Footer Data
(7FD1,xx09)	SIEMENS Ultrasound SC2000	UI	1	Volume Version ID
(7FD1,xx10)	SIEMENS Ultrasound SC2000	OB	1	Volume Payload
(7FD1,xx11)	SIEMENS Ultrasound SC2000	OB	1	After Payload
(7FD1,xx01)	SIEMENS SYNGO ULTRA-SOUND TOYON DATA STREAMING	OB	1	Padding
(7FD1,xx09)	SIEMENS SYNGO ULTRA-SOUND TOYON DATA STREAMING	UI	1	Version ID
(7FD1,xx10)	SIEMENS SYNGO ULTRA-SOUND TOYON DATA STREAMING	OB	1	Volume Payload
(7FD1,xx11)	SIEMENS SYNGO ULTRA-SOUND TOYON DATA STREAMING	OB	1	After Payload

7.1.6 Network Address Management Profiles

Not supported by DICOM Gateway

7.1.7 Time Synchronization Profiles

Time Synchronization is managed by the party responsible for the deployment of the DICOM Gateway.

7.1.8 Application Configuration Management Profiles

Dicom Configuration API's are provided to configure Dicom Services. POST and GET methods are allowed to update and retrieve the Configuration resources.

7.1.9 Audit Trail Profiles

The following Audit events are generated:

Table 37: Audit Events

Audit Event	Trigger
Application Activity (Start & Stop)	This audit message describes the event of an Application Entity starting or stopping.
DICOM Instances Accessed	WADO logs this event when the data is retrieved via WADO service

Security Alert	QIDO and WADO services logs this audit event when the user authentication is failed
Import	The Upload service will log this event when data is s uploaded to datamgmt
Query	The QUERY and QIDO services will log this event when data is queried from DICOM Gateway
Begin Transferring DICOM Instances	The EXPORT and MOVE services will log this event when data is exported/retrieved from DICOM Gateway
DICOM Instances Transferred	The EXPORT and MOVE services will log this event when the instances are transferred to the remote node

7.2 Association Level Security

Not supported.

7.3 Application Level Security

7.3.1 Authorization

Authorization is broad to a device for an Org. DICOM Gateway uses following Application Level Security

- TLS protocol for providing secure communication to store, query and retrieve data
- AE filtering is provided to ensure whitelisting of the DICOM SCU's connecting to DICOM Gateway
- Integrates with Authorize – IAM capabilities to provide Organization-Based Access Control to connect with DICOM Services hosted on Cloud.

7.3.2 Authentication

DICOM Gateway when configured to communicate over TLS protocol, uses certificate validation as per the TLS profile. DICOM Gateway when acting as SCP, sends the certificate configured in the system to the SCU to establish TLS communication. DICOM Gateway when acting as SCU, validates the certificate sent by the SCP against the root CA configured in the system.

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Issued by:

Philips Medical Systems Nederland BV
Veenpluis 6
5684 PC Best
The Netherlands

Internet: <https://www.philips.com/healthcare/about/customer-support>

Doc Id: HSDP-869370

Date: 10-MAR-2022

