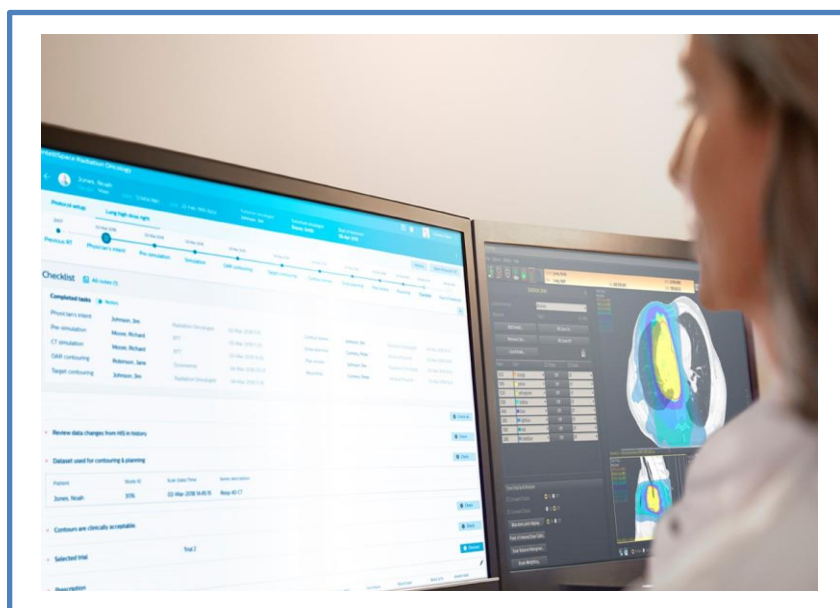


DICOM Conformance Statement

IntelliSpace Radiation Oncology R1.0



Issued by:

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1. DICOM Conformance Statement Overview

This conformance statement refers to Philips IntelliSpace Radiation Oncology (IS-RO). This version of the conformance statement applies to IS-RO version R1.0.

IntelliSpace Radiation Oncology is a software solution for management, visualization, standardization and automation of the patient workflow in Radiation Oncology departments.

This conformance statement contains a short description of the applications involved and provides technical information about the data exchange capabilities of the software. The main elements describing these capabilities are: the supported DICOM Service Object Pair (SOP) Classes, Roles, Information Object Definitions (IOD) and Transfer Syntaxes.

The following Table presents an overview of all network services and the applicable SOP Classes as provided by IS-RO:

Table 1: Network Services

SOP Class		User of Service (SCU)	Provider of Service (SCP)
Name	UID		
Transfer			
Verification SOP Class	1.2.840.10008.1.1	No	Yes
CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	Yes	Yes
MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	Yes	Yes
Positron Emission Tomography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.128	Yes	Yes
RT Structure Set Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.3	Yes	Yes
RT Plan Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.5	Yes	Yes

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3. Introduction

The introduction specifies product and relevant disclaimers as well as any general information that the vendor feels is appropriate.

3.1. Revision History

The revision history provides dates and differences of the different releases.

Table 2: Revision History

Document Version	Date of Issue	Status	Description
01	15 Jul 2020	Approved	Final version

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 8 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 3: Definitions, Terms and Abbreviations

Abbreviation/Term	Explanation
AE	Application Entity
CD	Compact Disc
CD-R	CD-Recordable
CD-M	CD-Medical
CT	Computed Tomography
DICOM	Digital Imaging and Communications in Medicine
EBE	Explicit VR Big Endian
ELE	DICOM Explicit VR Little Endian
FSC	File-set Creator
FSR	File-set Reader
FSU	File-set Updater
ILE	DICOM Implicit VR Little Endian
IOD	Information Object Definition
IS-RO	IntelliSpace Radiation Oncology
MPPS	Modality Performed Procedure Step
MR	Magnetic Resonance
NEMA	National Electrical Manufacturers Association
NM	Nuclear Medicine
PDU	Protocol Data Unit
RIS	Radiology Information System
RT	Radiotherapy
RWA	Real-World Activity
SC	Secondary Capture
SCP	Service Class Provider
SCU	Service Class User
SOP	Service Object Pair
TCP/IP	Transmission Control Protocol/Internet Protocol
UID	Unique Identifier

3.5. References

[DICOM] Digital Imaging and Communications in Medicine, Parts 1 - 22 (NEMA PS 3.1- PS 3.21), National Electrical Manufacturers Association (NEMA) Publication Sales 1300 N. 17th Street, Suite 900 Rosslyn, Virginia. 22209, United States of America
 Internet: <https://www.dicomstandard.org/>

4. Networking

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

4.1. Implementation model

The implementation model consists of three sections:

- The application data flow diagram, specifying the relationship between the Application Entities and the "external world" or Real-World Activities,
- A functional description of each Application Entity, and
- The sequencing constraints among them.

4.1.1. Application Data Flow

In a DICOM context, IS-RO implements one network application entity: the IS-RO DICOM Dataserver.

The following figure shows the networking application data flow as a functional overview of the application entity with Real World Activities.

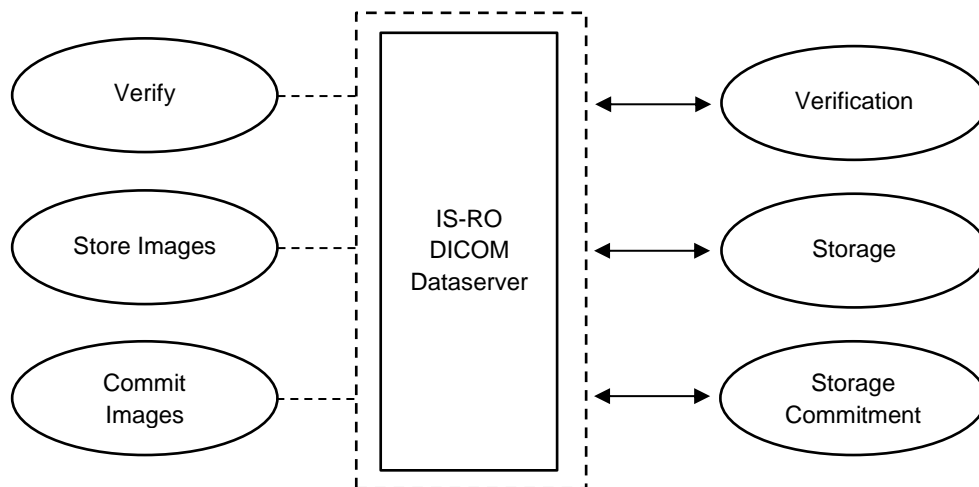


Figure 1: Application Data Flow Diagram

4.1.2. Functional Definition of AE's

This section contains a functional definition for each individual local Application Entity.

4.1.2.1. Functional Definition of the IS-RO DICOM Dataserver

The IS-RO DICOM Dataserver incorporates the following functionality:

4.1.2.1.1. Verification Service

The IS-RO DICOM Dataserver provides the Verification service as SCU and SCP.

A remote SCU shall request an association with the IS-RO DICOM Dataserver for Verification SOP class. After accepting, the IS-RO DICOM Dataserver shall receive and respond to the Verification request and release the association when requested.

The DICOM Dataserver can request an association to a remote node for Verification SOP class. After receiving the response for the Verification request from the remote SCP system, it releases the association.

4.1.2.1.2. Import Service

When performing a Storage Service Class (SCP), the IS-RO DICOM Dataserver will receive images and store them into the system's local database.

4.1.2.1.3. Storage Commitment Service

The IS-RO DICOM Dataserver is responsible for issuing and supporting the storage commitment service as SCU. The IS-RO DICOM Dataserver establishes association with the specified AE title and sends storage commitment (N-ACTION) request using the push model. After that, it may accept storage commitment (N-EVENT-REPORT) requests on the same association or by establishing another association.

4.1.2.1.4. Export Service

When an object is exported from the local database to an external device, the attributes will be preserved unless an Export Converter is applied.

4.1.3. Sequencing of Real World Activities

This section contains description of specific sequencing as well as potential constraints of Real-World Activities, including any applicable user interactions, as performed by the IS-RO DICOM Dataserver.

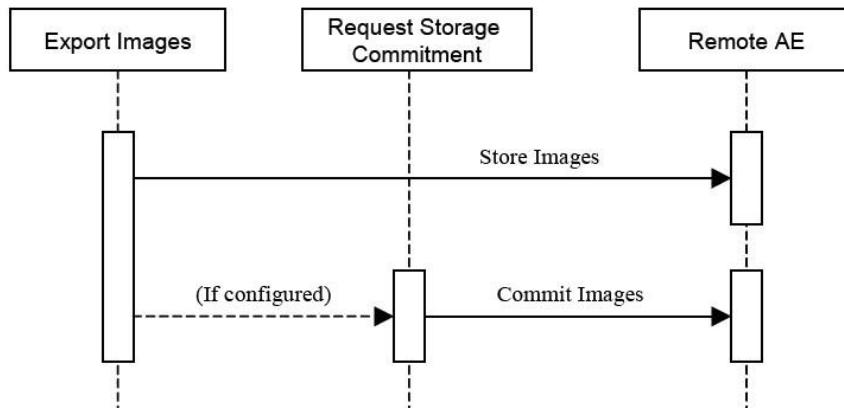


Figure 2: Sequencing for Export Images and Storage commitment request

4.2. AE Specifications

This section in the DICOM Conformance Statement is a set of Application Entity specifications.

4.2.1. IS-RO DICOM Dataserver AE

4.2.1.1. SOP Classes

This Application Entity provides Standard Conformance to the following SOP Classes.

SOP Class		User of Service (SCU)	Provider of Service (SCP)
Name	UID		
Verification SOP Class	1.2.840.10008.1.1	No	Yes
CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	Yes	Yes

SOP Class		User of Service (SCU)	Provider of Service (SCP)
Name	UID		
MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	Yes	Yes
Positron Emission Tomography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.128	Yes	Yes
RT Structure Set Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.3	Yes	Yes
RT Plan Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.5	Yes	Yes

Table 4: SOP Classes for the IS-RO DICOM Dataserver

Note: SOP specific behavior is documented later in the conformance statement in the applicable SOP specific conformance section.

4.2.1.2. Association Policies

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

4.2.1.2.1. General

The DICOM standard application context is specified below.

Table 5: DICOM Application Context

Description	Value
Application Context Name	1.2.840.10008.3.1.1.1

4.2.1.2.2. Number of Associations

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

Table 6: Number of associations as an Association Initiator for this AE

Description	Value
Maximum number of simultaneous associations	Configurable / limited by system resources

Table 7: Number of associations as an Association Acceptor for this AE

Description	Value
Maximum number of simultaneous associations	Configurable / limited by system resources (Default value 50)

4.2.1.2.3. Asynchronous Nature

The IS-RO DICOM Dataserver supports asynchronous operations for storage commitment as SCU and will perform asynchronous window negotiation.

Table 8: Asynchronous nature as an Association Initiator for this AE

Description	Value
Maximum number of outstanding asynchronous transactions	1

4.2.1.2.4. Implementation Identifying Information

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

Table 9: DICOM Implementation Class and Version for the IS-RO DICOM Dataserver

Implementation Class UID	1.3.46.670589.54.2.19.10
--------------------------	--------------------------

Implementation Version Name	19.10.0.0.
-----------------------------	------------

4.2.1.2.5. Communication Failure Handling

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

Table 10: Communication Failure Behavior

Exception	Behavior
ARTIM Timeout	The association setup fails; the reason is logged.

4.2.1.3. Association Initiation Policy

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

Table 11: 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-provide (ASCE 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

Result	Source	Reason/Diagnosis	Behavior
	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
		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

Result	Source	Reason/Diagnosis	Behavior
		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 12: 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 IS-RO DICOM Dataserver 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"> • N-EVENT-REPORT for printing received with status FAILURE. • Abort is issued to an executing job that utilizes this network connection (ExportNetwork/ArchiveNetwork/DICOMCopy/DICOMMove) • Any other problem than ones specified for HSDP Clinical Platform (CPF) 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 IS-RO DICOM Dataserver 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 HSDP Clinical Platform (CPF) SCU in the rows below. (Example: Problem while decoding the DICOM stream).
	1 – unrecognized PDU	When received, the IS-RO DICOM Dataserver 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 IS-RO DICOM Dataserver 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 IS-RO DICOM Dataserver 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 IS-RO DICOM Dataserver 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.

Source	Reason/Diagnosis	Behavior when received	Sent when
	6 – invalid-PDU-parameter-value	When received, The IS-RO DICOM Dataserver 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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

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- 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 13: 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.

4.2.1.4. Association Acceptance Policy

The IS-RO DICOM Dataserver accepts associations for the following purposes:

- To allow remote applications to verify application level communication.

The IS-RO DICOM Dataserver rejects association requests from unknown applications, i.e. applications that offer an unknown "calling AE title". An application is known if and only if it is defined per configuration of IS-RO DICOM Dataserver. The IS-RO DICOM Dataserver also rejects association requests from applications that do not address IS-RO, i.e. that offer a wrong "called AE title". The IS-RO DICOM Dataserver AE title is defined during configuration.

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

Table 14: Association Reject Reasons

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 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 (ASCE 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.
		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.

Result	Source	Reason/Diagnosis	Behavior
	3 – DICOM UL service-provider (Presentation related function)	1 – temporary-congestion	Not used.
		2 – local-limit-exceeded	Not used.

The behavior of the AE for sending an Association abort is summarized in the next table.

Table 15: 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 IS-RO DICOM Dataserver 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 in the rows below. (Examples: Problem while decoding the DICOM stream, Invalid request, Error writing to SCU stream).
2 – DICOM UL service-provider (initiated abort)	0 – reason-not-specified	When received, the IS-RO DICOM Dataserver 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 IS-RO DICOM Dataserver 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 IS-RO DICOM Dataserver 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 IS-RO DICOM Dataserver 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 IS-RO DICOM Dataserver 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 IS-RO DICOM Dataserver 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. <ul style="list-style-type: none"> • 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 a received PDU item is invalid.

Notes:

1. Associate PDU items that are recognized:
- 0x10 APPLICATION CONTEXT

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- 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

4.2.1.5. (Real-World) Activity – Verification as SCU

4.2.1.5.1. Description and Sequencing of Activities

The IS-RO DICOM Dataserver implements the Verification SOP class to verify application level communication.

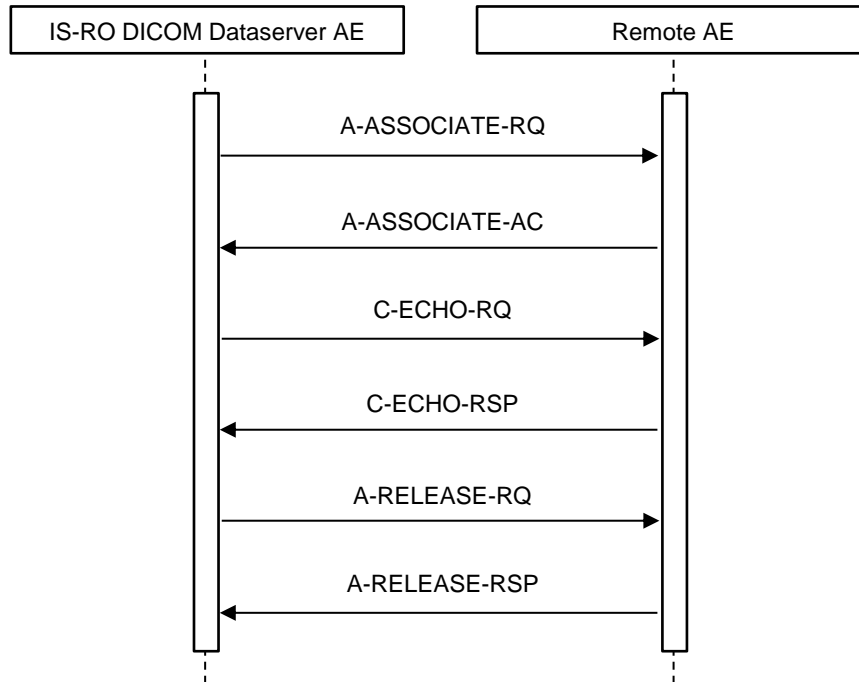


Figure 3: Data Flow Diagram – Verification as SCU

4.2.1.5.2. Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 16: Proposed Presentation Contexts for (Real-World) Activity – Verification as SCU

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Verification SOP Class	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		

4.2.1.5.3. SOP Specific Conformance for Verification SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior. The IS-RO DICOM Dataserver provides standard conformance to the DICOM Verification service class.

4.2.1.5.3.1. Dataset Specific Conformance for Verification C-ECHO SCU

C-ECHO does not have a dataset, hence no dataset specific conformance.

Table 17: Status Response

Service Status	Error Code	Further Meaning	Behavior
Success	0000	Confirmation	Successful communication is established

4.2.1.6. (Real-World) Activity – Image Export

4.2.1.6.1. Description and Sequencing of Activities

The IS-RO DICOM Dataserver implements the Storage service class to store selected objects at an archive or other storage SCP. All actual selected objects are exported using one and the same association. The IS-RO DICOM Dataserver waits for synchronous report until, after a configurable time has passed, it will release the association.

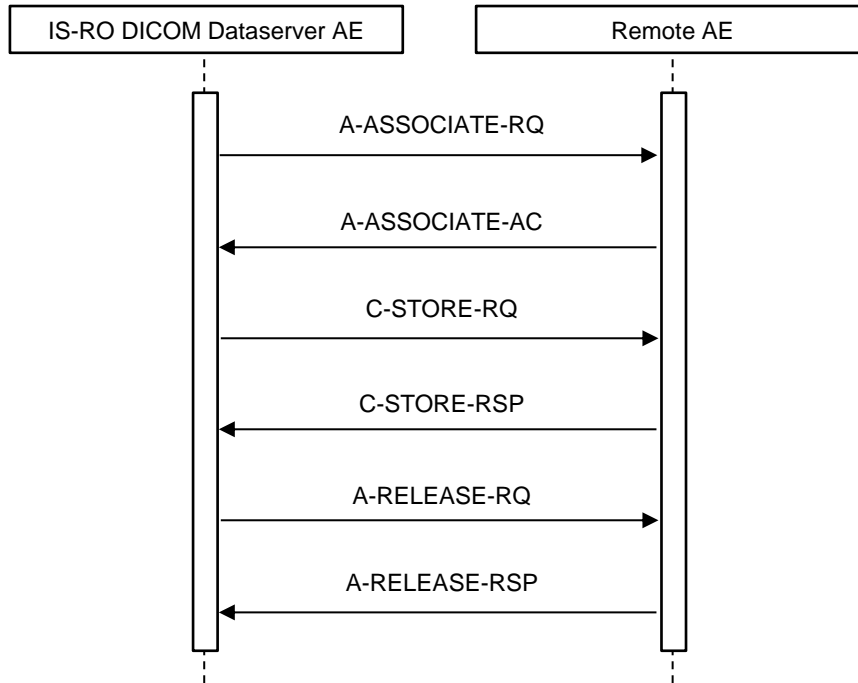


Figure 4: Data Flow Diagram – Store Image – Storage as SCU

4.2.1.6.2. Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 18: Proposed Presentation Contexts for (Real-World) Activity – Image Export

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	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		

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
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
		Implicit VR Little Endian	1.2.840.10008.1.2		
		Implicit VR Little Endian	1.2.840.10008.1.2		
		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	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Implicit 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 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	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 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	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		

4.2.1.6.3. SOP Specific Conformance for Storage SOP Classes

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

The IS-RO DICOM Dataserver will transmit all optional or private image attributes. The object supplier shall be responsible for the presence of DICOM UIDs. The export job will transparently exchange this UID when the image is exported in 'DICOM 2000' format (i.e. separate Presentation State).

Following remarks hold for the standard DICOM SOP Classes:

- The IS-RO DICOM Dataserver supports the following Photometric Interpretations for non-compressed images: MONOCHROME1, MONOCHROME2, PALETTE COLOR, RGB, YBR_FULL, YBR_FULL_422, YBR_PARTIAL_422, YBR_ICT, YBR_RCT.
- JPEG Lossless (NH-FOP) compresses all bits denoted by the attribute DICOM_BITS_ALLOCATED. Therefore, any overlays encoded in the pixel data are also encoded and decoded.
- In case of both source (internal) and target compressed pixel data, decompression of the source pixel data and compression to the target pixel data only takes place in the following case
 - 1) The source and target compression formats are different

The IS-RO DICOM Dataserver allows import of any mixed series.

4.2.1.6.3.1. Dataset Specific Conformance for C-STORE-RQ

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 19: Status Response

Service Status	Error Code	Further Meaning	Behavior
Success	0000	Successfully 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.
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.

4.2.1.7. (Real-World) Activity – Verification as SCP

4.2.1.7.1. Description and Sequencing of Activities

The IS-RO DICOM Dataserver accepts Associations from configured systems that wish to verify application level communication using the C-ECHO command.

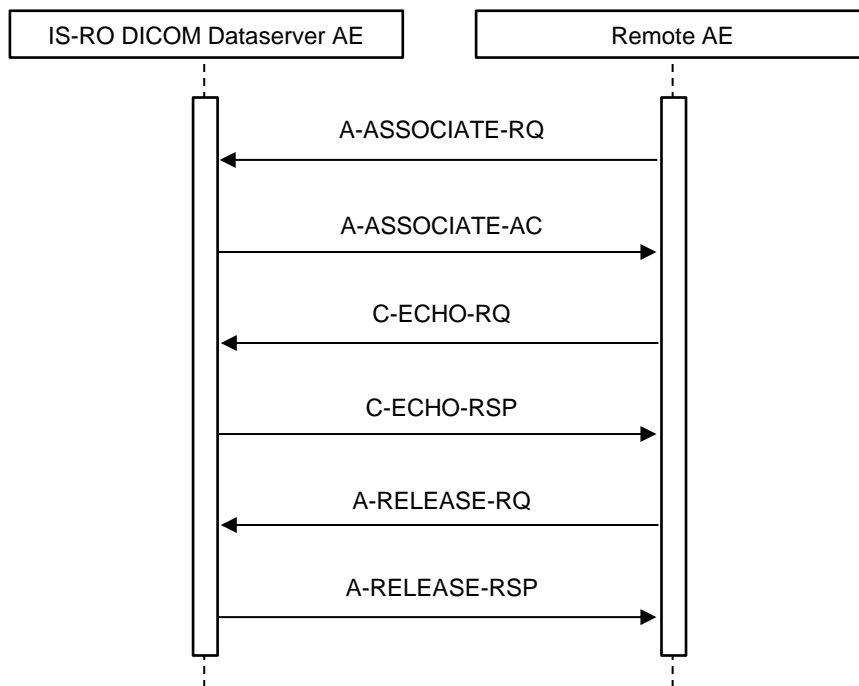


Figure 5: Data Flow Diagram – Verify

4.2.1.7.2. Proposed Presentation Contexts

The presentation contexts are defined in the next table.

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Table 20: Proposed Presentation Contexts for (Real-World) Activity – Verification as SCU

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Verification SOP Class	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		

The IS-RO DICOM Dataserver 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 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.

Table 21: Status Response

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

4.2.1.8. (Real-World) Activity – Image Import

4.2.1.8.1. Description and Sequencing of Activities

The IS-RO DICOM Dataserver accepts associations from configured systems that wish to store images in the IS-RO DICOM Dataserver database using the C-Store command.

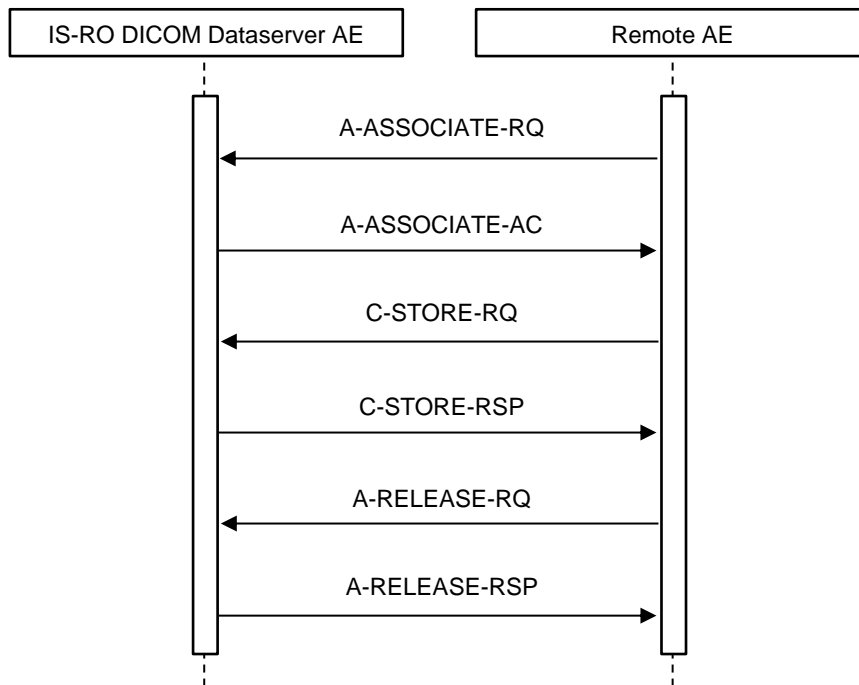


Figure 6: Data Flow Diagram – Store Image – Storage as SCP

4.2.1.8.2. Accepted Presentation Contexts

The presentation contexts are defined in the next table.

Table 22: 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		
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		
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	SCP	None
		Implicit VR Little Endian	1.2.840.10008.1.2		
		Implicit VR Little Endian	1.2.840.10008.1.2		
		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		
		Implicit 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 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 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		

The IS-RO DICOM Dataserver 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 IS-RO DICOM Dataserver 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.

4.2.1.8.3. SOP Specific Conformance for Storage SOP Classes

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

The IS-RO DICOM Dataserver will only accept associations from configured systems.

Remarks:

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

4.2.1.8.3.1. Dataset Specific Conformance for C-STORE RSP

Details 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.

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.

4.3. Network Interfaces

4.3.1. Physical Network Interfaces

The System provides only DICOM V3.0 TCP/IP Network Communication Support as defined in PS 3.8 of the standard. TCP/IP is the only protocol stack supported.

Supported physical medium is depending on the hosting system.

The TCP/IP Stack as supported by the underlying Operating System.

The .NET Framework Sockets interface as supported by the underlying Operating System.

4.3.2. Additional Protocols

Additional protocols such as used for network management are not applicable.

4.4. Configuration

Any implementation's DICOM conformance may be dependent upon configuration, which takes place at the time of installation. Issues concerning configuration are addressed in this section.

4.4.1. AE Title/Presentation Address Mapping

4.4.1.1. Local AE Titles

The Field Service User Interface only allows one AE to be configured.

The following AE specific information must be available to configure a local AE:

- AE title.
- Hostname or IP address (or both).
- Port number.

4.4.1.2. Remote AE Title/Presentation Address Mapping

One or more remote AEs can be configured.

The following AE specific information must be available to configure a remote AE:

- AE title.
- Hostname or IP address (or both).
- Port number.

4.4.2. Parameters

The specification of important operational parameters, their default value and range (if configurable) is specified here.

Table 23: Configuration Parameters Table

Parameter	Configurable	Default Value
General Parameter		
Time-out waiting for acceptance or rejection Response to an Association Open Request (Application Level timeout)	Yes	30 [s]
General DIMSE level time-out values (Verification, Storage, Storage Commitment)	No	-
AE Specific Parameters		
Size constraint in maximum object size	No	-
Maximum PDU size the AE can receive	Yes	65535
Maximum PDU size the AE can send	Yes	65535

5. Media Interchange

5.1. Implementation model

Not applicable, IS-RO does not support any Media for image Import/Export.

5.1.1. Application Data Flow Diagram

Not applicable.

5.1.2. Functional Definitions of AE's

Not applicable.

5.1.3. Sequencing of Real World Activities

Not applicable.

5.2. AE Specifications

Not applicable.

5.2.1. Media AE Media - Specification

Not applicable.

5.2.1.1. File Meta Information for the Media AE

Not applicable.

5.2.1.2. Real-World Activities

Not applicable.

5.2.1.2.1. RWA - Read File-set

Not applicable.

5.2.1.2.1.1. Media Storage Application Profile

Not applicable.

5.2.1.2.1.1.1. Options

Not applicable.

5.2.1.2.2. RWA - Create File-set

Not applicable.

5.2.1.2.2.1. Media Storage Application Profile

Not applicable.

5.2.1.2.2.1.1. Options

Not applicable.

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5.3. Augmented and Private Application Profiles

Not applicable

5.4. Media Configuration

Not applicable.

6. Support of Character Sets

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

Table 24: Supported DICOM Character Sets

Character Set Description	Defined Term	ESC Sequence	ISO Registration Number	Code Element	Character Set
Latin alphabet No. 1	ISO 2022 IR 100	ESC 02/08 04/02	ISO-IR 6	G0	ISO 646
		ESC 02/13 04/01	ISO-IR 100	G1	Supplementary set of ISO 8859
Default repertoire	ISO 2022 IR 6	-	ISO-IR 6	G0	ISO 646
		-	-	-	-
Unicode in UTF-8	ISO_IR 192	-	-	-	-

7. Security

7.1. Security Profiles

Security profiles are not supported in this release.

7.1.1. Security use Profiles

Not applicable.

7.1.2. Security Transport Connection Profiles

Not applicable.

7.1.3. Digital Signature Profiles

Not applicable.

7.1.4. Media Storage Security Profiles

Not applicable.

7.1.5. Attribute Confidentiality Profiles

Not applicable.

7.1.6. Network Address Management Profiles

Not applicable.

7.1.7. Time Synchronization Profiles

Not applicable.

7.1.8. Application Configuration Management Profiles

Not applicable.

7.1.9. Audit Trail Profiles

Not applicable.

7.2. Association Level Security

IS-RO accepts associations only from known applications or an application whose “calling AE Title” is defined in its configuration file. IS-RO will reject association requests from unknown applications, i.e. applications that offer an unknown “calling AE Title”. An application entity (AE) is known if – and only if – it is defined during configuration of the IS-RO IS-RO DICOM Dataserver.

7.3. Application Level Security

IS-RO allows the use of secure communication based on the Transport Layer Security (TLS 3.0) protocol. If configured, IS-RO supports security measures for:

- Secure authentication of a node;

- Integrity and confidentiality of transmitted data;
- Generation of audit trail records;
- Access control and user authentication.

8. Annexes of application IntelliSpace Radiation Oncology

8.1. IOD Contents

8.1.1. Created SOP Instance

Not applicable. This application does not create SOP Instances.

8.1.2. Usage of Attributes from Received IOD

IS-RO only accepts all valid DICOM IODs specified in this document.

8.1.3. Attribute Mapping

Not applicable.

8.1.4. Coerced/Modified fields

Not applicable.

8.2. Data Dictionary of Private Attributes

Not applicable.

8.3. Coded Terminology and Templates

IS-RO does not implement any specific support for coded terminology and templates.

8.3.1. Context Groups

Not applicable.

8.3.2. Template Specifications

Not applicable.

8.3.3. Private code definitions

Not applicable.

8.4. Grayscale Image consistency

Not applicable.

8.5. Standard Extended/Specialized/Private SOPs

Not applicable.

8.6. Private Transfer Syntaxes

Not applicable.