

DICOM Conformance Statement

RadCentre

Release 2015.01

Editing

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As far as referred to third-party hardware or software, the vendors of this products are listed at the end of this document.

Version History

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1.0	2.6.1999	Original	HM
1.1	9.5.2000	Layout-changes	HM
1.2	8.2001	Added MPPS Removed information system name 'KAUZ' which is only used in Germany	HM
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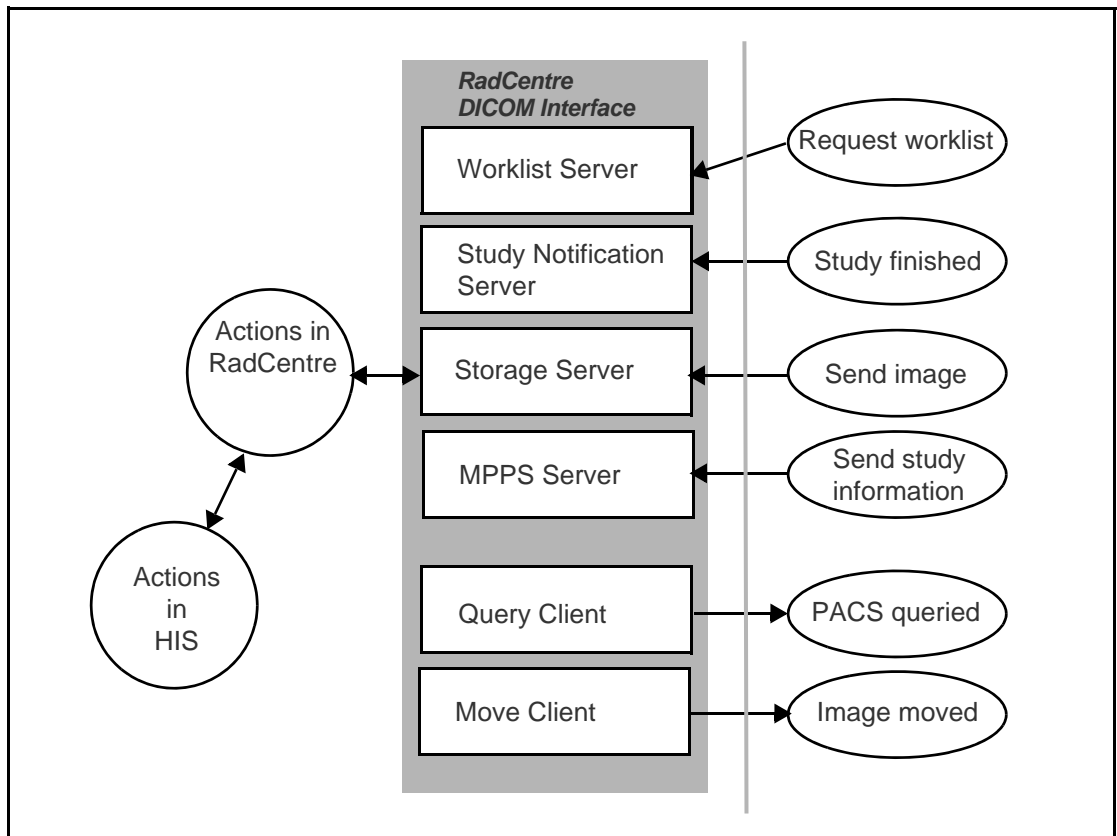
2 Introduction

RadCentre is used for communication between the RadCentre Information System and modalities or PACS using DICOM.

This document describes the set of features available when you buy the entire product. As not all features are needed for every implementation not all of the described features may be supported at a specific installation.

3 Implementation Model

3.1 Application Data Flow Diagram



3.2 Functional Definitions of AE's

RadCentre acts as an SCP for the following service classes:

- storage service class
- study content notification service class
- basic worklist management service class
- study management service class

RadCentre acts as an SCU for the following service classes:

- query/retrieve service class

3.3 Sequencing of Real-World Activities

Not applicable.

4 AE Specifications

RadCentre contains different Application Entities which are described in the following chapters.

4.1 Worklist Server Specification

The RadCentre Worklist Server provides Standard Conformance to the following DICOM V3.0 SOP Classes as an SCP:

SOP Class name	SOP Class UID
Verification SOP Class	1.2.840.10008.1.1
Modality Worklist Information Model - FIND	1.2.840.10008.5.1.4.31

The RadCentre Worklist Server does not act as an SCU.

4.1.1 Association Establishment Policies

4.1.1.1 General

The RadCentre Worklist Server will not initiate any associations.

4.1.1.2 Number of Associations

The RadCentre Worklist Server will only use one association at a time.

When several modalities requiring worklists several instances of the Worklist Server are running, each instance listens on a different port.

4.1.1.3 Asynchronous Nature

The RadCentre Worklist Server does not support asynchronous operations and will not perform asynchronous window negotiation.

4.1.1.4 Implementation Identifying Information

The RadCentre Worklist Server will provide a Implementation Class UID which is

"1.2.276.0.38.3.0.0"

The implementation version name provided is "CoDcm, 3.0.0"

4.1.2 Association Initiation Policy

The RadCentre Worklist Server does not initiate associations.

4.1.3 Association Acceptance Policy

The RadCentre Worklist Server places no limitations on who may connect to it.

4.1.3.1 Associated Real-World Activity

The Associated Real-World Activity with the C-FIND operation is the search for the requested worklist-items in the RIS. The result is returned to the requester.

4.1.3.2 Presentation Context table

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
Modality Worklist Information Model – FIND	1.2.840.10008.5.1.4.31	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

4.1.3.3 SOP Specific Conformance

SOP Specific Conformance to Verification SOP Class

The RadCentre Worklist Server provides standard conformance to the DICOM Verification Service Class.

SOP Specific Conformance to Worklist SOP Class

The RadCentre Worklist Server supports no optional matching key attributes.
No return keys of Type 3 are supported.

4.1.3.4 Presentation Context Acceptance Criterion

The RadCentre Worklist Server will accept Presentation Contexts as specified in the table above.

4.1.3.5 Transfer Syntax Selection Policies

The RadCentre Worklist Server only supports Implicit VR Little Endian Transfer Syntax.

4.2 Study Notification Server Specification

The RadCentre Study Notification Server provides Standard Conformance to the following DICOM V3.0 SOP Classes as an SCP:

SOP Class name	SOP Class UID
Verification SOP Class	1.2.840.10008.1.1
Basic Study Content Notification SOP Class	1.2.840.10008.1.9

The RadCentre Study Notification Server does not act as an SCU.

4.2.1 Association Establishment Policies

4.2.1.1 General

The RadCentre Study Notification Server will not initiate any associations.

4.2.1.2 Number of Associations

The RadCentre Study Notification Server will only use one association at a time.

4.2.1.3 Asynchronous Nature

The RadCentre Study Notification Server does not support asynchronous operations and will not perform asynchronous window negotiation.

4.2.1.4 Implementation Identifying Information

The RadCentre Study Notification Server will provide a Implementation Class UID which is "1.2.276.0.38.3.0.0"

The implementation version name provided is "CoDcm, 3.0.0"

4.2.2 Association Initiation Policy

The RadCentre Study Notification Server does not initiate associations.

4.2.3 Association Acceptance Policy

The RadCentre Study Notification Server places no limitations on who may connect to it.

4.2.3.1 Associated Real-World Activity

Study Content Notifications are stored and made available in the RIS.

4.2.3.2 Presentation Context table

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
Basic Study Content Notification SOP Class	1.2.840.10008.1.9	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

4.2.3.3 SOP Specific Conformance

SOP Specific Conformance to Verification SOP Class

The RadCentre Study Notification Server provides standard conformance to the DICOM Verification Service Class.

SOP Specific Conformance to Basic Study Content Notification SOP Class.

In case of successful operation always a status code of 0003 (It is unknown whether or not study content exists on system supporting SCP) is returned, as study content notifications are not directly processed.

4.2.3.4 Presentation Context Acceptance Criterion

The RadCentre Study Notification Server will accept Presentation Contexts as specified in the table.

4.2.3.5 Transfer Syntax Selection Policies

The RadCentre Study Notification Server only supports Implicit VR Little Endian Transfer Syntax.

4.3 Storage Server Specification

The RadCentre Storage Server provides Standard Conformance to the following DICOM V3.0 SOP Classes as an SCP:

SOP Class name	SOP Class UID
Verification SOP Class	1.2.840.10008.1.1
Unknown IOD Storage	See note ^a

- a. RadCentre will accept any incoming DICOM C-STORE requests sent using the DICOM defined SCP role: Storage Service Class. This Facility can be selectively restricted.

The RadCentre Storage Server does not act as an SCU.

4.3.1 Association Establishment Policies

4.3.1.1 General

The RadCentre StorageServer will not initiate any associations.

4.3.1.2 Number of Associations

The RadCentre Storage Server will only provide one association at a time.

4.3.1.3 Asynchronous Nature

RadCentre does not support asynchronous operations and will not perform asynchronous window negotiation.

4.3.1.4 Implementation Identifying Information

The RadCentre will provide a Implementation Class UID which is "1.2.276.0.38.3.0.0"

The implementation version name provided is "CoDcm, 3.0.0"

4.3.2 Association Initiation Policy

The RadCentre Storage Server does not initiate associations.

4.3.3 Association Acceptance Policy

The RadCentre Storage Server places no limitations on who may connect to it.

4.3.3.1 Associated Real-World Activity

Images received are stored to disk. Depending on settings made in the RIS images stored are available for use in medical reports as Bitmaps or for viewing with a DICOM-Viewer.

4.3.3.2 Presentation Context table

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
Unknown IOD Storage	See note ^a	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

a. The RadCentre will accept any incoming DICOM C-STORE requests using Implicit VR Little Endian Transfer Syntax.

4.3.3.3 SOP Specific Conformance

SOP Specific Conformance to Verification SOP Class

The RadCentre Storage Server provides standard conformance to the DICOM Verification Service Class.

SOP Specific Conformance to Storage SOP Class

The RadCentre Storage Server provides Level 2 (Full) Conformance to Storage SOP Class.

4.3.3.4 Presentation Context Acceptance Criterion

The RadCentre Storage Server will accept Presentation Contexts as specified in the table.

4.3.3.5 Transfer Syntax Selection Policies

The RadCentre Storage Server only supports Implicit VR Little Endian Transfer Syntax.

4.4 MPPS Server Specification

The RadCentre MPPS Server provides Standard Conformance to the following DICOM V3.0 SOP Classes as an SCP:

SOP Class name	SOP Class UID
Verification SOP Class	1.2.840.10008.1.1
Modality Performed Procedure Step SOP Class	1.2.840.10008.3.1.2.3.3

The RadCentre MPPS Server does not act as an SCU.

4.4.1 Association Establishment Policies

4.4.1.1 General

The RadCentre MPPS Server will not initiate any associations.

4.4.1.2 Number of Associations

The RadCentre MPPS Server will only provide one association at a time.

4.4.1.3 Asynchronous Nature

The RadCentre MPPS Server does not support asynchronous operations and will not perform asynchronous window negotiation.

4.4.1.4 Implementation Identifying Information

The RadCentre MPPS Server will provide a Implementation Class UID which is "1.2.276.0.38.3.0.0"

The implementation version name provided is "CoDcm, 3.0.0"

4.4.2 Association Initiation Policy

The RadCentre MPPS Server does not initiate associations.

4.4.3 Association Acceptance Policy

The RadCentre MPPS Server places no limitations on who may connect to it.

4.4.3.1 Associated Real-World Activity

An examination is started at the modality. Information about start, end, and parameters of the examination is transferred to the RadCentre MPPS Server and thus available in the RadCentre system. The information about the examination can e.g. be used for billing purposes.

4.4.3.2 Presentation Context table

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
Modality Performed Procedure Step SOP Class	1.2.840.10008.3.1.2.3.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

4.4.3.3 SOP Specific Conformance

SOP Specific Conformance to Verification SOP Class

The RadCentre MPPS Server provides standard conformance to the DICOM Verification Service Class.

SOP Specific Conformance to Modality Performed Procedure Step SOP Class

The RadCentre MPPS Server provides conformance to the DICOM Modality Performed Procedure Step SOP Class.

Having received the "COMPLETED" state all relevant information from the MPPS SOP instance will be stored in the LORENZO SolutionCentre system. The SOP instance will no longer be available.

4.4.3.4 Presentation Context Acceptance Criterion

The RadCentre MPPS Server will accept Presentation Contexts as specified in the table.

4.4.3.5 Transfer Syntax Selection Policies

The RadCentre MPPS Server only supports Implicit VR Little Endian Transfer Syntax.

4.5 Move Client Specification

The RadCentre Move Client does not act as an SCP.

The RadCentre Move Client provides Standard Conformance to the following DICOM V3.0 SOP Class as an SCU:

SOP Class name	SOP Class UID
Study Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.2.2

4.5.1 Association Establishment Policies

4.5.1.1 General

The RadCentre Move Client will initiate an association when it wants the PACS to move the images of a study.

4.5.1.2 Number of Associations

Each executable which is part of the RadCentre Move Client will only use one association at a time. To be able to handle several associations at a time several executables are started.

4.5.1.3 Asynchronous Nature

The RadCentre Move Client does not support asynchronous operations and will not perform asynchronous window negotiation.

4.5.1.4 Implementation Identifying Information

The RadCentre Move Client will provide a Implementation Class UID which is "1.2.276.0.38.3.0.0"

The implementation version name provided is "CoDcm, 3.0.0"

4.5.2 Association Initiation by Real-World Activity

4.5.2.1 Associated Real-World Activity

There are 2 situations where a move is initiated by the RIS.

- The user selects a study in the RIS and wants it to be moved to a selected station.
- A move is started according to prefetching rules.

4.5.2.2 Proposed Presentation Contexts

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Study Root Query/Retrieve Information Model – MOVE	1.2.840.10008.5.1.4.1.2.2.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

4.5.2.3 SOP Specific Conformance

SOP Specific Conformance to Study Root Query/Retrieve Information Model - MOVE SOP Class

The RadCentre Move Client provides standard conformance to the DICOM Study Root Query/Retrieve Information Model - MOVE SOP Class.

4.5.3 Association Acceptance Policy

The RadCentre Move Client never accepts associations.

4.6 Query Client Specification

The RadCentre Query Client does not act as an SCP.

The RadCentre Query Client provides Standard Conformance to the following DICOM V3.0 SOP Class as an SCU:

SOP Class name	SOP Class UID
Study Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.2.1

4.6.1 Association Establishment Policies

4.6.1.1 General

The RadCentre Query Client will initiate an association when it wants to query the PACS.

4.6.1.2 Number of Associations

Each executable which is part of the RadCentre Query Client will only use one association at a time.

4.6.1.3 Asynchronous Nature

The RadCentre Query Client does not support asynchronous operations and will not perform asynchronous window negotiation.

4.6.1.4 Implementation Identifying Information

The RadCentre Query Client will provide a Implementation Class UID which is "1.2.276.0.38.3.0.0"

The implementation version name provided is "CoDcm, 3.0.0"

4.6.2 Association Initiation by Real-World Activity

4.6.2.1 Associated Real-World Activity

There are 2 situations where a query is initiated by the RIS.

- The user selects a patient in the RIS and manually triggers a query to get up to date study and series information for the patient.
- The RIS automatically triggers queries on the PACS periodically (e.g. each night) to keep its study and series information database consistent with the PACS.

4.6.2.2 Proposed Presentation Contexts

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Study Root Query/ Retrieve Information Model – FIND	1.2.840.10008 .5.1.4.1.2.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

4.6.2.3 SOP Specific Conformance

SOP Specific Conformance to Study Root Query/Retrieve Information Model - FIND SOP Class

The RadCentre Query Client provides standard conformance to the DICOM Study Root Query/Retrieve Information Model - FIND SOP Class.

4.6.3 Association Acceptance Policy

The RadCentre Move Client never accepts associations.

5 Communication Profiles

5.1 Supported Communication Stacks (Parts 8, 9)

RadCentre provides DICOM V3.0 TCP/IP Network Communication Support as defined in PS 3.8.

5.2 TCP/IP Stack

5.2.1 API

RadCentre inherits its TCP/IP stack from the Windows NT system upon which it is executed.

5.2.2 Physical Media Support

RadCentre is indifferent to the physical medium over which TCP/IP executes; it inherits the medium from the computer system upon which it executes.

6 Extensions/Specializations/ Privatizations

Not Applicable.

7 Configuration

RadCentre can be configured by using menus which allow direct access to INI-Files.

7.1 AE Title/Presentation Address Mapping

RadCentre maps Application Entity Titles to presentation addresses using menus for configuration.

7.2 Configurable Parameters

There are no user-configurable parameters.

8 Support of Extended Character Sets

RadCentre does not support multi-byte characters, such as Japanese characters.

Supported character-sets are:

- ISO-IR 6 Basic G0 Set
- ISO-IR 100 Latin Alphabet No.1

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