
Centricity Radiology Web V1.0

DICOM Conformance Memo

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1 Introduction

1.1 Scope and Purpose

The DICOM Conformance of Centricity Radiology Web 1.0 is fully determined by the DICOM application Centricity Radiology Web is hosted on:

- Centricity PACS V1.0
- Centricity RA 600
- Centricity Dicom Archive 1.0 / DA210

This memo is intended as a substitute for a separate DICOM Conformance Statement. It identifies the sections of the respective conformance statements that either do or do not apply. These DICOM conformance statements can be found on the Applicare website at <http://www.appicare.com/related/dicom/index.html>

1.2 Intended Audience

The reader of this document is concerned with software design and/or system integration issues. It is assumed that the reader of this document is familiar with the DICOM 3.0 Standards and with the terminology and concepts which are used in those Standards. If readers are unfamiliar with DICOM 3.0 terminology they should first refer to the DICOM 3.0 Standard (see the section References), prior to reading this DICOM Conformance Memo document.

1.3 Scope and Field of Application

The combination of this Centricity Radiology Web DICOM Conformance Memo and the DICOM Conformance Statements of the applications Centricity Radiology Web is hosted on, describe how the Centricity Radiology Web application collaborates in a DICOM network with other Medical Imaging applications that conform to the DICOM 3.0 standard.

1.4 References

See Digital Imaging and Communications in Medicine (DICOM), parts 1 through 14 (NEMA PS 3.(1-14).98).

Other document sources:

Document ID	Title	Author	Version	Status	Date
	DICOM Conformance Statement Centricity PACS V1.0				
DCM-1021-001/00-001	DICOM Conformance Statement Centricity RA 600	Jan-Pieter Diender	6.0	Final	13-May-2002
DCM-1029-001/00-001	DICOM Conformance Statement Centricity Archive 1.0	Ernst-Jan Viergever	1.0	Final	23-May-2002
DCM-1024-001/00-001	DICOM Conformance Statement RadStore 2.0	Henk van den Brink	2.0	Final	14-May-2001
QA-1001-003/00-001	QSH	Wijnand Stijn	Current	Final	Current

1.5 Definitions

See Digital Imaging and Communications in Medicine (DICOM), parts 1 through 14 (NEMA PS 3.(1-14).98).

1.6 Symbols and Abbreviations

See Digital Imaging and Communications in Medicine (DICOM), parts 1 through 14 (NEMA PS 3.(1-14).98).

The name Applicare used in this document refers to GEMS-IT Applicare. Sometimes the term AMI is used.

The name Centricity Archive used in this document refers to Centricity Dicom Archive V1.0.

The name Centricity Web or Centricity Radiology Web used in this document refers to Centricity Radiology Web V1.0.

1.7 Revision History

Version	Status	Date	Comment
1.0	Draft 1	2-Jul-2002	First version
1.0	Draft 2	2-Jul-2002	Remarks Michael Dubbeldam
1.0	Draft 3	10-Jul-2002	Added Jan-Pieter Diender as reviewer
1.0	Draft 4	29-Jul-2002	Remarks Andries Hamster
1.0	Final	31-Jul-2002	Remarks Jan-Pieter Diender

1.8 Important Considerations for the Reader

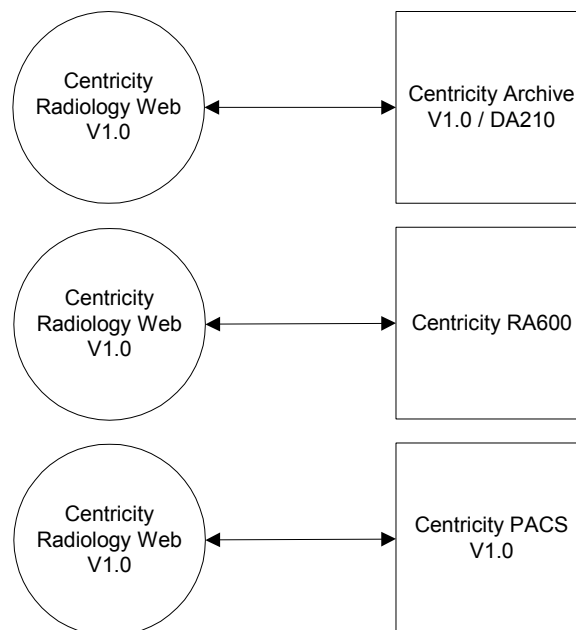
This DICOM Conformance Statement by itself is not sufficient to guarantee successful connectivity between Centricity Web, its host applications and equipment from other vendors. The following considerations should be made:

- The integration of equipment from different vendors (including Applicare) goes beyond the scope of the DICOM 3.0 standard and the DICOM Conformance Statements from Applicare and other vendors. It is the responsibility of the user (or user's agent) to assess the application requirements and to design a solution that integrates Applicare equipment with equipment from other vendors.
- When the comparison of this DICOM Conformance Statement with a DICOM Conformance Statement from another vendor indicates that connectivity should be possible it is the responsibility of the user (or user's agent) to verify this by carrying out validation tests and to check whether all required functionality is met.
- With regard to the future evolution of the DICOM 3.0 standard GEMS-IT Applicare reserves the right to make changes to the Centricity Web architecture described in this document. The user (or user's agent) should ensure that any equipment connected via DICOM to Applicare equipment also follows the future evolution of the DICOM 3.0 standard. Failure to do so may result in (partial) loss of connectivity.

2 Implementation Model

Centricity Web consists of two main applications: a server and a client. For this document focus is on the server. The Centricity Web server consists of a Centricity Web-specific module (dll) which runs as part of Microsoft Internet Information Server. This dll receives all HTTP requests from any Centricity Web client, and processes them. The Centricity Web server communicates with host services mentioned before for database query/retrieve and study file retrieve.

All DICOM communications are handled by the respective services, Centricity Web does not initiate or accept them. For easy reference, the implementation model is depicted below.



3 DICOM Conformance

The Centricity Web server adheres to the DICOM Conformance statement of the backend it is hosted on. This section adds remarks to the various numbered sections of the respective DICOM Conformance Statements. (<http://www.applicare.com/related/dicom/index.html>).

3.1 SOP Classes

Although the hosted services may support more SOP Classes, Centricity Web clients are only able to request and display objects belonging to SOP Classes in the table below.

Centricity Web Storage SOP classes supported for display	
SOP Class Name	SOP Class UID
CR Image	1.2.840.10008.5.1.4.1.1.1
DX Image (Presentation)	1.2.840.10008.5.1.4.1.1.1.1
DX Mammography Image (Presentation)	1.2.840.10008.5.1.4.1.1.1.2
DX Intra-oral Image (Presentation)	1.2.840.10008.5.1.4.1.1.1.3
CT Image	1.2.840.10008.5.1.4.1.1.2
US Multi-frame Image (Retired)	1.2.840.10008.5.1.4.1.1.3
US Multi-frame Image	1.2.840.10008.5.1.4.1.1.3.1
MR Image	1.2.840.10008.5.1.4.1.1.4
NM Image (Retired)	1.2.840.10008.5.1.4.1.1.5
US Image (Retired)	1.2.840.10008.5.1.4.1.1.6
US Image	1.2.840.10008.5.1.4.1.1.6.1
SC Image	1.2.840.10008.5.1.4.1.1.7
Grayscale Softcopy Presentation State	1.2.840.10008.5.1.4.1.1.11.1
XA Image	1.2.840.10008.5.1.4.1.1.12.1
NM Image	1.2.840.10008.5.1.4.1.1.20
Basic Text Structured Reports	1.2.840.10008.5.1.4.1.1.88.11
Key Object Selection	1.2.840.10008.5.1.4.1.1.88.59
PET Image	1.2.840.10008.5.1.4.1.1.128
RT Image	1.2.840.10008.5.1.4.1.1.481.1

3.2 Support for extended character sets

Centricity Web has support for the following character sets:

Support Character Sets	
Name	Value
Default Character repertoire	ISO_IR 6, <none>
single-byte JIS X 0201 (Katakana)	ISO_IR 13, ISO 2022 IR 13
single-byte JIS X 0201 (Romaji)	ISO_IR 14
multi-byte JIS X 0208 (1983)	ISO_IR 87, ISO 2022 IR 87
Latin – 1 character repertoire	ISO_IR 100, ISO 2022 IR 100
Latin – 2 character repertoire	ISO_IR 101, ISO 2022 IR 101
Latin – 3 character repertoire	ISO_IR 109, ISO 2022 IR 109
Latin – 4 character repertoire	ISO_IR 110, ISO 2022 IR 110
Greek	ISO_IR 126, ISO 2022 IR 126
Arabic	ISO_IR 127, ISO 2022 IR 127
Hebrew	ISO_IR 138, ISO 2022 IR 138
Cyrillic	ISO_IR 144, ISO 2022 IR 144
Latin – 5 character repertoire	ISO_IR 148, ISO 2022 IR 148
Korean	ISO_IR 149, ISO 2022 IR 149
multibyte JIS X 212	ISO_IR 159, ISO 2022 IR 159

Whether extended character sets are displayed correctly very much depends on the characteristics of the back-end system and the validity of the DICOM header contents."

3.3 Centricity PACS V1.0 backend

Centricity Web does not directly initiate or accept DICOM associations on the Centricity PACS V1.0 backend.

3.4 Centricity RA 600 backend

3.4.1 Send to a remote system

Centricity Web clients cannot actively designate studies to be sent to a remote system. However, automatic routing rules can be configured using the Centricity RA 600 functionality.

3.4.2 Query a remote system (C-FIND)

If the Centricity Web server is hosted on a Centricity RA 600 backend, the Centricity Web client can do a remote query, which is relayed by the Centricity Web server as a Study- or Patient Root Query to the Centricity RA 600 backend, and then to a remote system.

3.4.3 Retrieve from a remote system (C-MOVE)

If the Centricity Web server is hosted on a Centricity RA 600 backend, the Centricity Web client can do an import action for a selection of studies. This will initiate the transfer of images from the remote system to the Centricity RA 600 database (effectively acting as a cache) on the Centricity Web server. The imported studies thus become available for viewing to the Centricity Web client.

3.5 Centricity Dicom Archive V1.0 and DA210 backend

3.5.1 Send to a remote system

Centricity Web clients cannot actively designate studies to be sent to a remote system. However, automatic routing rules can be configured using the Centricity Archive 1.0 or DA210 functionality.

3.5.2 Query a remote system (C-FIND)

If the Centricity Web server is hosted on a Centricity Archive 1.0 or DA210 backend, the Centricity Web client can do a remote query, which is relayed by the Centricity Web server as a Study- or Patient Root Query to the Centricity Archive 1.0 or DA210 backend, and then to a remote system.

3.5.3 Retrieve from a remote system (C-MOVE)

If the Centricity Web server is hosted on a Centricity Archive 1.0 or DA210 backend, the Centricity Web client can do an import / fetch action for a selection of studies. This will initiate the transfer of images from the remote system to the Centricity Archive 1.0 or DA210 database (effectively acting as a cache) on the Centricity Web server. The imported / fetched studies thus become available for viewing to the Centricity Web client.