

MRS Conformance Statement

DICOM Structured Report SCU Integration

Mammography Reporting System

Version 6.5 and higher



Mammography Reporting System, Inc.

9709 3rd Avenue NE, Suite 208

Seattle, WA 98115

USA

206-633-6145

800-253-4827

www.mrsys.com

REVISION HISTORY

Revision Number	Date	Reason for Change
1.0	January 31, 2006	Original document

Table of Contents

DICOM Structured Report SCU Integration	1
REVISION HISTORY	1
1. INTRODUCTION	4
1.1 References	4
1.2 Definitions	4
1.3 Abbreviations	4
2. IMPLEMENTATION MODEL	5
2.1 Application Data Flow Diagram	5
2.2. Functional Definitions of AE's	5
2.3. Sequencing of Real-World Activities	5
3. AE SPECIFICATIONS	6
3.1 AE Specification	6
3.1.1 Association Establishment Policies	6
3.1.1.1 General	6
3.1.1.2 Number of Associations	6
3.1.1.3 Asynchronous Nature	6
3.1.1.4 Implementation Identifying Information	6
3.1.2 Association Initiation by Real-World Activity	6
3.1.2.1 Send Basic Text SR to SCP	6
3.1.2.1.1 Associated Real-World Activity	6
3.1.2.1.2 Proposed Presentation Contexts	7
3.1.2.1.3 SOP Specific Conformance Statement for SOP Class Structured Report	7
3.1.3 Association Acceptance Policy	8
4. COMMUNICATION PROFILES	8
4.1. Supported Communication Stacks	8
4.2. OSI Stack	9
4.3 TCP/IP Stack	9
5. EXTENSIONS/SPECIALIZATIONS/PRIVATIZATIONS	9
5.1. Standard Extended/Specialized/Private SOPs	9
5.2. Private Transfer Syntaxes	9
6. CONFIGURATION	9
6.1. AE Title/Presentation Address Mapping	9

6.2. Configurable Parameters..... 9

7. SUPPORT OF EXTENDED CHARACTER SETS 9

8. CODES AND CONTROLLED TERMINOLOGY 9

9. SECURITY PROFILES..... 9

1. INTRODUCTION

This document is the DICOM Conformance Statement for MRS software application developed by Mammography Reporting System, Inc. It is based on the recommended format as described in the DICOM Standard document.

The intended user of this document is involved with implementing, and or understanding how MRS works with other DICOM compliant devices. Reader unfamiliar with the DICOM 3.0 standard should consider reading the actual standards documentation before reading this statement.

This document describes how MRS collaborates with other DICOM compliant devices that conform to the DICOM 3.0 standard. The matching of this conformance statement with that of another DICOM device increases the possibility of interoperability between them; however, it does not guarantee it interoperability. The user is responsible for testing and verifying the inferred connectivity.

Future changes to the DICOM standard may require alterations to be made to the MRS software. Mammography Reporting System, Inc. reserves the right to modify the architecture as needed in order to meet changing standards and other market requirement.

1.1 References

- The ACR-NAME Digital Imaging and Communications in Medicine, DICOM Version 3.0 (<http://medical.nema.org>)

1.2 Definitions

Refer to the DICOM Version 3.0 Standards Documentation

1.3 Abbreviations

Refer to the DICOM Version 3.0 Standards Documentation

2. IMPLEMENTATION MODEL

2.1 Application Data Flow Diagram

MRS consists of a single Application Entity that deals with the DICOM communication; see the Application Data Flow Diagram below:

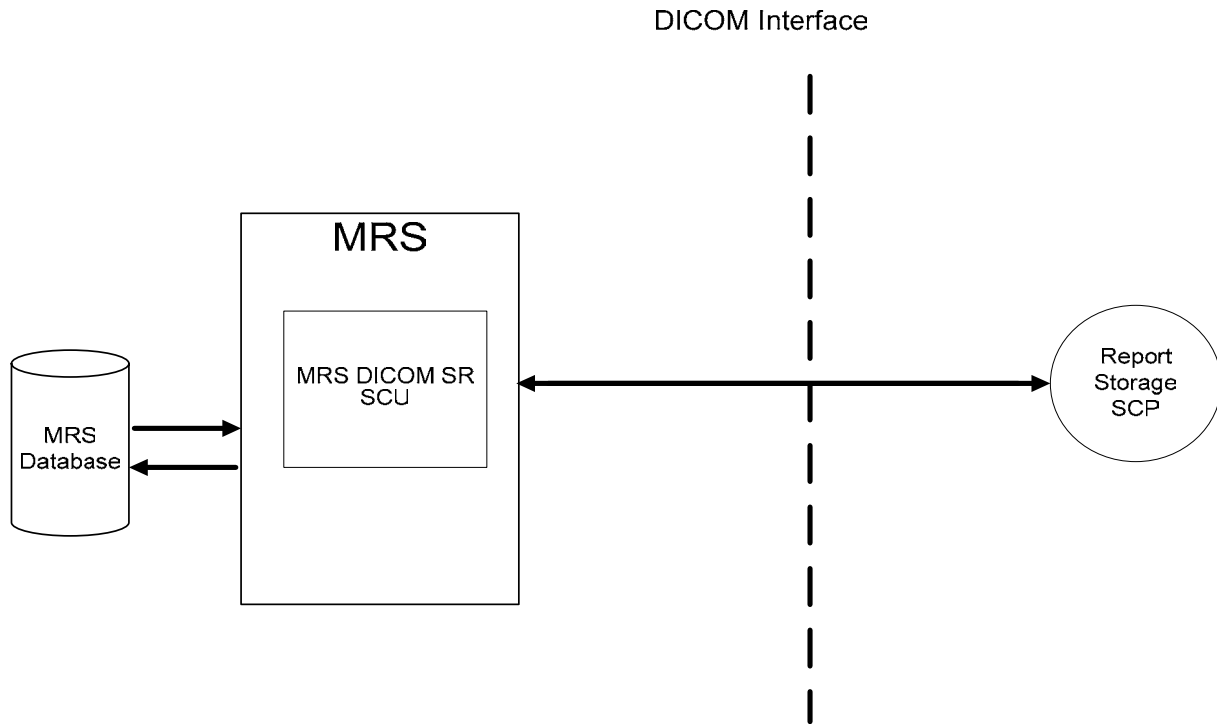


Figure 1

DICOM Structured Reports can be sent from MRS for finalized reports, while the application is running. MRS DICOM SR interface has the option to send DICOM structured reports upon finalization of a procedure report in MRS or as a batch via the Print Select Dialog.

The reports for imaging procedures do not include DICOM UIDs for the images it is based on.

2.2. Functional Definitions of AE's

All communication with the remote application is accomplished utilizing the DICOM protocol over a network using the TCP/IP stack.

SOP Class Name	SOP Class UID	SCU	SCP
Basic Text SR	1.2.840.10008.5.1.4.1.1.88.11	Yes	No

2.3. Sequencing of Real-World Activities

Not applicable.

3. AE SPECIFICATIONS

3.1 AE Specification

MRS DICOM services provide support of the following DICOM V3.0 SOP Classes as an SCU. MRS does not act as SCP for any SOP Class.

SOP Class UID	SOP Class Name
1.2.840.10008.5.1.4.1.1.88.11	Basic Text SR

3.1.1 Association Establishment Policies

3.1.1.1 General

The DICOM Application Context Name that is always proposed by MRS is 1.2.840.10008.3.1.1.1. The maximum PDU size supported is 65536 bytes.

3.1.1.2 Number of Associations

An instance of MRS supports only one association with a single SCP at a time.

3.1.1.3 Asynchronous Nature

MRS does not support asynchronous operations. All operations are performed synchronously.

3.1.1.4 Implementation Identifying Information

- The Implementation Class UID is : 1.2.840.1008.114368.111101.1.2
- The Implementation Version String is: “MRS 6.5”

3.1.2 Association Initiation by Real-World Activity

MRS initiates associations for the following activities:

- Send DICOM Basic Text SR to specified SCP.

3.1.2.1 Send Basic Text SR to SCP

3.1.2.1.1 Associated Real-World Activity

MRS allows the user to send final reports to a Report storage system: SEND C-STORE-RQ

The association is released after RECEIVE C-STORE-RSP.

3.1.2.1.2 Proposed Presentation Contexts

Presentation Context Table for DICOM Structured Report					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID	SCU	None
Basic Text SR	1.2.840.10008.5.1.4.1.1.88.11	Implicit VR Little Indian	1.2.840.10008.1.2		

3.1.2.1.3 SOP Specific Conformance Statement for SOP Class Structured Report

MRS provides standard conformance, a list of supported keys are listed below:

DICOM Structured Report: Supported Keys		
Module	Description	Tag
Patient Module	Patient's Name	(0010,0010)
	Patient's ID	(0010,0020)
	Patient's Sex	(0010, 0040)
	Patient's Date of Birth	(0010, 0030)
	Patient Address	(0010, 1040)
	Patient Home Phone	(0010, 2154)
	Patient Primary Language Code Sequence Code Value	(0010,0102) (0008,0100)
General Study Module	Study instance UID	(0020,000D)
	Study Date	(0008,0020)
	Accession Number	(0008,0050)
	Study ID	(0020,000D)
	Referring Physician's Identification Sequence Personal Identification Code Sequence Code Value	(0008,0096) (0040,1101) (0008,0100)
	Referring Physician's Name	(0008,0090)
	Person's Address	(0008,0092)
	Person's Telephone Numbers	(0008,0094)
	Performing Physician's Name	(0008,1050)
	Patient Study Module	Additional Patient History
Patient Address		(0010, 1040)
SR Document Series Module	Modality	(0008,0060)
	Series Instance UID	(0020,000E)
	Series Number	(0020,0011)
	Referenced Performed Procedure Step Sequence	(0008,1111)

DICOM Structured Report: Supported Keys		
Module	Description	Tag
General Equipment Module	Manufacturer	(0008,0070)
SR Document General Module	Content Date	(0008,0023)
	Content Time	(0008,0033)
	Instance Number	(0020,0013)
	Completion Flag	(0040,A491)
	Verification Flag	(0040,A493)
	Verifying Observer Sequence	(0040,A073)
	Verifying Observer Identification Code Sequence	(0040,A088)
	Verifying Observer Name	(0040,A075)
	Performed Procedure Code Sequence	(0040,A372)
SR Document Content Module	Observation DateTime	(0040,A032)
	Content Template Sequence	(0040,A504)
	Content Sequence	(0040,A730)
	Value Type	(0040,A040)
	Concept Name Code Sequence	(0040,A043)
	Code Value	(0008,0100)
	Coding Scheme Designator	(0008,0102)
	Code Meaning	(0008,0104)
	Relationship Type	(0040,A010)
	Continuity of Content	(0040,A050)
SOP Common Module	SOP Class UID	(0008,0016)
	SOP Instance UID	(0008,0018)
	Instance Creation Date	(0008,0012)
	Instance Creation Type	(0008,0013)
	Instance Creator UID	(0008,0014)

3.1.3 Association Acceptance Policy

MRS does not accept any associations as an SCP.

4. COMMUNICATION PROFILES

4.1. Supported Communication Stacks

DICOM is supported over TCP/IP.

4.2. OSI Stack

MRS does not support OSI stack

4.3 TCP/IP Stack

MRS inherits its TCP\IP Stack from the operating system on which it is installed.

5. EXTENSIONS/SPECIALIZATIONS/PRIVATIZATIONS

5.1. Standard Extended/Specialized/Private SOPs

Not applicable.

5.2. Private Transfer Syntaxes

Not applicable.

6. CONFIGURATION

6.1. AE Title/Presentation Address Mapping

MRS SCU has an AETitle of MRSMWLSCU.

6.2. Configurable Parameters

Remote SCP AE Title

PDU size

Remote IP Address\Host Name

Remote TCP\IP Port

7. SUPPORT OF EXTENDED CHARACTER SETS

Not applicable.

8. CODES AND CONTROLLED TERMINOLOGY

Not applicable

9. SECURITY PROFILES

Not applicable.