

## MRS Conformance Statement

# DICOM Modality Worklist SCU Integration

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## Mammography Reporting System

Version 6.4 and higher



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### REVISION HISTORY

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

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## 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.

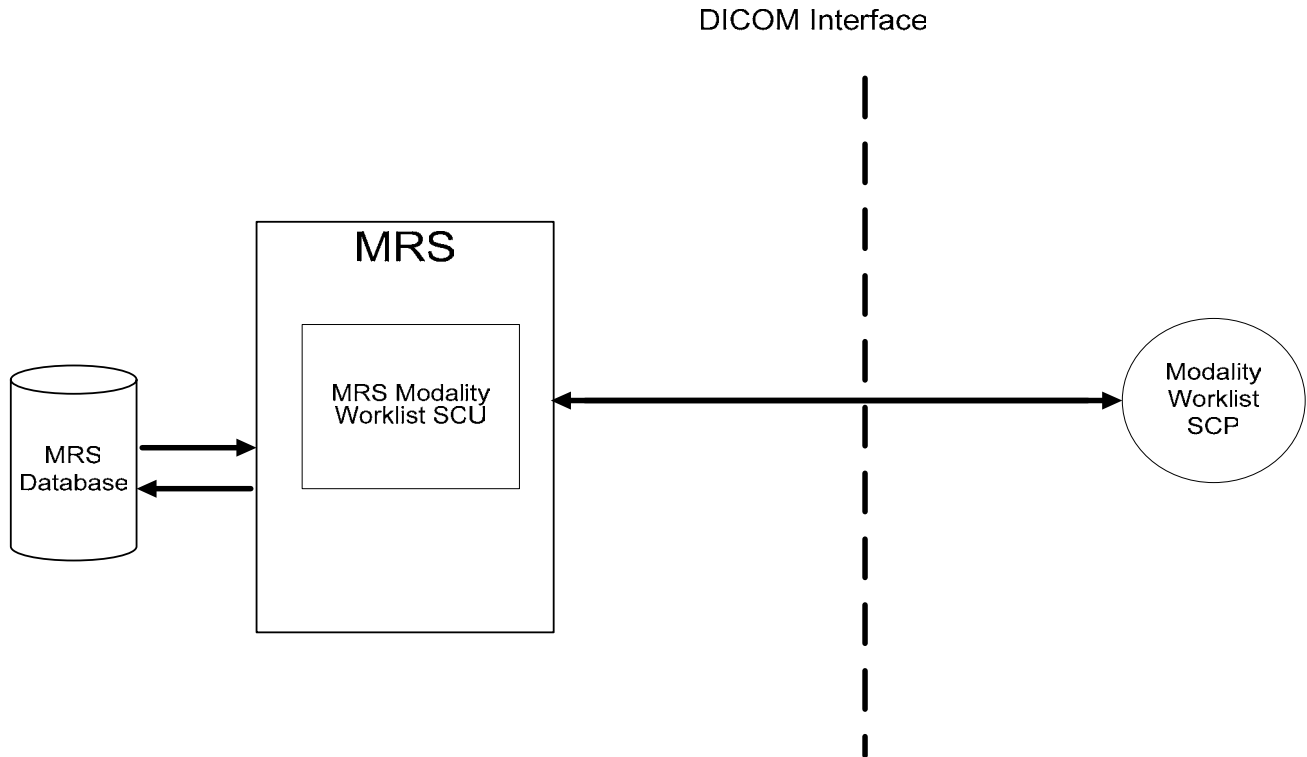
### 1.3 Abbreviations

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**

The modality worklist query can be done at any time when running MRS. It is recommended to do so before editing\adding patient information. The user can select modality from a drop down list, and MRS queries the specified Modality Worklist SCP to retrieve data for patient's scheduled to come in. Once the list is received from the SCP it is displayed, and the user can select the exact patient/procedure.

If the patient/procedure is not in the MRS database, it is added. If it is already in the MRS database any relevant information is updated in the database.

MRS only retrieves basic patient/procedure information. No images are retrieved or stored.

## 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
Modality Worklist Information Model – FIND	1.2.840.10008.5.1.4.3.1	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
1.2.840.10008.5.1.4.3.1	Modality Worklist Information Model – FIND

### 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 : 1.2.840.1008.114368.111101.1.1
- The Implementation Version String is: “MRS 6.4”

### 3.1.2 Association Initiation by Real-World Activity

MRS initiates associations for the following activities:

- Retrieve a Modality Worklist from the specified SCP.

### 3.1.2.1 Retrieve Modality Worklist from SCP

#### 3.1.2.1.1 Associated Real-World Activity

MRS allows the user to query for a Modality Worklist as an aid to synchronizing patient and procedure information between MRS and other systems. This facilitates the automatic entry for available patient or procedure information in the MRS database and prevents data entry errors. The association is released after getting all worklist items.

#### 3.1.2.1.2 Proposed Presentation Contexts

Presentation Context Table for Modality Worklist Management					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID	SCU	None
Modality Worklist Information Model – FIND	1.2.840.10008.5.1.4.3.1	Implicit VR Little Indian	1.2.840.10008.1.2		

#### 3.1.2.1.3 SOP Specific Conformance Statement for SOP Class Modality Worklist Management

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

Presentation Context Table for Modality Worklist Management		
<b>Scheduled Procedure Step</b>	Modality	(0008,0060)
	Scheduled Procedure Step Start Date	(0040,0002)
	Scheduled Procedure Step Start Time	(0040,0003)
	Scheduled Procedure Step Location	(0040,0011)
	Performing Physician Name	(0040,0006)
	Scheduled Performing Physician ID Sequence	(0040,000b)
	Personal Identification Sequence	(0040,1101)
	Code Value	(0008,0100)
<b>Imaging Service Request</b>	Accession Number	(0008,0050)
	Referring Physician’s Identification Sequence	(0008,0096)
	Personal Identification Code Sequence	(0040,1101)
	Code Value	(0008,0100)
	Referring Physician’s Identification Sequence	(0008,0096)
	Person’s Address	(0008,0092)
	Person’s Telephone Numbers	(0008,0094)
Referring Physician’s Name	(0008,0090)	
<b>Patient Demographics</b>	Patient ID	(0010,0020)
	Patient Name	(0010,0010)
	Patient Sex	(0010, 0040)
	Date of Birth	(0010, 0030)

	Patient Size	(0010, 1020)
	Patient Weight	(0010, 1030)
	Patient Home Phone	(0010, 2154)
	Patient Country	(0010, 2150)
	Patient Address	(0010, 1040)
	Ethnic Group	(0010,2160)
	Patient Primary Language Code Sequence	(0010,0102)
	Code Value	(0008,0100)
<b>Requested Procedure</b>	Study Instance UID	(0020,000d)
	Requested Procedure ID	(0040,1001)
	Requested Procedure Code Sequence	(0032,1064)
	Code Value	(0008,0100)
	Requested Procedure Description	(0032,1060)
<b>Visit Identification Module</b>	Institution Code Sequence	(0008,0082)
	Code Value	(0008,0100)
	Current Patient Location	(0038,0300)

### 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.