DICOM CONFORMANCE STATEMENT

FOR

Diagnostic Ultrasound System

mindray

Intellectual Property

1 Conformance Statement Overview

This document describes the conformance to the ACR-NEMA DICOM 3.0 Standard by all the ultrasound systems such as DP-70/DP-70T/DP-70Vet/DP-50/DP-50T/DP-50Vet.

We specify ultrasound system generally refer to all the products above. It is intended to provide the reader with the knowledge of how to integrate this product within a DICOM compliant hospital network. It details the DICOM Service Classes, Information Objects, and Communication Protocols which are supported by ultrasound system as follows:

Table 1 DICOM SOP CLASSES

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
IMAGE TRANSFER（STORAGE）		
Ultrasound Image Storage	Yes	Yes
Ultrasound Multi-frame Image Storage	Yes	Yes
Secondary Capture Image Storage	Yes	Yes
WORKFLOW MANAGEMENT		
Modality Worklist Information Model – Find	Yes	No
Storage Commitment Push Model	Yes	No
PRINT MANAGEMENT		
Basic Color Print Management	Yes	No
Basic Grayscale Print Management	Yes	No
General		
Verification	Yes	Yes

Table 2 MEDIA SERVICES

Media Storage Application Profile	Write Files (FSC / FSU)	Read Files (FSR)
Compact Disk - Recordable		
STD-US-SC-SF&MF-CDR	Yes / Yes	Yes
DVD		

Media Storage Application Profile	Write Files (FSC / FSU)	Read Files (FSR)
STD-US-SC-SF&MF-DVD STD-US-SC-SF&MF-DVD-RAM	Yes / Yes	Yes

If the readers are unfamiliar with DICOM, it is recommended that they read the DICOM Specification (referenced below) prior to read this conformance statement. Also note that this document is formatted according to the DICOM Specification, Part 2: Conformance.

In this document, MODALITY stands for ultrasound system.

2 Table of Contents

3 Introduction

3.1 Review History

Document Version	Date of Issue	Description
1.0	January 13, 2011	First Release Version

3.2 Audience

This document is intended for hospital staff, health system integrators, software designers or implementers. It is assumed that the reader of this document is familiar with the DICOM Standard and with the terminology and concepts which are used in the Standard. If readers are unfamiliar with DICOM terminology they should first read the DICOM Standard, prior to reading this DICOM Conformance Statement document.

3.3 Remarks

The scope of this Conformance Statement is to facilitate communication of the Ultrasound System. The Conformance Statement should be read and understood in conjunction with the DICOM Standard. DICOM by itself does not guarantee interoperability. However, The Conformance Statement does facilitate a first-level comparison for interoperability between different applications supporting compatible DICOM functionality.

This Conformance Statement is not supposed to replace validation with other DICOM equipment to ensure proper exchange of intended information. In fact, the user should be aware of the following important issues:

— The comparison of different Conformance Statements is just the first step towards assessing interconnectivity and interoperability between the product and other DICOM conformant equipment.

— Test procedures should be defined and executed to validate the required level of interoperability with specific compatible DICOM equipment, as established by the healthcare facility.

3.4 Definitions

- AE- An application that supports DICOM communication with other DICOM

applications.

- Association Establishment - An Association Establishment is the first phase of communication between two DICOM Application Entities. The AEs use the Association Establishment to negotiate how data will be encoded and the type of data to be exchanged.
- Called Application Entity Title - The Called AE Title defines the intended receiver of an Association.
- Calling Application Entity Title - The Calling AE Title defines the requestor of an Association.
- DICOM Message Service Element (DIMSE) - A DIMSE defines the services and protocols utilized by an Application Entity to exchange messages.
- Information Object Definition (IOD) - An IOD is a data model which is an abstraction of real-world information. This data model defines the nature and attributes relevant to the class of real world objects represented.
- Service Class Provider (SCP) - A Service Class Provider plays the "server" role to perform operations and invoke notifications during an association. An example of a Storage Service Class Provider would be an image storage device. In this case, the image storage device is storing the image that was sent by a Service Class User.
- Service Class User (SCU) - A Service Class User plays the "client" role to invoke operations and perform notifications during an association. An example of a Storage Service Class User would be an image acquisition device. In this case, the image acquisition device will create and send a DICOM image by requesting a Service Class Provider to store the image.
- Service Object Pair (SOP) Class - A SOP Class is defined by the union of an Information Object Definition and a set of DIMSE Services. A DICOM Application Entity may support one or more SOP Classes. Each SOP Class is uniquely identified by a SOP Class UID.
- SOP Instance - A specific occurrence of an Information Object.
- Transfer Syntax - The Transfer Syntax is a set of encoding rules that allow DICOM Application Entities to negotiate the encoding techniques (e.g., data element structure, byte ordering, compression) they are able to support. The Transfer Syntax is negotiated during Association Negotiation.
- Unique Identifier (UID) - A Unique Identifier is a globally unique, ISO compliant, ASCII-numeric string. It guarantees uniqueness across multiple countries, sites, vendors, and equipments.
- Application Profile - A Media Storage Application Profile defines a selection of choices at the various layers of the DICOM Media Storage Model which are applicable to a specific need or context in which the media interchange is intended to be performed.
- File - A File is an ordered string of zero or more bytes, where the first byte is at the beginning of the file and the last byte is at the end of the File. Files are identified by an unique File ID and may by written, read, or deleted.
- File Meta Information - The File Meta Information includes identifying information on

the encapsulated Data Set. It is a mandatory header at the beginning of every DICOM File.

- DICOM File Format - The DICOM File Format provides a means to encapsulate in a File the Data Set representing a SOP Instance related to a DICOM Information Object.
- Physical Media - A piece of material with recording capabilities for streams of bits. Characteristics of a Physical Media include form factor, mechanical characteristics, recording properties and rules for recording and organizing bit streams in accessible structures.

3.5 Acronyms, Abbreviations, and Symbols

The following acronyms and abbreviations are used in this document.

- ACC: American College of Cardiology
- ACR: American College of Radiology
- ASCII: American Standard Code for Information Interchange
- AE: Application Entity
- ANSI: American National Standards Institute
- DICOM: Digital Imaging and Communications in Medicine
- DIMSE: DICOM Message Service Element
- DIMSE-C: DICOM Message Service Element-Composite
- DIMSE-N: DICOM Message Service Element-Normalized
- FSC: File-Set Creator
- FSR: File-Set Reader
- FSU: File-Set Updater
- HIS: Hospital Information System
- HL7: Health Level 7
- IE: Information Entity
- IHE: Integrating the Healthcare Enterprise
- IOD: Information Object Definition
- ISO: International Standard Organization
- JIRA: Japan Industries Association of Radiological Systems
- MODALITY: Ultrasound System
- NEMA: National Electrical Manufacturers Association
- PDU: Protocol Data Unit
- RIS: Radiology Information System
- SCP: Service Class Provider

- SCU: Service Class User
- SOP: Service Object Pair
- TCP/IP: Transmission Control Protocol/Internet Protocol
- UID: Unique Identifier

3.6 References

ACR-NEMA Digital Imaging and Communications in Medicine, DICOM V3.0.

Digital Imaging and Communications in Medicine (DICOM) Standard, available free at http://medical.nema.org/

4 Implementation Mode

4.1 Application Data Flow

4.1.1 Networking

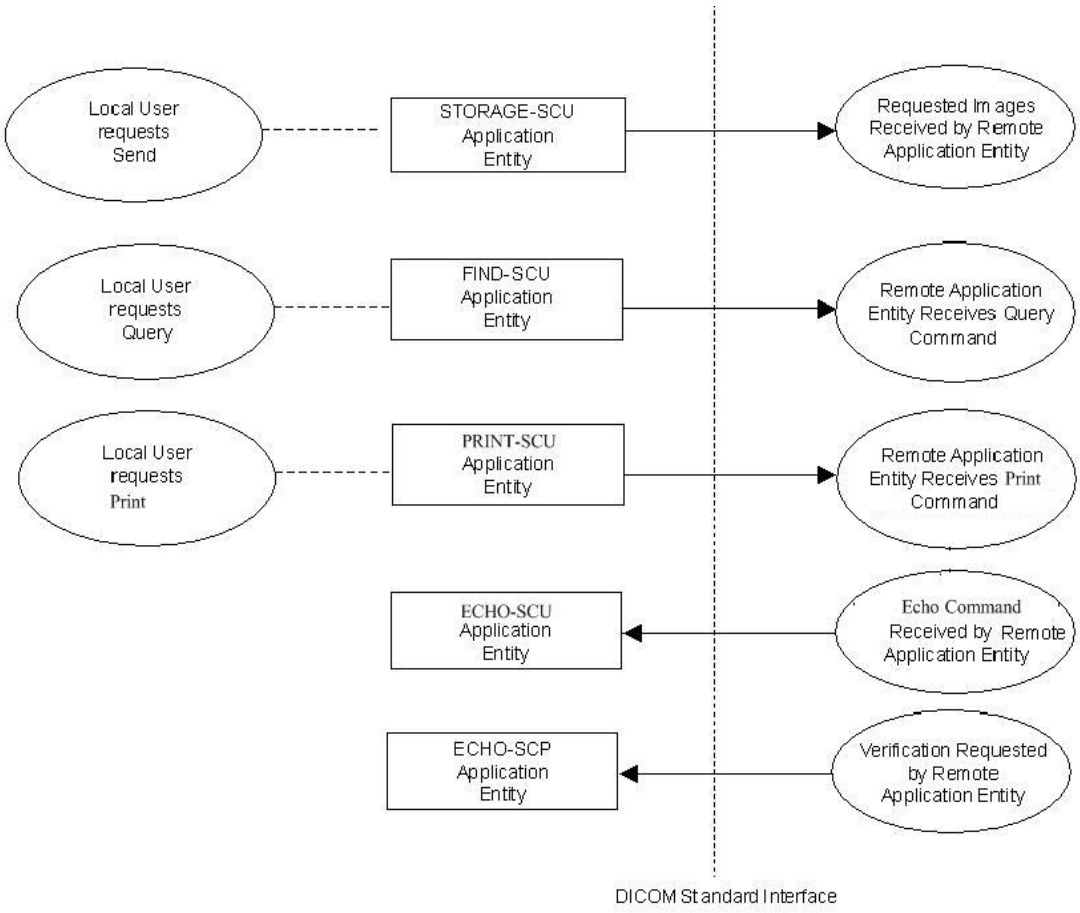

Figure 1 Implementation Model

This application entity provides a user interface, internal database and network listener that spawns additional threads as necessary to handle incoming connections, as well as media support.

Conceptually the network services may be modeled as the following separate AE's, though in fact all the AE's share a single (configurable) AE Title:

STORAGE-SCU, which sends outbound images and other composite instances

FIND-SCU, which queries remote AE's for lists of studies, series and instances

PRINT-SCU, which sends outbound images and other composite instances to a printing device.

ECHO-SCU, which sends verification request to a remote AE.

ECHO-SCP, which responds to verification requests

4.1.2 Media Interchange

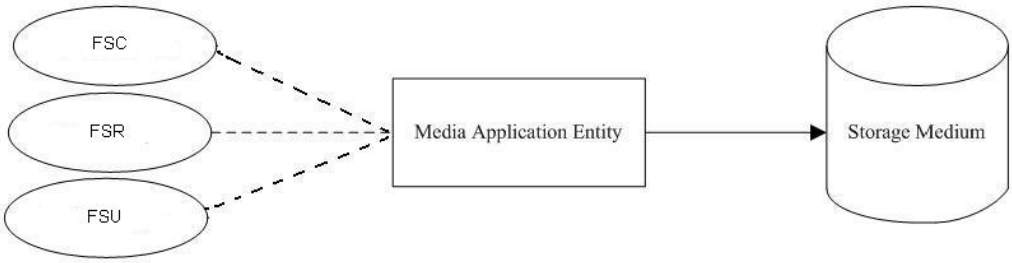

Figure 2 Application Data Flow Diagram for Media Storage

The application provides media support as FSC, FSR and FSU.

Conceptually it may be modeled as the following AEs:

The Media Application Entity creates a new file-set on a storage medium.

The Media Application Entity reads the existing file-set on a storage medium.

The Media Application Entity imports the existing file-set from a storage medium.

The Media Application Entity updates the existing file-set on a storage medium.

4.2 Verification

The Verification service class defines an application level class of service which allows the service engineer to verify the ability of an application on a remote DICOM device to respond to DICOM messages.

In the MODALITY AE, Verification is located on the DICOM service preset dialog where the user can configure the information of remote service provider, and invoke the Verification Service to the appointed SCP. According to the response, the result of “Succeed” or “Failed” is returned to the user.

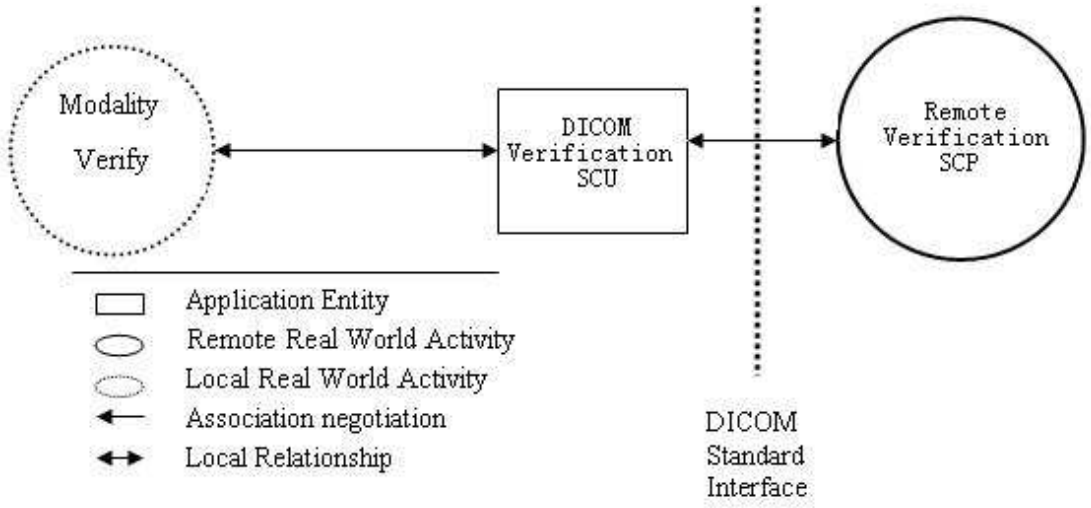

Figure 3 Verification Model

4.2.1 Sequence of Real World Activities

4.2.1.1 Features

Service user requests to verify the activation of the remote DICOM SCPs.

Remote DICOM SCU requests to verify the activation of the MODALITY.

The MODALITY acts as the SCU and SCP for Verification.

The MODALITY will listen to the port set in the DICOM Local Preset Dialog.

4.2.1.2 Operation

The operation for verify service is described below:

Step 1: Open the DICOM Preset dialog box, press the button of Set DICOM Service.

Step 2: Select one deployed remote DICOM service (One DICOM server may provide more than one DICOM service, and the verification is aimed at the remote service).

Step 3: Request Verification to the selected remote service.

4.3 Storage

Storage SCU establishes an association for Storage of DICOM Composite Information Objects in the Remote Real World Activity.

4.3.1 Application Data Flow Diagram

The MODALITY implementation acts as the SCU for the Storage service.

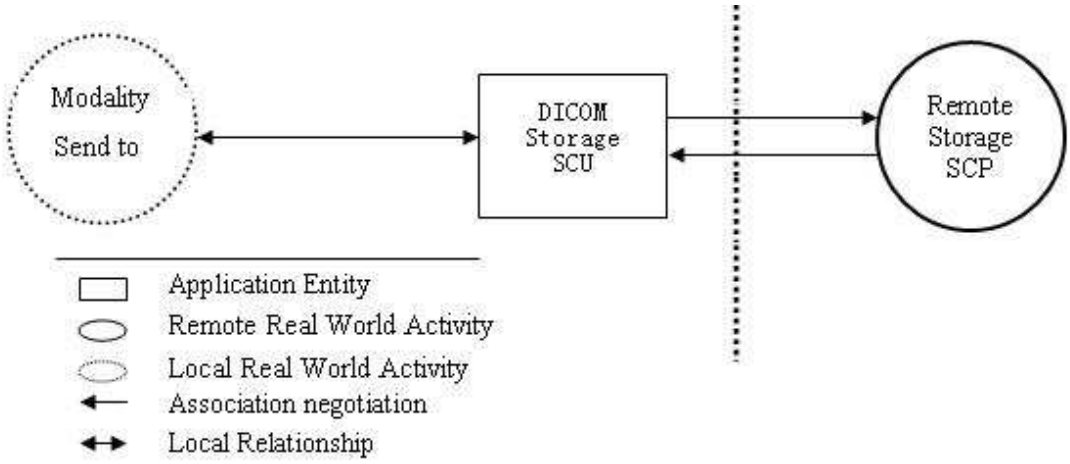

Figure 4 Storage Module

4.3.2 Functional Definitions of Application Entities

The MODALITY is used to transmit images to a remote DICOM device. It performs the following tasks:

Create DICOM US Single-frame, US Multi-frame and Secondary Capture Image Information Objects.

Establish DICOM association with the remote DICOM service.

Store DICOM US Single-frame, US Multi-frame and Secondary Capture Image Information Objects on the remote DICOM device.

If the user configure that US Multi-frame image isn't allowed to storage, Even though, all the other US Single-frame images of the exam which has at least one US Multi-frame image are successfully stored, the backup flag of the exam will not be set.

4.3.3 Sequence of Real World Activities

4.3.3.1 Features

The MODALITY acts as the SCU for Storage Service.

The operator can select one or more storage SCPs configured in DICOM Service Preset.

When the operator invokes DICOM storage, regardless of how many images or whether the images are single-frame or multi-frame of one patient's exam, the MODALITY creates

only one association for all the images.

Storage service requests are placed in a queue and executed one by one.

When the study or image transmission fails, the error message is displayed to the user in the Task Manager.

The user can cancel the image storage requests and retry the failed requests.

The user can send the images during one examination, or save the images and send them at any time.

The MODALITY information model is divided to 2 levels: exam (study and series are uniformed to exam) and image. The operator can invoke the storage service in any level respectively.

4.3.3.2 Operation

The operations for storage service are described below:

Operation 1

Step 1: Select the images from thumbnail menu.

Step 2: Press “Send to” button and select DICOM Storage service.

Operation 2

Step 1: Select studies or images in the iStation Dialog, press “Send to” button. There are two ways. One is to select items as a way of sending study, the other is to select one or more thumbnails and press send to button to send images.

Step 2: Send all images.

Operation 3

Step 1: Open the review dialog.

Step 2: Select the images and press “Send to” to choose the storage SCPs.

4.4 Modality Worklist Management (MWL)

Patient information can be obtained automatically by using the Worklist service. In the patient information dialog, as pressing the “Worklist” button the Worklist dialog will be shown. If the default Worklist SCP is set, the query request will be invoked automatically. The user can set the following matching key attributes: Patient Name, Patient ID, Accession Number, Requested Procedure ID, Modality Type, Scheduled station AE Title and Exam Date. The query results will be listed in the table of the Worklist dialog.

4.4.1 Application Data Flow Diagram

The MODALITY implementation acts as the SCU for the MWL service.

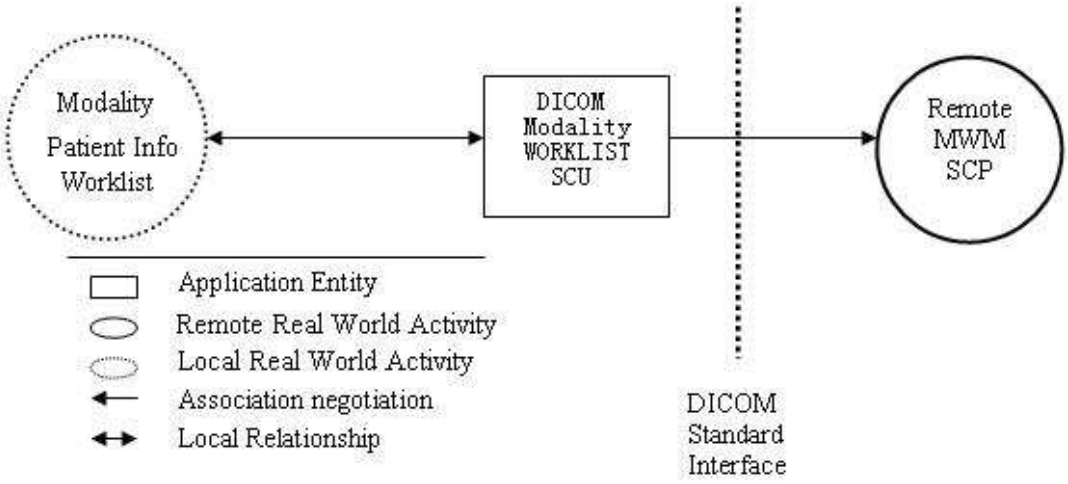

Figure 5 Modality Worklist Model

4.4.2 Functional Definitions of Application Entities

The MODALITY is used to transmit requests for retrieval of MWL information from a remote DICOM device. Therefore it performs the following tasks:

Establish DICOM association with the remote DICOM device.

Perform query request of DICOM MWL scheduled procedures on the remote DICOM device.

Retrieve DICOM MWL scheduled procedures from the remote DICOM device.

4.4.3 Sequence of Real World Activities

4.4.3.1 Features

The MODALITY acts as the SCU for the MWL.

The operator requests retrieval of MWL information automatically or manually.

Receive the list of matched scheduled procedures.

When the retrieval fails, the MODALITY displays an error message.

The MODALITY closes the association upon the completion of each query.

The MODALITY supports both of the Broad Query and Patient Specific as defined by IHE.

The query results from the SCP which may include many items that represent patients information will be shown all together.

Users can view the details of the results.

After one query, the MODALITY will remember the last result until a new query is finished. Before the new query is finished, the last result will be shown on the Worklist dialog.

The MODALITY can get at most 10000 query results in one query.

4.4.3.2 Operation

The operation for Worklist service is described below:

Step 1: Open the patient information dialog.

Step 2: Press the 'Worklist' button.

Step 3: The Worklist dialog is shown and press "Query" button. Process the Worklist broad query automatically if a Worklist SCP is set to be default in the DICOM preset.

Step 4: The Worklist dialog is shown and the query results are listed in the table.

Step 5: The user can set some matching key attributes, and press "Query" button. The specific query is processed.

Step 6: The query results are listed.

4.5 Print

The images are created and stored in the MODALITY AE. The user can print the appointed images of the exams. When requested, uncompressed single frame images will be printed by the DICOM print service SCPs. The MODALITY can process the gray-scale and color images.

4.5.1 Application Data Flow Diagram

The MODALITY implementation acts as the SCU for the DICOM Print service.

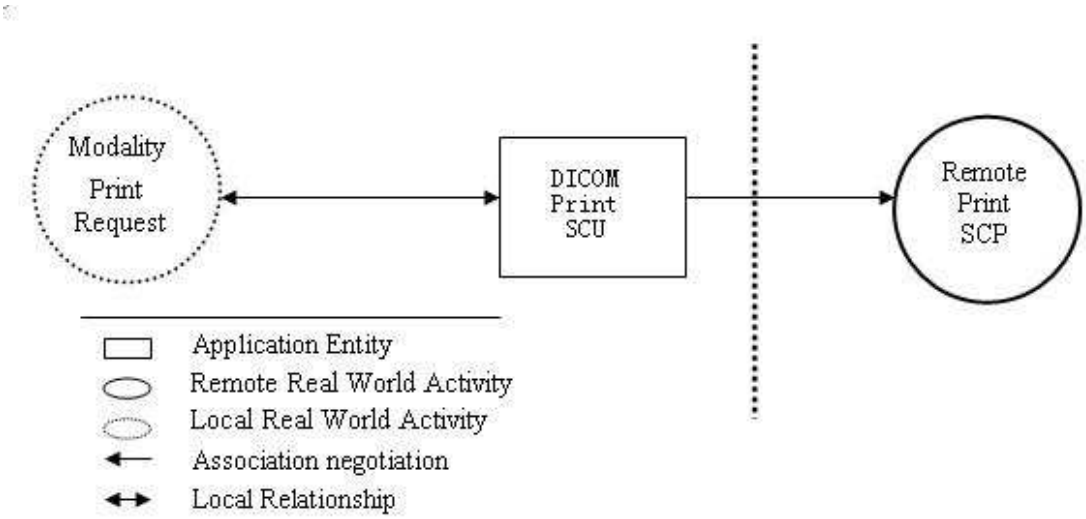

Figure 6 Print Module

4.5.2 Functional Definitions of Application Entities

The MODALITY is able to print images on a remote DICOM device. It performs the following tasks:

Open an association with the print service SCP.

N-GET message on the Printer SOP Class is used to obtain current printer status information.

N-CREATE message on the Film Session SOP Class creates a Film Session.

N-CREATE message on the Film Box SOP Class creates a Film Box linked to an appointed Film Session.

N-SET message on the Image Box SOP Class transmits the contents of the film sheet to the SCP.

N-ACTION message on the Film Box SOP Class instructs the SCP to execute the print job.

N-DELETE message on the Film Box SOP Class instructs the SCP to delete the Film Box.

Close the association.

The following figure describes the process sequence.

4.5.3 Sequence of Real World Activities

4.5.3.1 Features

The user specifies some print parameters in the DICOM service preset dialog: Number of Copies, Medium Type, Film Size, Photometric Interpretation, Image Display Format, Film Destination, Film Orientation, Trim or Not, Priority, Minimum Density, Maximum Density, Configuration Information and Magnification Type.

The user can select one or more images once.

The user can select one or more exams once and the images belonging to these exams will be printed. The images in a film must belong to the same exam.

Print requests are placed on a queue, and are executed one by one.

When the print request fails, the MODALITY displays an error message in the Task Manager.

The user can cancel the image print requests and retry the failed requests.

The multi-frame images are not able to be printed.

4.5.3.2 Operation

The operations for print service are described below:

Operation 1

Step 1: Select the images from thumbnail menu.

Step 2: Press “Send to” button and select DICOM Print service.

Operation 2

Step 1: Select studis or images in the iStation Dialog, press “Send to” button. There are two ways. One is to select items as a study sending way, the other is to select one or more thumbnails and press send to button to send images.

Step 2: Send all images.

Operation 3

Step 1: Open the review dialog.

Step 2: Select the images and press “Send to” to choose the storage SCPs.

4.6 Storage Commitment

Storage Commitment Service is used to ensure the reliable storage of DICOM composite information objects on remote DICOM device after sending DICOM Storage Service to the device.

4.6.1 Application Data Flow Diagram

The MODALITY implementation acts as the SCU for the Storage Commitment service.

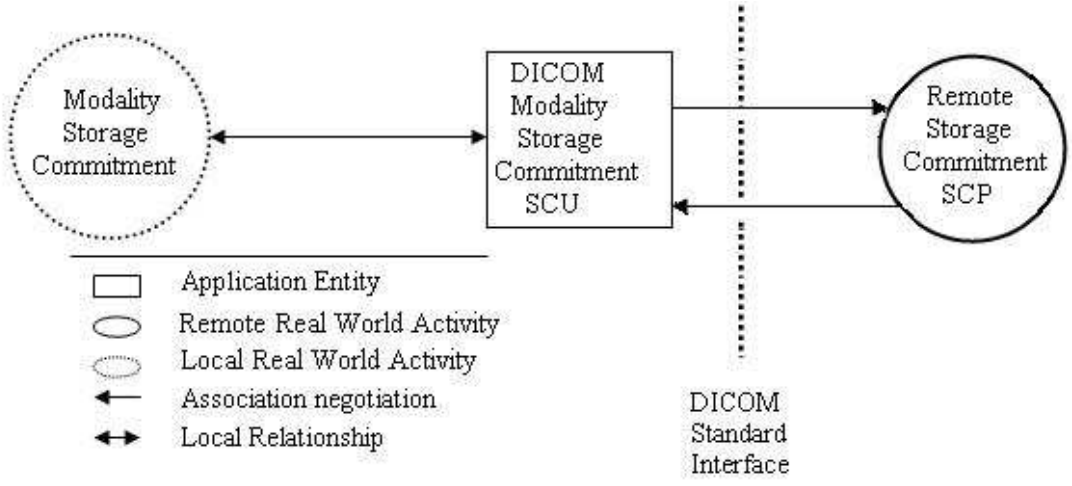

Figure 7 Storage Commitment Model

4.6.2 Functional Definitions of Application Entities

The MODALITY is able to ensure the storage on a remote DICOM device. Therefore it performs the following tasks:

Establishes DICOM association with the remote DICOM device.

N-ACTION message on the Storage Commitment SOP Class is used to request commitment of storage on the remote DICOM device.

N-EVENT-REPORT message on the Storage Commitment SOP Class is used to convey the result of storage commitment from the remote DICOM device.

4.6.3 Sequence of Real World Activities

4.6.3.1 Features

The MODALITY acts as the SCU for the Storage Commitment.

The Storage Commitment can only apply on exam level.

After the successful Storage service of one exam, the default Storage Commitment service will be executed automatically. All images of the exam should be stored and the Storage Commitment Service is set to associate with the Storage Service.

If the N-ACTION has been performed successfully, the MODALITY will wait for the N-EVENT-REPORT message until system power down.

The MODALITY waits for the N-EVETN-REPORT message in a separate association.

The Storage Commitment is invoked only when the exam state is ‘End Exam’. For example, if the exam is active or paused, the Storage Commitment service will not be performed.

In the iStation Dialog, an icon is used to indicate the exam’s storage has been committed or not.

The MODALITY will listen to one port set in the DICOM Local Preset dialog, and if the port is changed, the new port will not be effective until the system is rebooted.

4.6.3.2 Operation

The operation for Storage Commitment service is described below:

Step 1: Associate the Storage Commitment service with one Storage service in the DICOM service preset dialog, and set it as the default service.

Step 2: After the successful performance of Storage service, the Storage Commitment action will be invoked automatically.

4.7 Media Storage

Media Storage Service is used to export exams to DICOM media (create a new file-set in DICOM media, or update DICOM files by adding new exams to the existing file-set), read or import exams from DICOM media.

4.7.1 Application Data Flow Diagram

The MODALITY implementation acts as the FSC、FSU or FSR for the Media Storage service.

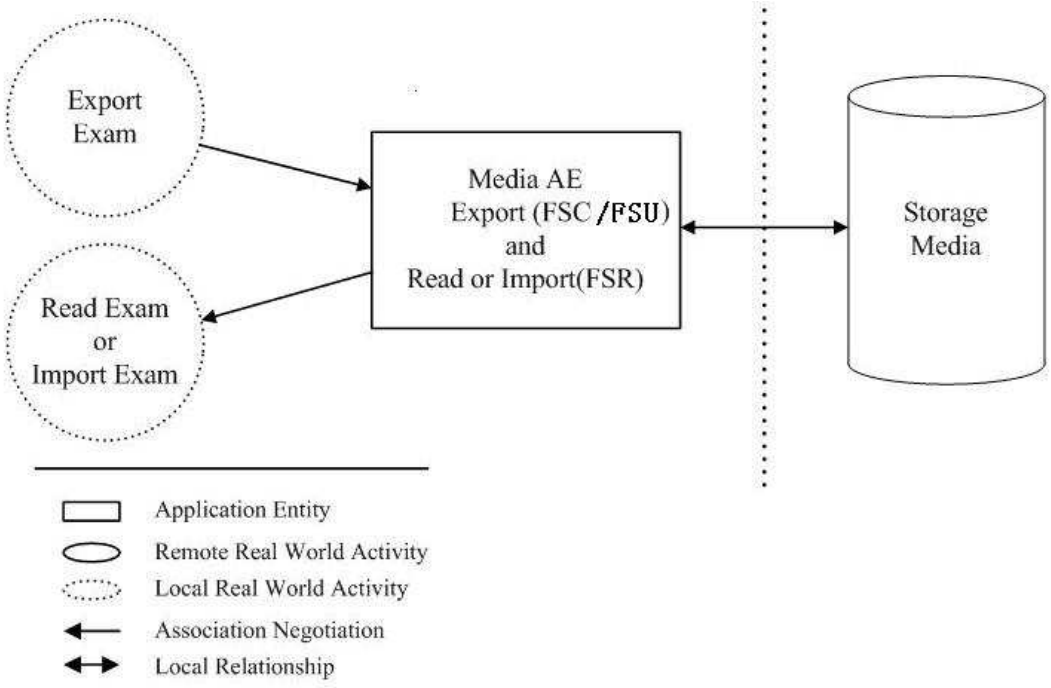

Figure 8 Media Storage Model

4.7.2 Functional Definitions of Application Entities

The MODALITY is able to export exams to DICOM media, read or import exams from DICOM media. Therefore it performs the following tasks:

Create a new file-set on removable media.

Read the existing file-set on removable media.

Import the existing file-set from removable media.

Update the existing file-set on removable media.

4.7.3 Sequence of Real World Activities

4.7.3.1 Features

The MODALITY acts as the FSC to export exams to DICOM media.

The MODALITY acts as the FSR to read or import exams from DICOM media.

The MODALITY acts as the FSU to update DICOM files by adding new exams to the existing file-set

The active exam can not be exported.

4.7.3.2 Operation

The operation for Media Storage service is described below:

Export Exam to DICOM media:

Step 1: Select exams in the iStation Dialog, and press the “BackUp” button.

Step 2: Select the destination and “DICOM Format” to export.

Read Exam on DICOM media:

Step 1: Open the iStation Dialog, select the Data Source to DICOM media, and the exams on media will be shown.

Import Exam from DICOM media:

Step 1: Open the iStation Dialog, select the Data Source to DICOM media, and the exams on media will be shown.

Step 2: Select the exams and press the “Restore” button to import the exams.

5 AE Specifications

5.1 Network AE Specification

The MODALITY AE provides Standard Conformance to the following DICOM SOP Classes as a SCU:

Table 3 DICOM SOP Classes as an SCU

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Modality WORKLIST Information Model-Find	1.2.840.10008.5.1.4.31
Basic Grayscale Print Management	1.2.840.10008.5.1.1.9
Basic Color Print Management	1.2.840.10008.5.1.1.18
Basic Film Session SOP Class	1.2.840.10008.5.1.1.1
Basic Film Box SOP Class	1.2.840.10008.5.1.1.2
Basic Grayscale Image Box SOP Class	1.2.840.10008.5.1.1.4
Basic Color Image Box SOP Class	1.2.840.10008.5.1.1.4.1
Printer SOP Class	1.2.840.10008.5.1.1.16
Storage Commitment Push Model SOP Class	1.2.840.10008.1.20.1

5.1.1 Association Establishment Policies

5.1.1.1 General

The MODALITY system uses TCP/IP. The Maximum Length PDU negotiation is included in all association establishment requests. The maximum length PDU offered for an association initiated by the MODALITY system is from16384 to 65536, and the default is 32768.

5.1.1.2 Number of Association

The MODALITY initiates one/several Association(s) at a time, one for each transfer

request being processed. Only one Storage job will be active at a time, the others remain pending until the active job is completed or failed. Only one print job will be active at a time, the others remain pending until the active job is completed or failed.

5.1.1.3 Asynchronous Nature

The MODALITY AE (initiation/acceptance) does not support asynchronous communication (multiple outstanding transactions over a single association).

5.1.1.4 Implementation Identifying Information

The MODALITY will specify the following Implementation Identifying Information:

Implementation Class UID: 1.2.156.112536.1.1150.0.1.0.1

Implementation Version Name: MINDRAY_V1.0

5.1.2 Association Initiation by Real World Activity

The MODALITY AE initiates an association when the following activity is chosen by the operator:

Verification: Verify the existence of the remote DICOM service.

Storage: Create and store a US Image, US Multi-frame, Second Capture image to a remote DICOM Storage device.

MWL: Retrieve MWL information from a remote DICOM device.

Print: Print images to a remote print service SCP.

Storage Commitment: Ensure the storage on remote DICOM device.

5.1.2.1 Real World Activity – Verification

5.1.2.1.1 Associated Real World Activity

5.1.2.1.1.1 Verification SCU

The associated Real World Activity of Verification SCU is a C-ECHO request initiated by the MODALITY. If the process successfully establishes an association with a remote DICOM device, it will send the C-ECHO request via the open association to verify that the remote DICOM device is responding to DICOM messages.

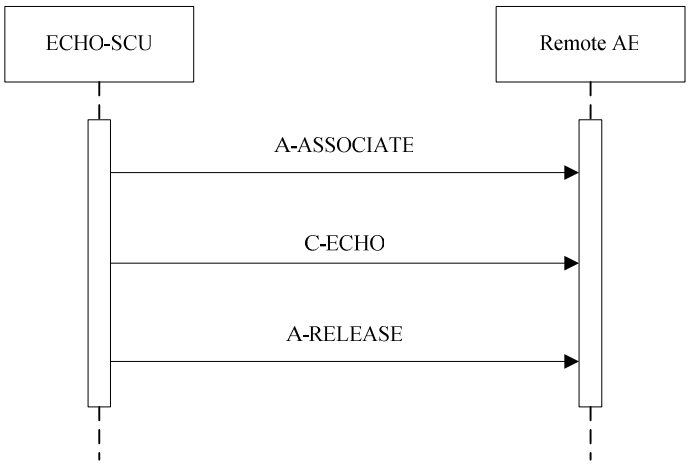

Figure 9 Sequencing of Activity – Send Echo Request

5.1.2.1.1.2 Verification SCP

The associated Real World Activity of verification SCP is a C-ECHO request initiated by the remote DICOM device. When receive the C-ECHO request, the MODALITY will reply it to show the availability on the network.

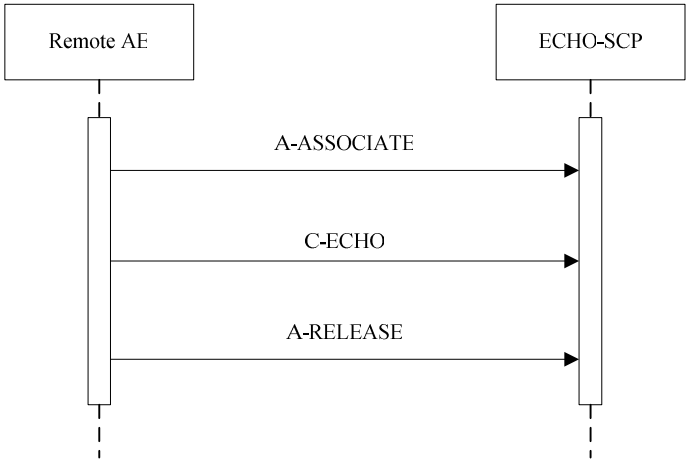

Figure 10 Sequencing of Activity – Receive Echo Request

5.1.2.1.2 Proposed Presentation Contexts

The MODALITY supports the following Presentation Contexts for Verification.

Table 4 Presentation Contexts for Verification

Proposed Presentation Contexts					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Verification	1.2.840.10008.	Implicit VR Little	1.2.840.10008.	SCU/	None

	1.1	Endian	1.2	SCP	
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		

5.1.2.1.2.1 SOP Specific Conformance Statement

The Application conforms to the definition of a Verification SCU/SCP in accordance with the DICOM Standard.

5.1.2.2 Real World Activity – Storage SCU

5.1.2.2.1 Associated Real World Activity

The associated Real World Activity is a C-STORE request that has been initiated. If the C-STORE response from the remote Application contains an error status, the association is aborted.

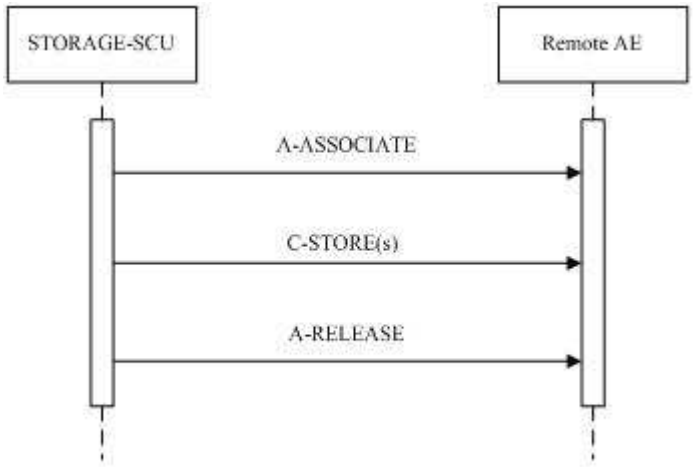

Figure 11 Sequencing of Activity – Send Storage Request

5.1.2.2.2 Proposed Presentation Contexts

The MODALITY supports the following Presentation Contexts for Storage.

Table 5 Presentation Contexts for Storage

Proposed Presentation Contexts			
Abstract Syntax	Transfer Syntax	Role	Extended

Name	UID	Name	UID		Negotiation
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SCU	None
		RLE Lossless	1.2.840.10008.1.2.5	SCU	None
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90	SCU	None
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SCU	None
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SCU	None
		RLE Lossless	1.2.840.10008.1.2.5	SCU	None

		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90	SCU	None
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SCU	None
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SCU	None
		RLE Lossless	1.2.840.10008.1.2.5	SCU	None
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90	SCU	None
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SCU	None

The following table provides the list of attributes requested in the Storage. Conventions used for the Value(s) and Comments section are:

MWL – the attribute value source is from Modality WORKLIST

USER – the attribute value source is from User's input

AUTO – automatically generated by the MODALITY system

CONFIG - the attribute value source is a configurable parameter

Table 6 Storage IOD Attributes

Module: Patient Module (M)				
Attribute	VR	Type	Attribute Name	Value(s) and Comments

(0010,0010)	PN	2	Patient's Name	MWL/USER
(0010,0020)	LO	2	Patient ID	MWL/USER
(0010,0030)	DA	2	Patient's Birth Date	MWL/USER, default is set to zero length
(0010,0032)	TM	3	Patient's Birth Time	MWL
(0010,0040)	CS	2	Patient's Sex	MWL/USER, default is set to zero length
(0010,1000)	LO	3	Other Patient IDs	MWL
(0010,2160)	SH	3	Ethnic Group	MWL
(0010,4000)	LT	3	Patient Comments	MWL/USER
Module: General Study Module (M)				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0008,0020)	DA	2	Study Date	AUTO
(0008,0030)	TM	2	Study Time	AUTO
(0008,0050)	SH	2	Accession Number	MWL/USER, default is set to zero length
(0008,0090)	PN	2	Referring Physician's Name	MWL/USER, default is set to zero length
(0008,1030)	LO	3	Study Description	MWL/USER, default is set to zero length
(0008,1032)	SQ	3	Procedure Code Sequence	MWL
(0008,1048)	PN	3	Physician(s) of Record	MWL
(0008,1110)	SQ	3	Referenced Study Sequence	MWL
(0020,000D)	UI	1	Study Instance UID	MWL/AUTO

(0020,0010)	SH	2	Study ID	AUTO
Module: Patient Study Module (U)				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0008,1080)	LO	3	Admitting Diagnoses Description	MWL
(0010,1010)	AS	3	Patient's Age	MWL/USER, default is set to zero length If the user set Patient Birth Date, it will be calculated automatically.
(0010,1020)	DS	3	Patient's Size	MWL/USER, default is set to zero length
(0010,1030)	DS	3	Patient's Weight	MWL/USER, default is set to zero length
(0010,21B0)	LT	3	Additional Patient History	MWL
Module: General Series Module (M)				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0008,0021)	DA	3	Series Date	AUTO
(0008,0031)	TM	3	Series Time	AUTO
(0008,0060)	CS	1	Modality	“US”
(0008,103E)	LO	3	Series Description	MWL
(0008,1050)	PN	3	Performing Physician's Name	MWL/USER, default is set to zero length
(0008,1070)	PN	3	Operators' Name	MWL/USER, default is set to zero length
(0018,1030)	LO	3	Protocol Name	AUTO – set to ExamType
(0018,5100)	CS	2C	Patient Position	Set to zero length
(0020,000E)	UI	1	Series Instance UID	AUTO
(0020,0011)	IS	2	Series Number	AUTO
(0020,0060)	CS	2C	Laterality	Set to zero length

(0040,0244)	DA	3	Performed Procedure Step Start Date	MWL/AUTO
(0040,0245)	TM	3	Performed Procedure Step Start Time	MWL/AUTO
(0040,0254)	LO	3	Performed Procedure Step Description	MWL
(0040,0260)	SQ	3R	Performed Protocol Code Sequence	MWL
(0040,0275)	SQ	3R	Request Attributes Sequence	MWL
Module: General Equipment Module (O)				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0008,0070)	LO	2	Manufacturer	MINDRAY
(0008,0080)	LO	3	Institution Name	CONFIG
(0008,1010)	SH	3	Station Name	CONFIG
(0008,1040)	LO	3	Institutional Department Name	CONFIG
(0008,1090)	LO	3	Manufacturer's Model Name	May be chosen from one of the following values.DP-70/DP-70T/DP-70Vet/DP-50/DP-50T /DP-50Vet
(0018,1000)	LO	3	Device Serial Number	The Ethernet card Mac Address
(0018,1020)	LO	3	Software Version(s)	AUTO
Module: General Image Module (M)				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0008,0023)	DA	2C	Content Date	AUTO

(0008,0033)	TM	2C	Content Time	AUTO
(0008,2111)	ST	3	Derivation Description	CONFIG, default is set to zero length
(0020,0013)	IS	2	Instance Number	AUTO
(0020,0020)	CS	2C	Patient Orientation	Set to zero length
(0020,4000)	LT	3	Image Comments	Set to zero length
(0028,0301)	CS	3	Burned In Annotation	YES
Module: US Image Module (M)				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0008,0008)	CS	2	Image Type	ORIGINAL/PRIMARY
(0018,5010)	LO	3	Transducer Data	USER
(0018,5020)	LO	3	Processing Function	USER
(0028,0002)	US	1	Samples per Pixel	1 or 3
(0028,0004)	CS	1	Photometric Interpretation	RGB, for color images; MONOCHROME2, if the image is grayscale; YBR_FULL_422, if the image is sent using JPEG. RGB,if the image is sent using JPEG Lossless. YBR_FULL,if the image is sent using RLE Lossless. YBR_ICT,if the image is sent using JPEG 2000 Image Compression. YBR_RCT,if the image is sent using JPEG 2000 Image Compression (Lossless Only)
(0028,0006)	US	1C	Planar Configuration	Not used if image is B&W; If the color image is sent using RLE Lossless, set the value to be “01”; Otherwise, set value “00”.
(0028,0009)	AT	1C	Frame	Not used if image is not Multi-frame

			Increment Pointer	
(0028,0014)	US	3	Ultrasound Color Data Present	0 or 1 When bits allocated to be 8, set value 1; Otherwise set value 0
(0028,0100)	US	1	Bits Allocated	0x0008
(0028,0101)	US	1	Bits Stored	0x0008
(0028,0102)	US	1	High Bit	0x0007
(0028,0103)	US	1	Pixel Representation	0x0000
(0028,2110)	CS	1C	Lossy Image Compression	Not used if image is uncompressed; support JPEG baseline, JPEG Lossless,RLE Lossless,JPEG 2000 Image Compression,JPEG 2000 Image Compression (Lossless Only) process1 and set it to “01”
Module: Image Pixel Module (M)				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0028,0010)	US	1	Rows	CONFIG
(0028,0011)	US	1	Columns	CONFIG
(0028,0034)	IS	1c	Pixel Aspect Ratio	Set to zero length
(7FE0,0010)	OW	1	Pixel Data	
Module: SOP Common Module (M)				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0008,0005)	CS	1C	Specific Character Set	ISO_IR 100
(0008,0012)	DA	3	Instance Creation Date	AUTO
(0008,0013)	TM	3	Instance Creation Time	AUTO
(0008,0016)	UI	1C	SOP Class UID	AUTO

(0008,0018)	UI	1C	SOP Instance UID	AUTO
Module: US Region Calibration Module (U)				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0018,6011)	SQ	1	Sequence of Ultrasound Regions	
> (0018,6012)	US	1	Region Spatial Format	Set by the system
> (0018,6014)	US	1	Region Data Type	Set by the system
> (0018,6016)	UL	1	Region Flags	Set by the system
> (0018,6018)	UL	1	Region Location Min X0	Set by the system
> (0018,601A)	UL	1	Region Location Min Y0	Set by the system
> (0018,601C)	UL	1	Region Location Max X1	Set by the system
> (0018,601E)	UL	1	Region Location Max Y1	Set by the system
> (0018,6024)	US	1	Physical Units X Direction	Set by the system
> (0018,6026)	US	1	Physical Units Y Direction	Set by the system
> (0018,602C)	FD	1	Physical Delta X	Set by the system
> (0018,602E)	FD	1	Physical Delta Y	Set by the system
Module: Cine Module (M) Used for US Multi-Frame Images Only				
Attribute	VR	Type	Attribute Name	Value(s) and Comments

(0008,2142)	IS	3	Start Trim	Set by the system
(0008,2143)	IS	3	Stop Trim	Set by the system
(0008,2144)	IS	3	Recommended Display Frame Rate	Set by the system
(0018,0040)	IS	3	Cine Rate	Set by the system
(0018,0072)	DS	3	Effective Duration	Set by the system
(0018,1063)	DS	1C	Frame Time	Set by the system
(0018,1065)	DS	1C	Frame Time Vector	Set by the system
(0018,1066)	DS	3	Frame Delay	Set by the system
(0018,1242)	IS	3	Actual Frame Duration	Set by the system
(0018,1244)	US	3	Preferred Playback Sequencing	Set by the system
Module: Multi-Frame Module (M) Used for US Multi-Frame Images Only				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0028,0008)	IS	1	Number of Frames	AUTO
(0028,0009)	AT	1	Frame Increment Pointer	0018 1063 = Frame Time
Module: SC Equipment Module (M) Used for Second Capture Images Only				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0008,0060)	CS	3	Modality	US
(0008,0064)	CS	1	Conversion Type	WSD
(0018,1010)	LO	3	Secondary Capture Device ID	May be chosen from one of the following values.DP-70/DP-70T/DP-70Vet/DP-50/DP-50T/DP-50Vet

(0018,1016)	LO	3	Secondary Capture Device Manufacturer	MINDRAY
(0018,1018)	LO	3	Secondary Capture Device Manufacturer's Model Name	May be chosen from one of the following values.DP-70/DP-70T/DP-70Vet/DP-50/DP-50T/DP-50Vet
(0018,1019)	LO	3	Secondary Capture Device Software Version(s)	AUTO
Module: SC Image Module (M) Used for Second Capture Images Only				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0018,1012)	DA	3	Date of Secondary Capture	AUTO
(0018,1014)	TM	3	Time of Secondary Capture	AUTO

Module: VOI LUT Module (O) Used for B&W Images Only				
Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0028,1050)	IS	3	Window Center	Meaningful only if Photometric Interpretation(0028,0004) is MONOCHROME2. The value is set to be 128.
(0028,1051)	IS	1C	Window Width	Required if Window Center(0028,1050) is present. And the value is set to be 256.

5.1.2.2.2.1 SOP Specific Conformance Statement

The Application conforms to the definition of a Storage SCU in accordance with the DICOM Standard.

5.1.2.2.3 Error Handling

The following table indicates the possible response status codes, which a SCP may return the following the SCU's C-STORE-RSP command.

A successful C-STORE operation will allow the AE to continue to the next action desired by the user. If received any of the refused, error status, the MODALITY (SCU) will give up the next action and abort the association. The MODALITY will continue when received a Warning Status.

The user can press "Retry" in the DICOM task management dialog to restart the failed service.

Table 7 C-Store Status Response

Service Status	Further Meaning	Protocol Codes
Refused	Out of resources.	A7xx
Error	Data set does not match SOP Class	A9xx
	Cannot understand	Cxxx
Warning	Coercion of Data Elements	B000
	Data Set does not match SOP Class	B007
	Elements Discarded	B006
Success		0000

5.1.2.3 Real World Activity – MWL SCU

5.1.2.3.1 Associated Real World Activity

The MODALITY will issue a C-FIND request in order to retrieve information concerning a remote DICOM device.

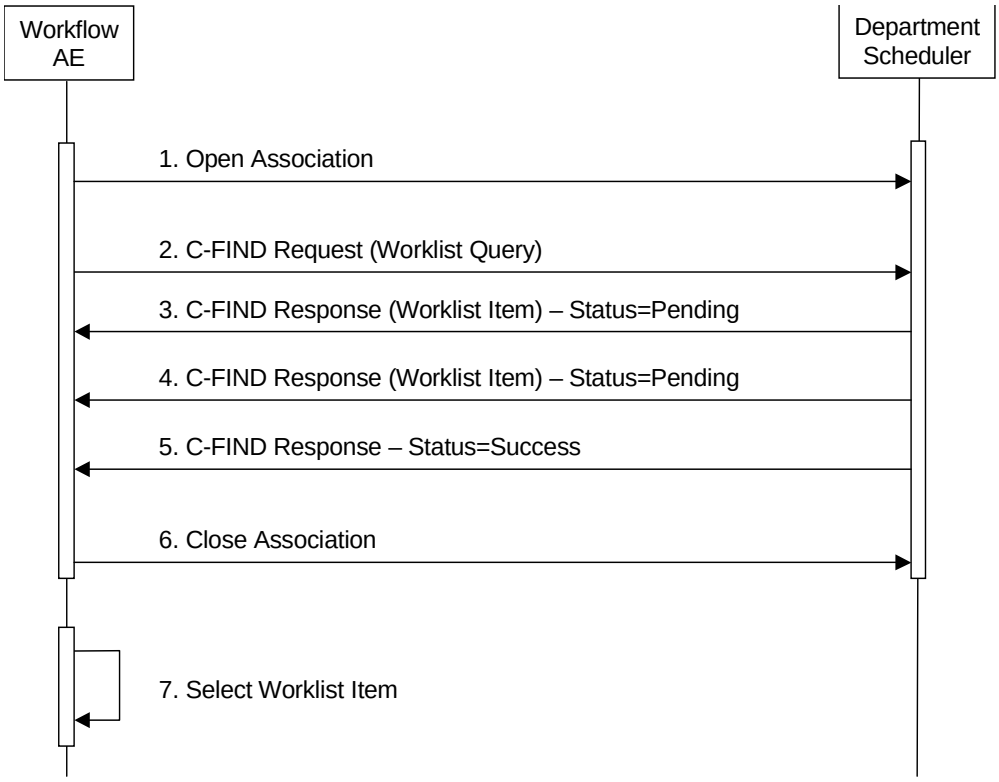

Figure 12 Sequencing of Activity – Worklist Update

5.1.2.3.2 Proposed Presentation Contexts

The MODALITY supports the following Presentation Contexts for MWL.

Table 8 Presentation Contexts for MWL

Proposed Presentation Contexts					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Modality Worklist Information Model Find	1.2.840.10008.5.1.4.31	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None

Following are the types of matching that can be requested by the implementation:

• Single Value Matching.

• Wild Card Matching.

• Range of date.

The following table provides the list of attributes requested in the Modality Worklist Query and the convention used for Matching Keys is:

S - Single Value Matching

* - Wild Carded Matching

DA – Date Range Matching

X - Return keys. An " X " indicates that MODALITY supplies this attribute as a Return Key with zero length for Universal Matching.

DI – Display to the user

Table 9 Modality Worklist Data element

Module: Patient Identification Module (M)				
Attribute	VR	Attribute Name	Matching keys	Return keys
(0010,0010)	PN	Patient's Name	S, *	X (DI)
(0010,0020)	LO	Patient ID	S	X(DI)
(0010,1000)	LO	Other Patient IDs		X (DI)
Module: Patient Demographic Module (M)				
Attribute	VR	Attribute Name	Matching keys	Return keys
(0010,0030)	DA	Patient's Birth Date		X(DI)
(0010,0032)	TM	Patient's Birth Time		X(DI)
(0010,0040)	CS	Patient's Sex		X(DI)
(0010,1010)	AS	Patient's Age		X(DI)
(0010,1020)	DS	Patient's Size		X (DI)
(0010,1030)	DS	Patient's Weight		X (DI)
(0010,2160)	SH	Ethnic Group		X (DI)
(0010,4000)	LT	Patient Comments		X (DI)
(0040,3001)	LO	Confidentiality constraint on patient data Description		X (DI)
Module: Patient Medical Module (M)				

Attribute	VR	Attribute Name	Matching keys	Return keys
(0010,2000)	LO	Medical Alerts		X (DI)
(0010,2110)	LO	Contrast Allergies		X (DI)
(0010,21B0)	US	Additional Patient's History		X (DI)
(0010,21C0)	US	Pregnancy Status		X (DI)
(0010,21D0)	DA	Last Menstrual Date		X (DI)
(0038, 0050)	LO	Special Needs		X (DI)
(0038, 0500)	LO	Patient State		X (DI)
Module: Visit Relationship Module (M)				
Attribute	VR	Attribute Name	Matching keys	Return keys
(0008,1120)	SQ	Referenced Patient Sequence		X (DI)
Module: Visit Identification Module (M)				
Attribute	VR	Attribute Name	Matching keys	Return keys
(0038,0010)	LO	Admission ID		X (DI)
Module: Visit Status Module (M)				
Attribute	VR	Attribute Name	Matching keys	Return keys
(0038,0300)	LO	Current Patient Location		X (DI)
Module: Visit Admission Module (M)				
Attribute	VR	Attribute Name	Matching keys	Return keys
(0008,1080)	LO	Admitting Diagnosis Description		X (DI)
Module: Scheduled Procedure Step Module (M)				
Attribute	VR	Attribute Name	Matching keys	Return keys
(0040,0100)	SQ	Scheduled Procedure Step Sequence		X (DI)
>(0008,0060)	CS	Modality	US	
>(0032,1070)	LO	Requested Contrast		X (DI)

		Agent		
>(0040,0001)	AE	Scheduled Station AE Title	configurable and the default set to your AE title	X (DI)
>(0040,0002)	DA	Scheduled Procedure Step Start Date	configurable and the default set to today's date	X(DI)
>(0040,0003)	TM	Scheduled Procedure Step Start Time		X (DI)
>(0040,0004)	DA	Scheduled Procedure Step End Date		X (DI)
>(0040,0005)	TM	Scheduled Procedure Step End Time		X (DI)
>(0040,0006)	PN	Scheduled Performing Physician's Name		X (DI)
>(0040,0007)	LO	Scheduled Procedure Step Description		X(DI)
>(0040,0008)	SQ	Scheduled Protocol Code Sequence		X (DI)
> >(0008,0100)	SH	Code Value		X (DI)
> >(0008,0102)	SH	Coding Scheme Designator		X (DI)
> >(0008,0103)	SH	Coding Scheme Version		X (DI)
> >(0008,0104)	LO	Code Meaning		X (DI)
>(0040,0009)	SH	Scheduled Procedure Step ID		X (DI)
>(0040,0010)	SH	Scheduled Station Name		X (DI)
>(0040,0011)	SH	Scheduled Procedure Step		X (DI)

		Location		
>(0040,0012)	LO	Pre-Medication		X (DI)
> (0040,0020)	CS	Scheduled Procedure Step Status		X (DI)
> (0040,0400)	LT	Comments on the Scheduled Procedure Step		X (DI)
Module: Requested Procedure Module (M)				
Attribute	VR	Attribute Name	Matching keys	Return keys
(0008,1110)	SQ	Referenced Study Sequence		X (DI)
> (0008,1150)	UI	Referenced SOP Class UID		X (DI)
> (0008,1155)	UI	Referenced SOP Instance UID		X (DI)
(0020,000D)	UI	Study Instance UID		X (DI)
(0032,1060)	LO	Requested Procedure Description		X (DI)
(0032,1064)	SQ	Requested Procedure Code Sequence		X (DI)
> (0008,0100)	SH	Code Value		X (DI)
> (0008,0102)	SH	Coding Scheme Designator		X (DI)
>(0008,0103)	SH	Coding Scheme Version		X (DI)
>(0008,0104)	LO	Code Meaning		X (DI)
(0040,1001)	SH	Requested Procedure ID	S	X (DI)
(0040,1003)	SH	Requested Procedure Priority		X (DI)

(0040,1004)	LO	Patient Transport Arrangements		X (DI)
(0040,1010)	PN	Names of Intended Recipients of Results		X (DI)
(0040,1400)	LT	Requested Procedure Comments		X (DI)
Module: Imaging Service Request Module (M)				
Attribute	VR	Attribute Name	Matching keys	Return keys
(0008,0050)	SH	Accession Number	S	X (DI)
(0008,0090)	PN	Referring Physician's Name		X (DI)
(0032,1032)	PN	Requesting Physician		X (DI)
(0032,1033)	LO	Requesting Service		X (DI)
(0040,2400)	LT	Imaging Service Request Comments		X (DI)
Module: SOP Common Module (M)				
Attribute	VR	Attribute Name	Matching keys	Return keys
(0008,0005)	CS	Specific Character Set		X (DI)

5.1.2.3.2.1 SOP Specific Conformance Statement

The Application conforms to the definition of an MWL SCU in accordance with the DICOM Standard.

5.1.2.3.3 Error Handling

The following table indicates the possible response status codes, which a SCP may return following the SCU's C-FIND-RSP command.

Table 10 C-FIND Status Response

Service Status	Further Meaning	Protocol Codes

Refused	Out of resources	A700
Failed	Identifier Does Not Match SOP Class	A900
	Unable to process	Cxxx
Cancel	Matching terminated due to Cancel request	FE00
Success	Matching is complete - No final Identifier is supplied.	0000
Pending	Matches are continuing - Current Match is supplied and any Optional Keys were supported in the same manner as Required Keys.	FF00
	Matches are continuing - Warning that one or more Optional Keys were not supported for existence for this Identifier.	FF01

5.1.2.4 Real World Activity – Print SCU

5.1.2.4.1 Associated Real World Activities

Individual images or entire exams can be printed to the selected DICOM print device. An association is established for a film sheet. The association is closed when the print job is finished. If any response from the remote Application contains a status other than Success or Warning, the Association is aborted and the related print job is switched to a failed state. It can be restarted at any time by the user. Only one job will be active at a time for each DICOM service.

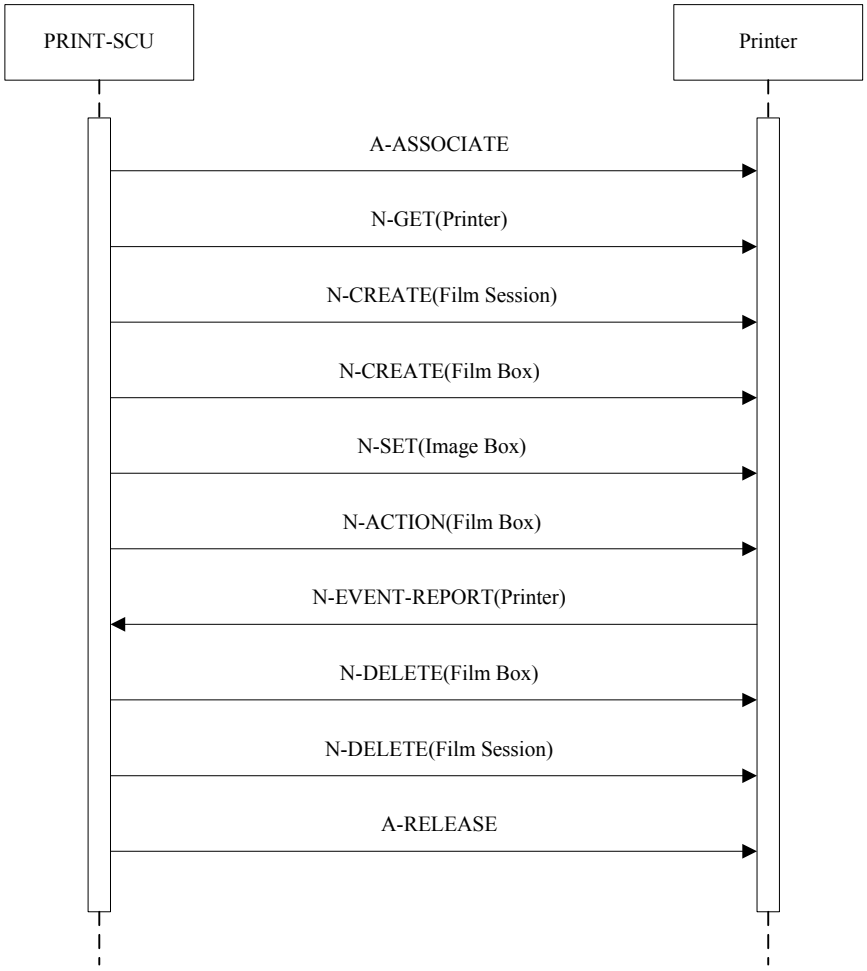

Figure 13 Sequencing of Activity – Film Images

5.1.2.4.2 Proposed Presentation Contexts

The MODALITY supports the following Presentation Contexts for print.

Table 11 Presentation Contexts for print

Proposed Presentation Contexts					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Basic Grayscale Print Management Meta	1.2.840.10008.5.1.1.9	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

Basic Color Print Management Meta	1.2.840.10008.5.1.1.18	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

5.1.2.4.2.1 SOP Specific Conformance to Basic Grayscale Print Management Meta SOP Class

The MODALITY provides standard conformance of the Grayscale Meta SOP classes as an SCU.

Table 12 SOP CLASSES FOR PRINT AE

SOP Class Name	SOP Class UID	Conformance Level
Basic Film Session SOP Class	1.2.840.10008.5.1.1.1	Standard
Basic Film Box SOP Class	1.2.840.10008.5.1.1.2	Standard
Basic Grayscale Image Box SOP Class	1.2.840.10008.5.1.1.4	Standard
Printer SOP Class	1.2.840.10008.5.1.1.16	Standard

5.1.2.4.2.1.1 SOP Specific Conformance to Basic Film Session SOP Class

The MODALITY supports the following DIMSE operations for the Film Session SOP Class:

Table 13 Basic Film Session DIMSE operations

DIMSE Operations	SCU Usage	Description
N-Create	M	Used
N-Set	U	Not used
N-Delete	U	Used
N-Action	U	Not used

Table 14 FILM SESSION SOP CLASS N-CREATE REQUEST ATTRIBUTES

Attribute Name	Tag	SCU Usage	Description
Number of Copies	(2000,0010)	U	[1, 100]
Print Priority	(2000,0020)	U	LOW, MED, HIGH
Medium Type	(2000,0030)	U	PAPER, BLUE FILM, CLEAR FILM
Film Destination	(2000,0040)	U	MAGAZINE, PROCESSOR

5.1.2.4.2.1.2 SOP Specific Conformance to Basic Film Box SOP Class

The MODALITY supports the following DIMSE operations for the Film Box SOP Class

Table 15 Basic Film Box DIMSE operations

DIMSE Operations	SCU Usage	Description
N-Create	M	Used
N-Action	M	Used
N-Delete	U	Used
N-Set	U	Not used

Table 16 FILM BOX SOP CLASS N-CREATE REQUEST ATTRIBUTES

Attribute Name	Tag	SCU Usage	Description
Image Display Format	(2010,0010)	M	PORTRAIT: STANDARD\1,1 STANDARD\1,2 STANDARD\1,3 STANDARD\2,1 STANDARD\2,2 STANDARD\2,3 STANDARD\2,4 STANDARD\3,3 STANDARD\3,4 STANDARD\3,5 STANDARD\3,6 STANDARD\4,4 STANDARD\4,5 STANDARD\4,6 STANDARD\4,7 STANDARD\4,8 STANDARD\5,5 STANDARD\5,6 STANDARD\5,7 STANDARD\5,8 STANDARD\6,6 STANDARD\6,7 STANDARD\6,8 STANDARD\6,9

Attribute Name	Tag	SCU Usage	Description
			STANDARD\6,10 STANDARD\7,7 STANDARD\7,8 STANDARD\7,9 STANDARD\7,10 STANDARD\8,8 STANDARD\8,9 STANDARD\8,10 LANDSCAPE: STANDARD\1,1 STANDARD\2,1 STANDARD\3,1 STANDARD\1,2 STANDARD\2,2 STANDARD\3,2 STANDARD\4,2 STANDARD\3,3 STANDARD\4,3 STANDARD\5,3 STANDARD\6,3 STANDARD\4,4 STANDARD\5,4 STANDARD\6,4 STANDARD\7,4 STANDARD\8,4 STANDARD\5,5 STANDARD\6,5 STANDARD\7,5 STANDARD\8,5 STANDARD\6,6 STANDARD\7,6 STANDARD\8,6 STANDARD\9,6 STANDARD\10,6

Attribute Name	Tag	SCU Usage	Description
			STANDARD\7,7 STANDARD\8,7 STANDARD\9,7 STANDARD\10,7 STANDARD\8,8 STANDARD\9,8 STANDARD\10,8
Referenced Film Session Sequence	(2010,0500)	M	Used
>Referenced SOP Class UID	(0008,1150)	M	Used
>Referenced SOP Instance UID	(0008,1155)	M	Used
Film Orientation	(2010,0040)	U	PORTRAIT, LANDSCAPE
Film Size ID	(2010,0050)	U	8INX10IN 8_5INX11IN 10INX12IN 10INX14IN 11INX14IN 11INX17IN 14INX14IN 14INX17IN 24CMX24CM 24CMX30CM A4 A3
Magnification Type	(2010,0060)	U	NONE, CUBIC, REPLICATE, BILINEAR
Min Density	(2010,0120)	U	Configurable,[0, 65535]
Max Density	(2010,0130)	U	Configurable,[0, 65535]
Trim	(2010,0140)	U	YES, NO
Configuration Information	(2010,0150)	U	Number of chars: [0, 1024]

5.1.2.4.2.1.3 SOP Specific Conformance to Basic Image Box SOP Class

The MODALITY supports the following DIMSE operations for the Image Box SOP Class

Table 17 Basic Image Box DIMSE operations

DIMSE Operations	SCU Usage	Description
N-Create	M	Not Used
N-Action	M	Not Used
N-Delete	U	Not Used
N-Set	U	Used

Table 18 Image BOX SOP CLASS N-SET REQUEST ATTRIBUTES

Attribute Name	Tag	SCU Usage	Description
Magnification Type	(2010,0060)	U	NONE, CUBIC, REPLICATE, BILINEAR
Max Density	(2010,0130)	U	Configurable
Min Density	(2010,0120)	U	Configurable

5.1.2.4.2.1.4 SOP Specific Conformance to Printer SOP Class

The MODALITY supports the following DIMSE operations for the Printer SOP Class.

Table 19 Printer SOP DIMSE operations

DIMSE Operations	SCU Usage	Description
N-Get	M	Used

Table 20 Printer SOP CLASS N-GET REQUEST ATTRIBUTES

Attribute Name	Tag	SCU Usage	Description
Manufacturer	(0008,0070)	U	Used
Manufacturer's Model Name	(0008,1090)	U	Used
Device Serial Number	(0018,1000)	U	Used
Software Version(s)	(0018,1020)	U	Used
Date of Last Calibration	(0018,1200)	U	Used
Time of Last Calibration	(0018,1201)	U	Used
Printer Status	(2110,0010)	U	Used
Printer Name	(2110,0030)	U	Used

5.1.2.4.2.2 SOP Specific Conformance to Basic Color Print Management Meta SOP Class

The MODALITY provides standard conformance of the color Meta SOP classes as an

SCU.

Table 21 SOP CLASSES FOR PRINT AE

SOP Class Name	SOP Class UID	Conformance Level
Basic Film Session SOP Class	1.2.840.10008.5.1.1.1	Standard
Basic Film Box SOP Class	1.2.840.10008.5.1.1.2	Standard
Basic color Image Box SOP Class	1.2.840.10008.5.1.1.4.1	Standard
Printer SOP Class	1.2.840.10008.5.1.1.16	Standard

5.1.2.4.2.2.1 SOP Specific Conformance to Basic Film Session SOP Class

The MODALITY supports the following DIMSE operations for the Film Session SOP Class:

Table 22 Basic Film Session DIMSE operations

DIMSE Operations	SCU Usage	Description
N-Create	M	Used
N-Set	U	Not used
N-Delete	U	Used
N-Action	U	Not used

Table 23 FILM SESSION SOP CLASS N-CREATE REQUEST ATTRIBUTES

Attribute Name	Tag	SCU Usage	Description
Number of Copies	(2000,0010)	U	[1, 100]
Print Priority	(2000,0020)	U	LOW, MED, HIGH
Medium Type	(2000,0030)	U	PAPER, BLUE FILM, CLEAR FILM
Film Destination	(2000,0040)	U	MAGAZINE, PROCESSOR

5.1.2.4.2.2.2 SOP Specific Conformance to Basic Film Box SOP Class

The MODALITY supports the following DIMSE operations for the Film Box SOP Class

Table 24 Basic Film Box DIMSE operations

DIMSE Operations	SCU Usage	Description
N-Create	M	Used
N-Action	M	Used
N-Delete	U	Used
N-Set	U	Not used

Table 25 FILM BOX SOP CLASS N-CREATE REQUEST ATTRIBUTES

Attribute Name	Tag	SCU Usage	Description
Image Display Format	(2010,0010)	M	PORTRAIT: STANDARD\1,1 STANDARD\1,2 STANDARD\1,3 STANDARD\2,1 STANDARD\2,2 STANDARD\2,3 STANDARD\2,4 STANDARD\3,3 STANDARD\3,4 STANDARD\3,5 STANDARD\3,6 STANDARD\4,4 STANDARD\4,5 STANDARD\4,6 STANDARD\4,7 STANDARD\4,8 STANDARD\5,5 STANDARD\5,6 STANDARD\5,7 STANDARD\5,8 STANDARD\6,6 STANDARD\6,7 STANDARD\6,8 STANDARD\6,9 STANDARD\6,10 STANDARD\7,7 STANDARD\7,8 STANDARD\7,9 STANDARD\7,10 STANDARD\8,8 STANDARD\8,9 STANDARD\8,10

Attribute Name	Tag	SCU Usage	Description
			LANDSCAPE: STANDARD\1,1 STANDARD\2,1 STANDARD\3,1 STANDARD\1,2 STANDARD\2,2 STANDARD\3,2 STANDARD\4,2 STANDARD\3,3 STANDARD\4,3 STANDARD\5,3 STANDARD\6,3 STANDARD\4,4 STANDARD\5,4 STANDARD\6,4 STANDARD\7,4 STANDARD\8,4 STANDARD\5,5 STANDARD\6,5 STANDARD\7,5 STANDARD\8, 5 STANDARD\6,6 STANDARD\7,6 STANDARD\8,6 STANDARD\9,6 STANDARD\10,6 STANDARD\7,7 STANDARD\8,7 STANDARD\9,7 STANDARD\10,7 STANDARD\8,8 STANDARD\9,8 STANDARD\10,8
Referenced Film Session Sequence	(2010,0500)	M	Used

Attribute Name	Tag	SCU Usage	Description
>Referenced SOP Class UID	(0008,1150)	M	Used
>Referenced SOP Instance UID	(0008,1155)	M	Used
Film Orientation	(2010,0040)	U	PORTRAIT, LANDSCAPE
Film Size ID	(2010,0050)	U	8INX10IN 8_5INX11IN 10INX12IN 10INX14IN 11INX14IN 11INX17IN 14INX14IN 14INX17IN 24CMX24CM 24CMX30CM A4 A3
Magnification Type	(2010,0060)	U	NONE, CUBIC, REPLICATE, BILINEAR
Min Density	(2010,0120)	U	Configurable,[0, 65535]
Max Density	(2010,0130)	U	Configurable,[0, 65535]
Trim	(2010,0140)	U	YES, NO
Configuration Information	(2010,0150)	U	Number of chars: [0, 1024]

5.1.2.4.2.2.3 SOP Specific Conformance to Basic Image Box SOP Class

The MODALITY supports the following DIMSE operations for the Image Box SOP Class

Table 26 Basic Image Box DIMSE operations

DIMSE Operations	SCU Usage	Description
N-Create	M	Not Used
N-Action	M	Not Used
N-Delete	U	Not Used
N-Set	U	Used

Table 27 Image BOX SOP CLASS N-SET REQUEST ATTRIBUTES

Attribute Name	Tag	SCU Usage	Description
Magnification Type	(2010,0060)	U	NONE, CUBIC, REPLICATE, BILINEAR
Max Density	(2010,0130)	U	Configurable
Min Density	(2010,0120)	U	Configurable

5.1.2.4.2.3 Error Handling

The following table indicates the possible response status codes, which a SCP may return following the SCU's response command. If received any of the refused, error status, the MODALITY (SCU) will give up the next action and abort the association. The MODALITY will continue when receives a Warning Status.

The user can press "Retry" in the DICOM task management dialog to restart the failed print job.

Table 28 Supported Error Codes for Print Classes

Service Status	Further Meaning	Protocol Codes
Success	Printing successful	0000
Warning	All	B60x
Failed	Printing not successful	C60x

5.1.2.5 Real World Activity – Storage Commitment SCU

5.1.2.5.1 Associated Real World Activity

The associated Real World Activity is initiated after the exam stored successfully to the remote DICOM SCP. The association will be closed when receive the N-ACTION-RSP from the remote Application. If the N-ACTION-RSP contains no error status, a new association will be created to wait for the N-EVENT-REPORT request.

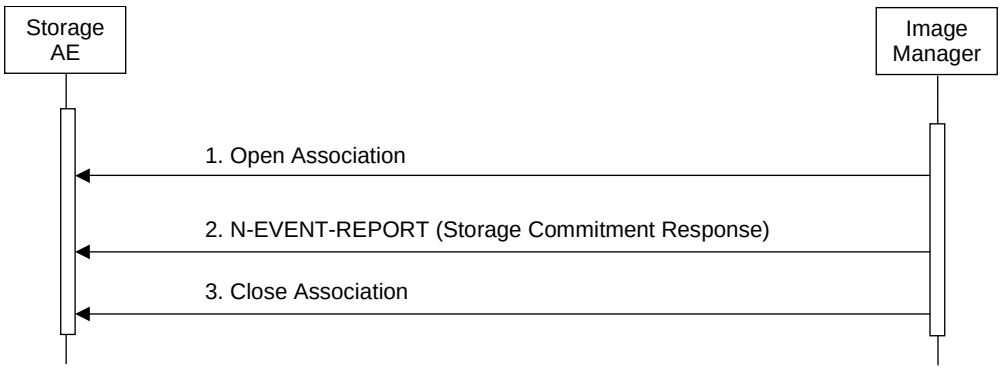

Figure 14 Sequencing of Activity - Receive Storage Commitment Response

5.1.2.5.2 Proposed Presentation Contexts

The MODALITY supports the following Presentation Contexts for Storage Commitment.

Table 29 Presentation Contexts for Storage

Proposed Presentation Contexts					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Storage Commitment Push Model SOP Class	1.2.840.10008.1.20.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None

Table 30 Storage Commitment Common Module Attributes

Attribute	VR	Type	Attribute Name
(0000,0000)	UL	1	Group 0000 Length
(0000,0003)	UI	1	Requested SOP Class UID
(0000,0100)	US	1	Command Field
(0000,0110)	US	1	Message ID
(0000,0800)	US	1	Data Set Type
(0000,1001)	UI	1	Requested SOP Instance UID
(0000,1008)	US	1	Action Type ID

Table 31 Storage Commitment Module Attributes

Module: Storage Commitment Module (M)					
Attribute	VR	Attribute Name	Requirement Type SCU	Requirement Type SCP （Success）	Requirement Type SCP （Fail）
(0008,1195)	UI	Transaction UID	1	1	1
(0008,1199)	SQ	Referenced	1	1	1

		SOP Sequence			
>(0008,1150)	UI	Referenced SOP Class UID	1	1	1
>(0008,1155)	UI	Referenced SOP Instance UID	1	1	1

5.1.2.5.2.1 SOP Specific Conformance Statement

The Application conforms to the definition of a Storage Commitment SCU in accordance with the DICOM Standard.

5.1.2.5.3 Error Handling

The following table indicates the possible response status codes, which a SCP may send the following the N-EVENT-REPORT command.

Table 32 Storage Commitment Status

Service Status	Further Meaning	Protocol Codes
Failed	N-EVENT-REPORT message operate failed.	0110
Success	N-EVENT-REPORT message operate success.	0000

5.2 Media AE Specification

5.2.1 MODALITY AE Specification

5.2.1.1 File Meta Information Options

The implementation information written to the File Meta Header in each file is:

Implementation Class UID: 1.2.156.112536.1.1150.0.1.0.1

Implementation Version Name: MINDRAY_V1.0

5.2.1.2 Ultrasound Application Profile

The MODALITY conforms to the Application Profile for Ultrasound Media Storage applications. The available physical media is CD-R, CD-RW, DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM or USB.

Table 33 Application Profiles

Supported Application Profile	Real-World Activity	Roles
STD-US-SC-SF&MF-CDR STD-US-SC-SF&MF-DVD STD-US-SC-SF&MF-DVD-RAM	Export Exam	FSC/FSU
	Read Exam	FSR
	Import Exam	FSR

5.2.2 Real World Activity

5.2.2.1 Proposed Presentation Context

5.2.2.1.1 Export Exam

The MODALITY supports the following Presentation Contexts for Media Storage Service when export exam.

Table 34 Presentation Contexts for Media Storage When Export Exam

Proposed Presentation Contexts			
Abstract Syntax		Transfer Syntax	
Name	SOP Class UID	Name	UID

DICOM Media Storage Directory	1.2.840.10008.1.3.10	Explicit VR Little Endian	1.2.840.10008.1.2.1
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Explicit VR Little Endian	1.2.840.10008.1.2.1
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Explicit VR Little Endian	1.2.840.10008.1.2.1
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Little Endian	1.2.840.10008.1.2.1

5.2.2.1.2 Read Exam or Import Exam

The MODALITY supports the following Presentation Contexts for Media Storage Service when read or import exam.

Table 35 Presentation Contexts for Media Storage When Read or Import Exam

Proposed Presentation Contexts			
Abstract Syntax		Transfer Syntax	
Name	SOP Class UID	Name	UID
DICOM Media Storage Directory	1.2.840.10008.1.3.10	Implicit VR Little Endian	1.2.840.10008.1.2
		Explicit VR Little Endian	1.2.840.10008.1.2.1
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50
		Explicit VR Big Endian	1.2.840.10008.1.2.2
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70
		RLE Lossless	1.2.840.10008.1.2.5
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90

		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Implicit VR Little Endian	1.2.840.10008.1.2
		Explicit VR Little Endian	1.2.840.10008.1.2.1
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50
		Explicit VR Big Endian	1.2.840.10008.1.2.2
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70
		RLE Lossless	1.2.840.10008.1.2.5
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Implicit VR Little Endian	1.2.840.10008.1.2
		Explicit VR Little Endian	1.2.840.10008.1.2.1
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50
		Explicit VR Big Endian	1.2.840.10008.1.2.2
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70
		RLE Lossless	1.2.840.10008.1.2.5
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90

		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Implicit VR Little Endian	1.2.840.10008.1.2
		Explicit VR Little Endian	1.2.840.10008.1.2.1
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50
		Explicit VR Big Endian	1.2.840.10008.1.2.2
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70
		RLE Lossless	1.2.840.10008.1.2.5
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91

5.2.2.2 Information Module Definitions

The following tables provide the list of attributes requested in the Media Storage. Conventions used for the Value(s) and Comments section are:

AUTO – automatically generated by the MODALITY system

MWL – the attribute value source is from Modality WORKLIST

USER – the attribute value source is from User's input

Table 36 Common Directory Information Module Attributes

Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0004,1130)	CS	2	File-set ID	AUTO
(0004,1200)	UL	1	Offset of the First Directory Record of the Root Directory Entity	AUTO
(0004,1202)	UL	1	Offset of the Last	AUTO

			Directory Record of the Root Directory Entity	
(0004,1212)	US	1	File-set Consistency Flag	0xFFFF
(0004,1220)	SQ	2	Directory Record Sequence	
>(0004,1400)	UL	1	Offset of the Next Directory Record	AUTO
>(0004,1410)	US	1	Record In-use Flag	0xFFFF
>(0004,1420)	UL	1	Offset of Referenced Lower-Level Directory Entity	AUTO
>(0004,1142)	CS	2	Specific Character Set of File-set Descriptor File	ISO_IR 100

Table 37 Patient Directory Record

Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0004,1430)	CS	1	Directory Record Type	PATIENT
(0010,0020)	LO	1	Patient ID	MWL/USER
(0010,0010)	PN	2	Patient's Name	MWL/USER
(0010,0030)	DA		Patient's Birth Date	MWL/USER
(0010,0040)	CS		Patient's Sex	MWL/USER

Table 38 Study Directory Record

Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0004,1430)	CS	1	Directory Record Type	STUDY
(0008,0020)	DA	1	Study Date	AUTO
(0008,0030)	TM	1	Study Time	AUTO
(0020,0010)	SH	1	Study ID	AUTO
(0020,000D)	UI	1C	Study Instance UID	AUTO

(0008,0050)	SH	2	Accession Number	MWL/USER
(0008,1030)	LO	2	Study Description	If it is a scheduled exam, the value is mapped from Scheduled Procedure Step Description; If not, USER
(0008,0090)	PN		Referring Physician's Name	MWL/USER

Table 39 Series Directory Record

Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0004,1430)	CS	1	Directory Record Type	SERIES
(0008,0060)	CS	1	Modality	US
(0020,000E)	UI	1	Series Instance UID	AUTO
(0020,0011)	IS	1	Series Number	AUTO
(0008,0021)	DA	3	Series Date	AUTO
(0008,0031)	TM	3	Series Time	AUTO
(0008,103e)	LO		Series Description	If it is a scheduled exam, the value is mapped from Scheduled Procedure Step Description; If not, same as the value of Study Description
(0008,1050)	PN		Performing Physician's Name	MWL/USER

Table 40 Image Directory Record

Attribute	VR	Type	Attribute Name	Value(s) and Comments
(0004,1430)	CS	1	Directory Record Type	IMAGE
(0004,1500)	CS	1C	Referenced File ID	AUTO
(0004,1510)	UI	1C	Referenced SOP Class UID in File	AUTO
(0004,1511)	UI	1C	Referenced SOP Instance UID in File	AUTO
(0004,1512)	UI	1C	Referenced Transfer	AUTO

			Syntax UID in File	
(0020,0013)	IS	1	Instance Number	AUTO
(0028,0008)	IS	3	Number of Frames	AUTO(Only used for Mutil-frame image)

5.2.2.3 Error Handling

The following table indicates the possible status.

The user can press “Retry” in the DICOM task management dialog to restart the failed service.

Table 41 Supported Error for Media Storage

Service Status	Further Meaning
Success	Successful
Failed	Media not ready
	Fail to store on media

6 Communications Profiles

6.1 Supported Communication Stacks

This system provides DICOM V3.0 TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard.

6.2 OSI Stack

Not applicable to this product.

6.3 TCP/IP Stack

TCP/IP networking protocol is used, with static or DHCP IP addressing. The TCP/IP stack is inherited from the product's operating system.

6.3.1 Physical Media Support

10BaseT, 100BaseT and 1000BaseT are supported.

6.4 Point to Point Stack

Not applicable to this product.

7 Extensions/Specialization/Privatization

7.1 Standard Extended / Specialized / Private SOPs

None.

7.2 Private Transfer Syntaxes

None.

8 Configuration

The Configuration Utility allows the service engineer to set and maintain configuration parameters of local and remote DICOM application entities.

8.1 AE Title/Presentation Address Mapping

This mapping (including IP and port numbers) is defined during the system Network Configuration procedure.

8.2 Configurable Parameters

Localhost DICOM Service Property(Including SCU and SCP):

- AE Title
- Port
- PDU

Server Setting:

- Device
- IP address
- Device List:
- Device
- IP address
- Set DICOM Service

Storage:

- Device, Service name, AE Title and Port .
- Timeout.
- Maximum retries. (defulat value is 3)
- Intervial Time(In this version, this parameter is not usable.)
- Allow multi-frame
- Compression Mode, Compression Ratio.
- Color Mode (Color, Mixed, Gray).

WORKLIST:

- Device, Service name, AE Title and Port .
- Timeout.
- Maximum retries, Intervial Time(In this version, these two parameters are not usable.)

Print:

- Device, Service name, AE Title and Port .
- Timeout.
- Maximum retries. (defulat value is 3)
- Intervial Time (In this version, this parameter is not usable.)
- Media Type: PAPER,CLEAR FILM,BLUE FILM
- Film Size:
  - 8INX10IN
  - 8_5INX11IN
  - 10INX12IN
  - 10INX14IN
  - 11INX14IN
  - 11INX17IN
  - 14INX14IN
  - 14INX17IN
  - 24CMX24CM
  - 24CMX30CM
  - A4
  - A3
- Copies.
- Max Density.
- Min Density.
- Settings: RGB, MONOCHROME2
- Display Format:
  - ✧ PORTRAIT:
    - STANDARD\1,1
    - STANDARD\1,2
    - STANDARD\1,3
    - STANDARD\2,1
    - STANDARD\2,2
    - STANDARD\2,3
    - STANDARD\2,4

STANDARD\3,3

STANDARD\3,4

STANDARD\3,5

STANDARD\3,6

STANDARD\4,4

STANDARD\4,5

STANDARD\4,6

STANDARD\4,7

STANDARD\4,8

STANDARD\5,5

STANDARD\5,6

STANDARD\5,7

STANDARD\5,8

STANDARD\6,6

STANDARD\6,7

STANDARD\6,8

STANDARD\6,9

STANDARD\6,10

STANDARD\7,7

STANDARD\7,8

STANDARD\7,9

STANDARD\7,10

STANDARD\8,8

STANDARD\8,9

STANDARD\8,10

- ✧ LANDSCAPE:

STANDARD\1,1

STANDARD\1,1

STANDARD\2,1

STANDARD\3,1

STANDARD\1,2

STANDARD\2,2

STANDARD\3,2

STANDARD\4,2

STANDARD\3,3

STANDARD\4,3

STANDARD\5,3

STANDARD\6,3
STANDARD\4,4
STANDARD\5,4
STANDARD\6,4
STANDARD\7,4
STANDARD\8,4
STANDARD\5,5
STANDARD\6,5
STANDARD\7,5
STANDARD\8, 5
STANDARD\6,6
STANDARD\7,6
STANDARD\8,6
STANDARD\9,6
STANDARD\10,6
STANDARD\7,7
STANDARD\8,7
STANDARD\9,7
STANDARD\10,7
STANDARD\8,8
STANDARD\9,8
STANDARD\10,8

- Destination: MAGAZINE, PROCESSOR
- Film Orientation: LANDSCAPE,PORTRAIT
- Priority: HIGH,MED,LOW
- Configuration Info
- Magnification Type: NONE, CUBIC, REPLICATE, BILINEAR
- Trim or Not

Storage Commitment:

- Device, Service name, AE Title and Port .
- Timeout.
- Maximum retries, Intervial Time(In this version, these two parameters are not usable.)
- Associated Storage Service

8.3 Un-Configurable Parameters

The MODALITY supports the standard Value Representation for the Date format – yyyymmdd, it does not support the format yyyy.mm.dd.

9 Support of Extended Character Sets

This Product supports the following character sets:

ISO-IR 100(Latin alphabet No.1) Supplementary set of ISO 8859 as default.

GB18030

P/N：046-001907-00 (V1.0)