KONICA MINOLTA

OPAL-RAD

DICOM Conformance Statement

Contents

1.0   INTRODUCTION

This document provides DICOM conformance information for the OPAL-RAD Telemedicine PACS produced by Konica Minolta Healthcare Americas, Inc., and assumes the reader is familiar with the components and terminology intrinsic to DICOM 3.0 protocol. The Service Classes and Information Objects supported by OPAL-RAD are described here in full detail, in accordance with Part 2 of the DICOM standard. OPAL-RAD uses DICOM services to import, transfer and store DICOM images for analysis and processing.

2.0   IMPLEMENTATION MODEL

OPAL-RAD exchanges data between the Service Class User (SCU) and Service Class Provider (SCP) over any TCP/IP network. OPAL-RAD Server (SCP) can communicate with three SCU components - OPAL-RAD Professional Workstation, OPAL-RAD Film Acquire and OPAL-RAD Acquire.

2.1   Application Data Flow Diagram

Application data flow revolves around one SCP and three SCU components in OPAL-RAD. The data flow diagram for a fully implemented OPAL-RAD PACS is shown in Figure 1. A functional OPAL-RAD system must include the Server (SCP) component and at least one SCU component (Professional Workstation, Film Acquire or Acquire). Interactions between components and outside sources are described. Only DICOM functioning is listed inside each OPAL-RAD component process. The OPAL-RAD Professional Workstation is implemented with two separate processes – ePatient and Diagnostic Viewer. Professional Workstation can initiate and receive query/retrieve associations, while Server can only receive them.
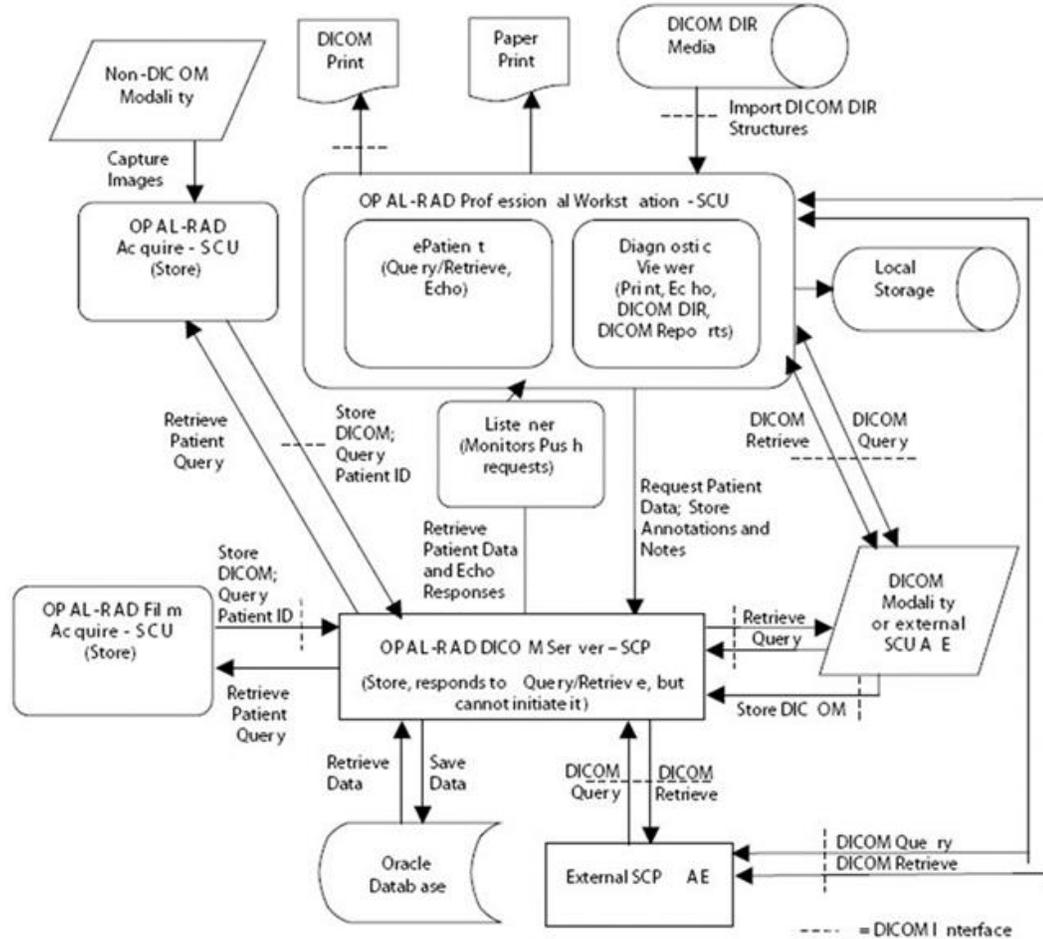

Figure 1 Application Data Flow Diagram

2.2   Functional Definition of Application Entities

- OPAL-RAD Server (SCP) is executed when the machine is powered on. It waits for an association request from a remote SCU client and initiates associations in the following ways.

  <u>Query</u>

  Waits for a C-FIND-RQ from a remote AE. The Server will send a C-FIND-RSP message with the matching information (or none if the query is unsuccessful). The remote AE can cancel the query by sending a C- CANCEL-FIND-RQ message to OPAL-RAD Server.

  <u>Retrieve</u>

  Waits for a C-MOVE-RQ or C-GET-RQ from remote AE. The Server responds to the requesting AE using either C-MOVE-RSP or C-GET-RSP (respective to the request) and sends the requested information on a separate association.

  <u>Verification</u>

  Waits for an association from remote AE to perform echo tests. If C-ECHO-RQ is received, a C-ECHO-RSP is send back with the status message "success."

  <u>Storage</u>

  A DICOM storage commitment is initiated if Server receives a C-STORE-RQ from OPAL-RAD Acquire, Film Acquire, or attached DICOM compliant modality. If the request is accepted, a patient study and series is stored in an Oracle database and a C-STORE-RSP is sent to the perspective AE.

- OPAL-RAD Acquire (SCU) is executed at the discretion of the user.

  <u>Storage</u>

  Acquire initiates association with OPAL-RAD Server and sends a storage request (C-STORE – RQ) to save a DICOM study and series. If the association is made and request is accepted, the data is transferred to the Server for storage.

- OPAL-RAD Film Acquire (SCU) is executed at the discretion of the user.

  <u>Storage</u>

  Film Acquire initiates association with OPAL-RAD Server and sends a storage request (C-STORE-RQ) to save a DICOM study and series. If the association is made and request is accepted, the data is transferred to the Server for storage.

- OPAL–RAD Professional Workstation (SCU) is executed at the discretion of the user.

  <u>Query</u>

  Workstation initiates an association with a remote AE to query images on a remote SCP or SCU. An initial Patient-Level query is sent with a C-FIND-RQ operation to obtain a patient list based on a set of search criteria. Afterward, the Workstation can initiate a subsequent Study-Level C-FIND-RQ query for that particular patient. After performing a Study-Level query, the Workstation can

initiate a Series-Level query for that particular patient and study (issuing another C-FIND-RQ). Professional Workstation can cancel a query by sending a C-CANCEL- FIND-RQ message to the remote AE.

Print

Initiates association with DICOM compliant print devices. If association is accepted, Professional Workstation sends a DICOM Print request (C-PRINT - RQ) and respective data to the device.

Verification

Initiates an association with a remote AE for performing an Echo request. When a successful association is made, it sends a C-ECHO-RQ on the same association. If a remote AE makes a successful association with Workstation and a C-ECHO-RQ is received, the Workstation sends a C-ECHO-RSP to the remote AE along with the message "success."

Retrieve

Initiates an association with two remote AEs (Source and Destination). After a successful Query to the Source AE node, a C-MOVE-RQ is sent to the source AE, supplying the destination AE Title. The Source AE then replies with a C-MOVE-RSP, transferring the requested information from the Source AE to the Destination AE.

Media Storage

Can initiate extraction of DICOM information from a DICOM DIR structure on any local or removable media that is connected to the Workstation.

2.3 Sequencing of Real World Activity

There are several real world activities that initiate DICOM associations with OPAL-RAD Server (SCP) or other AEs. The number of DICOM associations held between OPAL-RAD Server and remote AEs is only limited by the system's resources. Real world activities include:

2.3.1 OPAL-RAD Server

No real world actions are triggered directly from OPAL-RAD Server or OPAL-RAD Server's interface. Real world actions are initiated only through OPAL-RAD Professional Workstation, Acquire, Film Acquire, a DICOM compliant modality, or another remote.

2.3.2 OPAL-RAD Acquire Storage

An association is initiated with OPAL-RAD Server (SCP) when the user presses "Save" from the Acquire main interface. A DICOM study is then created and sent to the SCP, which stores the DICOM in a database.

2.3.3 OPAL-RAD Film Acquire Storage

An association is initiated with OPAL-RAD Server (SCP) when the user presses "Save" from the Film Acquire main interface. A DICOM study is then created and sent to the SCP, which stores the DICOM in a database.

2.3.4   OPAL-RAD Professional Workstation

Viewer initiates associations from several real world activities.

Query

When the user clicks "Update Patients" in the Workstation's DICOM Console screen, a DICOM association is created with the respective SCP or SCU. An association is also created when the user presses "Update Studies" or "Update Series" for each respective list in the DICOM Console Screen.

Retrieve

When the user has loaded a Source and Destination AE node in the DICOM Console screen, a move operation can be conducted by pressing the "Move" button. The user must perform a "Query" operation with the Source AE prior to this. If the request is successful, the selected series, study or patient is copied and transferred from the source AE to the destination AE.

Print

An association is made with any DICOM compliant printer when the user selects "DICOM Print" from the Print menu option in the Diagnostic Viewer screen.

Echo

If the user clicks on "Echo Src" (meaning Echo Source) or "Echo Dest" (meaning Echo Destination) from the DICOM Console screen, a "Verification" association is made with the respective AE node. The user can also initiate an association from selecting "Echo" from the "Print" menu option in the Diagnostic Viewer screen. The user must enter an Application Entity and press the button labeled "Echo" to make the association.

Media Storage

Professional Workstation can extract information from a DICOMDIR structure by clicking on the "Import DICOM DIR" button located on the standard toolbar in the Diagnostic Viewer Screen. This can also be initiated by selecting "Import DICOMDIR" from the "File" menu option. The user is then prompted to enter a drive/storage location or "browse" local and removable directories for the desired structure.

3.0   APPLICATION ENTITY SPECIFICATIONS

3.1   Application Entity specifications for OPAL-RAD Server

OPAL-RAD Server supports the following Application Entities in the SCP role.

3.1.1   Verification

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1

3.1.2   Storage

SOP Class Name	SOP Class UID
CR Image Storage	1.2.840.10008.5.1.4.1.1.1
Digi X-ray Pres Image Storage	1.2.840.10008.5.1.4.1.1.1.1
Digi X-ray Proc Image Storage	1.2.840.10008.5.1.4.1.1.1.1.1
Digi Mammo Pres Image Storage	1.2.840.10008.5.1.4.1.1.1.2
Digi Mammo Proc Image Storage	1.2.840.10008.5.1.4.1.1.1.2.1
Digi Intra Oral Pres Image Storage	1.2.840.10008.5.1.4.1.1.1.3
Digi Intra Oral Proc Image Storage	1.2.840.10008.5.1.4.1.1.1.3.1
CT Image Storage	1.2.840.10008.5.1.4.1.1.2
US Multi Image Storage (Ret)	1.2.840.10008.5.1.4.1.1.3
MR Image Storage	1.2.840.10008.5.1.4.1.1.4
NM Image Storage (Ret)	1.2.840.10008.5.1.4.1.1.5
US Image Storage (Ret)	1.2.840.10008.5.1.4.1.1.6
NM Image Storage	1.2.840.10008.5.1.4.1.1.20
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1
US Multi Image Storage	1.2.840.10008.5.1.4.1.1.3.1
SC Image Storage	1.2.840.10008.5.1.4.1.1.7
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1
RT Dose Storage	1.2.840.10008.5.1.4.1.1.481.2
RT Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3
RT Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.4
RT Plan Storage	1.2.840.10008.5.1.4.1.1.481.5
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008.5.1.4.1.1.12.3
Standalone Overlay Storage	1.2.840.10008.5.1.4.1.1.8
Standalone Curve Storage	1.2.840.10008.5.1.4.1.1.9
Waveform WV Modality Storage	1.2.840.10008.5.1.4.1.1.9.1
Waveform ECG Modality Storage	1.2.840.10008.5.1.4.1.1.9.1.1
Waveform AU Modality Storage	1.2.840.10008.5.1.4.1.1.9.1.2
Waveform Hemodynamic Storage	1.2.840.10008.5.1.4.1.1.9.2.1
Standalone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10
Standalone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11
Gray Softcopy Pres State Storage	1.2.840.10008.5.1.4.1.1.11.1

VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2
VL Slide Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4
SR Basic Text	1.2.840.10008.5.1.4.1.1.88.11
SR Enhanced	1.2.840.10008.5.1.4.1.1.88.22
SR Comprehensive	1.2.840.10008.5.1.4.1.1.88.33
PET Image Storage	1.2.840.10008.5.1.4.1.1.128
PET Curve Storage	1.2.840.10008.5.1.4.1.1.129

3.1.3   Storage Commitment

SOP Class Name	SOP Class UID
Storage Commitment Push Model Class	1.2.840.10008.1.20.1
Storage Commitment Push Model Instance	1.2.840.10008.1.20.1.1
Storage Commitment Pull Model Class	1.2.840.10008.1.20.2
Storage Commitment Pull Model Instance	1.2.840.10008.1.20.2.1

3.1.4   Query/Retrieve

SOP Class Name	SOP Class UID
Patient Root QR Find	1.2.840.10008.5.1.4.1.2.1.1
Patient Root QR Move	1.2.840.10008.5.1.4.1.2.1.2
Patient Root QR Get	1.2.840.10008.5.1.4.1.2.1.3
Study Root QR Find	1.2.840.10008.5.1.4.1.2.2.1
Study Root QR Move	1.2.840.10008.5.1.4.1.2.2.2
Study Root QR Get	1.2.840.10008.5.1.4.1.2.2.3
Patient/Study Root QR Find	1.2.840.10008.5.1.4.1.2.3.1
Patient/Study Root QR Move	1.2.840.10008.5.1.4.1.2.3.2
Patient/Study Root QR Get	1.2.840.10008.5.1.4.1.2.3.3

3.2 Application Entity specifications for OPAL-RAD Acquire

OPAL-RAD Acquire supports the following Application Entities in the SCU role.

3.2.1 Verification

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1

3.2.2 Storage

SOP Class Name	SOP Class UID
SC Image Storage	1.2.840.10008.5.1.4.1.1.7

3.3 Application Entity specifications for OPAL-RAD Film Acquire

OPAL-RAD Film Acquire supports the following Application Entities in the SCU role.

3.3.1 Verification

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1

3.3.2 Storage

SOP Class Name	SOP Class UID
SC Image Storage	1.2.840.10008.5.1.4.1.1.7

3.4 Application Entity specifications for OPAL-RAD Professional Workstation

OPAL-RAD Professional Workstation supports the following Application Entities in the SCU role.

3.4.1 Storage

SOP Class Name	SOP Class UID
SC Image Storage	1.2.840.10008.1.1

3.4.2   Query/Retrieve

SOP Class Name	SOP Class UID
Patient Root QR Find	1.2.840.10008.5.1.4.1.2.1.1
Patient Root QR Move	1.2.840.10008.5.1.4.1.2.1.2
Patient Root QR Get	1.2.840.10008.5.1.4.1.2.1.3
Study Root QR Find	1.2.840.10008.5.1.4.1.2.2.1
Study Root QR Move	1.2.840.10008.5.1.4.1.2.2.2
Study Root QR Get	1.2.840.10008.5.1.4.1.2.2.3
Patient/Study Root QR Find	1.2.840.10008.5.1.4.1.2.3.1
Patient/Study Root QR Move	1.2.840.10008.5.1.4.1.2.3.2
Patient/Study Root QR Get	1.2.840.10008.5.1.4.1.2.3.3

3.4.3   Printing

SOP Class Name	SOP Class UID
Basic Film Session	1.2.840.10008.5.1.1.1
Basic Film Box	1.2.840.10008.5.1.1.2
Basic Gray Image Box	1.2.840.10008.5.1.1.4
Basic Color Image Box	1.2.840.10008.5.1.1.4.1
Basic Annotation Box	1.2.840.10008.5.1.1.15
Reference Image Box	1.2.840.10008.5.1.1.4.2
Print Job	1.2.840.10008.5.1.1.14
Printer	1.2.840.10008.5.1.1.16
Printer Instance	1.2.840.10008.5.1.1.17
VOI LUT Box	1.2.840.10008.5.1.1.22
Presentation LUT	1.2.840.10008.5.1.1.23
Image Overlay Box	1.2.840.10008.5.1.1.24
Print Queue Instance	1.2.840.10008.5.1.1.25
Print Queue Management	1.2.840.10008.5.1.1.26
Stored Print Storage	1.2.840.10008.5.1.1.27
Hardcopy Gray Image Storage	1.2.840.10008.5.1.1.29
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30
Basic Gray Print Management Meta	1.2.840.10008.5.1.1.9
Basic Color Print Management Meta	1.2.840.10008.5.1.1.18
Reference Gray Print Management Meta	1.2.840.10008.5.1.1.9.1
Reference Color Print Management Meta	1.2.840.10008.5.1.1.18.1

3.4.4 Media Storage

SOP Class Name	SOP Class UID
Media Storage Dir Storage	1.2.840.10008.1.3.10

3.5 DICOM Conformance for RIS Gateway Interface

OPAL-RAD DICOM RIS Gateway supports the following Application Entities in the SCU and SCP role. All N-EVENT and SCU/SCP roles are supported for all service classes per the DICOM 2000 standard.

3.5.1 Detached Patient Management

Attribute Name	Tag
Specific Character Set	(0008,0005)
Patient Name	(0010,0010)
Patient ID	(0010,0020)
Issuer of Patient ID	(0010,0021)
Other Patient IDs	(0010,1000)
Other Patient Names	(0010,1001)
Patient Telephone Numbers	(0010,2154)
Patient Address	(0010,1040)
Patient Birth Date	(0010,0030)
Patient Sex	(0010,0040)
Patient Weight	(0010,1030)
Ethnic Group	(0010,2160)
Patient Religious Preference	(0010,21F0)
Patient Data Confidentiality Constraint Desc.	(0040,3001)
Patient State	(0038,0500)
Pregnancy Status	(0010,21C0)
Medical Alerts	(0010,2000)
Contrast Allergies	(0010,2110)
Special Needs	(0038,0050)
Referenced Study Sequence	(0008,1110)
>Referenced SOP Class UID	(0008,1150)
>Referenced SOP Instance UID	(0008,1155)
Referenced Visit Sequence	(0008,1125)
>Referenced SOP Class UID	(0008,1150)

>Referenced SOP Instance UID	(0008,1155)
Reference Patient Alias Sequence	(0038,0004)
>Referenced SOP Class UID	(0008,1150)
>Referenced SOP Instance UID	(0008,1155)

3.5.2   Detached Study Management

Attribute Name	Tag
Specific Character Set	(0008,0005)
Study ID	(0020,0010)
Study ID Issuer	(0032,0012)
Accession Number	(0008,0050)
Study Instance UID	(0020,000D)
Study Status ID	(0032,000A)
Study Priority ID	(0032,000C)
Scheduled Study Start Date	(0032,1000)
Scheduled Study Start Time	(0032,1001)
Scheduled Study Stop Date	(0032,1010)
Scheduled Study Stop Time	(0032,1011)
Scheduled Study Location	(0032,1020)
Scheduled Study Location Application Entity Title	(0032,1021)
Requesting Service	(0032,1033)
Requesting Physician	(0032,1032)
Requested Procedure Description	(0032,1060)
Requested Procedure Code Sequence	(0032,1064)
>Code Value	(0008,0100)
>Code Scheme Designator	(0008,0102)
>Code Meaning	(0008,0104)
Study Arrival Date	(0032,1040)
Study Arrival Time	(0032,1041)
Study Date	(0008,0020)
Study Time	(0008,0030)
Study Completed Date	(0032,1050)
Study Completed Time	(0032,1051)
Study Verified Date	(0032,0032)

Study Verified Time	(0032,0033)
Study Read Date	(0032,0034)
Study Read Time	(0032,0035)
Name of Physician(s) Reading Study	(0008,1060)
Reason for Study	(0032,1030)
Referenced Patient Sequence	(0008,1120)
>Referenced SOP Class UID	(0008,1150)
>Referenced SOP Instance UID	(0008,1155)
Referenced Visit Sequence	(0008,1125)
>Referenced SOP Class UID	(0008,1150)
>Referenced SOP Instance UID	(0008,1155)
Referenced Results Sequence	(0008,1100)
>Referenced SOP Class UID	(0008,1150)
>Referenced SOP Instance UID	(0008,1155)
Referenced Study Component Sequence	(0008,1111)
>Referenced SOP Class UID	(0008,1150)
>Referenced SOP Instance UID	(0008,1155)

3.5.3   Detached Study Component Management

Attribute Name	Tag
Specific Character Set	(0008,0005)
Referenced Study Sequence	(0008,1110)
>Referenced SOP Class UID	(0008,1150)
>Referenced SOP Instance UID	(0008,1155)
Retrieve Application Entity Title	(0008,0054)
Modality	(0008,0060)
Study Description	(0008,1030)
Acquisition In Study	(0020,1004)
Study Status ID	(0032,000A)

3.5.4 Detached Results Management

Attribute Name	Tag
Specific Character Set	(0008,0005)
Results ID	(4008,0040)
Results ID Issuer	(4008,0042)
Impressions	(4008,0300)
Referenced Study Sequence	(0008,1110)
>Referenced SOP Class UID	(0008,1150)
>Referenced SOP Instance UID	(0008,1155)
Referenced Interpretation Sequence	(4008,0005)
>Referenced SOP Class UID	(0008,1150)
>Referenced SOP Instance UID	(0008,1155)

3.5.5 Detached Interpretation Management

Attribute Name	Tag
Specific Character Set	(0008,0005)
Interpretation ID	(4008,0200)
Interpretation ID Issuer	(4008,0202)
Interpretation Type ID	(4008,0210)
Interpretation Status ID	(4008,0212)
Interpretation Recorded Date	(4008,0100)
Interpretation Recorded Time	(4008,0101)
Interpretation Recorder	(4008,0102)
Interpretation Transcription Date	(4008,0108)
Interpretation Transcription Time	(4008,0109)
Interpretation Transcriber	(4008,010A)
Interpretation Author	(4008,010C)
Interpretation Text	(4008,010B)
Referenced Results Sequence	(0008,1100)
>Referenced SOP Class UID	(0008,1150)
>Referenced SOP Instance UID	(0008,1155)
Interpretation Approver Sequence	(4008,0111)
>Interpretation Approval Date	(4008,0112)
>Interpretation Approval Time	(4008,0113)
>Physicians Approving Interpretation	(4008,0114)

3.5.6 Structured Reporting

3.5.6.1 SR Document Series Module Attributes

Attribute Name	Tag
Modality	(0008,0060)
Series Instance UID	(0020,000E)
Series Number	(0020,0011)
Referenced Study Component	(0008,1111)
>Referenced SOP Class UID	(0008,1150)
>Referenced SOP Instance UID	(0008,1155)

3.5.6.2 SR Document General Module Attributes

Attribute Name	Tag
Instance Number	(0020,0013)
Completion Flag	(0040,A491)
Completion Flag Description	(0040,A492)
Verification Flag	(0040,A493)
Content Date	(0008,0023)
Content Time	(0008,0033)
Verifying Observer Sequence	(0040,A073)
>Verifying Observer Name	(0040,A075)
>Verifying Observer Identification Code Sequence	(0040,A088)
>Verifying Organization	(0040,A027)
>Verification Date Time	(0040,A030)
Predecessor Documents Sequence	(0040,A360)
Identical Documents Sequence	(0040,A525)
Referenced Request Sequence	(0040,A370)
>Study Instance UID	(0020,000D)
>Referenced Study Sequence	(0008,1110)
>>Referenced SOP Class UID	(0008,1150)
>>Referenced SOP Instance UID	(0008,1155)
>Accession Number	(0008,0050)
>Place Order Number/Imaging Service Request	(0040,2016)
>Filler Order Number/Imaging Service Request	(0040,2017)

>Requested Procedure ID	(0040,1001)
>Requested Procedure Description	(0032,1060)
>Requested Procedure Code Sequence	(0032,1064)
Performed Procedure Code Sequence	(0040,A372)
Current Requested Procedure Evidence Sequence	(0040,A375)
Pertinent Other Evidence Sequence	(0040,A385)

4.0   ASSOCIATION ESTABLISHMENT POLICIES

4.1   General

There is no limit on maximum PDU size. It is usually limited by the available system memory. The default value is 16 K (16,384 byte).

4.2   Number of Associations

There is no inherent limitation in the number of Associations accepted by OPAL- RAD Server, Professional Workstation, Acquire and Film Acquire. System resources usually limit it. Server, Professional Workstation, Acquire and Film Acquire initiate only one Association at a time.

4.3   Asynchronous Nature

Asynchronous operations are not supported. A request for asynchronous transfer is rejected.

4.4   Implementation Identifying Information

The Implementation Class UID is "1.2.840.114062" and Implementation Version Name is "OPAL-RAD v4".

4.5   Association Initiation/Acceptance Policy

Both OPAL-RAD Acquire and professional Workstation initiate a new association only with operator interaction. For instance, the operator may send a study to a film printer from a Workstation. The SCP does not initiate a new association. It only processes the association from a remote node, optionally alerting the operator about the activity. It places no limitations on who may connect to it for verification purposes. The remote AE must exist and be configured properly in the Server's database to perform query and retrieve operations with OPAL-RAD.

4.6   Associated Real World Activity

All real world activity for initiating an association is conducted through the SCU applications, Professional Workstation, Acquire and Film Acquire. Real World Activities are described in section 2.3.

4.7   Proposed Presentation Context Table

OPAL-RAD accepts the following transfer syntaxes.

Name List	UID List
JPEG Baseline	1.2.840.10008.1.2.4.50
JPEG Extended	1.2.840.10008.1.2.4.51
JPEG Lossless No Pred	1.2.840.10008.1.2.4.57
JPEG Lossless	1.2.840.10008.1.2.4.70
RLE Lossless	1.2.840.10008.1.2.5
Implicit VR Little Endian	1.2.840.10008.1.2
Explicit VR Little Endian	1.2.840.10008.1.2.1
Explicit VR Big Endian	1.2.840.10008.1.2.2

If a remote client proposes multiple transfer syntaxes to OPAL-RAD Server, then preference is given to the transfer syntax that matches the host machine's architecture. The maximum number of Transfer Syntaxes presented in an Association is 64.

5.0   COMMUNICATION PROFILES

5.1   Supported Communication Stacks

OPAL-RAD supports TCP/IP Communication.

5.1.1   OSI Stack

OSI stack is not supported.

5.1.2   TCP/IP Stack

TCP/IP stack is inherited from the operating system, and is supported by OPAL-RAD.

5.1.3   Point to Point Stack

Point to Point stack is not supported.

6.0   EXTENSIONS/SPECIALIZATIONS/PRIVATIZATIONS

None.

7.0   CONFIGURATION

All configurable parameters are set through OPAL-RAD Server at runtime. The configuration is password protected at Administrator level.

7.1   AE Title / Presentation Address Mapping

Local AE title for Acquire is "OPAL Acquire SCU". Local AE title for Film Acquire is "OPAL Film Ac SCU". Local AE title for Professional Workstation is "OPAL Viewer SCU". Local AE title for Server is "OPAL Server SCU". Node IP address, net mask, hostname, hostname aliases are configured by the local system administrator. TCP/IP port is configurable. Default is 104 DICOM.

8.0   EXTENDED CHARACTER SETS

Extended character sets are not supported.