



Penrad Technologies, Inc.

DICOM Conformance Statement for PenRad Worklist

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1 Introduction

1.1 Scope and Field of Application

1.2 Acronyms

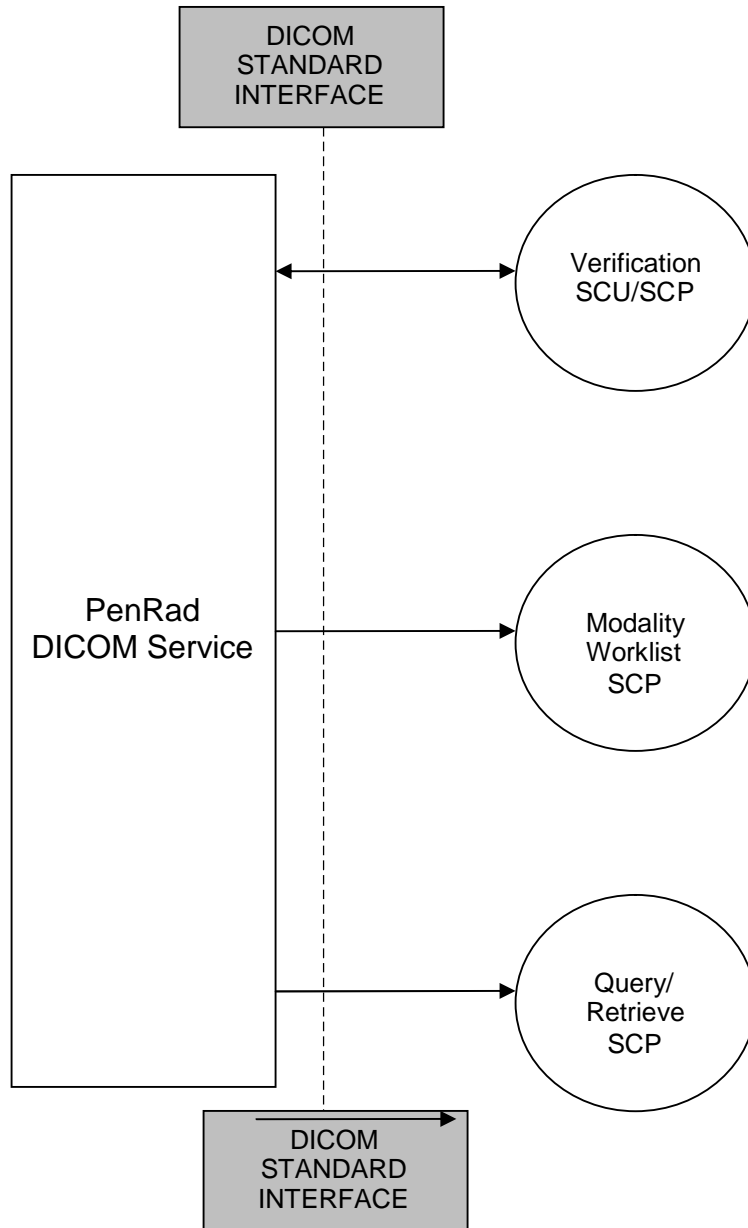
The following acronyms and abbreviations are used in this document.

AE	Application Entity
ACR	American College of Radiology
ANSI	American National Standards Institute
DICOM	Digital Imaging and Communications in Medicine
GUI	Graphical User Interface
HIS	Hospital Information System
IOD	Information Object Definition
NEMA	National Electrical Manufacturers Association
PACS	Picture Archiving and Communications System
PDU	Protocol Data Unit
RIS	Radiological Information System
SCP	Service Class Provider
SCU	Service Class User
SOP	Service Object Pair
TCP/IP	Transmission Control Protocol/Internet Protocol
UID	Unique Identifier
VR	Value Representation

Furthermore, all symbols, abbreviations, and definitions used herein are described in the Digital Imaging and Communications in Medicine (DICOM) standard, parts 1 through 13 (NEMA PS3.1-13).

2 Implementation Model

2.1 Application Data Flow Diagram



2.2 Functional Definitions of Application Entities

The PenRad Worklist system supports Verification Services as a SCP. The DICOM Service Class User may request a C-ECHO operation to verify communications with the SCP.

The PenRad Worklist system acts as an SCP for Modality Worklist and Query/Retrieve SOP classes.

2.3 Sequencing of Real-World Activities

No sequencing of Real World activities is required. An association is opened at the beginning of each activity and the association is ended when the activity is completed.

3 AE Specifications

3.1 AE Specifications for PenRad Worklist

The PenRad Worklist system Application Entity provides Standard Conformance to the following DICOM v3.0 SOP Class as a SCP:

SOP Classes as SCP	
SOP Class UID	SOP Class Name
Verification	
1.2.840.10008.1.1	Verification
Modality Worklist Management	
1.2.840.10008.5.1.4.31	Modality Worklist Information Model
Query	
1.2.840.10008.5.1.4.1.2.1.1	Patient Root Query

The PenRad Worklist system Application Entity provides Standard Conformance to the following DICOM v3.0 SOP Class as a SCU:

SOP Classes as SCU	
SOP Class UID	SOP Class Name
Verification	
1.2.840.10008.1.1	Verification

3.1.1 Association Establishment Policies

3.1.1.1 General

Application Context Name	1.2.840.10008.3.1.1.1
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Maximum PDU size offered	Unlimited
Maximum PDU size accepted	Unlimited

3.1.1.2 Number of Associations

Not configurable

3.1.1.3 Implementation Identifying Information

Implementation UID	TBD
Implementation Version Name	PenRad

3.1.2 Association Initiation Policy

3.1.2.1 Provide a Modality Worklist to a Remote System

3.1.2.1.1 Associated Real World Activity

A C-Find request to PenRad Worklist system will return a Modality Worklist for a given date range and Modality.

3.1.2.1.2 Accepted Presentation Contexts

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Modality Worklist Query	1.2.840.10008.5.1.4.31	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

3.1.2.1.3 SOP Specific Conformance for SOP Class C-Find

The fields below are returned to the DICOM device.

Modality Worklist Query		
Module	Description	Tag
Scheduled Procedure Step	Schedule Procedure Step Sequence	(0040,0100)
	> Schedule Procedure Step Start Time	(0040,0002)
	> Schedule Procedure Step Stop Time	(0040,0003)
	> Modality	(0008,0060)
Patient Identification	Patient's Name	(0010,0010)
	Patient ID	(0010,0020)
	Other Patient Ids	(0010,1040)
Patient Demographics	Patient Birth Date	(0010,0030)
	Patient Sex	(0010,0040)
Imaging Service Request	Accession Number	(0008,0050)
	Referring Physicians Name	(0008,0090)

Requested Procedure	Requesting Physician	(0032,1032)
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3.1.2.2 Provide Patient/Study to a Remote System

3.1.2.2.1 Associated Real World Activity

The PenRad Worklist system can return Patient and Study information to a DICOM device. PenRad Worklist can retrieve patients by Name or ID.

3.1.2.2.2 Accepted Presentation Contexts

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Patient Root Query	1.2.840.10008.5.1.4.1.2.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

3.1.2.2.3 SOP Specific Conformance for Query SOP Classes

Fields retrieved are listed in the tables below.

Patient Root Query		
Patient Level		
Module	Description	Tag
Patient Identification	Patient's Name	(0010,0010)
	Patient ID	(0010,0020)
	Other Patient Ids	(0010,1040)
Patient Demographics	Patient Birth Date	(0010,0030)
	Patient Sex	(0010,0040)

Study Level		
Module	Description	Tag
Patient Identification	Patient ID	(0010,0020)
General Study	Study Date	(0008,0020)
	Study Time	(0008,0030)
	Accession Number	(0008,0050)
	Study Description	(0008,1030)
	Study Instance UID	(0020,000D)

4 Communication Profiles

4.1 Supported Communication Stacks

PenRad Worklist system provides DICOM v3.0 TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard

4.2 TCP/IP Stack

PenRad Worklist system utilizes the TCP/IP stack from the Microsoft Windows platform.

4.2.1 Physical Media Supported

PenRad Worklist system is independent of the physical medium over which TCP/IP executes. Any device listed in the Microsoft Windows Hardware compatibility list may be used

5 Extensions/Specialization/Privatizations

Not applicable.

6 Configuration

The PenRad Worklist system utilizes XML configuration files for the setting of all configurable settings.