



Worklist Server (SCP) DICOM Conformance Statement



IMPROMED®

TABLE OF CONTENTS

- Overview..... 3**
- Remarks..... 3**
 - Revision History.....3
- Definitions and Abbreviations..... 4**
- Implementation Model 6**
 - Application Data Flow Diagram.....6
 - Functional Definition of AE’s.....6
 - Sequencing of Real-World Activities6
- AE Specifications..... 7**
 - Impromed Worklist Server AE7
 - Association Establishment Policies7
 - General.....7
 - Number of Associations7
 - Asynchronous Nature.....7
 - Implementation Identifying Information7
 - Association Initiation by Real-World Activity7
 - Association Acceptance Policy8
 - SOP Verification Conformance.....8
 - SOP Specific Conformance for the Modality Worklist8
- Communication Profiles 10**
 - Supported Communication Stacks – TCP/IP Stack 10
 - API..... 10
 - Physical Media Support..... 10
- Configuration 10**

DICOM CONFORMANCE STATEMENT

Overview

This Conformance Statement specifies Improved Worklist Server's compliance to the DICOM 3.0 Standard.

Remarks

The fact that a product has a DICOM Conformance Statement that is complementary to that of the Improved Modality Worklist Server does not in and of itself guarantee interoperability between said product and the Improved Modality Worklist Server. The comparison of Conformance Statements is a step to determining interoperability but other steps are required including:

- Analysis of interoperability requirements of communicating applications
- Creation of a Test Plan to verify interoperability
- Execution of the Test Plan

DICOM is an evolving standard, constantly being amended and augmented. In consideration of this fact, Covetrus® reserves the right to make changes to the Improved Modality Worklist Server as it sees fit to keep abreast of these changes.

Revision History

Document Version	Date of Issue	Author	Description
1.0	September 21, 2007	Ryan Anauo	Initial Release
1.1	February 22, 2008	Ryan Anauo	Added more worklist fields
2.0	September 27, 2010	Karen Nowicki	Layout changes
3.0	February 15, 2011	Karen Olson	Layout changes
4.0	October 20, 2012	Karen Olson	Layout changes
5.0	June 29, 2016	Karen Olson	Layout changes
6.0	June 28, 2017	Gwen Grosskopf	Layout changes
7.0	March 7, 2019	Gwen Grosskopf	Corporate rebranding
9.0	February 2, 2022	Gwen Grosskopf	Update content
10.0	March 21, 2023	Gwen Grosskopf	Rebranding

Definitions and Abbreviations

ACR	American College of Radiology
ASCII	American Standard Code for Information Interchange
AE	Application Entity
ANSI	American National Standards Institute
BEV	Beam's-eye view
Brachy	Brachytherapy
BRHC	Bottom Right Hand Corner
CC	Counter-clockwise
CDA	Clinical Document Architecture (HL7)
CEN TC251	Comite European de Normalisation-Technical Committee 251-Medical Informatics
CCIR	Consultative Committee, International Radio
Chest CAD	Computer-Aided Detection and/or Computer-Aided Diagnosis for chest radiography
CTV	Clinical target volume
CW	Clockwise
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
DRR	Digitally-reconstructed radiograph
DVH	Dose-volume histogram
EPI	Electronic Portal Image
EPID	Electronic Portal Imaging Device
GTV	Gross tumor volume
Gy	Gray
HISPP	Healthcare Information Standards Planning Panel
HL7	Health Level 7
HMD	Hierarchical Message Description (HL7)
ICRU	International Commission on Radiation Units
IE	Information Entity

DICOM CONFORMANCE STATEMENT

IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IHE	Integrating the Healthcare Enterprise
II	Instance Identifier (HL7)
IOD	Information Object Definition
ISO	International Standards Organization
ITU-T	International Telecommunications Union - Telecommunications Standardization Sector
JIRA	Japan Industries Association of Radiation Apparatus
JPIP	JPEG 2000 Interactive Protocol
LUT	Lookup Table
MAC	Message Authentication Code
Mammography CAD	Computer-Aided Detection and/or Computer-Aided Diagnosis for Mammography
MeV	Mega electron Volt
MLC	Multileaf (multi-element) collimator
MSDS	Healthcare Message Standard Developers Sub-Committee
MU	Monitor unit
MV	Megavolt
NaN	Not a Number (See IEEE 754)
NEMA	National Electrical Manufacturers Association
OID	Object Identifier (ISO 8824)
OSI	Open Systems Interconnection
PDF	Portable Document Format
PTV	Planning target volume
R&V	Record and verify
RCS	Reference Coordinate System
ROI	Region of interest
RT	Radiotherapy
SAD	Source-axis distance
SCP	Service Class Provider
SCTP	Structured Clinical Trial Protocol (HL7)

DICOM CONFORMANCE STATEMENT

SCU	Service Class User
SD	Structured Documents (HL7)
SID	Source Image Receptor Distance
SOD	Source Object Distance
SOP	Service-Object Pair
SPL	Structured Product Labeling (HL7)
SR	Structured Reporting
SSD	Source-skin distance
TLHC	Top Left Hand Corner
UID	Unique Identifier
UUID	Universal Unique Identifier (ISO/IEC 11578)
XDS	Cross-Enterprise Document Sharing Profile (IHE)
XML	Extensible Markup Language

Implementation Model

Application Data Flow Diagram

The Impromed Worklist Server listens for connection requests. If the requested service is supported (Modality Worklist SCU or Verification SCU), an association is made.

Functional Definition of AE's

Impromed Worklist Server supports the following services:

- ✓ Verification Service
- ✓ Modality Worklist Management Service (Worklist Find)

Sequencing of Real-World Activities

Not Applicable.

AE Specifications

Impromed Worklist Server AE

This Application Entity provides Standard Conformance to the following DICOM 3.0 Standard SOP Classes as SCP:

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
Basic Worklist Management	1.2.840.10008.5.1.4.31

Association Establishment Policies

General

Application Context Name	1.2.840.10008.3.1.1.1
--------------------------	-----------------------

The SCP listens on a configurable port for association requests.

Number of Associations

The Impromed Worklist Server can accept as many associations as the operation system can support (limited by CPU, RAM, network interfaces, etc.).

Asynchronous Nature

All operations are performed synchronously.

Implementation Identifying Information

Implementation Class UID	1.2.826.0.1.3680043.8.226
Implementation Version Name	InfinityDS 1.0

Association Initiation by Real-World Activity

Not applicable.

DICOM CONFORMANCE STATEMENT

Association Acceptance Policy

The Impromed Worklist Server will accept requests for the MWL and Verification SOP Classes as an SCP.

Accepted Presentation Contexts

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended
Name	UID	Name	UID		Negotiation
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Modality Worklist Management FIND		Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

SOP Verification Conformance

Impromed Worklist Server provides standard conformance to this class.

SOP Specific Conformance for the Modality Worklist

Fields used for searching.

Module	Description	Tag
Scheduled Procedure Step	Scheduled Procedure Step Sequence	(0040, 0100)
	> Scheduled Procedure Step Start Date	(0040, 0002)
	> Modality	(0008, 0060)
Patient Identification	Patient Name	(0010, 0010)
	Patient ID	(0010, 0020)

DICOM CONFORMANCE STATEMENT

Fields returned in the Find response.

Module	Description	Tag
General Study Module	Study Description	(0008, 1030)
Scheduled Procedure Step	Scheduled Procedure Step Sequence	(0040, 0100)
	> Scheduled Procedure Step Start Date	(0040, 0002)
	> Scheduled Procedure Step Start Time	(0040, 0003)
	> Modality	(0008, 0060)
	> Scheduled Procedure Step ID	(0040, 0009)
	> Scheduled Procedure Step Description	(0040, 0007)
	> Scheduled Performing Physicians Name	(0040, 0006)
Patient Identification	Patient Name	(0010, 0010)
	Patient ID	(0010, 0020)
	Patient Birth Date	(0010, 0030)
	Patient Sex	(0010, 0040)
	Patient Weight	(0010, 1030)
	Patient Species Description	(0010, 2201)
	Patient Breed Description	(0010, 2292)
	Responsible Person	(0010, 2297)

Communication Profiles

Supported Communication Stacks – TCP/IP Stack

The Improved Worklist Server SCP inherits the TCP/IP stack from the operating system it is running on.

API

Not applicable.

Physical Media Support

Not applicable.

Configuration

Configure using the SetupAEs program installed with the Improved Worklist Server software.

AE Title	Title of the SCP
Port	Port on which the SCP listens
SQL Server Name	Name of the server that has the database with the worklist data
Database Name	Name of the database storing the worklist data