DICOM 3.0

CONFORMANCE

STATEMENT

Pegasys

9605-0132 Rev. C
11-2002

$A\,D\,A\,C$ ®

A Philips Medical Systems Company

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INTRODUCTION

Scope

This document states the conformance of Pegasys family Nuclear Medicine products to the DICOM 3.0 standard. It only applies to Pegasys DICOM software version 4.23 or higher. The DICOM conformance of other medical devices manufactured by Philips Medical Systems is detailed in separate documents.

Important Notes

This DICOM software is in compliance with ACR-NEMA DICOM 3.0 standard; however, due to the inherent nature of DICOM, you must perform acceptance testing to verify that the DICOM software meets requirements for your configuration. The acceptance testing must include all representative datasets (images) that you intend to transfer, all types of transfers desired for a type of dataset, and clinical evaluation of each representative dataset on the receiving end after the transfer of the desired type. Please read the following sections carefully before you use any of the DICOM software products.

Why a Conformance Statement

The DICOM 3.0 standard enables vendors to implement systems in such a way that an imaging device can exchange patient and image data with another imaging device of the same or different modality, a Radiology Information System (RIS), a Hospital Information System (HIS), a Review/PACS station, an Archive device or a hardcopy device over a standard network. It also permits data exchange via removable media, such as a Magneto-Optical disk. Since the original printing of the DICOM 3.0 standard, additional diagnostic imaging modalities are now supported. Some of the imaging modalities include, but are not limited to, CT (Computed Tomography), MRI (Magnetic Resonance Imaging), and Nuclear Medicine.

Because of the broadness and extensibility of the DICOM standard, each DICOM conforming system normally supports only a subset of DICOM 3.0. Each pair of DICOM peer devices, or Application Entities (AE), can only communicate over the intersection of commonly supported parts of DICOM. Fortunately, DICOM 3.0 standard requires some minimum conformance.

This conformance statement can help you understand the level of connectivity between Pegasys and other DICOM compatible devices.

This conformance statement is written in accordance with Part 2 of DICOM, NEMA Standards Publication No. PS 3.2 - 2001.

Source of Information

Digital Imaging and Communication in Medicine (DICOM), NEMA Standards Publication No. PS 3.1~3.16.

NEMA, 1300 N. 17th Street Rosslyn, Virginia 22209 USA

How DICOM works in ADAC Pegasys

Pegasys computers builds a transparent network environment with other DICOM compatible imaging, hardcopy and administrative medical devices through an implementation of some of the following DICOM Service Classes (see NEMA Standard Publication PS 3.4-2001) and DICOM message exchange commands (see NEMA Standard Publication PS 3.7-2001)

Table 1 on page 2 describes the DICOM Service Classes and DICOM Commands supported by Pegasys DICOM.
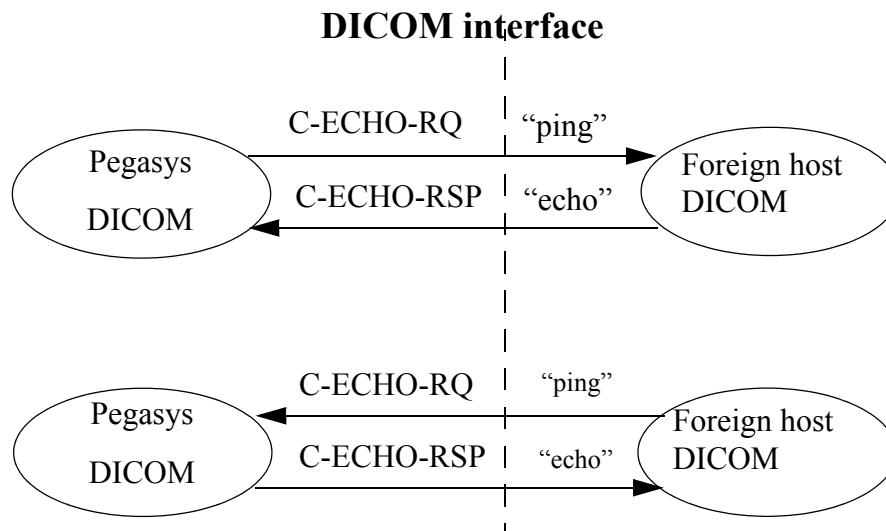
Table 1: DICOM Service Classes and Commands

DICOM Service Class	DICOM commands (DIMSE-C/N group)	Purpose
Verification	C-ECHO	check if the peer application entity is active
Storage	C-STORE	Image data transfer:
Query/retrieve	C-FIND C-MOVE	• patient/study/image directory query with filtering • "get"/"move" data from remote to local • "put" data from local to remote • "get" scheduled visit • archiving
Print management	N-CREATE N-SET N-DELETE N-ACTION	**Hardcopy:** • film session management • queue management • print
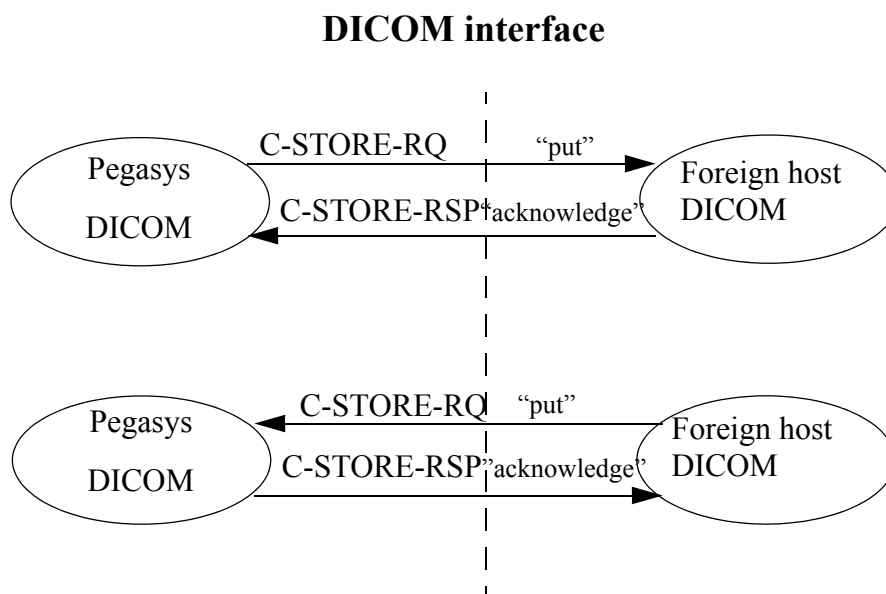
Implementation Model

Application Data Flow Diagram

Verification

DICOM interface

	C-ECHO-RQ	"ping"	
Pegasys DICOM	C-ECHO-RSP	"echo"	Foreign host DICOM

	C-ECHO-RQ	"ping"	
Pegasys DICOM	C-ECHO-RSP	"echo"	Foreign host DICOM
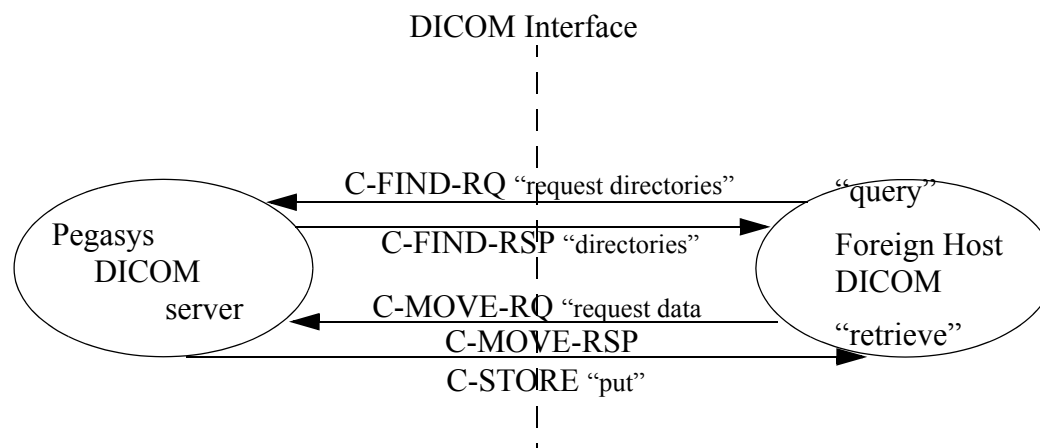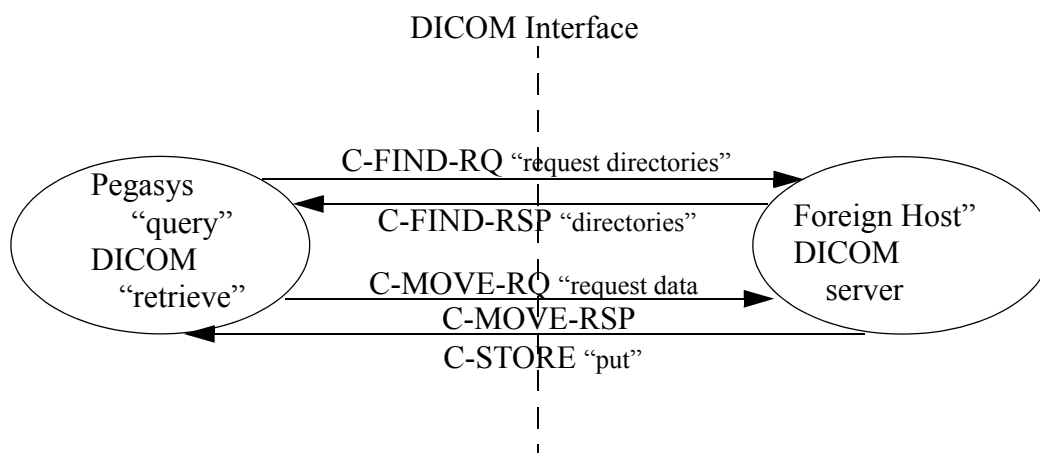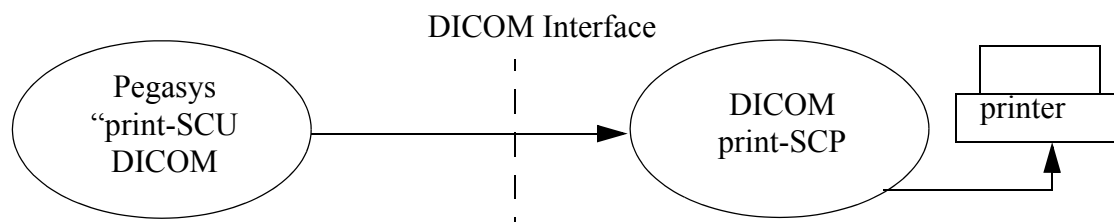
Simple Image Transfer "Put"

DICOM interface

	C-STORE-RQ	"put"	
Pegasys DICOM	C-STORE-RSP	"acknowledge"	Foreign host DICOM

	C-STORE-RQ	"put"	
Pegasys DICOM	C-STORE-RSP	"acknowledge"	Foreign host DICOM

Query/Retrieve, Worklist Query

DICOM Interface

C-FIND-RQ "request directories"

Pegasys "query" DICOM "retrieve"

C-FIND-RSP "directories"

Foreign Host" DICOM server

C-MOVE-RQ "request data

C-MOVE-RSP

C-STORE "put"

DICOM Interface

C-FIND-RQ "request directories"

Pegasys DICOM server

C-FIND-RSP "directories"

"query"

Foreign Host DICOM

C-MOVE-RQ "request data

C-MOVE-RSP

"retrieve"

C-STORE "put"

DICOM Printing

DICOM Interface

Pegasys "print-SCU DICOM

DICOM print-SCP

printer

Functional Definitions of AE (Application Entities)

A   A utility program called `dicom-echo` to performs `C-ECHO` to check if a remote DICOM peer is responding. The DICOM server responds to a remote `C-ECHO` with a `C-ECHO-RSP`.

B   Pegasys provides bi-directional image data transfer capabilities with foreign NM, CT, MRI, PACS and other imaging systems. Imported data that is not Nuclear Medicine IOD is exported using the NM IOD or SC IOD.

◆   **Importing data into Pegasys.**

Below are the two ways you can import data into Pegasys:

1. **"Query" the remote patient database from Pegasys and select patient/image data for transfer.**

   You use the DICOM Query/Retrieve information model on the Pegasys. The Pegasys DICOM server receives the image data sent by the SCU role of Storage service class of the remote AE that is activated by Pegasys C-MOVE request. This only works with a remote AE that supports the SCP role of Query/retrieve.

2. **"Push" the data from the remote system.**

   In this case, the remote AE initiates a C-STORE request and Pegasys DICOM server uses SCP role of Storage to receive the data

◆   **Exporting image data to a remote system.**

Below are the two ways of exporting image data to a remote system.

1. **"Query" the Pegasys patient database from a remote system and select patient/image data for transfer.**

   You use the DICOM Query/Retrieve information model on the remote system. The Pegasys DICOM server uses the SCP role of C-FIND to respond to the query and uses SCU role of Storage service class to send the image data. This only works with a remote AE that supports the SCU role Query/retrieve and SCP role of the Storage service class.

2. **"Push" the data from Pegasys.**

   In this case, Pegasys initiates a C-STORE request and the remote DICOM server uses SCP role of Storage to receive the data.

   Note: Color Information can be selectively exported, with support for Monochrome2, RGB, and COLOR Palette photometric interpretations.

C   Pegasys supports DICOM printing in the following way:

■ Prints to a DICOM compatible network color printer or film imager through an implementation of the SCU role of DICOM Print management class.

  ʲ Uses N-GET to request printer status information.
  ʲ Starts a film session and film box, and sets attributes of an image/annotation box in the background according to the format defined by the application.
  ʲ Sends pixel LUT data to the service provider.
  ʲ Requests printing of a single film session.
  ʲ Requests cancellation of printing upon your request.

- Provides a preview utility that allows you to modify print parameters specifically for the particular print session and to define the layout of a Multi-format (multiple film box) print.

D   Pegasys supports DICOM Work List in the following ways:

- Automated download of Work List records from a predefined selection of RIS hosts, occurring on a schedule that you define, is site specific. You use the DICOM Query/Retrieve model information to download Work List.

- Interactive display of Work List records from the pre-defined selection of RIS hosts. The application is HTTP/CGI based, whose HTTP Server resides on an ADAC Pegasys Workstation. The CGI application queries the RIS hosts in the same fashion as the automated download application. You can choose to insert the Work List records displayed into the local Pegasys cache.

- Provision of Work List records matching entries made by the technologist entering demographic information at the acquisition console just prior to performing acquisition, and subsequent incorporation of the Work List record into the image files resulting from the acquisition.

- Graphical editing of Pegasys data files to incorporate or correct Work List data.

- Export of image data containing Work List information is done by using the methods described in the above subsections

Sequencing of Real-World Activities

Not Applicable.

Network Interchange AE Specifications

Supported SOP Classes

ADAC Pegasys DICOM provides standard conformance to the following DICOM 3.0 SOP Classes.

Table 2: Verification of SOP Class

SOP Class Name	SOP Class UID	Role
Verification	1.2.840.10008.1.1	SCU and SCP

Table 3: Storage SOP Class

SOP Class Name	SOP Class UID	Role
CR Image Storage	1.2.840.10008.5.1.4.1.1.1	SCP
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	SCP
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	SCP
NM Image Storage (RET)[a]	1.2.840.10008.5.1.4.1.1.5	not supported
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6	SCP
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	SCU and SCP
NM Image Storage (new)[b]	1.2.840.10008.5.1.4.1.1.20	SCU and SCP

a. This SOP Class is already officially retired from the DICOM standard.
b. This SOP Class for the new NM IOD has officially become part of the DICOM standard since December 1995

Table 4: Query/Retrieve Information Model (Patient Root)

SOP Class Name	SOP Class UID	Role
C-FIND	1.2.840.10008.5.1.4.1.2.1.1	SCU and SCP
C-MOVE	1.2.840.10008.5.1.4.1.2.1.2	SCU and SCP*

Table 5: Query/Retrieve Information Model (Study Root)

SOP Class Name	SOP Class UID	Role
C-FIND	1.2.840.10008.5.1.4.1.2.2.1	SCU and SCP
C-MOVE	1.2.840.10008.5.1.4.1.2.2.2	SCU and SCP*

Note: *Pegasys provides SCP C-MOVE operations only when you request it at the composite object instance, i.e.: "image" level.

Table 6: Query/Retrieve Information Model (Patient/Study Only)

SOP Class Name	SOP Class UID	Role
C-FIND	1.2.840.10008.5.1.4.1.2.3.1	SCU and SCP
C-MOVE	1.2.840.10008.5.1.4.1.2.3.2	SCU and SCP

Table 7: Print Management SOP Class

SOP Class Name	SOP Class UID	Role
Basic Grayscale Print Management Meta	1.2.840.10008.5.1.1.9	SCU
Basic Color Print Management Meta	1.2.840.10008.5.1.1.18	SCU

Table 8: Worklist Query

SOP Class Name	SOP Class UID	Role
Basic Worklist Management Service	1.2.840.1008.5.1.4.31	SCU

Association Establishment Policies

General Association Policies

This implementation generally establishes one association (connection) per SOP interaction, such as Ping-Echo, Store ("put"), Find (query for patient, study or image directories), and Move (Retrieve). The association closes at the completion of each interaction. The association aborts if the SOP class is not supported.

Some interactions, such as C-STORE, does require a series of packet exchanges. The following are the general rules for transfer:

- The association (connection) remains open until all data is transferred.
- You can set the maximum PDU (Protocol Data Unit) size is user configurable. The default maximum is 16384 8-bit bytes.

Number of Associations

- Each SCU role client application, such as "DICOM Import", maintains one association at a time.

- You can run multiple SCU role client applications, or multiple instances of the same appli-cation, at the same time, with each having an association.

- The SCP role of DICOM server accepts one association at a time but can maintain multiple associations at the same time.

Asynchronous Nature

Pegasys DICOM does not perform asynchronous operations window negotiation.

Implementation Identifying Information

Philips temporarily uses a modified DICOM registered root. A typical Philips UID looks like `65.2.840.10008.xx.xxxx.xxx.xxx`.

- The Philips implementation class UID is "`65.2.840.10008.1995.1.0`".

- The implementation version name is "`ADAC_DICOM_xxx`".

Philips uses UID's with an ANSI-registered `<org root>` numeric root in a future release.

Association Initiation Policy

- All of the SCU role applications attempts to initiate an association for each interaction. These include "verification", "put", "find", "retrieve", "move", etc.

- You use the default port number, DICOM registered TCP port 104, unless otherwise configured.

Associated Real World Activity

The associated Real-World Activity is the attempt to send a request for:

- Echo (C-ECHO request)

- Getting patient, study or image directory (C-FIND request)

- Sending image data (C-STORE request)

- Getting or updating patient, study, visit or results information

- Sending image/LUT pixel data for printing

- Starting a film session, film box, printing

Proposed Presentation Context

Table 9: Proposed Presentation Contexts for Sending Data/Request

Presentation Context (SCU)					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
SOP Name	UID	Name list	UID list		
see Tables 1-6	see Tables 1-6	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

SOP Specific Conformance of SCU

The SCU role of all the SOP classes listed in Tables 1 - 8 in this document are provided with Standard Conformance.

Association Acceptance Policy

■ The DICOM server of Pegasys is responsible for accepting any association. It accepts one association at a time but can maintain multiple associations at the same time.

■ Each active server listens to a TCP port. The default port number is DICOM registered number 104, unless otherwise configured.

Association Real World Activity

The following requests are received by the associated Real-World Activity:

■ C-ECHO response - echoing back to the verification request

■ C-FIND response - sending patient, study or image directory ()

■ C-STORE response - receiving image data and simultaneously storing them to the hard disk where the configured Pegasys patient database sits

Proposed Presentation Context

Table 10: Proposed Presentation Contexts for Receiving Data/Request

Presentation Context (SCP)					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
SOP Name	**UID**	**Name list**	**UID list**		
see Tables 1- 6	see Tables 1- 6	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

SOP-Specific Conformance of SCP

The SCP role of all the SOP classes listed in Tables 1 through 6 in this document are provided with Standard Conformance.

SOP-Specific Conformance for SOP Class Query/Retrieve

The image server supports standard DICOM query and retrieve, it does not support the relational query extension. Listed below are the three Query/Retrieve information models, supported by the image server.

- Patient Root
- Study Root
- Patient/Study Only

The supported query keys in each level are listed in Tables 11 through 14.

According to Section C.1 of PS 3.4 of the DICOM standard, matching values of keys are done as follows:

- For C-FIND, the server matches the values of the Required, Unique, and Optional keys of the current level and the unique keys of the previous level, then returns the query result
- For C-MOVE, the server matches the values of the Unique keys of the current level and the previous level

  Note: Wild cards are supported in both cases. This release does not support date and time ranges in SCP of this release.

Table 11: Supported Query Keys for Patient Root Information Model

Level	Description	Tag	Type
Patient	Patient Name	0010, 0010	Required
	Patient ID	0010, 0020	Unique
	Patient Birth Date	0010, 0030	Optional
	Patient Sex	0010, 0040	Optional
Study	Study Date	0008, 0020	Required
	Study Time	0008, 0030	Required
	Accession Number	0008, 0050	Required
	Study ID	0020, 0010	Required
	Study Instance UID	0020, 000D	Unique
	Study Description	0008, 1030	Optional
	Patient Age	0010, 1010	Optional
Series	Modality	0008, 0060	Required
	Series Number	0020, 0011	Required
	Series Instance UID	0020, 000E	Unique
	Body Part Examined	0018, 0015	Optional
Image	Image Number	0020, 0013	Required
	SOP Instance UID	0008, 0018	Unique

Table 12: Supported Query Keys for Study Root Information Model

Level	Description	Tag	Type
Study	Study Date	0008, 0020	Required
	Study Time	0008, 0030	Required
	Accession Number	0008, 0050	Required
	Study ID	0020, 0010	Required
	Patient Name	0010, 0010	Required
	Patient ID	0010, 0020	Required
	Study Instance UID	0020, 000D	Unique
	Study Description	0008, 1030	Optional
	Patient Birth Date	0010, 0030	Optional
	Patient Sex	0010, 0040	Optional
	Patient Age	0010, 1010	Optional
Series	Modality	0008, 0060	Required
	Series Number	0020, 0011	Required
	Series Instance UID	0020, 000E	Unique
	Body Part Examined	0018, 0015	Optional
Image	Image Number	0020, 0013	Required
	SOP Instance UID	0008, 0018	Unique

Table 13: Supported Query Keys for Patient/Study Only Information Model

Level	Description	Tag	Type
Patient	Patient Name	0010, 0010	Required
	Patient ID	0010, 0020	Unique
	Patient Birth Date	0010, 0030	Optional
	Patient Sex	0010, 0040	Optional
Study	Study Date	0008, 0020	Required
	Study Time	0008, 0030	Required
	Accession Number	0008, 0050	Required
	Study ID	0020, 0010	Required
	Study Instance UID	0020, 000D	Unique
	Study Description	0008, 1030	Optional
	Patient Age	0008, 1030	Optional

Table 14: Supported Query Keys/Elements for Worklist

Description	Tag	Type
Study Date	0008, 0020	Required
Study Time	0008, 0030	Required
Accession Number	0008, 0050	Optional
Modality	0008, 0060	Required
Referring Physician	0008, 0090	Optional
Patient name	0010, 0010	Required
Patient ID	0010, 0020	Required
Patient Birth Date	0010, 0030	Optional
Patient Sex	0010, 0040	Optional
Secondary Patient ID	0010, 1000	Optional
Patient Age	0010, 1010	Optional
Patient Weight	0010, 1030	Optional
Patient Medical Alerts	0010, 2000	Optional
Patient Contrast Allergies	0010, 2110	Optional
Patient Pregnancy Status	0010, 21C0	Optional
Img Svc Requesting Physician	0032, 1032	Optional
Req Procedure Description	0032, 1060	Optional
Scheduled Contrast Agent	0032, 1070	Optional
Scheduled Station AE Title	0040, 0001	Required
Procedure Step Start Date	0040, 0002	Required
Procedure Step Start Time	0040, 0003	Required
Performing Physician	0040, 0006	Required
Scheduled Proc Step Description	0040, 0007	Optional
Scheduled Procedure Step ID	0040, 0009	Optional
Scheduled Station Name	0040, 0010	Optional
Scheduled Proc Step Location	0040, 0011	Optional
Scheduled PreMedication	0040, 0012	Optional
Scheduled Proc Step Status	0040, 0020	Optional
Procedure Step Sequence	0040, 0100	Optional
Scheduling Comments	0040, 0400	Optional
Requested Procedure ID	0040, 1001	Optional
Reason for Requested Procedure	0040, 1002	Optional
Intended Recipients	0040, 1010	Optional

SOP-Specific Conformance for SOP Class Storage:

The Storage service class converts a DICOM image into an appropriate Pegasys image format and stores it in the Pegasys patient database. While all the important diagnostic information is preserved, it is not lossless or reversible.

- The Nuclear Medicine image is converted into a corresponding Pegasys NM images. A multi-detector, energy window, phase and/or rotation image is converted and stored into separate Pegasys images.

- CT and MRI images are converted into Pegasys tomo image. Each image frame saves as a separate Pegasys image with the image number as the **View ID**.

- X-Ray, Single-frame Ultrasound and Secondary Capture (SC) images are converted and saved as a static images.

- Any other non-NM image with pixel depth greater than 8-bit is rescaled with the provided window leveling, slope, and intercept information into an 8-bit image.

Communication Profiles

Supported Protocol Stacks

The data transfer uses DICOM Upper Layer Protocol as defined in Part 8 of DICOM standard, i.e., NEMA Standards Publication No. PS 3.8. Under or parallel to this layer:

- TCP/IP stack is supported
- ISO/OSI stack is not supported[1]

Network Media Support

The Pegasys DICOM implementation is indifferent to the physical network media. The only requirement, which is completely transparent to you, is that it operates on top of the TCP/IP stack.

The default connection port is the Ethernet. You can use the serial/modem connection in conjunction with SLIP or PPP software.

You can use other common network media like the following: Token Ring, FDDI, ATM, ISDN, and dedicated T1, T3, and other types of digital or digital/audio lines. These are transparently supported by DICOM but can require additional hardware/software and expertise.

Deviation Report

Extensions, Specialization, Privatizations

- There are no extensions, specialization or privatizations in this release.

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1. Although OSI is not directly supported, Pegasys can coexist with systems operating DICOM on OSI with an additional OSI-TCP/IP gateway.

■ An ADAC private group is created to facilitate lossless transfer between ADAC systems.

Support of Extended Character Sets

Extended character sets are not supported in this release.

Pegasys Private Group

Group 0x0019 is an ADAC Pegasys private group. It is identified as an ADAC private group if the value in element (0019, 0010) is "ADAC_IMG", "ADAC_ROI", or a similar ADAC signature. All the 4 attributes in the following table must be present to make it a useful ADAC Pegasys header group.

In a typical case, the values of ADAC Pegasys Headers (0019, 0020) and Pixel Data (7FE0, 0010) make up an original Pegasys image.

Table 15: ADAC Pegasys Header Module Attributes

Attribute	Tag	Type	VR	VM
ADAC Header Signature	0019, 0010	3	LO	2
Ver200 ADAC Pegasys File Size	0019, 1002	3	IS	1
Ver200 Number of ADAC Headers	0019, 1021	3	US	1
Ver200 ADAC Header/Image Size	0019, 1041	3	IS	1 - n
Ver200 ADAC Pegasys Headers	0019, 1061	3	OB	1

Table 16: Old Pegasys Header Attributes

Attribute	Tag	Type	VR	VM
ADAC Pegasys File Size	0019, 0002	3	IS	1
Number of ADAC Headers	0019, 0011	3	US	1
ADAC Header/Image Sizes	0019, 0012	3	IS	1 - n
ADAC Pegasys Headers	0019, 0020	3	OB	1

Table 17: Philips Private Group - Cardiac Stress State

Attribute	Tag	Type	VR	VM
Philips NM Private Group	7043, 0010	3	LO	1
Cardiac Stress State	7043, 1000	3	SH	1

Configuration

Below is the list of the current seven DICOM configuration files in a Pegasys system:

- **dicompeers.cfg** - used by server and client applications to identify remote DICOM source and destination servers.

- **dicomethers.cfg** - used by client applications to ensure globally unique identifiers

- **dicomcmap.cfg** - used by server and client applications to assign default colormap information for image export

- **dicomscp.cfg** - used by local DICOM server to configure port number, security and translation information.

- **dicominbasket.cfg**, **dicomoutbasket.cfg** - used by the server for support of individual Part 10 (Media Format) files. DICOMDIR is not supported.

- **dicomprint.cfg** - used by DICOM print application.

These are ASCII text files residing in $DATABASE_PATH. You use utility tools with graphical user interface to do the configuration.

Note: You can change the Port Number by highlighting the original text and then typing the new port number. The port number must be the same number used by the remote DICOM Server. Refer to the Site Survey for the TCP Port number.

Table 18: dicompeer.cfg Example

Key	Value (example)	Description
%Description	%RSNA CTN	name of the peer server
node	= dicom_ctn.rsna.org	host name of peer machine
port	= 104	TCP port number
callingAE	= ADAC_SCU1	my calling AE title
calledAE	= CTN_for_ADAC	called AE title in server
max_PDU	= 4096	maximum PDU size in bytes
%Description	%Remote SCP2	start of next peer

Table 19: dicomscp.cfg Example

Key	Value (example)	Description
%Description	%ADAC master server	name of this server
port	= 104	TCP port I listen to
callingAE	= CTN_SCU, Picker	permitted SCU AE's
calledAE	= ADAC_SCP	my AE title
admitted_hosts	= rsna_ctn, odyssey1	where hosts can access me
target database	= adac	which database to store to
%Description	%Local SCP2	start of next server

Table 20: dicomprint.cfg Example

Key	Value (example)	Description
%Name	Drystar1	name of the printer
node	= agfa1	node name in /etc/hosts
port	= 104	TCP port number
callingAE	= ADAC	my AE title
calledAE	= Drystar1	AE title of print SCP
medium	= BLUE FILM	medium type
format	= STANDARD\1,1	image display format
orientation	= LANDSCAPE	display orientation
copies	= 1	copies to print
priority	= MED	printing priority
magnification	= REPLICATE	magnification method
smooth	= 0	smoothing for CUBIC
border	= BLACK	border color
background	= BLACK	no image box color
trim	= YES	trim option
max_density	= 1.7	black density
transpose	= NO	transpose the image?
grayscale	= YES	convert to 8-bit grayscale?
% Next_printer		start of next printer

Comments

Philips Medical Systems implementation of DICOM is synchronized with the latest DICOM standard development at ACR-NEMA.

Appendix

A GLOSSARY

Acronyms and Abbreviations

- ACR   American College of Radiology
- AE   Application Entity
- ANSI   American National Standards Institute
- ATM   Async Transfer Mode
- CGI   Common Gateway Interface
- CT   Computed Tomography
- DICOM   Digital Imaging and Communication in Medicine
- DIMSE-C DICOM   Message Service Element-Composite
- DIMSE-N DICOM   Message Service Element-Normalized
- FDDI   Fiber Distributed Data Interface
- HTTP   Hyper Text Transfer Protocol
- IOD   Information Object Definition
- ISDN   Integrated Services Digital Network
- ISO   International Standards Organization
- LUT   Look - Up - Table
- MRI   Magnetic Resonance Imaging
- NEMA   National Electrical Manufacturers Association
- NM   Nuclear Medicine
- OSI   Open Systems Interconnections
- PACS   Archive Communication System
- PDU   Protocol Data Unit
- RIS   Radiology Information System
- SC   Secondary Capture
- SCP   Service Class Provider (server)
- SCU   Service Class User (client)

- T1   A dedicated digital communication link provided by a telephone company that offers 1.544 megabytes/sec of bandwith, commonly used for carrying traffic to and from private business networks and internet service providers.

- T3   A dedicated digital communication link provided by a telephone company that offers 44.75 megabytes/sec of bandwith, commonly used for carrying traffic to and from private business networks and internet service providers.

- TCP/IP   Transmission Control Protocol/Internet Protocol

- SOP   Service Object Pair

- UID   Unique Identification

- US   Ultra Sound