Conformance Statements for DICOM

PaCentric Connect / Traveler

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1 Document History

Rev:	Date:	Author:	Description:
V0.1	21 Dec 2009	SF	Initial version.
1	2 Jan 2010	SF	MV update

2 General

This document contains DICOM conformance statements for PaCentric Connect and PaCentric Traveler.

3 References

1. PAC016_SoftwareDesignSpecification
2. PAC009_PaCentricProductSpecification

4 Introduction

4.1 Overview

This DICOM Conformance Statement is divided into Sections as described below:

Introduction, which describes the overall structure, intent, and references for this Conformance Statement

Network Conformance Statement, which specifies the PaCentric compliance to the DICOM requirements for the implementation of Networking features.

4.2 Intended Audience

The reader of this document is concerned with software design and/or system integration issues. It is assumed that the reader of this document is familiar with the DICOM Standards and with the terminology and concepts, which are used in those Standards.

If readers are unfamiliar with DICOM terminology they should first refer to the document listed below, then read the DICOM Standard itself, prior to reading this DICOM Conformance Statement document.

A Nontechnical Introduction to DICOM: Conformance

http://www.rsna.org/Technology/DICOM/intro/conformance.cfm

4.3 Scope and Field of Application

It is the intent of this document, to provide an unambiguous specification for PaCentric Connect and Traveler implementations. This specification, called a Conformance Statement, includes a DICOM Conformance Statement and is necessary to ensure proper processing and interpretation of PaCentric medical data exchanged using DICOM. The PaCentric Conformance Statements are available to the public.

The reader of this DICOM Conformance Statement should be aware that different devices are capable of using different Information Object Definitions. For example, a CT Scanner may send images using the CT Information Object, MR Information Object, Secondary Capture Object, etc.

4.4 Important Remarks

The use of these DICOM Conformance Statements, in conjunction with the DICOM Standards, is intended to facilitate communication with PaCentric. However, by itself, it is not sufficient to ensure that inter-operation will be successful. The user (or user's agent) needs to proceed with caution and address the following issues:

- Integration - The integration of any device into an overall system of interconnected devices goes beyond the scope of standards (DICOM), and of this introduction and associated DICOM Conformance Statements when interoperability with different equipment is desired.

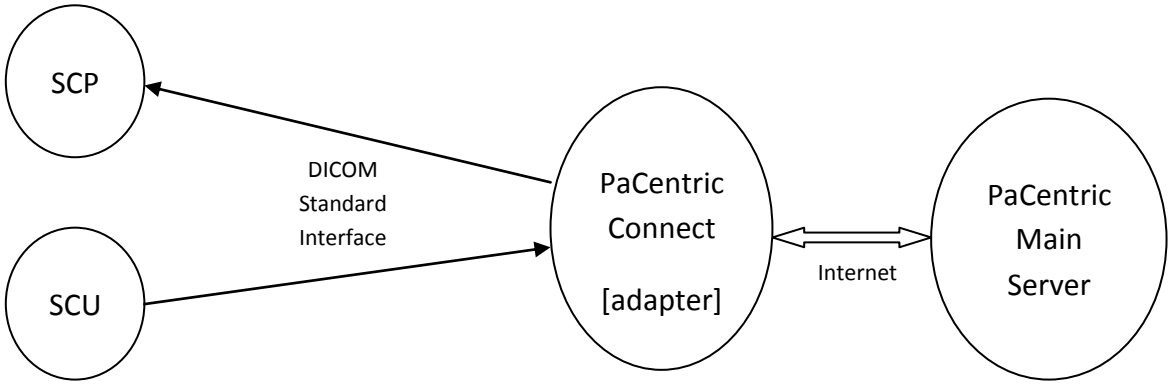
- Validation - Testing the complete range of possible interactions between PaCentric and other DICOM equipment, before the connection is declared operational, should not be overlooked. Therefore, the user should ensure that any image provider accepts full responsibility for all validation required for their connection with PaCentric. This includes the accuracy of the image data once it has crossed the interface between the the imaging device and PaCentric, and the stability of the image data for the intended applications.

- Future Evolution – Fimreite Software AS understands that the DICOM Standard will evolve to meet the user's growing requirements. The user should ensure that any image provider, which connects with PaCentric, also plans for the future evolution of the DICOM Standard.

5 Conformance Statements

5.1 Implementation Model

PaCentric Connect is an adapter which handles DICOM images sent to and from the PaCentric system. This adapter makes it possible to allow queries based on several standard query models, and retrieves requested images to clinical equipment which support the DICOM 3 standard and current modality.



5.2 Receive Images from clinical equipment

PaCentric Connect transfers received image, in its entirety, and the images is finally stored on the PaCentric main server. PaCentric Connect extracts the query information with respect to the patient, study, series and image, but the data is basically transferred and stored anonymously.

5.3 Query from clinical equipment

PaCentric Connect responds to queries based on the available deliveries (records) stored in the PaCentric main server.

5.4 Retrieve to clinical equipment

PaCentric Connect responds to requests for retrieve images (C-MOVEs to the requester, or to a third party) by obtaining a reference from the requester, then obtaining the image object itself from the PaCentric Main server.

5.5 Transmit Images from clinical equipment

PaCentric transmits images from clinical equipment (C-STOREs from the requester or from a third party) by obtaining a reference from the requester, then transfer the image object itself from the PaCentric Connect adapter to the PaCentric Main server.

6 AE Specifications

6.1 PaCentric Connect Specifications

PaCentric Connect provides Standard Conformance to the following DICOM SOP Class as an SCP and SCU.

SOP Class	SOP Class UID
Verification	1.2.840.10008.1.1

Table 1 Verification SOP Class

Table 2 shows a list of SOP Classes that are supported by PaCentric Connect for storage services. In general, PaCentric Connect can be extended to support all image SOP classes recognized by DICOM.

SOP Class	SOP Class UID
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1
Digital X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.1
Digital X-Ray Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.1.1
Digital Mammography X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.2
Digital Mammography X-Ray Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.2.1
Digital Intra-oral X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.3
Digital Intra-oral X-Ray Image Storage - For Processing	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
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
MR Image Storage	1.2.840.10008.5.1.4.1.1.4
Enhanced MR Image Storage	1.2.840.10008.5.1.4.1.1.4.1
MR Spectroscopy Storage	1.2.840.10008.5.1.4.1.1.4.2
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Multi-frame Single Bit Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.1
Multi-frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2
Multi-frame Grayscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3
Multi-frame Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4

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 Storage Trial (Retired)	1.2.840.10008.5.1.4.1.1.9.1
12-lead ECG Waveform Storage	1.2.840.10008.5.1.4.1.1.9.1.1
General ECG Waveform Storage	1.2.840.10008.5.1.4.1.1.9.1.2
Ambulatory ECG Waveform Storage	1.2.840.10008.5.1.4.1.1.9.1.3
Hemodynamic Waveform Storage	1.2.840.10008.5.1.4.1.1.9.2.1
Cardiac Electrophysiology Waveform Storage	1.2.840.10008.5.1.4.1.1.9.3.1
Basic Voice Audio Waveform Storage	1.2.840.10008.5.1.4.1.1.9.4.1
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
Grayscale Softcopy Presentation State Storage SOP Class	1.2.840.10008.5.1.4.1.1.11.1
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 (Retired)	1.2.840.10008.5.1.4.1.1.12.3
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20
Raw Data Storage	1.2.840.10008.5.1.4.1.1.66
VL Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.1
VL Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.2
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-Coordinates 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
Basic Text SR	1.2.840.10008.5.1.4.1.1.88.11
Enhanced SR	1.2.840.10008.5.1.4.1.1.88.22
Comprehensive SR	1.2.840.10008.5.1.4.1.1.88.33
Mammography CAD SR	1.2.840.10008.5.1.4.1.1.88.50
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128
Standalone PET Curve Storage	1.2.840.10008.5.1.4.1.1.129
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 Beams 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
RT Brachy Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.6
RT Treatment Summary Record Storage	1.2.840.10008.5.1.4.1.1.481.7

Table 2 Storage SOP classes

SOP Class	SOP Class Uid
Patient Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.1.1
Study Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.2.1
Patient Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.1.2
Study Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.2.2

Storage Commitment Push Model SOP Class	1.2.840.10008.1.20.1

Table 3 Query / Retrieve SOP classes

SOP Class	SOP Class Uid
Explicit VR Little Endian	1.2.840.10008.1.2.1
Implicit VR Little Endian	1.2.840.10008.1.2
RLE Lossless	1.2.840.10008.1.2.5
JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50

Table 4 Transfer syntaxes for storage

6.1.1 Association Establishment Policies

6.1.1.1 General

The following Application Context Name is proposed and recognized by PaCentric Connect:

DICOM Application Context Name: 1.2.840.10008.3.1.1.1

PaCentric Connect contains no limitations for maximum PDU size.

6.1.1.2 Number of Associations

The maximum number of simultaneous associations accepted by PaCentric is only based on the system resources available. By default, the maximum number of associations is unlimited. There is no inherent limit to the number of associations other than limits imposed by the computer operating system.

6.1.1.3 Asynchronous Operations

PaCentric allows asynchronous operations on any association.

6.1.1.4 Implementation Identifying Information

PaCentric Connect responds with the following implementation identifying parameters:

Implementation Class UID: 1.2.826.0.1.3680043.8.928

Implementation Version Name: PACENTRIC_2010

6.1.1.5 Called/Calling Titles

The default calling title that PaCentric uses is AEPACENTRIC. PaCentric also validates the Called Title and IP address of the requesting SCU during association negotiation,

providing a first pass level of security, by preventing unknown SCU processes from accessing hospital information.

6.1.2 Association Initiation by Real World Activity

6.1.2.1 Real World Activity - Verification

6.1.2.1.1 Associated Real World Activity - Verification

PaCentric issues Verification requests in response to user interface mediated requests to test validity of DICOM connection.

6.1.2.1.2 Presentation Context Table - Verification

PaCentric requests the presentation contexts listed in Table 5.

SOP Class	Transfer Syntax	Role	Extended Negotiation
All [Table 1]	All [Table 4]	SCU	None

Table 5 Presentation context

6.1.2.1.3 SOP Specific Conformance - Verification

PaCentric provides standard conformance to the DICOM Verification Service Class.

6.1.2.2 Real World Activity - Storage

6.1.2.2.1 Associated Real World Activity - Storage

PaCentric transmits images that have been sent to it previously, driven by user requests processes.

6.1.2.2.2 Presentation Context Table - Storage

PaCentric may request any of the Presentation Contexts listed in Table 6 for Storage.

SOP Class	Transfer Syntax	Role	Extended Negotiation
All [Table 2]	All [Table 4]	SCU	None

Table 6 Presentation contexts for storage

6.1.2.2.3 SOP Specific Conformance - Storage

PaCentric conforms to the DICOM Storage Service Class as an SCU.

6.1.2.3 Real World Activity - Find

6.1.2.3.1 Associated Real World Activity - Find

PaCentric never issues query requests to other SCPs.

6.1.2.4 Real World Activity - Move

6.1.2.4.1 Associated Real World Activity - Move

PaCentric never issues move requests to other SCPs.

6.1.3 Association Acceptance Policy

6.1.3.1 Real World Activity - Verification

6.1.3.1.1 Associated Real World Activity - Verification

PaCentric responds to Verification requests to provide an SCU with the ability to determine if PaCentric is receiving DICOM requests.

6.1.3.1.2 Presentation Context Table - Verification

PaCentric accepts any of the Presentation Contexts listed in Table 7 for Verification.

SOP Class	Transfer Syntax	Role	Extended Negotiation
All [Table 1]	All [Table 4]	SCP	None

Table 7 Presentation contexts

6.1.3.1.3 SOP Specific Conformance - Verification

PaCentric provides standard conformance to the DICOM Verification Service Class.
PaCentric returns one of the following status codes:

Service Status	Further Meaning	Protocol Codes	Related Fields	Description
Success	Success	0000		Operation performed properly

Table 8 Verification status codes

6.1.3.1.4 Presentation Context Acceptance Criterion - Verification

PaCentric always accepts a Presentation Context for the Verification SOP Class with the default DICOM transfer syntax listed in Table 4.

6.1.3.1.5 Transfer Syntax Selection Policies - Verification

Since no DICOM data object is associated with a Verification command, only the default DICOM transfer syntax is required or supported.

6.1.3.2 Real World Activity - Storage

6.1.3.2.1 Associated Real World Activity - Storage

PaCentric stores images that are sent to it from an SCU. All images received by PaCentric can be retrieved at a later time from PaCentric; however, the user needs to notice assigned key and password which are retrieved in the Patient name field.

6.1.3.2.2 Presentation Context Table - Storage

PaCentric accepts any of the Presentation Contexts listed in Table 9 for Storage.

SOP Class	Transfer Syntax	Role	Extended Negotiation
All [Table 2]	All [Table 4]	SCP	See Table 16

Table 9 Presentation contexts

Storage Extended Negotiation is supported. PaCentric responds with the following information:

Field Name	Value	Description of Field
Level of Support	2	Level 2 (FULL) SCP
Element Coercion	0	Does not coerce any element

Table 10 Storage extended negotiation

6.1.3.2.3 SOP Specific Conformance - Storage

PaCentric conforms to the DICOM Storage Service Class at Level 2 (Full). No elements are discarded or coerced by PaCentric. However, PaCentric will automatically update patient and study related information including Study Instance UID in the process of make object anonymous. In the event of a successful CSTORE operation, the image has been written to temporary storage, encrypted, and will be transferred to the PaCentric main server as soon as possible.

PaCentric stores all DICOM images with the File Meta Information Header.

PaCentric does not store any non-conformant DICOM objects.

PaCentric will use the study_instance_uid as the patient_id when there is no patient_id provided by the modality.

PaCentric returns one of the following status codes:

Service Status	Further Meaning	Protocol Codes	Related Fields	Description
Refused	Out of resources	A700		Indicates that there was not enough storage space to store the image. Recovery from this condition is left to the administrative functions.
Refused	SOP Class not supported	A800		Indicates that the SOP Class of the Image in the C-STORE operation did not match the Abstract Syntax negotiated for the Presentation Context.
Error	Data set does not match SOP Class	A900		Indicates that the Data Set does not encode an instance of the SOP Class specified.
Error	Failed	C000		The operation was not successful
Error	Unable to process	C002		Unique keys are not unique or are not present from level higher than requested in the Q/R attribute
Error	Unable to process	C010		UID not found or available
Error	Cannot understand	C005		Indicates that the Data Set cannot be parsed into elements.
Warning	Data set does not match SOP Class	B007		Indicates that the Data Set does not match the SOP Class, but that the image was stored anyway.
Warning	Duplicate SOP Instance UID	D000		Indicates that the SOP Instance UID of the specified image is already stored in the database
Success	Success	0000		Operation performed properly

Table 11 C-STORE status codes

6.1.3.2.4 Presentation Context Acceptance Criterion - Storage

PaCentric accepts any number of Storage Presentation Contexts per association request. Any Abstract Syntax may be specified more than once in an association request, if the Transfer Syntaxes differ between the Presentation Contexts.

6.1.3.2.5 Transfer Syntax Selection Policies - Storage

PaCentric supports the transfer syntaxes listed in Table 4.

6.1.3.3 Real World Activity - Find

6.1.3.3.1 Associated Real World Activity - Find

PaCentric responds to query requests that are sent to it from an SCU. PaCentric accepts the three query models, Patient Root, Study Root, and Patient/Study Only on the levels Patient, Study, Series, Image.

6.1.3.3.2 Presentation Context Table - Find

PaCentric accepts any of the Presentation Contexts listed in Table 12 for Query.

SOP Class	Transfer Syntax	Role	Extended Negotiation
All [Table 3] Find	All [Table 4]	SCP	See Note

Table 12 Presentation contexts

Note: Find Extended Negotiation is supported. PaCentric responds with the following information:

Field Name	Value	Description of Field
Relational queries	1	Relational queries supported

Table 13 Find extended negotiation

6.1.3.3.3 SOP Specific Conformance - Find

SOP classes of the Query/Retrieve Service Class are implemented via the DIMSE C-FIND, C-MOVE and CGET services as defined in Part 7 of the DICOM standard.

PaCentric, by default, supports all mandatory search keys. The following four tables describe the search keys for the four levels of query that PaCentric supports.

Description	Tag
Patient name	(0x0010, 0x0010)
Patient id	(0x0010, 0x0020)
Patient Birthday	(0x0010,0x0030)
Patient Sex	(0x0010,0x0040)
Patient Age	(0x0010,0x1010)

Table 14 Patient level attributes

Description	Tag
Study Instance UID	(0x0020, 0x000D)
Study id	(0x0020, 0x0010)

Study date	(0x0008, 0x0020)
Study time	(0x0008, 0x0010)
Accession number	(0x0008, 0x0050)
Referring Physician's Name	(0x0008, 0x0090)
Study Description	(0x0008, 0x1030)

Table 15 Study level attributes

Description	Tag
Series instance UID	(0x0020, 0x000E)
Series number	(0x0020, 0x0011)
Modality	(0x0008, 0x0060)
Station name	(0x0008, 0x1010)

Table 16 Series level attributes

Description	Tag
SOP instance UID	(0x0008, 0x0018)
Image number	(0x0020, 0x0013)

Table 17 Image level attribute

No wildcard matching is accepted for the unique keys at each level of their corresponding query. Wildcards will be automatically removed on the following attributes: patient_id, study_instance_uid, series_instance_uid, sop_instance_uid, patient_age, and modality.

The time range must be presented in the following format (hhmmss:xxxxxx). No ranges on Patient Birthday are supported.

Patient Level includes the Study Level attributes. Study Level includes the Patient Level attributes. Series Level includes the Patient and Study Level attributes. Image Level includes the Patient, Study, and Series Level attributes.

PaCentric returns one of the following status codes to a C-FIND request:

Service Status	Further Meaning	Protocol Codes	Related Fields	Description
Refused	Out of resources	A700		Indicates that there was not enough storage space to store the image. Recovery from this condition is left to the administrative functions.
Failed	Identifier does not match SOP Class	A900		The specified identifier contains a request that does not match the specified SOP Class.
Failed	Unable to process	C001		For some reason (PaCentric

			main server is off-line?) we cannot process this request at this time.
Failed	Unable to process	C002	Unique keys are not unique or are not present from level higher than requested in the Q/R attribute
Failed	Unable to process	C010	UID not found or available
Pending	Pending	FF00	All Optional Keys are supported in the same manner as Required Keys
Pending	Pending	FF01	The matching operation is continuing. Warning that one or more Optional Keys were not supported in the same manner as Required Keys.
Success	Success	0000	Operation performed properly

Table 18 C-Find status codes

6.1.3.3.4 Presentation Context Acceptance Criterion - Find

PaCentric accepts any number of Find Presentation Contexts per association request. Any Abstract Syntax may be specified more than once in an association request, if the Transfer Syntaxes differ between the Presentation Contexts.

6.1.3.3.5 Transfer Syntax Selection Policies - Find

PaCentric supports the transfer syntaxes listed in Table 4.

6.1.3.4 Real World Activity - Move

6.1.3.4.1 Associated Real World Activity - Move

PaCentric responds to retrieve requests that are sent to it from an SCU. PaCentric accepts the three query models, Patient Root, Study Root, and Patient/Study Only at the level Patient, Study, Series, and Image.

6.1.3.4.2 Presentation Context Table - Move

PaCentric accepts any of the Presentation Contexts list in Table 19 for Query.

SOP Class	Transfer Syntax	Role	Extended Negotiation
All [Table 3] Move	All [Table 4]	SCP	See Note

Table 19 Presentation context

Note: Move Extended Negotiation is supported. PaCentric responds with the following information:

Field Name	Value	Description of Field
Relational queries	1	Relational queries supported

Table 20 Move extended negotiation

6.1.3.4.3 SOP Specific Conformance - Move

PaCentric tries to establish an association with the move destination specified in the Move request. One or more of the Presentation Contexts listed in the Store section of this document may be negotiated in this association.

PaCentric periodically sends pending responses after images have been successfully sent to the move destination.

PaCentric returns one of the following status codes to a C-MOVE request:

Service Status	Further Meaning	Protocol Codes	Related Fields	Description
Refused	Out of resources	A701		Unable to calculate number of matches
Refused	Out of resources	A702		Unable to perform storage of images to move destination
Failed	Move destination unknown	A801		The destination of this move request is unknown
Failed	Identifier does not match SOP Class	A900		The specified identifier contains a request that does not match the specified SOP Class
Failed	Unable to process	C002		Unique keys are not unique or are not present from level higher than requested in the Q/R attribute
Failed	Unable to process	C010		Unable to perform this operation at this time
Warning	Warning	B000		Storage is complete with one or more failures
Pending	Pending	FF00		The storage operation is continuing
Pending	Pending for a long time	FF02		This operation is expected to require a long period of time to complete. The SCU may break the association at any time, but the operation will continue to completion.
Success	Success	0000		Operation performed properly

Table 21 C-Move status codes

6.1.3.4.4 Presentation Context Acceptance Criterion - Move

PaCentric accepts any number of Move Presentation Contexts per association request. Any Abstract Syntax may be specified more than once in an association request, if the Transfer Syntaxes differ between the Presentation Contexts.

6.1.3.4.5 Transfer Syntax Selection Policies - Move

PaCentric supports both the transfer syntax of Implicit Little Endian and explicit Little Endian.

7 Communications Profiles

PaCentric provides DICOM TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard.

7.1 TCP/IP Stack

PaCentric inherits its TCP/IP stack from the computer system upon which it executes.

7.1.1 Physical Media Support

PaCentric is indifferent to the physical medium over which TCP/IP executes; it inherits the medium from the computer system upon which it executes.

8 Extensions, Specializations and Privatizations

Not applicable.

9 Configuration

PaCentric obtains configuration information from the following sources:

Mapping from Application Entity Title to Presentation Address is provided by the PaCentric main server. Along with this mapping, the PaCentric main server stores those AE titles that are allowed to communicate with the PaCentric Connect.

10 Support for Extended Character Sets

PaCentric supports the following character sets:

- ISO-IR 6 (default) Basic G0 Set
- ISO-IR 100 Latin Alphabet No. 1

11 Acronyms and Abbreviations

The following acronyms and abbreviations are used in this document:

AE	Application Entity
DICOM	Digital Imaging and Communications in Medicine
NEMA	National Electrical Manufacturers Association
PDU	Protocol Data Unit
SCP	Service Class Provider
SCU	Service Class User
SOP	Service-Object Pair
TCP/IP	Transmission Control Protocol/Internet Protocol
UID	Unique Identifier