

# INFINITT Worklist Gateway Conformance Statement

**Software Version. 3.0.6.0**

*(Last update 16-Apr-08)*

**INFINITT Co., Ltd.**

[support@infinitt.com](mailto:support@infinitt.com)

<http://www.infinitt.com>

# Table of Contents

<b>1</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>2</b>	<b>DICOM CONFORMANCE STATEMENT.....</b>	<b>2</b>
2.1	IMPLEMENTATION MODEL.....	2
2.1.1	Application Data Flow Diagram.....	2
2.1.2	Fundamental Definition of AE's.....	2
2.1.3	Sequencing of Real-World Activities.....	3
2.2	WORKLIST GATEWAY AE SPECIFICATIONS.....	3
2.2.1	SOP Classes Supported.....	3
2.2.1.1	Association Establishment Policies.....	3
2.2.1.1.1	General.....	3
2.2.1.1.2	Number of Associations.....	4
2.2.1.1.3	Asynchronous Nature.....	4
2.2.1.1.4	Implementation Identifying Information.....	4
2.2.1.2	Association Initiation Policy.....	5
2.2.1.2.1	Real-World Activity – MPPS.....	5
2.2.1.3	Association Acceptance Policy.....	8
2.2.1.3.1	Real-World Activity – Verification.....	8
2.2.1.3.2	Real-World Activity – MWL.....	9
2.2.1.3.3	Real-World Activity – MPPS.....	12
2.3	COMMUNICATION PROFILES.....	15
2.3.1	Supported Communication Stacks.....	15
2.3.2	TCP/IP Stack.....	15
2.3.2.1	API.....	15
2.3.2.2	Physical Media Support.....	15
2.3.3	Point-to-Point Stack.....	15
2.3.4	Basic TLS Secure Transport Profile.....	15
2.4	EXTENSION/SPECIALIZATION/PRIVATIZATION.....	16
2.4.1	Standard Extended/Specialized/Private SOP.....	16
2.4.2	Private Transfer Syntaxes.....	16
2.5	CONFIGURATION.....	16
2.5.1	AE Title / Presentation Address Mapping.....	16
2.5.2	Configuration Parameters.....	16

2.6 SUPPORTED EXTENDED CHARACTER SETS ..... 17

<b>Revision History</b>			
<b>Version</b>	<b>Date</b>	<b>Author</b>	<b>Reason for Change</b>
3.0.3.0	2006-10-25	Hayoung Yun	Initial Release
3.0.3.2	2007-01-11	Hayoung Yun	Initial Release

# DICOM Conformance Statement

## for

# INFINITT Worklist Gateway

## Version 3.0.6.0

### NOTE

If you cannot find the answer to your questions in any of the documentation, contact INFINITT Technical Support. Please include any relevant logs, usage descriptions, or other data that may be helpful in diagnosing the problem in your submission.

## 1 Introduction

This conformance statement (CS) specifies the compliance of INFINITT Worklist Gateway to DICOM. It details the DICOM Service Classes and the roles that are supported by this product.

## 2 DICOM Conformance Statement

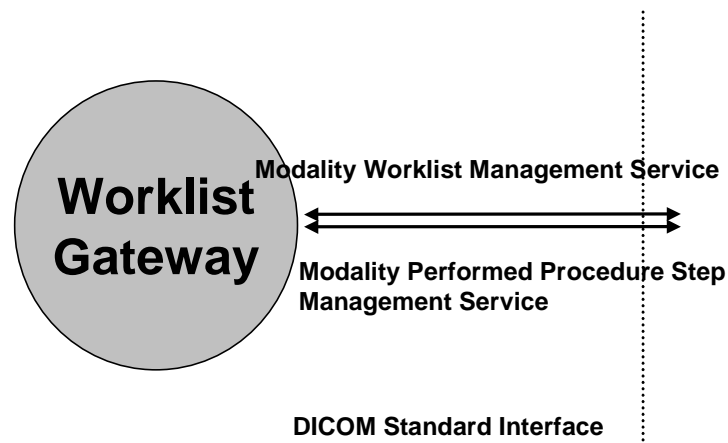
Worklist Gateway are DICOM Gateway running on Microsoft Windows NT/2000 or over. Worklist Gateway is a gateway that is used to exchange information between PACS and Hospital Information System or Radiology Information System.

Note that the formats for this article strictly follows that of the DICOM Standard Part 4 (Service Class Specifications) Annex K and DICOM Standard Part 2 (Conformance) Annex A. Thus, it is advised for the reader to refer to those parts of the standard while reading this article.

### 2.1 Implementation Model

#### 2.1.1 Application Data Flow Diagram

The basic and specific application models for the Worklist Gateway are shown in the following figure.



Worklist Gateway Administrator is used to configure all the configurations for Worklist Gateway. Worklist Gateway are always waiting for request from users.

#### 2.1.2 Fundamental Definition of AE's

Worklist Gateway supports the following functions:

- Response to DICOM associations to find modality worklists from remote hosts
- Response to DICOM associations to query/retrieve modality worklists from remote hosts
- Response to DICOM associations to handle Modality Performed Procedure Step request from remote hosts
- Send Modality Performed Procedure Step results to remote hosts

### 2.1.3 Sequencing of Real-World Activities

Not Applicable

## 2.2 Worklist Gateway AE Specifications

### 2.2.1 SOP Classes Supported

Worklist Gateway provides conformance to the following SOP Class as a SCU.

SOP Class Name	SOP Class UID
Modality Performed Procedure Step	1.2.840.10008.3.1.2.3.3

Table 2-25: SOP Classes Supported as a SCP

Worklist Gateway provides conformance to the following SOP Classes as an SCP.

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
Modality Worklist Information Model – FIND	1.2.840.10008.5.1.4.31
Modality Performed Procedure Step	1.2.840.10008.3.1.2.3.3

Table 2-26: SOP Classes Supported as a SCP

#### 2.2.1.1 Association Establishment Policies

##### 2.2.1.1.1 General

Before any SOP Classes can be exchanged between Worklist Gateway and other DICOM applications, an association stage takes place to negotiate and do the capabilities of the SCP. Worklist Gateway and other DICOM application establish an

association by using the Association Services of the DICOM Upper Layer. During the association establishment stage, Worklist Gateway negotiates the supported SOP classes.

The DICOM Application Context Name (ACN), which is always proposed, is:

<b>Application Context Name</b>	<b>1.2.840.10008.3.1.1.1</b>
---------------------------------	------------------------------

The Maximum Length PDU negotiation is included in all association establishment requests. However, the Maximum Length PDU for an association cannot be greater than:

<b>Maximum Length PDU</b>	<b>16384 bytes</b>
---------------------------	--------------------

The SOP Class Extended Negotiation is not supported. The user information items sent by this application are:

- Maximum PDU Length
- Implementation UID

**2.2.1.1.2 Number of Associations**

The number of supported associations depends on the SCP role of Worklist Gateway. The number of associations as an SCP is virtually unlimited, but it may be confined due to the system resource limit. This means the Worklist Gateway can handle multiple associations at the same time.

**2.2.1.1.3 Asynchronous Nature**

Asynchronous mode is not supported. All operations will be performed synchronously.

**2.2.1.1.4 Implementation Identifying Information**

The Implementation Version Name and the Implementation Class UID are as follows:

<b>Implementation Version Name</b>	<b>INFINITT_3.5</b>
<b>Implementation Class UID</b>	<b>1.2.410.200010.99.3.5</b>

### 2.2.1.2 Association Initiation Policy

Worklist Gateway initiates a new association to transfer MPPS (Modality Performed Procedure Step) to Hospital Information system only when the MPPS from Modality was received. This association corresponds to the Real-World Activities.

#### 2.2.1.2.1 Real-World Activity – MPPS

##### 2.2.1.2.1.1 Associated Real-World Activity

Worklist Gateway can send MPPS to Hospital Information system when receiving MPPS from Modality.

##### 2.2.1.2.1.2 Presentation Context Table

Transfer Syntax Table - Proposed	
Transfer Syntax	UID
Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2
Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1
Explicit VR Big Endian Transfer Syntax	1.2.840.10008.1.2.2

Table 2-27: Transfer Syntax List – Proposed

Presentation Context Table – Proposed				
Abstract Syntax		Transfer Syntax	Role	Extended Negotiation
SOP Class Name	SOP Class UID			
Modality Performed Procedure Step	1.2.840.10008.3.1.2.3.3	All from Table 2-27	SCU	None

Table 2-28: Presentation Context List – Proposed

##### 2.2.1.2.1.3 SOP Specific Conformance for MPPS SOP Class

This implementation performs N-CREATE and N-SET operation over an association.

The following timers are related to the Modality Performed Procedure Step SCP. These timers can be configured by editing “MFDCM35.PRO” configuration file. If any

of these timers expires, the connection is closed and the operation is considered as failed.

Timer Name	Default (in sec.)	Meaning
ARTIM_TIMEOUT	120	The number of seconds to use as timeout waiting for association request or waiting for the peer to shut down an association.
ASSOC_REPLY_TIMEOUT	60	The number of seconds to wait for reply to associate request.
RELEASE_TIMEOUT	60	The number of seconds to wait for reply to associate response.
WRITE_TIMEOUT	60	The number of seconds to wait for a network write up to be accepted.
CONNECT_TIMEOUT	60	The number of seconds to wait for a network connection to be accepted.
INACTIVITY_TIMEOUT	60	The number of seconds to wait for data between TCP/IP packets.

Table 2-29: Timers for the Modality Performed Procedure Step SCP

The following required and optional keys are supported for MPPS CREATE and SET. Worklist sends an N-CREATE message with all appropriate information for the study. And an N-SET message is then sent with end dates and times, with a status of COMPLETED or DISCONTINUED, and image instance information.

Description/Module	Element Tag	Req.Type N-CREATE (SCU/SCP)	Req.Type N-SET (SCU/SCP)	Note
Specific Character Set	(0008,0005)	1C/1C	Not allowed	
Scheduled Step Attribute Sequence	(0040,0270)	1/1	Not allowed	
>Study Instance UID	(0020,000D)	1/1	Not allowed	
>Accession Number	(0008,0050)	2/2	Not allowed	
>Placer Order Number/Imaging Service Request	(0040,2016)	3/3	Not allowed	
>Filter Order Number/Imaging Service Request	(0040,2017)	3/3	Not allowed	
>Requested Procedure ID	(0040,1001)	2/2	Not allowed	
>Requested Procedure Description	(0032,1060)	2/2	Not allowed	
>Scheduled Procedure Step ID	(0040,0009)	2/2	Not allowed	
>Scheduled Procedure Step Description	(0040, 0007)	2/2	Not allowed	
>Scheduled Action Item Code Sequence	(0040,0008)	2/2	Not allowed	
>>Code Value	(0008,0100)	1C/1	Not allowed	
>>Code Scheme designator	(0008,0102)	1C/1	Not allowed	
>>Code Scheme Version	(0008,0103)	3/3	Not allowed	

>>Code Meaning	(0008,0104)	3/3	Not allowed	
Patient Name	(0010,0010)	2/2	Not allowed	
Patient ID	(0010,0020)	2/2	Not allowed	
Patient Birth Date	(0010,0030)	2/2	Not allowed	
Patient 's Sex	(0010,0040)	2/2	Not allowed	
Performed Procedure Step ID	(0040,0253)	1/1	Not allowed	
Performed Station AE Title	(0040,0241)	1/1	Not allowed	
Performed Station Name	(0040,0242)	2/2	Not allowed	
Performed Location	(0040,0243)	2/2	Not allowed	
Performed Procedure Step Start Date	(0040,0244)	1/1	Not allowed	
Performed Procedure Step Start Time	(0040,0245)	1/1	Not allowed	
Performed Procedure Step Status	(0040,0252)	1/1	3/1	
Performed Procedure Step Description	(0040,0254)	2/2	3/2	
Performed Procedure Type Description	(0040,0255)	2/2	3/2	
Procedure Code Sequence	(0008,1032)	2/2	3/2	
>Code Value	(0008,0100)	1C/1	1C/1	
>Code Scheme Designator	(0008,0102)	1C/1	1C/1	
>Code Scheme Version	(0008,0103)	3/3	3/3	
>Code Meaning	(0008,0104)	3/3	3/3	
Performed Procedure Step End Date	(0040,0250)	2/2	3/1	
Performed Procedure Step End Time	(0040,0251)	2/2	3/1	
Comments on the Performed Procedure Step	(0040,0280)	3/3	3/3	
Modality	(0008,0060)	1/1	Not allowed	
Study ID	(0020,0010)	2/2	Not allowed	
Performed Action Item Code Sequence	(0040,0260)	2/2	3/2	
>Code Value	(0008,0100)	1C/1	1C/1	
>Code Scheme Designator	(0008,0102)	1C/1	1C/1	
>Code Scheme Version	(0008,0103)	3/3	3/3	
>Code Meaning	(0008,0104)	3/3	3/3	
Performed Series Sequence	(0040,0340)	2/2	3/1	
>Performing Physician's Name	(0008,1050)	2C/2	2C/2	
>Protocol Name	(0018,1030)	1C/1	1C/1	
>Operator's Name	(0008,1070)	2C/2	2C/2	
>Series Instance UID	(0020,000E)	1C/1	1C/1	
>Series Description	(0008,103E)	2C/2	2C/2	
>Retrieve AE Title	(0008,0054)	2C/2	2C/2	
>Referenced Image Sequence	(0008,1140)	2C/2	2C/2	
>>Referenced SOP Class UID	(0008,1150)	1C/1	1C/1	
>>Referenced SOP Instance UID	(0008,1155)	1C/1	1C/1	
>Referenced Standalone SOP Instance Sequence	(0040,0220)	2C/2	2C/2	

>>Referenced SOP Class UID	(0008,1150)	1C/1	1C/1	
>>Referenced SOP Instance UID	(0008,1155)	1C/1	1C/1	

Table 2-30: DICOM Attributes for The Modality Performed Procedure Step

### 2.2.1.3 Association Acceptance Policy

#### 2.2.1.3.1 Real-World Activity – Verification

##### 2.2.1.3.1.1 Associated Real-World Activity

Worklist Gateway can transfer DICOM instances to remote applications when responding to the retrieve request.

##### 2.2.1.3.1.2 Presentation Context Table

Transfer Syntax Table – Accepted	
Transfer Syntax	UID
Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2
Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1
Explicit VR Big Endian Transfer Syntax	1.2.840.10008.1.2.2

Table 2-31: Transfer Syntax List – Accepted

Presentation Context Table – Proposed				
Abstract Syntax		Transfer Syntax	Role	Extended Negotiation
SOP Class Name	SOP Class UID			
Verification	1.2.840.10008.1.1	All from Table 2-31	SCP	None

Table 2-32: Presentation Context List - Accepted

##### 2.2.1.3.1.2.1 SOP Specific Conformance for Verification SOP Class

This implementation performs a C-ECHO operation over an association. Timers in Table 2-29 are also applicable to this Verification SCP.

##### 2.2.1.3.1.2.2 Presentation Context Acceptance Criterion

Worklist Gateway can accept multiple presentation contexts for each Service Class.

### 2.2.1.3.1.2.3 Transfer Syntax Selection Policies

Transfer syntaxes are accepted in the following order:

Transfer Syntax	UID
Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1
Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2
Explicit VR Big Endian Transfer Syntax	1.2.840.10008.1.2.2

Table 2-33: Transfer Syntax Acceptance Priority

Note that these acceptance criteria can be overridden by the use of a “Transfer Syntax List” in the “MFDCM35.APP” configuration file.

### 2.2.1.3.2 Real-World Activity – MWL

#### 2.2.1.3.2.1 Associated Real-World Activity

Worklist Gateway is always waiting for a remote host to search data. Then Worklist Gateway is found a required data in the database.

#### 2.2.1.3.2.2 Presentation Context Table

Transfer Syntax Table – Accepted	
Transfer Syntax	UID
Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2
Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1
Explicit VR Big Endian Transfer Syntax	1.2.840.10008.1.2.2

Table 2-34: Transfer Syntax List – Accepted

Presentation Context Table – Accepted				
Abstract Syntax		Transfer Syntax	Role	Extended Negotiation
SOP Class Name	SOP Class UID			
Modality Worklist Information Model – FIND	1.2.840.10008.5.1.4.31	All from Table 2-34	SCP	None

Table 2-35: Presentation Context List – Accepted

#### 2.2.1.3.2.2.1 SOP Specific Conformance for MWL SOP Class

This implementation performs a C-FIND operation over an association.  
 The following required and optional keys are supported for Patient Root FIND. The fields Patient ID, Patient's Name, Study ID, Study Date, Accession Number and Study Description may be queried based on user specification. All other values for fields are requested as part of the query.

Description/Module	Element Tag	Matching Key Type	Return Key Type	Note
Specific Character Set	(0008,0005)	O	1C	
Scheduled Procedure Step Sequence	(0040,0100)	R	1	
>Scheduled Procedure Step AE Title	(0040,0001)	R	1	
>Scheduled Procedure Step Start Date	(0040,0002)	R	1	
>Scheduled Procedure Step Start Time	(0040,0003)	R	1	
>Modality	(0008,0060)	R	1	
>Scheduled Station Name	(0040,0010)	O	2	
>Scheduled Procedure Step Location	(0040,0011)	O	2	
>Scheduled Procedure Step ID	(0040,0009)	O	1	
>Scheduled Procedure Step Description	(0040,0007)	O	1C	
>Scheduled Action Item Code Sequence	(0040,0008)	O	1C	
>>Code Value	(0008,0100)	O	1C	
>>Code Scheme designator	(0008,0102)	O	1C	
>>Code Scheme Version	(0008,0103)	O	3	
>>Code Meaning	(0008,0104)	O	3	
>Scheduled Procedure Step Status	(0040,0020)	O	3	
>Pre-Medication	(0040,0012)	O	2C	
>Requested Contrast Agent	(0032,1070)	O	2C	
Requested Procedure ID	(0040,1001)	O	1	
Requested Procedure Code Sequence	(0032,1064)	O	1C	
>Code Value	(0008,0100)	O	1C	
>Code Scheme designator	(0008,0102)	O	1C	
>Code Scheme Version	(0008,0103)	O	3	
>Code Meaning	(0008,0104)	O	3	
Requested Procedure Priority	(0040,1003)	O	2	
Reason for the Requested Procedure	(0040,1002)	O	3	
Requested Procedure Comments	(0040,1400)	O	3	
Study Instance UID	(0020,000D)	O	1	
Placer Order Number/Imaging Service Request	(0040,2016)	O	3	
Filter Order Number/Imaging Service Request	(0040,2017)	O	3	
Accession Number	(0008,0050)	O	2	
Scheduled Performing Physician's Name	(0040,0006)	O	2	
Requesting Physician	(0032,1032)	O	2	
Referring Physician's Name	(0008,0090)	O	2	

Requesting Service	(0032,1033)	O	3	
Institutional Department Name	(0008,1040)	O	3	
Reason for the Imaging Service Request	(0040,2001)	O	3	
Imaging Service Request Comments	(0040,2400)	O	3	
Issuing Date of Imaging Service Request	(0040,2004)	O	3	
Issuing Time of Imaging Service Request	(0040,2005)	O	3	
Placer Order Number / Imaging Service Request	(0040,2016)	O	3	
Filter Order Number / Imaging Service Request	(0040,2017)	O	3	
Admission ID	(0038,0010)	O	2	
Patient Transport Arrangements	(0040,1004)	O	2	
Current Patient Location	(0038,0300)	O	2	
Patient's Institution Residence	(0038,0400)	O	3	
Patient Name	(0010,0010)	R	1	
Patient ID	(0010,0020)	R	1	
Patient Birth Date	(0010,0030)	O	2	
Patient 's Sex	(0010,0040)	O	2	
Patient's Weight	(0010,1030)	O	2	
Patient's size	(0010,1020)	O	3	
Patient State	(0038,0500)	O	2	
Confidentiality constraint on patient data	(0040,3001)	O	2	
Pregnancy Status	(0010,21C0 )	O	2	
Medical Alerts	(0010,2000)	O	2	
Contrast Allergies	(0010,2110)	O	2	
Special Needs	(0038,0050)	O	2	

Table 2-36: DICOM Attributes for The Modality Worklist

**2.2.1.3.2.2.2 Presentation Context Acceptance Criterion**

Worklist Gateway can accept multiple presentation contexts for each Service Class.

**2.2.1.3.2.2.3 Transfer Syntax Selection Policies**

Transfer syntaxes are accepted in the following order:

Transfer Syntax	UID
Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1
Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2
Explicit VR Big Endian Transfer Syntax	1.2.840.10008.1.2.2

Table 2-37: Transfer Syntax Acceptance Priority

Note that these acceptance criteria can be overridden by the use of a “Transfer Syntax List” in the “MFDCM35.APP” configuration file.

**2.2.1.3.3 Real-World Activity – MPPS**

**2.2.1.3.3.1 Associated Real-World Activity**

Worklist Gateway is always waiting for a remote host to search data. Then Worklist Gateway is finds a required data in the database.

**2.2.1.3.3.2 Presentation Context Table**

Transfer Syntax Table – Accepted	
Transfer Syntax	UID
Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2
Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1
Explicit VR Big Endian Transfer Syntax	1.2.840.10008.1.2.2

Table 2-59: Transfer Syntax List – Accepted

Presentation Context Table – Accepted				
Abstract Syntax		Transfer Syntax	Role	Extended Negotiation
SOP Class Name	SOP Class UID			
Modality Performed Procedure Step	1.2.840.10008.3.1.2.3.3	All from Table 2-37	SCP	None

Table 2-38: Presentation Context List – Accepted

**2.2.1.3.3.2.1 SOP Specific Conformance for MPPS SOP Class**

This implementation performs N-CREATE and N-SET operation over an association. The following required and optional keys are supported for MPPS CREATE and SET. The Worklist sends an N-CREATE message with all appropriate information for the study. And an N-SET message is then sent with end dates and times, with a status of COMPLETED or DISCONTINUED along with image instance information.

Description/Module	Element Tag	Req.Type N-CREATE (SCU/SCP)	Req.Type N-SET (SCU/SCP)	Note
--------------------	-------------	-----------------------------	--------------------------	------

Specific Character Set	(0008,0005)	1C/1C	Not allowed	
Scheduled Step Attribute Sequence	(0040,0270)	1/1	Not allowed	
>Study Instance UID	(0020,000D)	1/1	Not allowed	
>Accession Number	(0008,0050)	2/2	Not allowed	
>Placer Order Number/Imaging Service Request	(0040,2016)	3/3	Not allowed	
>Filter Order Number/Imaging Service Request	(0040,2017)	3/3	Not allowed	
>Requested Procedure ID	(0040,1001)	2/2	Not allowed	
>Requested Procedure Description	(0032,1060)	2/2	Not allowed	
>Scheduled Procedure Step ID	(0040,0009)	2/2	Not allowed	
>Scheduled Procedure Step Description	(0040, 0007)	2/2	Not allowed	
>Scheduled Action Item Code Sequence	(0040,0008)	2/2	Not allowed	
>>Code Value	(0008,0100)	1C/1	Not allowed	
>>Code Scheme designator	(0008,0102)	1C/1	Not allowed	
>>Code Scheme Version	(0008,0103)	3/3	Not allowed	
>>Code Meaning	(0008,0104)	3/3	Not allowed	
Patient Name	(0010,0010)	2/2	Not allowed	
Patient ID	(0010,0020)	2/2	Not allowed	
Patient Birth Date	(0010,0030)	2/2	Not allowed	
Patient 's Sex	(0010,0040)	2/2	Not allowed	
Performed Procedure Step ID	(0040,0253)	1/1	Not allowed	
Performed Station AE Title	(0040,0241)	1/1	Not allowed	
Performed Station Name	(0040,0242)	2/2	Not allowed	
Performed Location	(0040,0243)	2/2	Not allowed	
Performed Procedure Step Start Date	(0040,0244)	1/1	Not allowed	
Performed Procedure Step Start Time	(0040,0245)	1/1	Not allowed	
Performed Procedure Step Status	(0040,0252)	1/1	3/1	
Performed Procedure Step Description	(0040,0254)	2/2	3/2	
Performed Procedure Type Description	(0040,0255)	2/2	3/2	
Procedure Code Sequence	(0008,1032)	2/2	3/2	
>Code Value	(0008,0100)	1C/1	1C/1	
>Code Scheme Designator	(0008,0102)	1C/1	1C/1	
>Code Scheme Version	(0008,0103)	3/3	3/3	
>Code Meaning	(0008,0104)	3/3	3/3	
Performed Procedure Step End Date	(0040,0250)	2/2	3/1	
Performed Procedure Step End Time	(0040,0251)	2/2	3/1	
Comments on the Performed Procedure Step	(0040,0280)	3/3	3/3	
Modality	(0008,0060)	1/1	Not allowed	

Study ID	(0020,0010)	2/2	Not allowed	
Performed Action Item Code Sequence	(0040,0260)	2/2	3/2	
>Code Value	(0008,0100)	1C/1	1C/1	
>Code Scheme Designator	(0008,0102)	1C/1	1C/1	
>Code Scheme Version	(0008,0103)	3/3	3/3	
>Code Meaning	(0008,0104)	3/3	3/3	
Performed Series Sequence	(0040,0340)	2/2	3/1	
>Performing Physician's Name	(0008,1050)	2C/2	2C/2	
>Protocol Name	(0018,1030)	1C/1	1C/1	
>Operator's Name	(0008,1070)	2C/2	2C/2	
>Series Instance UID	(0020,000E)	1C/1	1C/1	
>Series Description	(0008,103E)	2C/2	2C/2	
>Retrieve AE Title	(0008,0054)	2C/2	2C/2	
>Referenced Image Sequence	(0008,1140)	2C/2	2C/2	
>>Referenced SOP Class UID	(0008,1150)	1C/1	1C/1	
>>Referenced SOP Instance UID	(0008,1155)	1C/1	1C/1	
>Referenced Standalone SOP Instance Sequence	(0040,0220)	2C/2	2C/2	
>>Referenced SOP Class UID	(0008,1150)	1C/1	1C/1	
>>Referenced SOP Instance UID	(0008,1155)	1C/1	1C/1	

Table 2-39: DICOM Attributes for The Modality Performed Procedure Step

**2.2.1.3.3.2.2 Presentation Context Acceptance Criterion**

Worklist Gateway can accept multiple presentation contexts for each Service Class.

**2.2.1.3.3.2.3 Transfer Syntax Selection Policies**

Transfer syntaxes are accepted in the following order:

Transfer Syntax	UID
Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1
Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2
Explicit VR Big Endian Transfer Syntax	1.2.840.10008.1.2.2

Table 2-40: Transfer Syntax Acceptance Priority

Note that these acceptance criteria can be overridden by the use of a "Transfer Syntax List" in the "MFDCM35.APP" configuration file.

## 2.3 Communication Profiles

### 2.3.1 Supported Communication Stacks

DICOM Upper Layer (Part 8) is supported using TCP/IP.

DICOM Secure Transport Connection Profiles (Part 15 ) is supported using The Basic TLS Secure Transport Connection Profile.

### 2.3.2 TCP/IP Stack

The TCP/IP stack is inherited from the Microsoft Windows Socket implementation.

#### 2.3.2.1 API

Not Applicable

#### 2.3.2.2 Physical Media Support

DICOM is indifferent to the physical medium over which TCP/IP executes (e.g. Ethernet, Fast-Ethernet, FDDI, ATM, etc)

### 2.3.3 Point-to-Point Stack

Not Applicable

### 2.3.4 Basic TLS Secure Transport Profile

A Basic TLS Secure Transport Profile supports all mechanisms in the table 2 -63. IP ports on which the profile accepts TLS connections is configurable by the application user. And the mechanism for key management based on X.509 certificate validation.

Supported TLS Feature	Minimum Mechanism
Entity Authentication RSA	RSA based certificates
Exchange of Master Secrets	RSA
Data Integrity	SHA
Privacy	Triple DES EDE, CBC, NULL

Table 2-41: Mechanisms for Basic TLS Secure Transport Profile

## **2.4 Extension/Specialization/Privatization**

### **2.4.1 Standard Extended/Specialized/Private SOP**

None Supported

### **2.4.2 Private Transfer Syntaxes**

None Supported

## **2.5 Configuration**

### **2.5.1 AE Title / Presentation Address Mapping**

The Local AE Title is configurable in the Setting menu.

### **2.5.2 Configuration Parameters**

The following fields are configurable for this AE (local):

- Local AE Title
- Local IP Address
- Local TCP Port Number
- Accept/Reject Policy for unknown called/calling AE Title

## 2.6 Supported Extended Character Sets

This implementation supports the following extended character set:

- ISO-IR 6 = Default repertoire
- ISO-IR 100 = Latin alphabet No. 1, supplementary set
- ISO-IR 101 = Latin alphabet No. 2, supplementary set
- ISO-IR 109 = Latin alphabet No. 3, supplementary set
- ISO-IR 110 = Latin alphabet No. 4, supplementary set
- ISO-IR 144 = Cyrillic
- ISO-IR 127 = Arabic
- ISO-IR 126 = Greek
- ISO-IR 138 = Hebrew
- ISO-IR 148 = Latin alphabet No. 5, supplementary set
- ISO-IR 166 = Thai
- ISO-IR 13 = Japanese, Katakana
- ISO-IR 87 = Japanese, Kanji
- ISO-IR 149 = Korean
- ISO-IR 192 = Unicode, UTF-8