GE Healthcare

Technical Publications

Direction 2021139-011
Revision 1

DMWL SCP 4.2
DICOM CONFORMANCE STATEMENT

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1. INTRODUCTION

1.1 OVERVIEW

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

Section 1 (Introduction), which describes the overall structure, intent, and references for this Conformance Statement

Section 2 (Network Conformance Statement), which specifies the GEMS equipment compliance to the DICOM requirements for the implementation of Networking features.

Section 3 (Modality Worklist Information Model), which specifies the GEMS equipment compliance to DICOM requirements for the implementation of the Modality Worklist service.

1.2 OVERALL DICOM CONFORMANCE STATEMENT DOCUMENT STRUCTURE

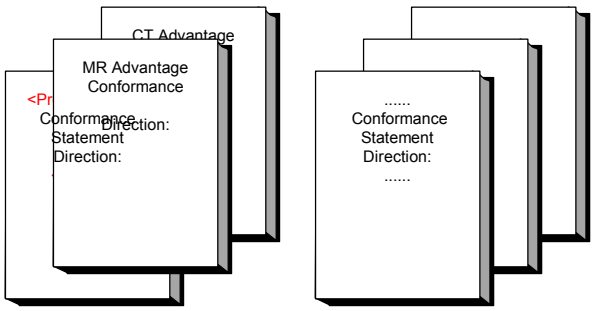
The Documentation Structure of the GEMS Conformance Statements and their relationship with the DICOM v3.0 Conformance Statements is shown in the Illustration below.

ID/Net v3.0

Introduction to the Integrated DICOM/Network v3.0 (ID/Net v3.0) Conformance Statement Direction: 2118780

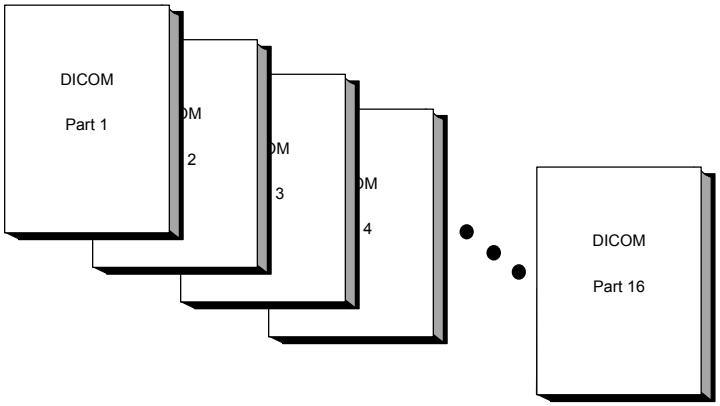
APPLICATION ENTITY SPECIFICATION
(SERVICE CLASSES, INFORMATION OBJECTS, MESSAGE EXCHANGES, ETC.)

Product Implementation:



DICOM STANDARD

Standard Specification:



This document specifies the DICOM implementation. It is entitled:

DMWL SCP 4.2
Conformance Statement for DICOM
Direction ***<Direction Number>***

This DICOM Conformance Statement documents the DICOM Conformance Statement and Technical Specification required to interoperate with the GEMS network interface. Introductory information, which is applicable to all GEMS Conformance Statements, is described in the document:

Introduction to the Integrated DICOM/Network v3.0 (ID/Net v3.0)
Conformance Statement
Direction: 2118780

This Introduction familiarizes the reader with DICOM terminology and general concepts. It should be read prior to reading the individual products' GEMS Conformance Statements.

The GEMS Conformance Statement, contained in this document, also specifies the Lower Layer communications which it supports (e.g., TCP/IP). However, the Technical Specifications are defined in the DICOM Part 8 standard.

For more information including Network Architecture and basic DICOM concepts, please refer to the Introduction.

For more information regarding DICOM, copies of the Standard may be obtained on the Internet at http://medical.nema.org. Comments on the Standard may be addressed to:

DICOM Secretariat
NEMA
1300 N. 17th Street, Suite 1847
Rosslyn, VA 22209
USA
Phone: +1.703.841.3200

1.3 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 Standard and with the terminology and concepts which are used in that Standard.

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.

Introduction to the Integrated DICOM/Network v3.0 (ID/Net v3.0)
Conformance Statement
Direction: 2118780

1.4 SCOPE AND FIELD OF APPLICATION

It is the intent of this document, in conjunction with the *Introduction to the Integrated DICOM/Network v3.0 (ID/Net v3.0) Conformance Statement, Direction: 2118780*, to provide an unambiguous specification for GEMS implementations. This specification, called a Conformance Statement, includes a DICOM Conformance Statement and is necessary to ensure proper processing and interpretation of GEMS medical data exchanged using DICOM v3.0. The GEMS Conformance Statements are available to the public.

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

Included in this DICOM Conformance Statement are the Module Definitions which define all data elements used by this GEMS implementation. If the user encounters unspecified private data elements while parsing a GEMS Data Set, the user is well advised to ignore those data elements (per the DICOM standard). Unspecified private data element information is subject to change without notice. If, however, the device is acting as a "full fidelity storage device", it should retain and re-transmit all of the private data elements which are sent by GEMS devices.

1.5 IMPORTANT REMARKS

The use of these DICOM Conformance Statements, in conjunction with the DICOM Standards, is intended to facilitate communication with GE imaging equipment. 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 at least four issues:

- **Integration** - The integration of any device into an overall system of interconnected devices goes beyond the scope of standards (DICOM v3.0), and of this introduction and associated DICOM Conformance Statements when interoperability with non-GE equipment is desired. The responsibility to analyze the applications requirements and to design a solution that integrates GE imaging equipment with non–GE systems is the **user's** responsibility and should not be underestimated. The **user** is strongly advised to ensure that such an integration analysis is correctly performed.
- **Validation** - Testing the complete range of possible interactions between any GE device and non–GE devices, before the connection is declared operational, should not be overlooked. Therefore, the **user** should ensure that any non–GE provider accepts full responsibility for all validation required for their connection with GE devices. This includes the accuracy of the image data once it has crossed the

interface between the GE imaging equipment and the non–GE device and the stability of the image data for the intended applications.

Such a validation is required before any clinical use (diagnosis and/or treatment) is performed. It applies when images acquired on GE imaging equipment are processed/displayed on a non-GE device, as well as when images acquired on non-GE equipment is processed/displayed on a GE console or workstation.

- **Future Evolution** - GE understands that the DICOM Standard will evolve to meet the user's growing requirements. GE is actively involved in the development of the DICOM Standard. DICOM will incorporate new features and technologies and GE may follow the evolution of the Standard. The GEMS protocol is based on DICOM as specified in each DICOM Conformance Statement. Evolution of the Standard may require changes to devices which have implemented DICOM. **In addition, GE reserves the right to discontinue or make changes to the support of communications features (on its products) described by these DICOM Conformance Statements**. The **user** should ensure that any non–GE provider, which connects with GE devices, also plans for the future evolution of the DICOM Standard. Failure to do so will likely result in the loss of function and/or connectivity as the DICOM Standard changes and GE Products are enhanced to support these changes.
- **Interaction** - It is the sole responsibility of the **non–GE provider** to ensure that communication with the interfaced equipment does not cause degradation of GE imaging equipment performance and/or function.

1.6 REFERENCES

A list of references which is applicable to all GEMS Conformance Statements is included in the *Introduction to the Integrated DICOM/Network v3.0 (ID/Net v3.0) Conformance Statement, Direction: 2118780*.

1.7 DEFINITIONS

A set of definitions which is applicable to all GEMS Conformance Statements is included in *the Introduction to the Integrated DICOM/Network v3.0 (ID/Net v3.0) Conformance Statement, Direction: 2118780*.

1.8 SYMBOLS AND ABBREVIATIONS

A list of symbols and abbreviations which is applicable to all GEMS Conformance Statements is included in the *Introduction to the Integrated DICOM/Network v3.0 (ID/Net v3.0) Conformance Statement, Direction: 2118780*.

2. NETWORK CONFORMANCE STATEMENT

2.1 INTRODUCTION

This section of the DICOM Conformance Statement specifies the DMWL SCP compliance to DICOM requirements for **Networking** features.

The DMWL SCP allows an imaging device to query Worklist information and sends back the information asked. It implements Modality Worklist Management SOP Class as a SCP, providing the DICOM C-FIND service as a service class provider (SCP)

Note that the format of this section strictly follows the format defined in DICOM Standard PS 3.2 (Conformance). Please refer to that part of the standard while reading this section.

2.2 IMPLEMENTATION MODEL

DMWL SCP is implemented as a stand-alone component. Its internal Worklist is fed through a XML RPC interface and it provides to imaging devices the Modality Worklist Management SOP Class as a SCP.

As it is a standalone component, its local Application Entity Title is configurable, default value been DMWL_AE, that is used in this document.

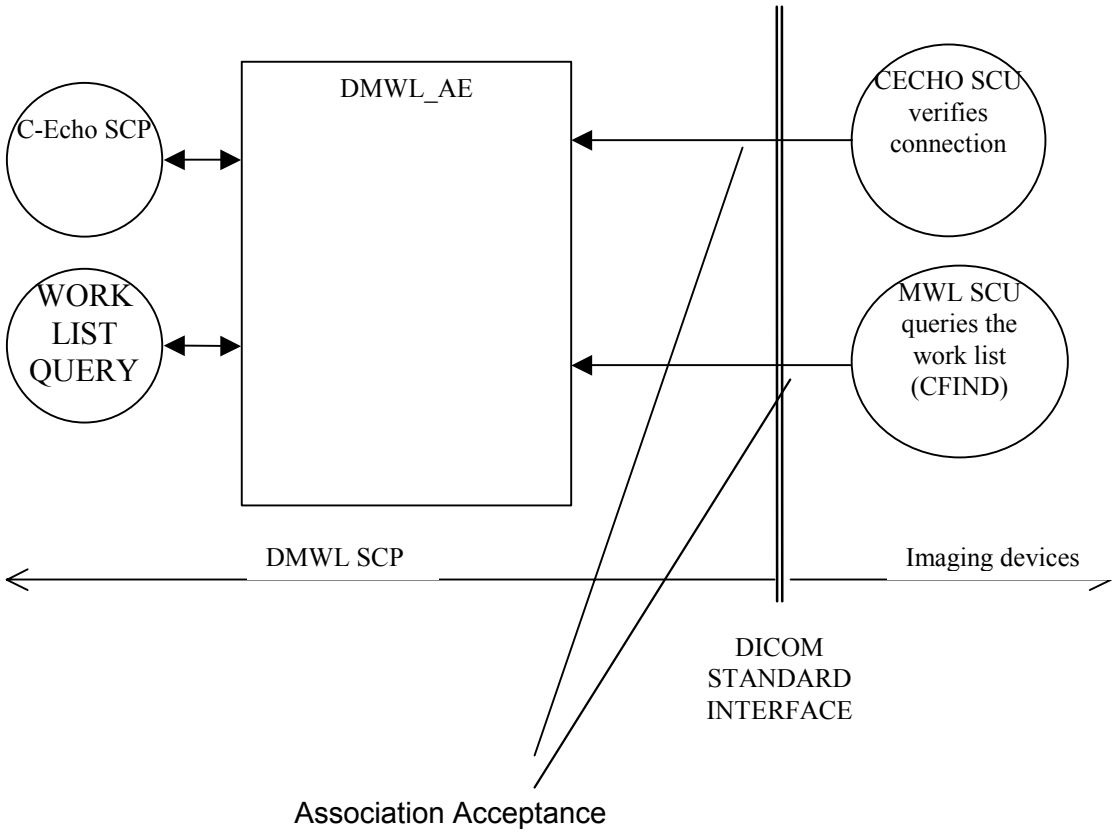
2.2.1 Application Data Flow Diagram

DMWL SCP runs as a Windows service, which automatically starts when the machine is booted and at the end of the installation.

The DMWL SCP does not accept any association initiated by an imaging device, who has not been granted connection authorization to this DICOM server.

The network application model for the DMWL SCP is shown in the following Illustration

ILLUSTRATION 2–1
DMWL SCP NETWORK APPLICATION MODEL AND DATA FLOW DIAGRAM



2.2.2 Functional Definition of AE

A remote DICOM Application Entity initiates an association for DICOM Modality Worklist Service. When DICOM SCP accepts the association, the remote AE transmits the DICOM information objects within the Worklist request to DMWL SCP. Using these attributes DMWL SCP queries its internal Worklist according to the matching keys given in the Worklist request.

Afterwards DICOM SCP transmits the Worklist item(s) within the Worklist response back to the remote DICOM node.

A remote DICOM Application Entity initiates an association for DICOM verification Service. When DICOM SCP accepts the association, the remote AE sends a C-Echo RQ to DMWL SCP, which responds using the C-Echo REQ.

2.2.3 Sequencing of Real-World Activities

There are no specific requirements for the sequencing of the real world activities. Information is available for querying at any time

2.3 AE SPECIFICATIONS

2.3.1 DMWL_AE AE Specification

The DMWL_AE Application Entity provides Standard Conformance to the following DICOM SOP Classes as an **SCP**:

SOP Class Name	SOP Class UID
Verification SOP Class	1.2.840.10008.1.1
Modality Worklist Information Model - FIND	1.2.840.10008.5.1.4.31

2.3.2 Association Establishment Policies

2.3.2.1 General

The DICOM Application Context Name, which is always accepted, is:

Application Context Name	1.2.840.10008.3.1.1.1

The AE will propose a maximum PDU length of 28 Kbytes

2.3.2.2 Number of Associations

The number of simultaneous associations supported, as a Service Class Provider is theoretically unlimited.

2.3.2.3 Asynchronous Nature

The DMWL SCP AE does not support asynchronous operations (multiple concurrent operations on one association) and all operations are performed synchronously.

2.3.2.4 Implementation Identifying information

The Implementation UID for this Implementation is:

DMWL SCP Implementation UID	1.2.840.113619.6.172
DMWL Implementation Version Name	DMWL 4.2

2.3.2.5 Association Initiation by Real-World Activity

DMWL SCP does not initiate associations with other AE's..

2.3.2.6 Association Acceptance Policy

The DMWL SCP accepts associations when a real world activity DMWL REQUEST takes place. The DMWL REQUEST activity is defined as any activity, involving:

- Verification of the connection from another AE (CECHO);
- A request from a modality, or other entity, for querying the work list (MWL CFIND);

The DMWL SCP will only accept an association request from an authorized AE title. This means, that a manual action is needed before an imaging device can query the DMWL SCP. When receiving requests from an non authorized device, the DMWL SCP will permanently reject the association request with following reason : CALLING_AETITILE_NOT_RECOGNIZED

2.3.2.7 Real World Activity "Worklist Query"

The DMWL_AE accepts associations when an authorized remote DICOM Application Entity initiates a Worklist Query operation.

2.3.2.7.1 Accepted Presentation Context Table

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended**
Name	**UID**	**Name**	**UID**		**Negotiation**
Basic Worklist Information - FIND	1.2.840.10008.5.1.4.31	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None

2.3.2.7.2 Presentation Context Acceptance Criterion

The DMWL SCP evaluates each Presentation Context independently, and accepts any Presentation Context that matches an Abstract Syntax for any Real-World Activity.

2.3.2.7.3 Transfer Syntax Selection Policies

If a Presentation Context proposes several Transfer Syntaxes, the DMWL will accept only one Transfer Syntax for that Presentation Context. The transfer syntax selected will the first one found in that list: first Explicit VR Big Endian then Explicit VR Little Endian and finally Implicit VR Little Endian.

2.3.2.7.4 SOP Specific DICOM Conformance Statement for the Modality Worklist Information Model – FIND SOP Class

The DMWL_AE provides matching against query keys as described in Section 3 Modality Worklist Query Implementation.

The DMWL SCP supports a configurable “inactivity timeout” that is triggered when a DICOM association is open for a long time and no worklist query is received by the SCP. When this timeout expires, the association is aborted (A-ABORT).

The DMWL SCP supports a C-Find Cancel request at any time while a DMWL request is processed. Upon C-Find Cancel request reception, the DMWL component stops sending matching responses and shall send a final response with the value “FE00” (i.e. Cancelled) in the status field (0000,0900).

The DMWL SCP rejects C-FIND Request coming from Imaging Devices addressed to a “Called AE Title” different from its AE Title. It rejects the association with reason: “unrecognized called AE Title”.

The DMWL DICOM Interface generates C-FIND response for each match with an identifier containing values of all matching key attributes. When all optional keys are supported, all such responses contain a status of pending. FF00. If some optional keys are not supported, all such responses contain a status of pending. FF01

The DMWL DICOM Interface sends a C-FIND response with no identifier and a status "Success", when the process of matching is complete.

Per imaging device configuration, when number of SPS matching the request exceeds a maximum configurable number, the DMWL SCP may send only that number of SPS and return a refused "out of resources" status (A700) with a Error comment in tag (0000,0902) DICOM PS 3.7 2003 - E.1Following are the status codes the Application may send back to the SCU Equipment while performing the requested Query.

TABLE 1 STATUS RESPONSES, RETURNED BY DMWL SCP

STATUS CODE (Hexadecimal)	RELATED FIELDS	STATUS TYPE	MEANING	DATA SET (IDENTIFIER)
0000	None	Success	Operation has been successfully competed.	No
FF00	None	Pending	Matches are continuing. Current match is supplied in the identifier and any optional keys are supported in the same manner as required keys.	Yes
FF01	None	Pending	Matches are continuing. Current match is supplied in the identifier. WARNING, that one or more optional keys are not supported for existence	Yes
A700	(0000,0902)	Failed	Number of matching items exceeds maximum number of items allowed to send for a particular device	No
FE00	None	Cancel	C-FIND operation has been cancelled by the SCU	No
C000	(0000,0902)	Failed	Unable to process due to any internal error	No

2.3.2.8 Real World Activity "Verification"

The DMWL_AE accepts associations when an authorized remote DICOM Application Entity initiates a DICOM Verification operation.

2.3.2.8.1 Accepted Presentation Context Table

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
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None

2.3.2.8.2 SOP Specific DICOM Conformance Statement for the Verification SOP Class

DMWL SCP provides a standard conformance to this class.

DMWL_AE will generate a C-ECHO response with a status of SUCCESS for each C-ECHO request received from a device authorized to query the DMWL SCP.

3. MODALITY WORKLIST SERVICE

3.1 DMWL MAPPING OF DICOM ENTITIES

The DMWL maps DICOM Information Entities to local Information Entities in the product's database and user interface.

TABLE 3.1-1
MAPPING OF DICOM ENTITIES TO DMWL ENTITIES

DICOM	DMWL Entity
Scheduled Procedure Step	Scheduled Procedure Step
Requested Procedure	Requested Procedure

Imaging Service Request	Imaging Service Request
Visit	Visit
Patient	Patient

3.2 WORKLIST QUERY MODULE TABLE

See DICOM PS 3.3 and PS 3.4 for a complete definition of the entities, modules, and attributes.

TABLE 3.2-1
MODALITY WORKLIST INFORMATION MODEL MODULES

Entity Name	Module Name	Reference
Scheduled Procedure Step	SOP Common	3.3.1
	Scheduled Procedure Step	3.3.1
Requested Procedure	Requested Procedure	3.3.1
Imaging Service Request	Imaging Service Request	3.3.1
Visit	Visit Identification	3.3.1
	Visit Status	3.3.1
	Visit Relationship	3.3.1
	Visit Admission	3.3.1
Patient	Patient Relationship	3.3.1
	Patient Identification	3.3.1
	Patient Demographic	3.3.1
	Patient Medical	3.3.1

3.3 WORKLIST QUERY MODULE DEFINITIONS

Please refer to DICOM Standard PS 3.3. (Information Object Definitions) for a description of each of the query key attributes contained within the Modality Worklist Information Model.

3.3.1 Worklist Query Matching and return keys

Name	Tag	VR	Matching type	Returned value type
SOP Common				
Specific Character Set	0008,0005	CS	NO	Present if Extended char set used
Scheduled Procedure Step				
Scheduled Procedure Step Sequence	0040,0100	SQ	Sequence	1
>Scheduled Station AE Title	0040,0001	AE	Single value	1
>Scheduled Procedure Step Start Date	0040,0002	DA	Single Value &Range by meaning	1
>Scheduled Procedure Step Start Time	0040,0003	TM	Single Value &Range by meaning	1
>Modality	0008,0060	CS	Single value	1
>Scheduled Performing Physician's Name	0040,0006	PN	Single value & Wildcard	2
>Scheduled Procedure Step Description	0040,0007	LO	NO	Present with a non zero length value or absent
>Scheduled Station Name	0040,0010	SH	Single value	2
>Scheduled Procedure Step Location	0040,0011	SH	NO	2
>Scheduled Protocol Code Sequence	0040,0008	SQ	NO	Present with a non zero length value or absent
>>Code Value	0008,0100	SH	NO	Present if sequence is present
>>Coding Scheme Version	0008,0103	SH	NO	3

Name	Tag	VR	Matching type	Returned value type
>>Coding Scheme Designator	0008,0102	SH	NO	Present if sequence is present
>>Code Meaning	0008,0104	LO	NO	3
>Pre-Medication	0040,0012	LO	NO	Present with a non zero length value or absent
>Scheduled Procedure Step ID	0040,0009	SH	NO	1
>Requested Contrast Agent	0032,1070	LO	NO	Present with a non zero length value or absent
>Scheduled Procedure Step Status	0040,0020	CS	Single value	3
Requested Procedure				
Requested Procedure ID	0040,1001	SH	Single Value	1
Requested Procedure Description	0032,1060	LO	NO	Present with a non zero length value or absent Either Requested Procedure Description or Requested Procedure Code Sequence is present
Requested Procedure Code Sequence	0032,1064	SQ	NO	Present with a non zero length value or absent Either Requested Procedure Description or Requested Procedure Code Sequence is present
>Code Value	0008,0100	SH	NO	Present if sequence is present
>Coding Scheme Designator	0008,0102	SH	NO	Present if sequence is present

Name	Tag	VR	Matching type	Returned value type
>Coding Scheme Version	0008,0103	SH	NO	3
>Code Meaning	0008,0104	LO	NO	3
Study Instance UID	0020,000D	UI	Single value	1
Referenced Study Sequence	0008,1110	SQ	NO	2
>Referenced SOP Class UID	0008,1150	UI	NO	Equals to “Detached Study Management SOP Class” if sequence is non empty
>Referenced SOP Instance UID	0008,1155	UI	NO	Equals to Study Instance UID (0020,000D) if sequence is non empty
Requested Procedure Priority	0040,1003	SH	NO	2
Patient Transport Arrangements	0040,1004	LO	NO	2
Requested Procedure Comments	0040,1400	LT	NO	3
Names of Intended Recipients of results	0040,1010	PN	NO	3
Requested Procedure Location	0040,1005	LO	NO	3
Imaging Service Request				
Accession Number	0008,0050	SH	Single Value	Present
Requesting Physician	0032,1032	PN	NO	2
Referring Physician's Name	0008,0090	PN	NO	2
Imaging Service Request Comments	0040,2400	LT	NO	3
Requesting Service	0032,1033	LO	NO	3
Reason for the Imaging Service Request	0040,2001	LO	NO	3

Name	Tag	VR	Matching type	Returned value type
PlacerOrderNumberImagingServiceRequest	0040,2016	LO	NO	3
FillerOrderNumberImagingServiceRequest	0040,2017	LO	NO	3
OrderEnteredBy	0040,2008	PN	NO	3
OrderEnterersLocation	0040,2009	SH	NO	3
OrderCallbackPhoneNumber	0040,2010	SH	NO	3
Visit Identification				
Admission ID	0038,0010		Single value	2
Visit Status				
Current Patient Location	0038,0300	LO	Single value	2
Visit Relationship				
Referenced Patient Sequence	0008,1120	SQ	NO	Zero-Length field
>Referenced SOP Class UID	0008,1150	UI	NO	Absent
>Referenced SOP Instance UID	0008,1155	UI	NO	Absent
IssuerofAdmissionID	0038,0011	LO	NO	3
Visit Admission				
Patient Relationship				
Patient Identification				
Patient's Name	0010,0010	PN	Single value & Wildcard	1

Name	Tag	VR	Matching type	Returned value type
Patient ID	0010,0020	LO	Single value	1
Issuer of Patient ID	0010,0021	LO	NO	3
Other Patient ID's	0010,1000	LO	NO	3
Other Patient Names	0010,1001	PN	NO	3
Patient Demographic				
Patients Birth Date	0010,0030	DA	NO	2
Patient's Sex	0010,0040	CS	NO	2
Patient's Primary Language Code Sequence	0010,0101	SQ	NO	3
>Code Value	0008,0100	SH	NO	Present if sequence is present
>Coding Scheme Designator	0008,0102	SH	NO	Present if sequence is present
>Code Meaning	0008,0104	LO	NO	Present if sequence is present
Patient's Primary Language Code Modifier Sequence	0010,0102	SQ	NO	3
>Code Value	0008,0100	SH	NO	Present if sequence is present
>Coding Scheme Designator	0008,0102	SH	NO	Present if sequence is present
>Code Meaning	0008,0104	LO	NO	Present if sequence is present
Patient's Weight	0010,1030	DS	NO	2
Confidentiality constraint on patient data Description	0040,3001	LO	NO	2

Name	Tag	VR	Matching type	Returned value type
Ethnic Group	0010,2160	SH	NO	3
Patient Comments	0010,4000	LT	NO	3
Patient's Address	0010,1040	LO	NO	3
Patient's Telephone Numbers	0010,2154	SH	NO	3
Patient Medical				
Patient State	0038,0500	LO	NO	2
Pregnancy Status	0010,21C0	US	NO	2
Medical Alerts	0010,2000	LO	NO	2
Contrast Allergies	0010,2110	LO	NO	2
Special Needs				2
Patients Size	0010,1020	DS	NO	3
Military Rank	0010,1080	LO	NO	3
Region of Residence	0010,2152	LO	NO	3

3.3.2 Matching description

The DMWL SCP ignores Priority Attribute.

The DMWL supports Date and Time single value matching by meaning, not by "String Compare.
Note :It means that a value encoded in the new Date (or Time) format matches the same value encoded in the old Date (or Time) format. As well, it means that the time values 11 or 1100 or 110000 shall both match the time value 110000.000.
Allowed time range is from 00:00 till 23:59 when creating updating Worklist items. If an imaging device asks exams scheduled at 24:00, it will not match any item.

When providing Time, the DMWL SCP encodes it with hours, minutes and seconds (i.e. HHMMSS). The ability to send only hours (i.e. with no minutes, neither seconds) to encode 11:00 am is not used.

The DMWL component supports Person Name Wildcard matching as defined in DICOM . This includes following cases:

- Only one name component has been sent and appended with a "*"(e.g. Doe*).
- Only one name component has been sent and appended with two or more (up to 4) wildcards "*".
- Name components have been appended with a "*", and carets are used to separate the different components (e.g. Doe*^John*).
- Name components have been appended with a "*", carets are used to separate the different components and trailing carets are provided. For instance:
  - Doe*^John*^^^
  - Doe*^John*^*^*^*

When providing Time, the DMWL SCP encodes it with hours, minutes and seconds (i.e. HHMMSS). The ability to send only hours (i.e. with no minutes, neither seconds) to encode 11:00 am is not used.

The DMWL SCP is case and accent insensitive while matching for PN VR attributes i.e. Patient's Name (0010,0010) and Scheduled Performing Physician's Name (0040,0006)

4. COMMUNICATION PROFILES

4.1 SUPPORTED COMMUNICATION STACKS

The DICOM Upper Layer Protocol is supported using TCP/IP, as specified in DICOM PS3.8.

4.2 TCP/IP STACK

The TCP/IP stack is inherited from the Operating System.

4.3 PHYSICAL MEDIA SUPPORT

The DMWL SCP AE makes no assumptions and has no limitation pertaining to the physical media over which the TCP/IP stack is implemented

5. EXTENSIONS/SPECIALIZATIONS/PRIVATIZATIONS

5.1 STANDARD EXTENDED / SPECIALIZED / PRIVATE SOP CLASSES

DMWL SCP does not implement any private/extended/specialized SOP class.

5.2 PRIVATE TRANSFER SYNTAX

DMWL SCP does not implement any private transfer syntax.

6. CONFIGURATION

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

- Local AE Title
- Local IP Address
- Local Listening Port Number

The following fields are configurable:

- Inactivity Timer
- Maximum number of items to be sent to a device
- Status sent to a device when number of matching items exceed maximum number of items for that device

Note: All configurations must be performed by a GE Field Engineer.

The DMWL SCP allows a per device configuration, that will lead to modify the query sent by the imaging device and/or the response sent back to the imaging device. Please refer to DMWL service guide for additional information on that topic.

7. SUPPORT OF EXTENDED CHARACTER SETS

The DMWL SCP supports following extended character set in all queries from Imaging Devices:
ISO-IR-100 (Supplementary set for characters used in Western European language).

It is able to process Modality Worklist queries with full matching capabilities including that extended character set.

It is able to generate Worklist items with the extended Character set supported.

It supports queries including an empty Extended character Set attribute and queries with a Single Byte extended Character Set specified although no extended characters is used in the query.

It accepts Modality Worklist queries including an unsupported single byte extended character set. It will treat unrecognized characters as wildcards and match only on characters in the default repertoire, and return a response in the default repertoire. See DICOM CP 199 Specific Character Set in Queries

8. SECURITY PROFILES

The product does not conform to any defined DICOM Security Profiles.

It is assumed that the product is used within a secured environment. It is assumed that a secured environment includes at a minimum:

1. Firewall or router protections to ensure that only approved external hosts have network access to the product.
2. Firewall or router protections to ensure that the product only has network access to approved external hosts and services.
3. Any communications with external hosts and services outside the locally secured environment use appropriate secure network channels (such as a Virtual Private Network (VPN))

9. DMWL SCP CONNECTED TO A NON DICOM COMPLIANT RIS

When the DMWL SCP is connected to a non DICOM compliant RIS, some mandatory attributes may be missing. In that case, the DMWL SCP uses following algorithm to be able to send back that information:

- Modality (0008,0060), Scheduled Station AE title (0040,0001), Scheduled Station Name : If a match is asked on one of this attributes, the value sent back is the one asked for, otherwise value sent back is taken out of the device configuration.

- Scheduled Procedure Step Start Time (0040,0003), Scheduled Procedure Step Start Date (0040,0002) : If a match is asked on one of this attributes, the value sent back is the one asked for, otherwise value sent back is current time in Scheduled Procedure Step Start Time and current date in Scheduled Procedure Step Start Date