

OmniVue (DICOM Viewer) 3.0

DICOM Conformance Statement

Revision 1.3

Revision History

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1. Introduction

This document is a provisional DICOM Conformance Statement for the software product of Genesis Digital Viewer (OmniVue). It contains the details the DICOM Service Classes and the roles that are supported by this product. OmniVue is a powerful PC-based DICOM workstation running on Microsoft Windows 2003 Server/XP/2000/NT/ME. It uses DICOM services to store images, to export images to other DICOM applications, to import images from other DICOM applications, and to print images to DICOM-compliant printers.

Note that the format for this article strictly follows that of the DICOM Standard Part 2 (Conformance) annex A. Thus, it is advised for the readers to refer to that part of the standard while reading this article.

2. Implementation Model

2.1 Application Data Flow Diagram

The basic and specific application models for Genesis Digital Viewer are shown in the following figure.

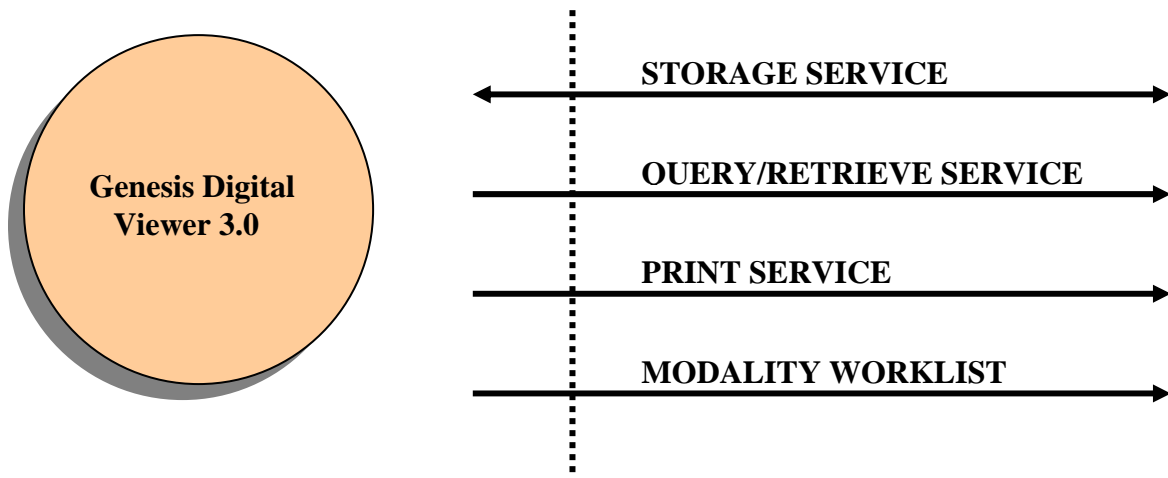


Figure1: DICOM Standard Interface

Genesis Digital Viewer uses DICOM protocol to send images, to query studies/series/images, to print images, to receive images from other DICOM host, and to get patient's demography.

Genesis Digital Viewer is related to the following Real World Activities:

- ⌚ Send images to a remote host
- ⌚ Receive images from remote hosts
- ⌚ Query studies, series or images from a remote host



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- ⌚ Print images to a remote DICOM printer
- ⌚ Get patient's demography to perform image acquisition

Users can send images at the exam work list or image display window of Genesis Digital Viewer. Users can query studies, series or images at the DICOM Query/Retrieve window of Genesis Digital Viewer by the specific Query/Retrieve Keys and Query/Retrieve Level. All the remote DICOM applications must be manually configured on the preference setting of Genesis Digital Viewer. User can query patient's demography via modality worklist management service.

2.2 Functional Definitions of AE's

Genesis Digital Viewer supports the following functions:

- ⌚ Access to patient demographics and pixel data in the local database
- ⌚ Initiate a DICOM association to send images to a remote host
- ⌚ Respond to DICOM associations to receive images from remote hosts
- ⌚ Initiate a DICOM association to query studies from a remote host
- ⌚ Initiate a DICOM association to print images to a remote host
- ⌚ Store DICOM Part 10 format files into a CDR
- ⌚ Query to modality worklist server to retrieve patient's demography

2.3 Sequencing of Real World Activities

Not Applicable

3. AE Specifications

3.1 Genesis Digital Specifications

Genesis Digital Viewer provides Standard Conformance to the following Storage SOP Classes as an SCU and an SCP.

SOP Class	SOP Class UID
Standard CR Image Storage	1.2.840.10008.5.1.4.1.1.1
Standard CT Image Storage	1.2.840.10008.5.1.4.1.1.2
Standard US Multi-frame Image Storage (retired)	1.2.840.10008.5.1.4.1.1.3
Standard US Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
Standard MR Image Storage	1.2.840.10008.5.1.4.1.1.4
Standard US Image Storage	1.2.840.10008.5.1.4.1.1.6.1
Standard Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Standard X-ray Angiography Image Storage	1.2.840.10008.5.1.4.1.1.12.1
Standard X-ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.3
Standard NM Image Storage	1.2.840.10008.5.1.4.1.1.20
Standard PET Image Storage	1.2.840.10008.5.1.4.1.1.128
Standard Digital X-ray Image Storage (presentation, processing)	1.2.840.10008.5.1.4.1.1.1.1 1.2.840.10008.5.1.4.1.1.1.1.1
Standard Mammography Image Storage (presentation, processing)	1.2.840.10008.5.1.4.1.1.1.2 1.2.840.10008.5.1.4.1.1.1.2.1
Standard Intra-oral X-ray Image Storage (presentation, processing)	1.2.840.10008.5.1.4.1.1.1.3 1.2.840.10008.5.1.4.1.1.1.3.1
Visible Light Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1
Visible Light Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4

Table 3.1 Storage SOP Classes

Genesis Digital Viewer provides Standard Conformance to the following Query and Retrieve SOP Classes as an SCU.

SOP Class	SOP Class UID
Patient Root Query/Retrieve – FIND	1.2.840.10008.5.1.4.1.2.1.1
Patient Root Query/Retrieve – MOVE	1.2.840.10008.5.1.4.1.2.1.2
Patient Root Query/Retrieve – GET	1.2.840.10008.5.1.4.1.2.1.3
Study Root Query/Retrieve – FIND	1.2.840.10008.5.1.4.1.2.2.1
Study Root Query/Retrieve – MOVE	1.2.840.10008.5.1.4.1.2.2.2
Study Root Query/Retrieve – GET	1.2.840.10008.5.1.4.1.2.2.3
Patient/Study Only Query FIND	1.2.840.10008.5.1.4.1.2.3.1
Patient/Study Only Query MOVE	1.2.840.10008.5.1.4.1.2.3.2
Patient/Study Only Query GET	1.2.840.10008.5.1.4.1.2.3.3

Table 3.2 Query and Retrieve SOP Classes

Genesis Digital Viewer provides conformance to the following Print Management SOP

Classes as an SCU.

SOP Class	SOP Class UID
Basic Grayscale Print Management Meta	1.2.840.10008.5.1.1.9
Basic Color Print Management Meta	1.2.840.10008.5.1.1.18

Table 3.3 Print SOP Classes

SOP Class	SOP Class 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
JPEG Baseline Transfer Syntax	1.2.840.10008.1.2.4.50
JPEG Lossless, Non-Hierarchical Transfer Syntax	1.2.840.10008.1.2.4.57
JPEG Lossless, Non-Hierarchical, First-Order Prediction Transfer Syntax	1.2.840.10008.1.2.4.70
JPEG 2000 Lossless only Transfer Syntax	1.2.840.10008.1.2.4.90
JPEG 2000 Transfer Syntax	1.2.840.10008.1.2.4.91
RLE Transfer Syntax	1.2.840.10008.1.2.5

Table 3.4 Transfer Syntax

SOP Class	SOP Class UID
Modality Worklist Information Model - FIND	1.2.840.10008.5.1.4.31

Table 3.5 Modality Worklist SOP Class

3.1.1 Association Establishment Policies

3.1.1.1 General

Before any SOP Classes can be exchanged between Genesis Digital Viewer and other DICOM applications, an association stage takes place to negotiate and exchange the capabilities of the SCU and SCP. Genesis Digital Viewer and other DICOM applications establish an association by using the Association Services of the DICOM Upper Layer. During association establishment stage, Genesis Digital Viewer negotiates the supported SOP classes.

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

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

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

Maximum Length PDU	16384 bytes
---------------------------	--------------------

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

- ⊕ Maximum PDU Length
- ⊕ Implementation UID
- ⊕ Implementation Version

3.1.1.2 Number of Associations

The number of supported associations depends on the SCU/SCP role of Genesis Digital Viewer. The number of associations as an SCU is always 1 (one). This means Genesis Digital Viewer makes only one association to the other DICOM application. Also Genesis Digital Viewer does not make multiple associations when transferring images to multiple DICOM applications. The number of associations as an SCP is virtually unlimited, but it may be confined due to the system resource limit.

3.1.1.3 Asynchronous Nature

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

3.1.1.4 Implementation Identifying Information

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

Implementation Version Name	GENESIS_DIGITAL_3.1
Implementation Class UID	1.2.410.200013.1.310

3.1.1.5 Called/Calling Titles

The default calling title that Genesis Digital Viewer will use is “OmniVue”. This parameter can be configured before application startup.

3.1.2 Association Initiation by Real World Activity

Genesis Digital Viewer initiates a new association to transfer images or query exams from other DICOM applications. This association corresponds to two Real World Activities.

3.1.2.1 Real World Activity – Storage SCU

3.1.2.1.1 Associated Real World Activity – Storage SCU

Users can send all images of specified studies at the exam work list of Genesis Digital Viewer or can send user-selected images at the image display window of Genesis Digital Viewer.

3.1.2.1.2 Presentation Contexts Table – Storage SCU

Abstract Syntax				Extended
SOP Class Name	SOP Class UID	Transfer Syntax	Role	Negotiation
Standard CR Image storage	1.2.840.10008.5.1.4.1.1.1	All from Table 3-4	SCU	None
Standard CT Image storage	1.2.840.10008.5.1.4.1.1.2	All from Table 3-4	SCU	None
Standard US Multi-frame Image storage (retired)	1.2.840.10008.5.1.4.1.1.3	All from Table 3-4	SCU	None
Standard US Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	All from Table 3-4	SCU	None
Standard MR Image Storage	1.2.840.10008.5.1.4.1.1.4	All from Table 3-4	SCU	None
Standard US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	All from Table 3-4	SCU	None
Standard SC Image Storage	1.2.840.10008.5.1.4.1.1.7	All from Table 3-4	SCU	None
Standard X-ray Angiography Image Storage	1.2.840.10008.5.1.4.1.1.12.1	All from Table 3-4	SCU	None
Standard X-ray Radiofluoroscapy Image Storage	1.2.840.10008.5.1.4.1.1.12.3	All from Table 3-4	SCU	None
Standard NM Image Storage	1.2.840.10008.5.1.4.1.1.20	All from Table 3-4	SCU	None
Standard PET Image Storage	1.2.840.10008.5.1.4.1.1.128	All from Table 3-4	SCU	None
Standard Digital X-ray Image Storage (presentation, processing)	1.2.840.10008.5.1.4.1.1.1.1 1.2.840.10008.5.1.4.1.1.1.1.1	All from Table 3-4	SCU	None
Standard Mammography Image Storage (presentation, processing)	1.2.840.10008.5.1.4.1.1.1.2 1.2.840.10008.5.1.4.1.1.1.2.1	All from Table 3-4	SCU	None
Standard Intra-oral X-ray Image Storage (presentation, processing)	1.2.840.10008.5.1.4.1.1.1.3 1.2.840.10008.5.1.4.1.1.1.3.1	All from Table 3-4	SCU	None

Visible Endoscopic Image Storage	Light Image	1.2.840.10008.5.1.4.1.1.77.1.1	All from Table 3-4	SCU	None
Visible Photographic Image Storage	Light Image	1.2.840.10008.5.1.4.1.1.77.1.4	All from Table 3-4	SCU	None

Table 3.6 Presentation Context

3.1.2.1.3 Specific Conformance

3.1.2.1.3.1 SOP Specific Conformance to Storage SOP Classes

This implementation can perform multiple C-STORE operations over a single association. Upon receiving a C-STORE confirmation containing a successful status, this implementation will perform the next C-STORE operation. The association will be maintained if possible. Upon receiving a C-STORE confirmation containing an Error or a Refused status, this implementation will terminate the association. The current C-STORE operation is considered as failed. Upon receiving a C-STORE confirmation containing a Warning status, this implementation will treat it as a Success response.

When Genesis Digital Viewer initiates an association to issue a C-STORE operation, the image will be transmitted with the same elements in which it was received.

3.1.2.2 Real World Activity - Query/Retrieve SCU

3.1.2.2.1 Associated Real World Activity

Users can query studies/series/images from a remote host at the DICOM Query/Retrieve Folder of Genesis Digital Viewer and can retrieve images from the remote host.

3.1.2.2.2 Presentation Contexts Table

Abstract Syntax				Extended	
SOP Class Name	SOP Class UID	Transfer Syntax	Role	Negotiation	
Patient Root Query/Retrieve – FIND	1.2.840.10008.5.1.4.1.2.1.1	All from Table 3-4	SCU	None	
Patient Root Query /Retrieve – MOVE	1.2.840.10008.5.1.4.1.2.1.2	All from Table 3-4	SCU	None	
Patient Root Query /Retrieve – GET	1.2.840.10008.5.1.4.1.2.1.3	All from Table 3-4	SCU	None	
Study Root Query /Retrieve – FIND	1.2.840.10008.5.1.4.1.2.2.1	All from Table 3-4	SCU	None	
Study Root Query /Retrieve – MOVE	1.2.840.10008.5.1.4.1.2.2.2	All from Table 3-4	SCU	None	
Study Root Query /Retrieve – GET	1.2.840.10008.5.1.4.1.2.2.3	All from Table 3-4	SCU	None	

Table 3.7 Presentation Contexts

3.1.2.2.3 SOP Specific Conformance for Patient Root Query/Retrieve (FIND) 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 of 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 the fields are requested as part of the query.

Description	Element Tag	Type	Note
Patient's Name	(0010,0010)	R	
Patient ID	(0010,0020)	R	
Patient Sex	(0010,0040)	O	

Table 3.8 Patient Level Keys for Patient Root Query/Retrieve Information Model

Description	Element Tag	Type	Note
Study ID	(0020,0010)	R	
Study Date	(0008,0020)	R	
Accession Number	(0008,0050)	R	
Study Description	(0008,1050)	O	
Study Instance UID	(0020,000D)	U	

Table 3.9 Study Level Keys for Patient Root Query/Retrieve Information Model

Description	Element Tag	Type
Series Number	(0020,0011)	R
Series Date	(0008,0021)	O
Modality	(0008,0060)	R
Series Description	(0008,103E)	O
Series Instance UID	(0020,000E)	U

Table 3.10 Series Level Keys for Patient Root Query/Retrieve Information Model

Description	Element Tag	Type	Note
Instance Number	(0020,0013)	R	
Acquisition Date	(0008,0022)	O	
Instance Date	(0008,0023)	O	
SOP Instance UID	(0008,0018)	U	

Table 3.11 Instance Level Keys for Patient Root Query/Retrieve Information Model

3.1.2.2.4 SOP Specific Conformance for Patient Root Query/Retrieve (MOVE) SOP Class

This implementation performs a C-MOVE operation over an association.

3.1.2.2.5 SOP Specific Conformance for Patient Root Query/Retrieve (GET) SOP Class

This implementation performs a C-GET operation over an association.

3.1.2.3 Real World Activity - Print SCU

3.1.2.3.1 Associated Real World Activity

Genesis Digital Viewer allows the user to select images at its image display windows and print them into a DICOM compliant printer. It also allows the user to manipulate some print parameters like the number of films and film format. When the user press “Print” button at the Print Configuration dialog box, Genesis Digital Viewer tries to establish an association to the DICOM compliant printer and sends images for printing.

3.1.2.3.2 Presentation Contexts Table

The proposed Presentation Context table for the Print Management SCU is as shown in the following 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 3.12 Transfer Syntax List – Proposed

Abstract Syntax		Transfer Syntax	Role	Extended Negotiation
SOP Class Name	SOP Class UID			
Basic Grayscale Print Management	1.2.840.10008.5.1.1.9	All from Table 3-11	SCU	None

Table 3.13 Presentation Context List - Proposed

3.1.2.3.3 Specific Conformance

3.1.2.3.3.1 SOP Specific Conformance to Basic Grayscale Print Management SOP Classes

Genesis Digital Viewer supports the following mandatory SOP Classes which are defined under the Basic Grayscale Print Management Meta SOP Class.

SOP Class Name	SOP Class UID
Basic Film Session SOP Class	1.2.840.10008.5.1.1.1
Basic Film Box SOP Class	1.2.840.10008.5.1.1.2
Basic Grayscale Image Box SOP Class	1.2.840.10008.5.1.1.4
Printer SOP Class	1.2.840.10008.5.1.1.16

Table 3.14 Mandatory Print SOP Classes supported by the Grayscale Print SCU

3.1.2.3.3.2 Basic Film Session SOP Class

Genesis Digital Viewer supports the following DIMSE Service Elements for Basic Film Session SOP Class.

N-CREATE : Requests to create an instance of Basic Film Session.

Attribute	DICOM Tag	Default Value
Number of Copies	(2000,0010)	1
Print Priority	(2000,0020)	MED
Medium Type	(2000,0030)	CLEAR FILM
Film Destination	(2000,0040)	PROCESSOR
Film Session Label	(2000,0050)	Institution Name - site configurable

Table 3.15 Attribute Values supported by Basic Film Session SOP Class

3.1.2.3.3.3 Basic Film Box SOP Class

Genesis Digital Viewer supports the following DIMSE Service Elements for Basic Film Box SOP Class.

N-CREATE : Requests to create an instance of Basic Film Box.

N-ACTION : Requests to print the Film Box onto Printer.

N-DELETE : Request to delete the Film Box instance.

Attribute	DICOM Tag	Default Value
Image Display Format	(2010,0010)	STANDARD\C,R - configurable
Film Orientation	(2010,0040)	PORTRAIT
Film Size Id	(2010,0050)	14INX17IN
Magnification Type	(2010,0060)	BILINEAR
Border Density	(2010,0100)	BLACK
Empty Image Density	(2010,0110)	BLACK
Min Density	(2010,0120)	0
Max Density	(2010,0130)	65535
Trim	(2010,0140)	NO

Table 3.16 Attribute Values supported by Basic Film Box SOP Class

3.1.2.3.3.4 Basic Grayscale Image Box SOP Class

Genesis Digital Viewer supports the following DIMSE Service Elements for Basic Grayscale Image Box SOP Class

N-SET: Requests to set the Image Box attributes.

Attribute	DICOM Tag	Default Value
Image Position	(2020,0010)	image-dependent
Polarity	(2020,0020)	NORMAL
Preformatted Grayscale Image Sequence	(2020,0110)	
> Samples per Pixel	(0028,0002)	1
> Photometric Interpretation	(0028,0004)	MONOCHROME2
> Rows	(0028,0010)	image-dependent
> Columns	(0028,0011)	image-dependent
> Pixel Aspect Ratio	(0028,0034)	1\1
> Bits Allocated	(0028,0100)	8
> Bits Stored	(0028,0101)	8
> High Bit	(0028,0102)	7
> Pixel Representation	(0028,0103)	0
> Pixel Data	(7FE0,0010)	

Table 3.17 Attribute Values supported by Basic Grayscale Image Box SOP Class

3.1.2.3.3.5 Printer SOP Class

Genesis Digital Viewer issues the request to retrieve the following attributes from DICOM-compliant printer.

C-GET: Request to retrieve printer information.

Attribute	DICOM Tag	Default Value
Printer Status	(2110,0010)	printer-dependent
Printer Status Info	(2110,0020)	printer-dependent
Printer Name	(2110,0030)	printer-dependent
Manufacturer	(0008,0070)	printer-dependent
Manufacturer Model Name	(0008,1090)	printer-dependent
Device Serial Number	(0018,1000)	printer-dependent
Software Versions	(0018,1020)	printer-dependent
Last Calibration Date	(0018,1200)	printer-dependent
Last Calibration Time	(0018,1201)	printer-dependent

Manufacturer	(0008,0070)	printer-dependent
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Table 3.18 Attribute Values retrieved by Printer SOP Class

3.1.2.4 Real World Activity - Modality Worklist SCU

3.1.2.4.1 Associated Real World Activity

Users can query scheduled patient's demography from RIS/HIS/EMR. For example, a user is able to query for scheduled procedures based on matching keys.

3.1.2.4.2 Presentation Contexts Table

Abstract Syntax				Extended
SOP Class Name	SOP Class UID	Transfer Syntax	Role	Negotiation
Modality Worklist - FIND	1.2.840.10008.5.1.4.31	All from Table 3-4	SCU	None

Table 3.19 Presentation Contexts

3.1.2.4.3 SOP Specific Conformance for Modality Worklist (FIND) SOP Class

This implementation performs a C-FIND operation over an association. The following required and optional keys are supported for Modality Worklist (FIND). The fields of 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 the fields are requested as part of the query.

Description	Element Tag	Type	Note
Scheduled Procedure Step Sequence	(0040,0100)	R	
Scheduled Station AE Title	(0040,0001)	R	
Scheduled Procedure Step Start Date	(0040,0002)	R	Scheduled Step Start Date shall be retrieved with single value matching or range matching.
Scheduled Procedure Step Start Time	(0040,0003)	R	Scheduled Step Start Time shall be retrieved with single value matching or range matching. OmniVue may or may not set scheduled step start time as HHMMSS format for single matching or HHMMSS-HHMMSS format for range matching.
Modality	(0008,0060)	R	The modality shall be retrieved with single value matching. OmniVue has an option for changing modality name and

			the field can be set to zero length value by user's request.
Patient's Name	(0010,0010)	R	Patient's name shall be retrieved with single value matching or wild card matching. OmniVue will set wild card (*) if the field is blank.
Patient ID	(0010,0020)	R	Patient ID shall be retrieved with single value matching.
Accession Number	(0010,0040)	O	

Table 3.20 Matching Keys for Modality Worklist – FIND Information Model

Description	Element Tag	Type	Note
Scheduled Procedure Step Start Date	(0040,0002)	1	OmniVue uses this attribute to generate Study Date (0008,0020).
Scheduled Procedure Step Description	(0040,0007)	1C	OmniVue may use this attribute to retrieve procedure description. If there is value in the attribute, OmniVue will forward this value to study description (0008,1050).
Modality	(0008,0060)	1	The modality shall be retrieved with single value matching.
Requested Procedure Description	(0032,1060)	1C	OmniVue may use this attribute to retrieve procedure description. If there is value in the attribute, OmniVue will forward this value to study description (0008,1050).
Referring Physician's Name	(0008,0090)	2	
Study Instance UID	(0020,000D)	1	OmniVue may use this attribute for generating Study Instance UID while acquiring image.
Accession Number	(0008,0050)	2	
Patient's Name	(0010,0010)	1	
Patient ID	(0010,0020)	1	
Patient Sex	(0010,0040)	2	

Patient's Birth date	(0010,0030)	2	
Series Description	(0008,103E)	3	
Image Comments	(0020,4000)	3	
Additional Patient History	(0010,21B0)	3	

Table 3.21 Attributes that OmniVue retrieves via Modality Worklist - FIND

3.1.3 Association Acceptance Policy

3.1.3.1 Real World Activity – Storage SCP

3.1.3.1.1 Associated Real World Activity

Genesis Digital Viewer is always waiting for a remote host to send images to itself. The received images are stored in the local database and local file system.

3.1.3.1.2 Presentation Context Table

Abstract Syntax				Extended Negotiation
SOP Class Name	SOP Class UID	Transfer Syntax	Role	
Verification	1.2.840.10008.1.1	All from Table 3-4	SCP	NONE
Standard CR Image Storage	1.2.840.10008.5.1.4.1.1.1	All from Table 3-4	SCP	NONE
Standard CT Image Storage	1.2.840.10008.5.1.4.1.1.2	All from Table 3-4	SCP	NONE
Standard US Multi-frame Image Storage (retired)	1.2.840.10008.5.1.4.1.1.3	All from Table 3-4	SCP	NONE
Standard US Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	All from Table 3-4	SCP	NONE
Standard MR Image Storage	1.2.840.10008.5.1.4.1.1.4	All from Table 3-4	SCP	NONE
Standard US Image Storage (retired)	1.2.840.10008.5.1.4.1.1.6	All from Table 3-4	SCP	NONE
Standard US Image Storage	1.2.840.10008.5.1.4.1.1.6	All from Table 3-4	SCP	NONE
Standard SC Image Storage	1.2.840.10008.5.1.4.1.1.7	All from Table 3-4	SCP	NONE
Standard X-ray Angiography Image Storage	1.2.840.10008.5.1.4.1.1.12.	All from Table 3-4	SCP	NONE
Standard X-ray Radiofluoroscopy Image Storage	1.2.840.10008.5.1.4.1.1.12.3	All from Table 3-4	SCP	NONE
Standard NM Image Storage	1.2.840.10008.5.1.4.1.1.20	All from Table 3-4	SCP	NONE

Standard PET Image Storage	1.2.840.10008.5.1.4.1.1.128	All from Table 3-4	SCP	NONE
Standard Digital X-ray Image Storage	1.2.840.10008.5.1.4.1.1.1.1			
(presentation, processing)	1.2.840.10008.5.1.4.1.1.1.1.1	All from Table 3-4	SCP	NONE
Standard Mammography Image storage	1.2.840.10008.5.1.4.1.1.1.2			
(presentation, processing)	1.2.840.10008.5.1.4.1.1.1.2.1	All from Table 3-4	SCP	NONE
Standard Intra-oral X-ray Image Storage	1.2.840.10008.5.1.4.1.1.1.3			
(presentation, processing)	1.2.840.10008.5.1.4.1.1.1.3.1	All from Table 3-4	SCP	NONE
Visible Light Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	All from Table 3-4	SCP	None
Visible Photographic Light Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	All from Table 3-4	SCP	None

Table 3.22 presentation Contexts

3.1.3.1.3 Specific Conformance

3.1.3.1.3.1 SOP Specific Conformance to Verification SOP Classes

Genesis Digital Viewer provides standard conformance to the DICOM Verification Service Class.

3.1.3.1.3.2 SOP Specific Conformance for Image Storage SOP Classes

Genesis Digital Viewer conforms to the SOP's of the Storage Service Class at Level 2 (Full), as described in Section B.4.1 of Part 4 of the DICOM Standard document. In the event of a successful C-STORE operation, the image has been stored in Genesis Digital Viewer database. The duration of the storage of the image is determined by the user of Genesis Digital Viewer. Genesis Digital Viewer does not modify the pixel value of the stored images. Genesis Digital Viewer stores all private attributes it receives without any change. The C-STORE operation has been unsuccessful if Genesis Digital Viewer returns one of the following status code:

Service Status Code	Further Meaning	Protocol codes	Note
Refused	Out of Resources	A700	No disk space left.
Error	Invalid Dataset	A900	Invalid attribute tags found.
	Cannot understand	C000	Cannot understand image.

	Processing Failure	110	Internal processing failed.
Success		0000	

Table 3.23 Service Status Codes for the Image Storage SCP

Three kinds of timers are related to the Image Storage SCP.

3.1.3.1.4 Presentation Context Acceptance Criterion

Not applicable since only a single presentation context for each Storage Service Class is supported.

3.1.3.1.5 Transfer Syntax Selection Policies

Transfer syntaxes are accepted in the following order:

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
JPEG Baseline Transfer Syntax	1.2.840.10008.1.2.4.50
JPEG Lossless, Non-Hierarchical Transfer Syntax	1.2.840.10008.1.2.4.57
JPEG Lossless, Non-Hierarchical, First-Order Prediction Transfer Syntax	1.2.840.10008.1.2.4.70
JPEG 2000 Lossless only Transfer Syntax	1.2.840.10008.1.2.4.90
JPEG 2000 Transfer Syntax	1.2.840.10008.1.2.4.91
RLE Transfer Syntax	1.2.840.10008.1.2.5

Table 3.24 Transfer Syntax Acceptance Priority

4. Communication Profiles

4.1 Supported Communication Stacks

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

4.2 TCP/IP Stack

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

4.2.1 API

Not Applicable

4.2.2 Physical Media Support

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

4.3 Point-to-Point Stack

Not Applicable

5. Extensions/Specialization/Privatization

5.1 Standard Extended/Specialized/Private SOPs

None Supported

5.2 Private Transfer Syntaxes

None Supported

6. Configuration

6.1 AE Title/Presentation Address Mapping

The Local AE Title is configurable in the Preference setting menu.

6.2 Configuration Parameters

The following fields are configurable for this Store SCP:

- ⌚ Local AE Title
- ⌚ Local IP Address
- ⌚ Local TCP Port Number

The following fields are configurable for this Store SCU and Query and Retrieve SCU:

- ⌚ Remote AE Title
- ⌚ Remote IP Address
- ⌚ Remote TCP Port Number

The following fields are configurable for this Print SCU:

- ⌚ Remote AE Title
- ⌚ Remote IP Address
- ⌚ Remote TCP Port Number
- ⌚ Support for the optional Trim element in the Basic Film Box SOP Class (default: off)

7 Support of Extended Character Sets

This implementation supports the following extended character set:

ISO-IR 100 = Latin alphabet No. 1, supplementary set

ISO 2022 IR 87 = JIS X 0208: Japanese kanji, hiragana, katakana

ISO 2022 IR 13 = JIS X 0201: Japanese katakana

ISO 2022 IR 14 = JIS X 0201: Japanese romaji for delimiters

ISO 2022 IR 159 = Supplementary Japanese kanji (ideographic) characters