



**Med X Change DRSHD – Digital Recording System High Definition**

**DICOM Conformance Statement**

**Document Version: 1.3**

## 1.OVERVIEW

This document provides the DICOM Conformance Statement for the Digital Documentation System product (MED X CHANGE DRSHD).

Table 1- 1 Network Services

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
Transfer		
SC Image Storage	Yes	No
Multi-frame SC Image Storage	Yes	No
VL Endoscopic Image Storage	Yes	No
Video Endoscopic Image Storage	Yes	No
Query/Retrieve		
Patient Root Information Model FIND	No	Yes
Patient Root Information Model MOVE	No	Yes
Study Root Information Model FIND	No	Yes
Study Root Information Model MOVE	No	Yes
Workflow Management		
Modality Worklist	Yes	No
Storage Commit Push Model	Yes	No

## Table of Contents

<b>1. OVERVIEW</b> .....	<b>2</b>
<b>2. INTRODUCTION</b> .....	<b>5</b>
2.1. General Information .....	5
2.2. Revision History .....	5
2.3. Audience .....	5
2.4. Remarks.....	5
<b>3. DEFINITIONS, TERMS AND ABBREVIATIONS</b> .....	<b>6</b>
3.1. References.....	6
<b>4. NETWORKING</b> .....	<b>7</b>
4.1. Implementation Model.....	7
4.1.1. Application Data Flow .....	7
4.1.2. Functional Definition of AE's.....	8
4.1.2.1. Export AE.....	8
4.1.2.2. Worklist AE .....	8
4.1.2.3. Storage Commit AE .....	8
4.1.3. Sequencing of Real World Activities.....	9
4.2. AE Specifications .....	9
4.2.1. Export AE Specifications .....	9
4.2.1.1. SOP Classes.....	9
4.2.1.2. Association Policies .....	10
4.2.1.2.1. General.....	10
4.2.1.2.2. Number of Associations.....	10
4.2.1.2.3. Asynchronous Nature .....	10
4.2.1.2.4. Implementation Identifying Information.....	10
4.2.1.3. Association Initiation Policies .....	10
4.2.1.3.1. Activity – Send Images.....	10
4.2.1.3.2. Description and Sequencing of Events.....	10
4.2.1.3.3. Proposed Presentation Contexts.....	11
4.2.1.3.3.1. SOP Specific Conformance for Storage SOP Classes .....	11
4.2.1.4. Association Acceptance Policy .....	13
4.2.1.4.1. Activity – Service Query/Retrieve .....	13
4.2.1.4.2. Accepted Presentation Contexts for Query/Retrieve SCP AE.....	13
4.2.1.4.2.1. SOP Specific Conformance for C-FIND SOP Classes.....	13
4.2.1.4.2.2. SOP Specific Conformance for C-MOVE SOP Classes.....	16
4.2.1.4.2.3. SOP Specific Conformance for Verification SOP Class .....	17
4.2.2. Workflow AE Specifications .....	18
4.2.2.1. SOP Classes.....	18
4.2.2.2. Association Policies .....	18
4.2.2.2.1. General.....	18
4.2.2.2.2. Number of Associations.....	18
4.2.2.2.3. Asynchronous Nature .....	18
4.2.2.2.4. Implementation Identifying Information.....	18
4.2.2.3. Association Initiation Policies .....	18
4.2.2.3.1. Activity – Query Worklist.....	18
4.2.2.3.2. Description and Sequencing of Events.....	19
4.2.2.3.3. Proposed Presentation Contexts.....	19
4.2.2.3.3.1. SOP Specific Conformance Statement for MWL SOP Class .....	19
4.2.3. Storage Commitment AE Specifications.....	22
4.2.3.1. SOP Classes.....	22

4.2.3.2.	Association Policies .....	22
4.2.3.2.1.	General.....	22
4.2.3.2.2.	Number of Associations.....	22
4.2.3.2.3.	Asynchronous Nature .....	23
4.2.3.2.4.	Implementation Identifying Information.....	23
4.2.3.3.	Association Initiation Policies .....	23
4.2.3.4.	Activity – Commit request .....	23
4.2.3.4.1.	Description and Sequencing of Events.....	23
4.2.3.4.1.1.	Proposed Presentation Contexts.....	23
4.2.3.4.1.2.	SOP Specific Conformance Storage Commit SOP Class .....	23
4.2.3.4.1.2.1.	Storage Commitment Operations (N-ACTION).....	24
4.2.3.4.1.2.2.	Storage Commitment Notifications (N-EVENT-REPORT).....	24
4.2.3.5.	Association Acceptance Policy .....	26
4.2.3.5.1.	Activity – Receive Storage Commitment Response .....	26
4.2.3.5.2.	Description and Sequencing of Activities .....	26
4.2.3.5.2.1.	Accepted Presentation Contexts .....	27
4.2.3.5.2.2.	SOP Specific Conformance for Storage Commit SOP Class.....	27
4.2.3.5.2.2.1.	Storage Commitment Notifications (N-EVENT-REPORT).....	27
4.3.	Network Interfaces .....	28
4.4.	Configuration.....	28
4.4.1.	AE Title/Presentation Address Mapping.....	29
4.4.1.1.	Local AE Titles .....	29
4.4.1.2.	Remote AE Titles .....	29
<b>5.</b>	<b>SUPPORT OF CHARACTER SETS .....</b>	<b>30</b>
5.1.	Security Profiles .....	31
5.2.	Association Level Security .....	31
5.3.	Application Level Security .....	31
<b>6.</b>	<b>ANNEXES.....</b>	<b>32</b>
6.1.	IOD Contents .....	32
6.1.1.	Secondary Capture IOD .....	32
6.1.2.	VL Endoscopy IOD .....	33
6.1.3.	Multiframe True Color Secondary Capture IOD .....	34
6.1.4.	Video Endoscopy Image IOD .....	36
6.2.	Attribute Mapping .....	38
6.3.	Coerced/Modified Fields .....	38

## 2. INTRODUCTION

### 2.1. General Information

This document specifies the DICOM conformance of the MED X CHANGE Digital Documentation System (DRSHD), which provides acquisition, study documentation and archive capabilities for endoscopic surgery applications.

### 2.2. Revision History

Revision	Date	Comment	Author
1.0	6/16/2008	Initial Release Version	
1.1	7/1/2009	MPEG2 Support	
1.2	7/8/2009	Modified worklist request identifier table for display attributes and multi-frame supported transfer syntax	
1.3	3/25/2010	Modified worklist request identifier table attributes to conformant with VA requirement	

### 2.3. Audience

This document is intended for hospital IT personnel and users of MED X CHANGE DRSHD. It is assumed that the reader has a working understanding of DICOM.

### 2.4. Remarks

The intent of any DICOM conformance statement is to provide a knowledgeable user with the information required in determining whether and to what extent independent DICOM implementations may be able to inter-operate. However, the information contained in a DICOM conformance statement is not sufficient to ensure independent implementations will, in fact, be able to inter-operate.

The user or system integrator must be aware of the following potential issues related to inter-operation:

- Using only the information provided by this Conformance Statement does not guarantee interoperability of Med X Change equipment with non-Med X Change. It is the user's (or system integrator's) responsibility to analyze thoroughly the application requirements and objectives to determine if they can be met by the connection of Med X Change equipment with non-Med X Change equipment
- Med X Change equipment has been tested to assure that the actual implementation of the DICOM interface corresponds with this Conformance statement. It is the responsibility of the user (or system integrator) to specify and carry out additional validation testing, which covers a broad spectrum of potential interactions between the independent implementations.
- Med X Change reserves the right to make changes to its products or to discontinue their delivery. Therefore, the user (or system integrator) should ensure that any future versions of Med X Change equipment with non-Med X Change equipment are regression tested to verify that new software releases have not adversely impacted the ability to inter-operate.

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### 3. DEFINITIONS, TERMS AND ABBREVIATIONS

Definitions, terms and abbreviations used in this document are defined within the different parts of the DICOM standard. Abbreviations and terms are as follows:

AE	DICOM Application Entity
AE	DICOM Application Entity
AET	Application Entity Title
AET	Application Entity Title
ASCE	Association Control Service Element
EBE	Explicit Big Endian
ELE	Explicit Little Endian
ILE	Implicit Little Endian
IOD	(DICOM) Information Object Definition
IM	Information Model
ISO	International Standard Organization
JPG	JPEG Coding Process 1 (Lossy)
LJPG	JPEG Lossless, Non-Hierarchical, First-Order Prediction
MPEG2	MPEG2 Main Profile @ Main Level
O	Optional Key Attribute
PDU	DICOM Protocol Data Unit
R	Required Key Attribute
SCP	DICOM Service Class Provider (DICOM server)
SCU	DICOM Service Class User (DICOM client)
SOP	DICOM Service-Object Pair
U	Unique Key Attribute
VL	Visible Light

#### 3.1. References

- [DICOM] Digital Imaging and Communications in Medicine (DICOM), NEMA PS 3.1-3.18, 2007
- DICOM Basics 2<sup>nd</sup> edition, OTech, ISBN

## 4.NETWORKING

### 4.1. Implementation Model

#### 4.1.1. Application Data Flow

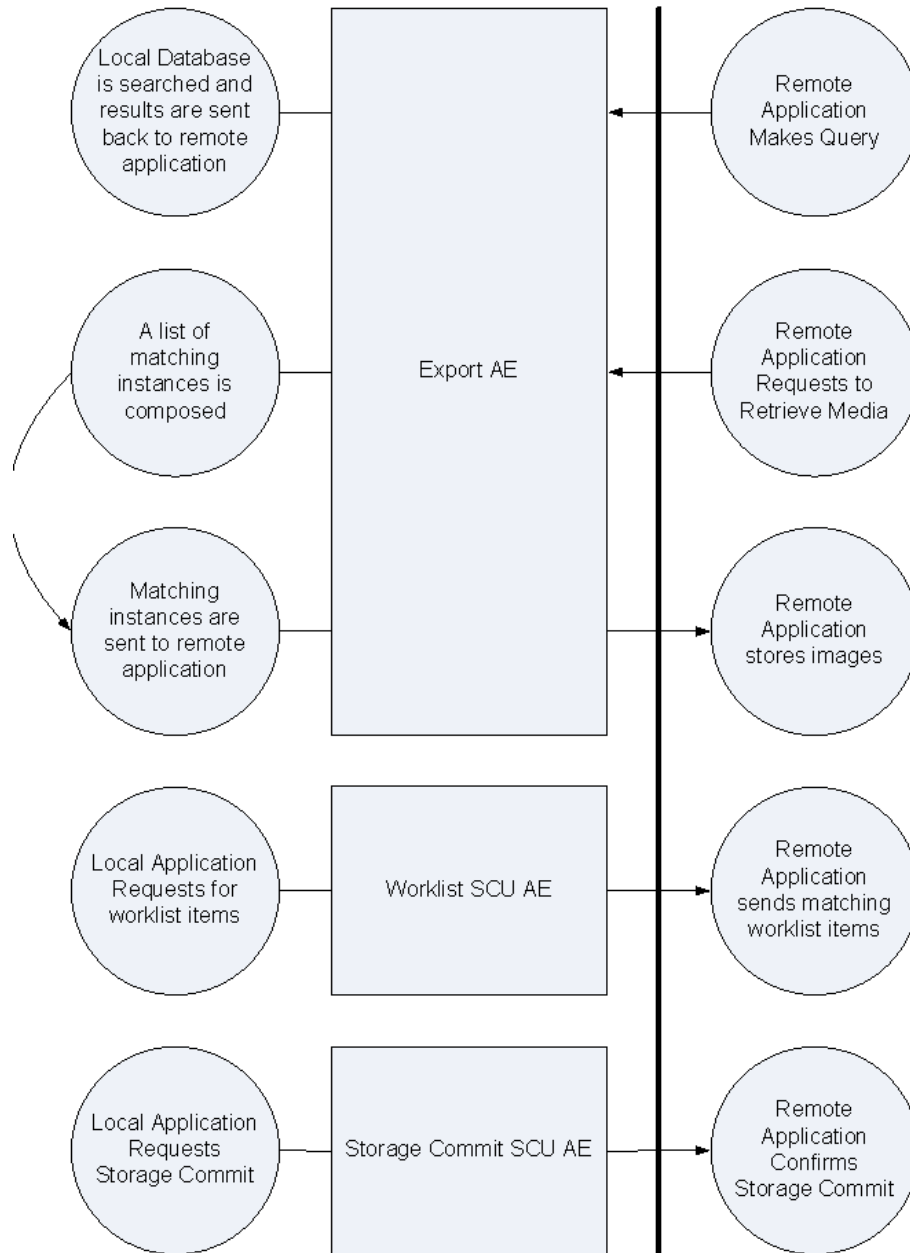


Figure 4.1.1 - 1: Implementation Model

The Med X Change DRSHD System exports Images, Video and Sound using DICOM Export Service. The following AE's describe the DICOM implementation of the MED X CHANGE DRSHD:

The Export Application Entity is responsible for exporting the information created by the system (image, video and sound) to other applications either upon operator command, automatic, or in response to query and retrieve requests.

The Worklist Application Entity queries an external workflow management system for work items to be performed on the MED X CHANGE DRSHD.

The Storage Commitment Application Entity is responsible for transferring the ownership of the exported media to the receiving application before the images and/or other objects are permanently deleted from the local physical storage at the MED X CHANGE DRSHD.

#### **4.1.2. Functional Definition of AE's**

##### **4.1.2.1. Export AE**

The Export AE is responsible for exporting the images and providing query and retrieve services for external applications wishing to import media from the MED X CHANGE DRSHD. DICOM Queries are translated to internal database queries and the matching instances are sent to the external application using DICOM Storage Service.

The system can be configured based on the requesting AE for what kind of media can the requesting AE digest: loops, stills or loops and stills.

##### **4.1.2.2. Worklist AE**

The worklist AE is responsible to retrieve worklist items. Upon user action, a query is performed to an external worklist manager. The results are stored in the local database and are used for building the internal worklist queue. Alternatively, the worklist might be regularly polled to make the queries and update the local worklist database.

##### **4.1.2.3. Storage Commit AE**

A storage commit is performed automatically when a 'case is closed'. The Storage Commit AE sends a Storage Commit Request to an external application in order to 'transfer the ownership' of the DICOM objects so it can be permanently deleted from the local physical storage device.

### 4.1.3. Sequencing of Real World Activities

A typical sequence is as follows:

1. A Worklist Query is initiated either manually by a user or automatically according to a predefined schedule
2. The worklist is received, patient demographics and order information is stored in the local database and displayed
3. For unscheduled exams, the patient information will be entered manually
4. Still images, and/or cine runs as well as audio are acquired
5. Alternatively, an external application can make a query using patient or study information.
6. The acquired data is sent to a DICOM destination
7. Instances are stored on the external application.
8. A commit request is sent to an external application
9. A commit result is received from the external applications and the instances are flagged so that they can be deleted from the local storage.

## 4.2. AE Specifications

### 4.2.1. Export AE Specifications

#### 4.2.1.1. SOP Classes

This Application Entity provides Standard Conformance to the following SOP Classes:

Table 4.2.1.1 - 1  
SOP Classes for Export AE

SOP Class Name	SOP Class UID	SCU	SCP
Verification	1.2.840.10008.1.1	Yes	Yes
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	Yes	No
Multiframe SC Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Yes	No
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	Yes	No
Video Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1.1	Yes	No
Patient Root Query IM/Find	1.2.840.10008.5.1.4.1.2.1.1	No	Yes
Patient Root Query IM/Move	1.2.840.10008.5.1.4.1.2.1.2	No	Yes
Study Root Query IM/Find	1.2.840.10008.5.1.4.1.2.2.1	No	Yes
Study Root Query IM/Move	1.2.840.10008.5.1.4.1.2.2.2	No	Yes

#### 4.2.1.2. Association Policies

##### 4.2.1.2.1. General

The DICOM standard application context name for DICOM 3.0 is always proposed.

Table 4.2.1.2.1 - 1  
Maximum PDU Size Received as a SCP for STORAGE-SCP

Maximum PDU size proposed	16384
---------------------------	-------

##### 4.2.1.2.2. Number of Associations

Table 4.2.1.2.2 - 1  
Number of Associations as association initiator for Export AE

Maximum number of simultaneous associations	4
---	---

In addition, it is possible to have a simultaneous Association from Query or Retrieve to the Export AE functioning as a SCP to take place simultaneously with the Export AE functioning as a SCU.

Table 4.2.1.2.2 - 2  
Number of Associations as association acceptor for Export AE

Maximum number of simultaneous associations	1
---	---

##### 4.2.1.2.3. Asynchronous Nature

The Export AE does not support multiple outstanding transactions.

##### 4.2.1.2.4. Implementation Identifying Information

Table 4.2.1.2.4 - 1  
DICOM Implementation Class and Version for STORAGE-SCP

Implementation Class UID	2.16.124.113543.6019.2.0.0
Implementation Version Name	Med X Change 1.0

#### 4.2.1.3. Association Initiation Policies

##### 4.2.1.3.1. Activity – Send Images

##### 4.2.1.3.2. Description and Sequencing of Events

This activity is performed when either the device is initiating the image transfer or when another application requests to retrieve instances from the MED X CHANGE DRSHD.

### 4.2.1.3.3. Proposed Presentation Contexts

Table 4.2.1.3.3 – 1  
Proposed Presentation Contexts for Activity Send Images

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg
Name	UID	Name	UID		
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	ILE	1.2.840.10008.1.2	SCU	None
		ELE	1.2.840.10008.1.2.1		
		JPG	1.2.840.10008.1.2.4.50		
		LJPG	1.2.840.10008.1.2.4.70		
Multiframe SC Image Storage	1.2.840.10008.5.1.4.1.1.7.4	MPEG2	1.2.840.10008.1.2.4.100	SCU	None
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	ILE	1.2.840.10008.1.2	SCU	None
		ELE	1.2.840.10008.1.2.1		
		JPG	1.2.840.10008.1.2.4.50		
		LJPG	1.2.840.10008.1.2.4.70		
Video Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1.1	MPEG2	1.2.840.10008.1.2.4.100	SCU	None

Transfer syntax rules:

- The device proposes different transfer syntaxes for single and multiframe images.
- For single frame images MED X CHANGE DRSHD proposes Implicit VR Little Endian, Explicit VR Little Endian, JPEG Coding Process 1 (Lossy) and JPEG Lossless, Non-Hierarchical, First-Order Prediction.
- For multiframe images, the device proposes MPEG2 Main Profile@Main Level. Any audio files, if acquired, are encapsulated as part of the MPEG file with the multiframe objects.  
*Note: "Not all DICOM video players support this format. Please consult with your DICOM administrator to determine if this video format is supported. In all cases the video files sent to DICOM may be viewed with a compatible media player such as the VideoLAN - VLC media player."*
- If compression transfer syntax is accepted in addition to uncompressed transfer syntaxes, the images will be sent compressed. The amount of compression for lossy compression is configurable. Whether lossy or lossless compression is proposed, is configurable, if both are accepted by a SCP, lossy compression will be used.
- If both Implicit and Explicit VR are accepted, the device will use Explicit VR.

#### 4.2.1.3.3.1.SOP Specific Conformance for Storage SOP Classes

The Export AE maintains a job queue for C-STORE commands. If some of the C-STORE commands in a job fail, the job will be re-executed after 5, 15 and 30 minutes. The resent policy and times are configurable. Instances that were successfully stored will not be re-sent. The job

queue is maintained in non-volatile memory so that if, for some reason, the transmission was powered down during transmission, it will continue where it left off.

The types of SOP classes that will be sent are determined according to destination AE title. Each destination may be defined by configuration so that either single-frame images or video loops or both will be sent. For example, if a study contains video loops but the destination is marked as accepting only single-frame images, then instances that hold video-loops will not be sent.

Table 4.2.1.3.3.1 - 1  
C-STORE Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	The SCP has successfully stored the SOP Instance. If all SOP Instances in a send job have status success then the job is marked as complete in the queue
Refused	Out of Resources	A700-A7FF	The Association is released. An error is logged and an operator message indicating that the destination cannot store anymore images is displayed. If part of a MOVE, the corresponding C-MOVE command fails.
Error	Data Set does not match SOP Class	A900-A9FF	The Association is released. If part of a MOVE, the corresponding C-MOVE command fails. The status meaning is logged, and an error displayed to the user.
Error	Cannot Understand	C000-CFFF	The Association is released. If part of a MOVE, the corresponding C-MOVE command fails. The status meaning is logged, and an error displayed to the user.
Warning	Coercion of Data Elements	B000	Image transmission is considered successful but the status is logged.
Warning	Data Set does not match SOP Class	6007	Image transmission is considered successful but the status is logged.
Warning	Elements Discarded	B006	Image transmission is considered successful but the status is logged.
*	*	Any other status code.	The status meaning is logged.

The behavior of Export AE during communication failure is summarized in the Table below:

Table 4.2.1.3.3.1 - 2  
Export AE Communication Failure Behavior

Exception	Behavior
Timeout	The Association is aborted using A-ABORT. The status is logged, and an error displayed to the user indicating that the destination cannot be reached.
Association aborted by the SCP or network layers	The Association is aborted using A-ABORT. The status meaning is logged, an error displayed to the user.

#### 4.2.1.4. Association Acceptance Policy

##### 4.2.1.4.1. Activity – Service Query/Retrieve

MED X CHANGE DRSHD enables other application to query for patient information and to retrieve images.

##### 4.2.1.4.2. Accepted Presentation Contexts for Query/Retrieve SCP AE

Table 4.2.1.4.2 - 1  
Accepted Presentation Contexts for Activity Service Query/Retrieve

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg
Name	UID	Name	UID		
Verification	1.2.840.10008.1.1	ILE	1.2.840.10008.1.2	SCP	None
		ELE	1.2.840.10008.1.2.1		
Patient Root Query IM/Find	1.2.840.10008.5.1.4.1.2.1.1	ILE	1.2.840.10008.1.2	SCP	None
		ELE	1.2.840.10008.1.2.1		
Patient Root Query IM/Move	1.2.840.10008.5.1.4.1.2.1.2	ILE	1.2.840.10008.1.2	SCP	None
		ELE	1.2.840.10008.1.2.1		
Study Root Query IM/Find	1.2.840.10008.5.1.4.1.2.2.1	ILE	1.2.840.10008.1.2	SCP	None
		ELE	1.2.840.10008.1.2.1		
Study Root Query IM/Move	1.2.840.10008.5.1.4.1.2.2.2	ILE	1.2.840.10008.1.2	SCP	None
		ELE	1.2.840.10008.1.2.1		

##### 4.2.1.4.2.1.SOP Specific Conformance for C-FIND SOP Classes

MED X CHANGE DRSHD conforms to Patient Root and Study Root Query (C-FIND) SOP classes.

MED X CHANGE DRSHD does not support relational searches and hence does not support extended negotiations.

MED X CHANGE DRSHD supports queries using the keys specified in the following table:

Table 4.2.1.4.2.1 - 1  
 PATIENT ROOT C-FIND SCP SUPPORTED ELEMENTS

Level Name/Attribute Name	Tag
Patient's Name	0010,0010
Patient ID	0010,0020
Study Level	
Study Date	0008,0020
Study Time	0008,0030
Accession Number	0008,0050
Study ID	0020,0010
Study Instance UID	0020,000D
Series Level	
Modality	0008,0060
Series Number	0020,0011
Series Instance UID	0020,000E
Image Level	
Instance Number	0020,0013
SOP Instance UID	0008,0018

Table 4.2.1.4.2.1 - 2  
 STUDY ROOT C-FIND SCP SUPPORTED ELEMENTS

Level Name/Attribute Name	Tag
Study Level	
Study Date	0008,0020
Study Time	0008,0030
Accession Number	0008,0050
Study ID	0020,0010
Study Instance UID	0020,000D
Patient ID	0010,0020
Patient Name	0010,0010
Image Level	
Instance Number	0020,0013
SOP Instance UID	0008,0018

Series and image level attributes for the Study Root are the same as attributes at the Patient Root Level.

MED X CHANGE DRSHD Supports Range Matching for Study Date and Study Time as independent keys. Thus, SIR does not treat the combination of specified matching ranges in these two fields as a date-time range (study date-time between date1-time1 and date2-time2).

MED X CHANGE DRSHD will return status in the C-FIND response in accordance with the DICOM standard. In particular the SIR will return Refused or Failed status response in accordance with the following Table.

The maximum number of returned Responses is configurable top prevent a SCU from becoming “overloaded”. The default value is 100.

Table 4.2.1.4.2.1 - 3  
Export AE C-FIND Response Status Return Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	Continue execution normally
Refused	Out of resources - Max Entries exceeded	A700	Stop and display an error message to the user
Failed	Identifier does not match SOP Class	A900	The SOP Class used does not match the one that was negotiated. Error message is logged.
Failed	Unable to process	C001	The C-FIND query identifier is valid for the specified SOP Class but cannot be used to query the database. For example, this can occur if a Patient Level query is issued but the identifier has only empty values for both the Patient ID and the Patient Name. Error message is logged.
Failed	Unable to process	C021	C-FIND Execution stops. Error message is logged.
Failure	Unable to process - Local database error	C035	C-FIND Execution stops. Error message is logged.
Failure	Unable to process – Internal error.	C036	C-FIND Execution stops. Error message is logged.
Failure	Failed – Max entries exceeded.	C003	C-FIND Execution stops. Error message is logged.
Failure	Unable to process - No entries found matching the current criterion.	C024	C-FIND Execution stops. Error message is logged.

Cancel	Matching terminated due to Cancel Request	FE00	The C-FIND SCU sent a Cancel Request. This has been acknowledged and the search for matches has been halted.
Pending	Matches are continuing and current match is supplied.	FF00	Indicates that the search for further matches is continuing. This is returned when each successful match is returned and when further matches are forthcoming. This status code is returned if all Optional keys in the query identifier are actually supported.
	Matches are continuing but one or more Optional Keys were not supported.	FF01	Indicates that the search for further matches is continuing. This is returned when each successful match is returned and when further matches are forthcoming. This status code is returned if there are Optional keys in the query identifier that are not supported.

#### 4.2.1.4.2.2.SOP Specific Conformance for C-MOVE SOP Classes

The C-MOVE command matching elements are the same as the C-FIND elements as described above.

Table 4.2.1.4.2.2 - 1  
Export AE C-MOVE Response Status Return Behavior

Service Status	Further Meaning	Error Code	Behavior
Success		0000	All the Composite SOP Instances have been successfully sent to the C-MOVE Destination AE.
Refused	Out of resources – Unable to perform sub-operations	A701	Number of matches cannot be determined due to system failure. Returned if the server's database is not functioning so the search for matches to the C-MOVE Request cannot be found. Error message is logged.
Refused	Move destination unknown	A702	The Destination Application Entity named in the C-MOVE Request is unknown to Query-Retrieve SCP AE.
Refused	Unable to process – Retrieve request failed.	A801	C-STORE sub-operations cannot be performed due to failure to access Composite SOP Instances in archive, or failure of a C-STORE Request. Error message is logged.
Failure	Unable to process – Local parse failed.	C032	
Failure	Unable to process – Local	C034	

	database error.		
Failure	Unable to process – Internal error.	C035	
Failure		C036	
Failed	Identifier does not match SOP Class	A900	The C-MOVE identifier contains invalid Elements or values, or is missing mandatory Elements or values for the specified SOP Class or retrieval level. Error message is output to the Log.
Cancel	Matching terminated due to Cancel Request	FE00	The C-MOVE SCU sent a Cancel Request. This has been acknowledged and the export of Composite SOP Instances to the C-MOVE Destination AE has been halted.
Pending	Sub-operations are continuing	FF00	A Response with this Status Code is sent every time a Composite SOP Instance has been successfully sent to the C-MOVE Destination AE.

Table 4.2.1.4.2.2 - 2  
Export AE C-MOVE Response Status Return Behavior

Exception	Behavior
Timeout expiry for an expected DICOM Message Request (DIMSE level timeout). I.e. The QUERY-RETRIEVE-SCP AE is waiting for the next C-FIND or C-MOVE Request on an open Association but the timer expires.	The Association is aborted by issuing a DICOM A-ABORT. Error message is output to the Service Log. If the STORAGE-SCU AE is still exporting Composite SOP Instances as a result of an earlier C-MOVE Request received on this Association, it will continue attempting to complete the entire C-MOVE Request.
Timeout expiry for an expected DICOM PDU or TCP/IP packet (Low-level timeout). I.e. The QUERY-RETRIEVE-SCP AE is waiting for the next message PDU but the timer expires.	The Association is aborted by issuing a DICOM A-ABORT. Error message is output to the Service Log. If the STORAGE-SCU AE is still exporting Composite SOP Instances as a result of an earlier C-MOVE Request received on this Association, it will continue attempting to complete the entire C-MOVE Request.
Association aborted by the SCU or the network layers indicate communication loss (i.e. low-level TCP/IP socket closure)	Error message is output to the Service Log. If the STORAGE-SCU AE is still exporting Composite SOP Instances as a result of an earlier C-MOVE Request received on this Association, it will continue attempting to complete the entire C-MOVE Request.

#### 4.2.1.4.2.3.SOP Specific Conformance for Verification SOP Class

The Export AE provides standard conformance to the Verification SOP Class as an SCP. If the C-ECHO request was successfully received, a 0000 (Success) status code will be returned in the C-ECHO response. Otherwise, a C000 (Error – Cannot Understand) status code will be returned in the C-ECHO response.

## 4.2.2.Workflow AE Specifications

### 4.2.2.1.SOP Classes

This Application Entity provides Standard Conformance to the following SOP Classes:

Table 4.2.2.1 - 1  
SOP Classes for Workflow AE

SOP Class Name	SOP Class UID	SCU	SCP
Modality Worklist Query	1.2.840.10008.5.1.4.31	Yes	No

### 4.2.2.2. Association Policies

#### 4.2.2.2.1. General

The DICOM standard application context name for DICOM 3.0 is always proposed.

Table 4.2.2.2 - 1  
Maximum PDU Size for Workflow AE

Maximum PDU size proposed	16384
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#### 4.2.2.2.2. Number of Associations

Table 4.2.2.2.2 - 1  
Number of Associations as association initiator for Workflow AE

Maximum number of simultaneous associations	1
---	---

The Workflow AE initiates association with an external AE in response to user action in the application GUI or as a result of a predefined schedule, i.e. set up to poll regularly.

#### 4.2.2.2.3. Asynchronous Nature

The Workflow AE does not support multiple outstanding transactions.

#### 4.2.2.2.4. Implementation Identifying Information

Table 4.2.2.2.4 - 1  
DICOM Implementation Class and Version for STORAGE-SCP

Implementation Class UID	2.16.124.113543.6019.2.0.0
Implementation Version Name	Med X Change 1.0

### 4.2.2.3. Association Initiation Policies

#### 4.2.2.3.1.Activity – Query Worklist

#### 4.2.2.3.2. Description and Sequencing of Events

This activity is performed in response to a user action or based on a predefined schedule.

#### 4.2.2.3.3. Proposed Presentation Contexts

Table 4.2.2.3.3 – 1  
Proposed Presentation Contexts for Activity Query Worklist

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg
Name	UID	Name	UID		
Modality Worklist Information Model - Find	1.2.840.10008.5.1.4.31	ILE	1.2.840.10008.1.2	SCU	None
		ELE	1.2.840.10008.1.2.1		

#### 4.2.2.3.3.1. SOP Specific Conformance Statement for MWL SOP Class

The worklist query can be manual, or on regular intervals, i.e. using “polling”. This is configurable, whereby the polled attributes are configured as well.

In the following table, an S in the M column means single value matching, W means wild card matching. An ‘x’s in the Q column indicates a matching key that the user can interactively set. An ‘x’s in the D column means display in the MED X CHANGE DRSHD worklist, and an ‘x’s in the IOD column indicates the value that is returned in the response is used in the image instances created by MED X CHANGE DRSHD for that procedure.

Table 4.2.2.3.3.1 -1  
Worklist Request Identifier

Module Name Attribute Name	Tag	M	Q	D	IOD
Scheduled Procedure Step	(0040,0100)				
Scheduled Procedure Step Sequence	(0040,0100)				
> Scheduled Station AET	(0040,0001)	S		x	
> Scheduled Procedure Step Start Date	(0040,0002)	S		x	
> Scheduled Procedure Step Start Time	(0040,0003)				
> Modality	(0008,0060)	S		x	x
> Scheduled Procedure Step Description	(0040,0007)			x	
> Scheduled Station Name	(0040,0010)				x
> Scheduled Procedure Step Location	(0040,0011)				
> Scheduled Protocol Code Sequence	(0040,0008)				
Code Value >>	(0008,0100)				

>> Coding Scheme Version >> Coding Scheme Designator >> Code Meaning > Scheduled Procedure Step ID	(0008,0103) (0008,0102) (0008,0104) (0040,0009)				
Requested Procedure Requested Procedure ID Requested Procedure Description Study Instance UID	(0040,1001) (0032,1060) (0020,000D)	S		x	x x x
Imaging Service Request Accession Number Referring Physician's Name	(0008,0050) (0008,0090)	S		x x	x x
Visit Admission Admitting Diagnosis Description	(0008,1080)				
Patient Identification Patient Name Patient ID	(0010,0010) (0010,0020)	W/S S		x x	x x
Patient Demographic Patient Birth Date Patient Sex Patient Comments	(0010,0030) (0010,0040) (0010,4000)			x x	x x

Table 4.2.2.3.3.1 - 2  
MWL C-FIND Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Matching is complete	0000	The SCP has completed the matches. Worklist items are available for display or further processing.
Refused	Out of Resources	A700	The Association is released and the worklist query is marked as failed. The status meaning is logged and reported to the user if an interactive query. Any additional error information in the Response will be logged.
Failed	Identifier does not match SOP Class	A900	The Association is released and the worklist query is marked as failed. The status

			meaning is logged and reported to the user if an interactive query. Any additional error information in the Response will be logged.
Failed	Unable to Process	C000 – CFFF	The Association is released and the worklist query is marked as failed. The status meaning is logged and reported to the user if an interactive query. Any additional error information in the Response will be logged.
Cancel	Matching terminated due to Cancel request	FE00	If the query was cancelled due to too many worklist items then the SCP has completed the matches. Worklist items are available for display or further processing. Otherwise, the Association is released and the worklist query is marked as failed. The status meaning is logged and reported to the user if an interactive query.
Pending	Matches are continuing	FF00	The worklist item contained in the Identifier is collected for later display or further processing.
Pending	Matches are continuing Warning that one or more Optional Keys were not supported	FF01	The worklist item contained in the Identifier is collected for later display or further processing. The status meaning is logged only once for each C-FIND operation.
*	*	Any other status	The Association is released and the worklist is marked as failed. The status meaning is logged and reported to the user if an interactive query. Any additional error information in the Response will be logged.

The behavior of Workflow AE during communication failure is summarized in the Table below.

Table 4.2.2.3.3.1 - 3  
Modality Worklist Communication Failure Behavior

Exception	Behavior
-----------	----------

Timeout	The Association is aborted using A-ABORT and the worklist query marked as failed. The reason is logged and reported to the user if an interactive query.
Association aborted by the SCP or network layers	The worklist query is marked as failed. The reason is logged and reported to the user if an interactive query.

### 4.2.3.Storage Commitment AE Specifications

#### 4.2.3.1.SOP Classes

This Application Entity provides Standard Conformance to the following SOP Classes:

Table 4.2.3.1 - 1  
SOP Classes for Workflow AE

SOP Class Name	SOP Class UID	SCU	SCP
Storage Commitment Push Model	1.2.840.10008.1.20.1	Yes	No

#### 4.2.3.2. Association Policies

##### 4.2.3.2.1. General

The DICOM standard application context name for DICOM 3.0 is always proposed.

Table 4.2.3.2.1 - 1  
Maximum PDU Size for Workflow AE

Maximum PDU size proposed	16384
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##### 4.2.3.2.2. Number of Associations

The Storage Commit SCU AE initiates association with an external AE for the purpose of sending a commit request.

The Storage Commit SCU AE accepts associations for receiving storage commit results.

The device will either listen for the reply on the same Association or close the Association and wait for it at a separate Association. The SCU should therefore in the latter case be able to support Role Reversal (accept an Association). Whether or not the answer comes on a separate Association or on the same Association is configurable.

Table 4.2.3.2.2 - 1  
Number of Associations as association initiator for Storage Commit AE

Maximum number of simultaneous associations	1
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Table 4.2.3.2.2 - 2  
 Number of Associations as association acceptor for Storage Commit AE

Maximum number of simultaneous associations	1
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**4.2.3.2.3. Asynchronous Nature**

The Workflow AE does not support multiple outstanding transactions.

**4.2.3.2.4. Implementation Identifying Information**

Table 4.2.3.2.4 - 1  
 DICOM Implementation Class and Version for Storage Commit AE

Implementation Class UID	2.16.124.113543.6019.2.0.0
Implementation Version Name	Med X Change 1.0

**4.2.3.3. Association Initiation Policies**

**4.2.3.4. Activity – Commit request**

**4.2.3.4.1. Description and Sequencing of Events**

This activity is performed upon closing the case at the device.

**4.2.3.4.1.1. Proposed Presentation Contexts**

Table 4.2.3.4.1.1 – 1  
 Proposed Presentation Contexts for Storage Commit

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg
Name	UID	Name	UID		
Storage Commitment Push Model SOP Class	1.2.840.10008.1.20.1	ILE	1.2.840.10008.1.2	SCU	None
		ELE	1.2.840.10008.1.2.1		

**4.2.3.4.1.2. SOP Specific Conformance Storage Commit SOP Class**

#### 4.2.3.4.1.2.1.Storage Commitment Operations (N-ACTION)

The Storage Commit AE will consider Storage Commitment failed if no N-EVENT-REPORT is received for a Transaction UID within a configurable time period after receiving a successful N-ACTION response (duration of applicability for a Transaction UID).

The behavior of Storage Commit AE when encountering status codes in an N-ACTION response is summarized in the Table below:

Table 4.2.3.4.1.2.1 - 1  
Storage Commitment N-ACTION Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	The request for storage comment is considered successfully sent. A timer is started which will expire if no N-EVENT-REPORT for the Transaction UID is received within a configurable timeout period.
*	*	Any other status code.	The Association is released and the request for storage comment is marked as failed. The status meaning is logged and reported to the user.

The behavior of Storage Commit AE during communication failure is summarized in the Table below:

Table 4.2.3.4.1.2.1 - 2  
Storage Commitment Communication Failure Behavior

Exception	Behavior
Timeout	The Association is aborted using A-ABORT and the send job is marked as failed. The reason is logged and the job failure is reported to the user via the job control application.
Association aborted by the SCP or network layers	The send job is marked as failed. The reason is logged and the job failure is reported to the user via the job control application.

#### 4.2.3.4.1.2.2.Storage Commitment Notifications (N-EVENT-REPORT)

The Storage Commit AE is capable of receiving an N-EVENT-REPORT notification if it has successfully negotiated a Presentation Context for the Storage Commitment Push Model (i.e. only associations established with archive devices). Upon receipt of an N-EVENT-REPORT the timer associated with the Transaction UID will be canceled.

The behavior of Storage Commit AE when receiving Event Types within the N-EVENT-REPORT is summarized in the Table below.

Table 4.2.3.4.1.2.2 - 1  
Storage Commitment N-EVENT-REPORT Behavior

Event Type Name	Event Type	Behavior
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	ID	
Storage Commitment Request Successful	1	The Referenced SOP Instances under Referenced SOP Sequence (0008,1199) are marked within the database as "Stored & Committed (SC)" to the value of Retrieve AE Title (0008,0054). Successfully committed SOP Instances are candidates for automatic deletion from the local database if local resources become scarce. The conditions under which automatic deletion is initiated and the amount of space freed are site configurable. SOP Instances will not be deleted if they are marked with a lock flag. The least recently accessed SOP Instances are deleted first.
Storage Commitment Request Complete – Failures Exist	2	The Referenced SOP Instances under Referenced SOP Sequence (0008,1199) are treated in the same way as in the success case (Event Type 1). The Referenced SOP Instances under Failed SOP Sequence (0008,1198) are marked within the database as "Store & Commit Failed (Sf)". The Failure Reasons are logged and the job failure is reported to the user via the job control application. A send job that failed storage commitment will not be automatically restarted but can be restarted by user interaction.

The reasons for returning specific status codes in an N-EVENT-REPORT response are summarized in the Table below.

Table 4.2.3.4.1.2.2 -2  
Storage Commitment N-EVENT-REPORT Response Status Reasons

Service Status	Further Meaning	Error Code	Reasons
Success	Success	0000	The storage commitment result has been successfully received.
Failure	Unrecognized Operation	0211H	The Transaction UID in the N-EVENT-REPORT request is not recognized (was never issued within an N-ACTION request).
Failure	Resource Limitation	0213H	The Transaction UID in the N-EVENT-REPORT request has expired (no N-EVENT-REPORT was received within a configurable time limit).
Failure	No Such Event Type	0113H	An invalid Event Type ID was supplied in the N-EVENT-REPORT request.
Failure	Processing Failure	0110H	An internal error occurred during processing of the N-EVENT-REPORT. A short description of the error will be returned in Error Comment (0000,0902).
Failure	Invalid Argument Value	0115H	One or more SOP Instance UIDs with the Referenced SOP Sequence (0008,1199) or Failed SOP Sequence (0008,1198) was not included in the Storage Commitment Request associated with this Transaction UID. The

			unrecognized SOP Instance UIDs will be returned within the Event Information of the N-EVENT-REPORT response.
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#### 4.2.3.5. Association Acceptance Policy

##### 4.2.3.5.1. Activity – Receive Storage Commitment Response

##### 4.2.3.5.2. Description and Sequencing of Activities

The Storage Commit AE will accept associations in order to receive responses to a Storage Commitment Request.

The Storage Commit AE may reject association attempts as shown in the Table below. The Result, Source and Reason/Diag columns represent the values returned in the appropriate fields of an ASSOCIATE-RJ PDU (see PS 3.8, Section 9.3.4). The contents of the Source column is abbreviated to save space and the meaning of the abbreviations are:

- a) 1 – DICOM UL service-user
- b) 2 – DICOM UL service-provider (ASCE related function)
- c) 3 – DICOM UL service-provider (Presentation related function)

Table 4.2.3.5.2 - 1  
Association Rejection Reasons

Result	Source	Reason/Diag	Explanation
2 – rejected-transient	c	2 – local-limit-exceeded	The (configurable) maximum number of simultaneous associations has been reached. An association request with the same parameters may succeed at a later time.
2 – rejected-transient	c	1 – temporary-congestion	No associations can be accepted at this time due to the real-time requirements of higher priority activities (e.g. during image acquisition no associations will be accepted) or because insufficient resources are available (e.g. memory, processes, threads). An association request with the same parameters may succeed at a later time.
1 – rejected-permanent	a	2 – application-context-name-not-supported	The association request contained an unsupported Application Context Name. An association request with the same parameters will not succeed at a later time.
1 – rejected-permanent	a	7 – called-AE-title-not-recognized	The association request contained an unrecognized Called AE Title. An association request with the same parameters will not succeed at a later time unless configuration changes are made. This rejection reason normally occurs when the association initiator is incorrectly configured and attempts to address the association acceptor using the wrong AE Title.

1 – rejected-permanent	a	3 – calling-AE-title-not-recognized	The association request contained an unrecognized Calling AE Title. An association request with the same parameters will not succeed at a later time unless configuration changes are made. This rejection reason normally occurs when the association acceptor has not been configured to recognize the AE Title of the association initiator.
1 – rejected-permanent	b	1 – no-reason-given	The association request could not be parsed. An association request with the same format will not succeed at a later time.

#### 4.2.3.5.2.1. Accepted Presentation Contexts

The Storage Commit AE will accept Presentation Contexts as shown in the Table below.

Table 4.2.3.5.2.1 - 1  
Acceptable Presentation Contexts for  
Activity Receive Storage Commitment Response

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name List	UID List		
Storage Commitment Push Model	1.2.840.10008.1.20.1	ILE	1.2.840.10008.1.2	SCU	None
		ELE	1.2.840.10008.1.2.1		
Verification	1.2.840.10008.1.1	ILE	1.2.840.10008.1.2	SCP	None
		ELE	1.2.840.10008.1.2.1		

The Storage Commit AE will prefer to select the ELE Transfer Syntax if multiple transfer syntaxes are offered. The Storage Commit AE will only accept the SCU role (which must be proposed via SCP/SCU Role Selection Negotiation) within a Presentation Context for the Storage Commitment Push Model SOP Class.

#### 4.2.3.5.2.2. SOP Specific Conformance for Storage Commit SOP Class

##### 4.2.3.5.2.2.1. Storage Commitment Notifications (N-EVENT-REPORT)

Upon receipt of an N-EVENT-REPORT the timer associated with the Transaction UID will be canceled.

The behavior of Storage Commit AE when receiving Event Types within the N-EVENT-REPORT and the reasons for returning specific status codes in an N-EVENT-REPORT response are the same as if received on the identical Association (see previous chapter).

### **4.3. Network Interfaces**

The Med X Change DRSHD uses TCP/IP as the underlying network implementation.

### **4.4. Configuration**

The following items are configurable:

SCU parameters:

- Calling AETitle

Storage Commitment parameters:

- Enable Y/N
- Peer IP address
- Port #
- AETitle
- Logging Y/N
- Separate/Same Association
- Listening port

Worklist parameters:

- Worklist Y/N
- Peer IP address
- Port #
- AE Title
- Modality for Query (default OT)
- Logging Y/N

Query/Retrieve parameters:

- Enable Q/R Y/N
- Port #
- Logging Y/N

Destination settings:

For destination 1-3:

- IP address
- Port #
- AE Title

Store Parameters

- Default destination for Store
- Automatic Store Y/N
- Registration Y/N to allow for external Q/R from database

Proposed presentation context configuration:

- SOP Class
- Xfer syntax

#### **4.4.1.AE Title/Presentation Address Mapping**

##### **4.4.1.1.Local AE Titles**

If not configured in the INI file, the default AE title is SDDSRV and the port will be 104.

##### **4.4.1.2.Remote AE Titles**

The storage service has an auto-configuration feature that can be set on or off. When set to on, AE titles configuration will be added automatically during association. When set to off, only associations from AE titles configured in the configuration file will be accepted, providing some level of rudimentary security.

## **5.SUPPORT OF CHARACTER SETS**

The Med X Change DRSHD supports ISO-IR 192 (UTF-8) but can be configured to provide ISO-IR 100 instead, in case there might be compatibility issues.

## Security

### **5.1.Security Profiles**

Med X Change DRSHD does not support any DICOM security profile.

### **5.2.Association Level Security**

Med X Change DRSHD provides two modes of association level security.

If automatic configuration is set on, any incoming association will be allowed and the AE title and host name will be automatically configured in the application internal database.

When automatic configuration is off, only associations with a combination of AE title and host or IP address that are pre-configured in the application internal database will be accepted.

### **5.3.Application Level Security**

The following security and privacy requirements are defined for the Med X Change DRSHD Planning Application Software: The Operating System contains a login function including a password, and only authorized users will be able to login to the system.

## 6.ANNEXES

### 6.1.IOD Contents

#### 6.1.1.Secondary Capture IOD

Table 7.1.1  
Secondary Capture IOD

Module	Attribute	Tag	Value and/or length, range, and origin
PATIENT	Patient Name	(0010,0010)	From MWL or entered by user; LASTNAME
	Patient ID	(0010,0020)	From MWL or entered by user:
	Patient Sex	(0010,0040)	From MWL or user selectable; M, F or O
	Patient Birth Date	(0010,0030)	From MWL or entered by user; 8 Bytes
GENERAL STUDY	Study Instance UID	(0020,000D)	From MWL or automatically generated; not visible on UI
	Study ID	(0020,0010)	Auto generated.
	Study Date	(0008,0020)	Automatically generated when study is created; 8 bytes
	Study Time	(0008,0030)	Automatically generated when study is created; 6 Bytes
	Referring Physician's Name	(0008,0090)	From MWL
	Accession Number	(0008,0050)	From MWL or entered by user.
GENERAL SERIES	Modality	(0008,0060)	From MWL
	Conversion Type	(0008,0064)	DI fixed
	Series Number	(0020,0011)	1
	Series Instance UID	(0020,000E)	Automatically generated
GENERAL IMAGE	Instance Number	(0020,0013)	Automatically generated
	Patient Orientation	(0020,0020)	Empty, zero length
General Equipment	Manufacturer	(0008,0070)	Fixed, from internal configuration file: CONMED
IMAGE PIXEL	Samples per Pixel	(0028,0002)	3
	Photometric Interpretation	(0028,0004)	RGB
	Planar Configuration	(0028,0006)	0
	Rows	(0028,0010)	Depends on the number of rows

	Columns	(0028,0011)	Depends on the number of columns
	Bits Allocated	(0028,0100)	8
	Bits Stored	(0028,0101)	8
	High Bit	(0028,0102)	7
	Pixel Representation	(0028,0103)	Always 0
	Pixel Data	(7FE0,0010)	
SOP COMMON MODULE	SOP Class UID	(0008,0016)	1.2.840.10008.5.1.4.1.1.7
	SOP Instance UID	(0008,0018)	Automatically generated
	Character Set	(0008,0005)	Configurable from internal configuration file: ISO IR-100 or ISO_IR 192

### 6.1.2.VL Endoscopy IOD

Table 7.1.2  
VL Endoscopy IOD

Module	Attribute	Tag	Value and/or length, range, and origin
PATIENT	Patient Name	(0010,0010)	From MWL or entered by user; LASTNAME
	Patient ID	(0010,0020)	From MWL or entered by user:
	Patient Sex	(0010,0040)	From MWL or user selectable; M, F or O
	Patient Birth Date	(0010,0030)	From MWL or entered by user; 8 Bytes
GENERAL STUDY	Study Instance UID	(0020,000D)	From MWL or automatically generated; not visible on UI
	Study ID	(0020,0010)	Auto generated.
	Study Date	(0008,0020)	Automatically generated when study is created; 8 bytes
	Study Time	(0008,0030)	Automatically generated when study is created; 6 Bytes
	Referring Physician's Name	(0008,0090)	From MWL
	Accession Number	(0008,0050)	From MWL or entered by user.
GENERAL SERIES	Modality	(0008,0060)	OT
	Conversion Type	(0008,0064)	DI fixed
	Series Number	(0020,0011)	1

	Series Instance UID	(0020,000E)	Automatically generated
	Laterality	(0020,0060)	
GENERAL IMAGE	Image Type	(0008,0008)	ORIGINAL/SECONDARY
	Instance Number	(0020,0013)	Automatically generated
	Patient Orientation	(0020,0020)	Empty, zero length
	Lossy Image Compression	(0028,2110)	00
General Equipment	Manufacturer	(0008,0070)	Fixed, from internal configuration file: CONMED
Acquisition Context	Acquisition Context	(0040,0555)	Empty, zero length
IMAGE PIXEL	Samples per Pixel	(0028,0002)	3
	Photometric Interpretation	(0028,0004)	RGB
	Planar Configuration	(0028,0006)	0
	Rows	(0028,0010)	Depends on the number of rows
	Columns	(0028,0011)	Depends on the number of columns
	Bits Allocated	(0028,0100)	8
	Bits Stored	(0028,0101)	8
	High Bit	(0028,0102)	7
	Pixel Representation	(0028,0103)	Always 0
	Pixel Data	(7FE0,0010)	
SOP COMMON MODULE	SOP Class UID	(0008,0016)	1.2.840.10008.5.1.4.1.1.7
	SOP Instance UID	(0008,0018)	Automatically generated
	Character Set	(0008,0005)	Configurable from internal configuration file: ISO IR-100 or ISO_IR 192

### 6.1.3.Multiframe True Color Secondary Capture IOD

Table 7.1.3  
Multiframe True Color Secondary Capture IOD

Module	Attribute	Tag	Value and/or length, range, and origin
PATIENT	Patient Name	(0010,0010)	From MWL or entered by user; LASTNAME
	Patient ID	(0010,0020)	From MWL or entered by user:
	Patient Sex	(0010,0040)	From MWL or user selectable; M, F or O

	Patient Birth Date	(0010,0030)	From MWL or entered by user; 8 Bytes
GENERAL STUDY	Study Instance UID	(0020,000D)	From MWL or automatically generated; not visible on UI
	Study ID	(0020,0010)	Auto generated.
	Study Date	(0008,0020)	Automatically generated when study is created; 8 bytes
	Study Time	(0008,0030)	Automatically generated when study is created; 6 Bytes
	Referring Physician's Name	(0008,0090)	From MWL
	Accession Number	(0008,0050)	From MWL or entered by user.
GENERAL SERIES	Modality	(0008,0060)	From MWL
	Conversion Type	(0008,0064)	DI fixed
	Series Number	(0020,0011)	1
	Series Instance UID	(0020,000E)	Automatically generated
GENERAL IMAGE	Instance Number	(0020,0013)	Automatically generated
	Patient Orientation	(0020,0020)	Empty, length is zero
	Lossy Image Compression	(0028,2110)	00
	Compression Ratio	(0028,2112)	
	Compression Method	(0028,2114)	ISO_13818_2
General Equipment	Manufacturer	(0008,0070)	Fixed, from internal configuration file: CONMED
Multi Frame Module	Number of Frames	(0028,0008)	Automatically generated
	Frame Increment Pointer	(0028,0009)	Points to (0018,1063)
SC Multi Frame Image	Burned in Annotation	(0028,0301)	NO
Cine	Frame Time	(0018,1063)	
IMAGE PIXEL	Samples per Pixel	(0028,0002)	3
	Photometric Interpretation	(0028,0004)	RGB
	Planar Configuration	(0028,0006)	0
	Rows	(0028,0010)	Depends on the number of rows
	Columns	(0028,0011)	Depends on the number of columns

	Bits Allocated	(0028,0100)	8
	Bits Stored	(0028,0101)	8
	High Bit	(0028,0102)	7
	Pixel Representation	(0028,0103)	Always 0
	Pixel Data	(7FE0,0010)	
SOP COMMON MODULE	SOP Class UID	(0008,0016)	1.2.840.10008.5.1.4.1.1.7
	SOP Instance UID	(0008,0018)	Automatically generated
	Character Set	(0008,0005)	Configurable from internal configuration file: ISO IR-100 or ISO_IR 192

#### 6.1.4.Video Endoscopy Image IOD

Table 7.1.4  
Video Endoscopy Image IOD

Module	Attribute	Tag	Value and/or length, range, and origin
PATIENT	Patient Name	(0010,0010)	From MWL or entered by user; LASTNAME
	Patient ID	(0010,0020)	From MWL or entered by user:
	Patient Sex	(0010,0040)	From MWL or user selectable; M, F or O
	Patient Birth Date	(0010,0030)	From MWL or entered by user; 8 Bytes
GENERAL STUDY	Study Instance UID	(0020,000D)	From MWL or automatically generated; not visible on UI
	Study ID	(0020,0010)	Auto generated.
	Study Date	(0008,0020)	Automatically generated when study is created; 8 bytes
	Study Time	(0008,0030)	Automatically generated when study is created; 6 Bytes
	Referring Physician's Name	(0008,0090)	From MWL
	Accession Number	(0008,0050)	From MWL or entered by user.
GENERAL SERIES	Modality	(0008,0060)	From MWL
	Conversion Type	(0008,0064)	DI fixed
	Series Number	(0020,0011)	1
	Series Instance UID	(0020,000E)	Automatically generated
GENERAL	Image Type	(0008,0008)	ORIGINAL/SECONDARY

IMAGE	Instance Number	(0020,0013)	Automatically generated
	Patient Orientation	(0020,0020)	Field is empty: zero length
	Lossy Image Compression	(0028,2110)	00
	Image Compression Ratio	(0028,2112)	
	Image Compression Method	(0028,2114)	ISO_13818_2
General Equipment	Manufacturer	(0008,0070)	Fixed, from internal configuration file: CONMED
Acquisition Context	Acquisition Context	(0040,0555)	Field is empty: zero length
Cine	Frame Time	(0018,1063)	
Multi Frame	Number of Frames	(0028,0008)	Automatically generated
	Frame Increment pointer	(0028,0009)	Points to (0018,1063)
IMAGE PIXEL	Samples per Pixel	(0028,0002)	3
	Photometric Interpretation	(0028,0004)	RGB
	Planar Configuration	(0028,0006)	0
	Rows	(0028,0010)	Depends on the number of rows
	Columns	(0028,0011)	Depends on the number of columns
	Bits Allocated	(0028,0100)	8
	Bits Stored	(0028,0101)	8
	High Bit	(0028,0102)	7
	Pixel Representation	(0028,0103)	Always 0
	Pixel Data	(7FE0,0010)	
SOP COMMON MODULE	SOP Class UID	(0008,0016)	1.2.840.10008.5.1.4.1.1.7
	SOP Instance UID	(0008,0018)	Automatically generated
	Character Set	(0008,0005)	Configurable from internal configuration file: ISO IR-100 or ISO_IR 192

## 6.2. Attribute Mapping

The relationships between attributes received via Modality Work list, and stored in acquired images are summarized in the Table 6.2 - 1.

Table 6.2 - 1:  
Attribute Mapping between Modality Worklist and Image IOD

Field	Tag	Interface
Patient's Name	(0010,0010)	Y
Patient ID	(0010,0020)	Y
Patient's Birth Date	(0010,0030)	Y
Patient's Sex	(0010,0040)	Y
Study Instance UID	(0020,000D)	N
Referring Physician's Name	(0008,0090)	Y
Accession Number	(0008,0050)	Y
Modality	(0008,0060)	Y

## 6.3.Coerced/Modified Fields

The DICOM AE acting as a MWL will not truncate any attribute values received in the response to a Modality Worklist Query if the value length is longer than the maximum length permitted by the attribute's VR. They will not be taken up for further processing and the user will be prompted to edit the values and make them valid.