



▶ **Commvault Clinical Image Archiving**  
*HL7 Conformance Statement*



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## Introduction

### **Purpose and Intended Audience of this Document**

This document is an HL7 Conformance Statement for the HL7 Services of Commvault Clinical Image Archiving. It describes the HL7 messages supported by Commvault Clinical Image Archiving.

The user of this document is involved with system integration or software design. We assume that the reader is familiar with the terminology and concepts that are used in HL7 2.3.1 and the IHE Technical Framework.

Although the use of this conformance statement in conjunction with the HL7 standard is intended to facilitate communication with Commvault Clinical Image Archiving, it is not sufficient to guarantee, by itself, the inter-operation of the connection between a third-party HIS/RIS system and Clinical Image Archiving.

### **Acronyms and Abbreviations**

- ACK - General Acknowledgement Message
- ADT - Admission, Discharge, and Transfer message
- AL1 - Patient Allergy Information segment
- CIS - Cardiology Information System
- DICOM - Digital Imaging and Communication in Medicine
- EMR - Electronic Medical Record
- EPR - Electronic Patient Record
- EVN - Event Type segment
- HIS - Hospital Information System
- HL7 - Health Level 7
- IHE - Integrating the Healthcare Enterprise
- IMS – Image Management System
- MDM - Medical Document Management
- MFN - Master Files Change Notification
- MLLP – Minimal Lower Layer Protocol
- MPPS (DICOM) - Modality Performed Procedure Step
- MRG - Merge Patient Information Segment
- MRN - Medical Record Number
- MSA - Message Acknowledgment Segment
- MSH - Message Header Segment
- NTE - Notes and comments Segment
- OBR - Observation Request Segment
- OBX - Observation/Result Segment
- OMG - General Clinical Order
- ORC - Common Order Segment
- ORM - Order Request message
- ORU - Observation Results - Unsolicited message
- PACS – Picture Archiving and Communications System
- PD1 - Additional Demographics segment
- PID - Patient ID Segment
- PV1 - Patient Visit Segment
- QRD - Query Definition segment
- RIS - Radiology Information System

## **Related Documents**

- HL7 Standard
- IHE Radiology Technical Framework
- IHE IT Infrastructure Technical Framework
- IHE Cardiology Supplement Displayable Report (DRPT)

## ► Inbound Messages

### Supported Trigger Events

In the Clinical Image Archiving, all the listing events are supported to perform some activity for which the necessary data fields are present.

### Supported Functionalities

- Patient demographics update
- Schedule prefetch
- Merge patient information

### Supported Actions

Functional Area	Event Code	ADT Trigger Event
ADT	A08	Update patient information (PDU - Patient Demographics Update)
ADT	A40	Merge patient using Patient ID.
ORM	O01	General Order Msg (Trigger Prefetch)

### Field Mappings by Function

#### Supported Segments

Any field in any segment provided in an ADT message can be mapped to a corresponding DICOM tag and stored in the image archive. It is important to determine the data that should be harvested and stored along with the image data, and the most appropriate mapping

#### Patient Dmographics Update

MSH

[EVN]

PID

PV1

[MRG]

#### Pre-Fetch Images

MSH

[EVN]

PID

PV1

ORC

OBR

## Merge Patient Using Patient ID

MSH

[EVN]

PID

PV1

[MRG]

## Supported HL7 Fields

Standard mappings listed below.

### MSH Segment Mappings [Message Header]

Seq.	HL7 Field Name	Value Required	Default Mapped Field	Comments
1	Field Separator	Yes	No	Usually " "
2	Encoding Characters	Yes	No	Usually "^~\&"
3	Sending Application	No	No	
4	Sending Facility	No	No	
5	Receiving Application	No	No	
6	Receiving Facility	No	No	
7	Date/time of Message	No	No	
8	Security	No	No	
9	Message Type	Yes	No	Extract the message type and event type components
10	Message Control ID	Yes	No	Generated by sending application
11	Processing ID	Yes	No	
12	Version ID	Yes	No	"2.1", "2.2", "2.3", "2.3.1", "2.5"
13	Sequence Number	No	No	
14	Continuation Pointer	No	No	
15	Accept Acknowledgement Type	No	No	
16	Application Acknowledgement Type	No	No	
17	Country Code	No	No	
18	Character Set	Yes	No	If missing, then set to ISO_IR 100

Seq.	HL7 Field Name	Value Required	Default Mapped Field	Comments
19	Principal Language of Message	No	No	

### **PID Segment Mappings [Patient Demographics Update]**

Seq.	HL7 Field Name	Value Required	Default Mapped Field	Comments
1	Set ID - Patient ID	No	No	
2	Patient ID (External ID)	No	No	May be used in place of PID-3
3	Patient ID (Internal ID)	Yes	Yes	Not req. if alternate used.
4	Alternate Patient ID	No	No	May be used in place of PID-3
5	Patient Name	Yes	Yes	
6	Mother's Maiden Name	No	No	
7	Date of Birth	No	Yes	
8	Sex	No	Yes	
9	Patient Alias	No	No	
10	Race	No	No	
11	Patient Address	No	No	
12	Country Code	No	No	
13	Phone Number - Home	No	No	
14	Phone Number - Business	No	No	
15	Primary Language	No	No	
16	Marital Status	No	No	
17	Religion	No	No	
18	Patient Account Number	No	No	
19	SSN Number - Patient	No	No	
20	Driver license Number - Patient	No	No	

Seq.	HL7 Field Name	Value Required	Default Mapped Field	Comments
21	Mother's Identifier	No	No	
22	Ethnic Group	No	No	
23	Birth Place	No	No	
24	Multiple Birth Indicator	No	No	
25	Birth Order	No	No	
26	Citizenship	No	No	
27	Veterans Military Status	No	No	
28	Nationality	No	No	
29	Patient Death Date/Time	No	No	

### MRG Segment Mappings [Merge Patient Information]

Seq.	HL7 Field Name	Value Required	Default Mapped Field	Comments
1	Prior Patient ID - Internal	Yes	Yes	Unless an alternate is provided
2	Prior Alternate Patient ID	No	No	May be used in place of MRG 1
3	Prior Patient Acct Number	No	No	
4	Prior Patient ID -External	No	No	May be used in place of MRG 1
5	Prior Visit Number	No	No	
6	Prior Alternate Visit ID	No	No	
7	Prior Patient Name	No	No	

### ORC Segment Mappings [Common Order]

Seq.	HL7 Field Name	Value Required	Default Mapped Field	Comments
1	Order Control	Yes	No	Refer to Table 3
2	Placer Order #	No	No	Important to include ORC 2,2 as the assigning authority
3	Filler Order #	No	No	Important to include ORC 3,2 as the



Seq.	HL7 Field Name	Value Required	Default Mapped Field	Comments
				assigning authority
4	Placer Group #	No	No	
5	Order Status	No	No	
6	Response Flag	No	No	
7	Quantity/Timing	No	Yes	<p>ORC 7,4 maps to Scheduled Procedure Step Start Date and Time (0040,0002) and (0040,0003)</p> <p>ORC 7,6 maps to DICOM Requested Procedure Priority (0040,1003). The mapping is</p> <p>S – STAT</p> <p>A   P   C – HIGH R – ROUTINE</p> <p>T - MEDIUM</p>
8	Parent	No	No	
9	Date/Time of Transaction	No	No	
10	Entered By	No	No	
11	Verified By	No	No	
12	Ordering Provider	No	No	
13	Enterer's Location	No	No	
14	Call Back Phone Number	No	No	
15	Order Effective Date/Time	No	No	
16	Order Control Reason	No	No	
17	Entering Organization	No	No	
18	Entering Device	No	No	<p>ORC 18,1 maps to an internal attribute Original Source Identity. This value can be mapped from (but not limited to):</p> <p>OBR 34,5 Technician's Room ORC 17,1 Entering Organization ORC 12,1 Ordering Provider ORC 13,1 Enterer's Location</p>

Seq.	HL7 Field Name	Value Required	Default Mapped Field	Comments
19	Action By	No	No	

### OBR Segment Mappings [Observation Request]

Seq.	HL7 Field Name	Value Required	Default Mapped Field	Comments
1	Set ID - Observation Request	No	No	Set to 1,2,3...
2	Placer Order #	No	No	
3	Filler Order #	No	No	
4	Universal Service ID	Yes	Yes	OBR 4,4-6 maps to DICOM Scheduled Protocol Code Sequence (0040,0008) OBR 4,5 maps to DICOM Scheduled Procedure Step Description (0040,0007)
5	Priority	No	No	
6	Requested Date/Time	No	No	
7	Observation Date/Time	No	No	
8	Observation End Date/Time	No	No	
9	Collection Volume	No	No	
10	Collector Identifier	No	No	
11	Specimen Action Code	No	No	
12	Danger Code	No	Yes	Maps to DICOM Patient State (0038,0500)
13	Relevant Clinical Inf.	No	Yes	Maps to DICOM Medical Alert (0010,2000)
14	Specimen Rec'd Date/Time	No	No	
15	Specimen Source	No	No	
16	Ordering Provider family	No	Yes	Maps to DICOM Requesting Physician (0032,1032)

Seq.	HL7 Field Name	Value Required	Default Mapped Field	Comments
17	Order Callback Phone No.	No	No	
18	Placer Field 1	No	Yes	Maps to DICOM Accession Number (0008,0050)
19	Placer Field 2	No	Yes	Maps to DICOM Requested Procedure ID (0040,1001)
20	Filler Field 1	No	Yes	Maps to DICOM Scheduled Procedure Step ID (0040,0009)
21	Filler Field 2	No	No	
22	Result Rpt/Status Change - Date/Time	No	No	
23	Charge To Practice	No	No	
24	Diagnostic Serv Sect Id	No	Yes	Maps to DICOM Modality (0008,0060)
25	Result Status	No	No	
26	Parent Result	No	No	
27	Quantity/Timing	No	No	
28	Result Copies To	No	No	
29	Parent Number	No	No	
30	Transportation Mode	No	Yes	Maps to DICOM Patient Transport Arrangement (0040,1004)
31	Reason For Study	No	No	
32	Principal Result Interpreter	No	No	
33	Assistant Result Interpreter	No	No	
34	Technician	No	Yes	Maps to DICOM Scheduled Performing Physician Name (0040,0006)
35	Transcriptionist	No	No	
36	Scheduled Date/Time	No	No	
37	Number of Sample	No	No	

Seq.	HL7 Field Name	Value Required	Default Mapped Field	Comments
	Containers			
<b>38</b>	Transport Logistics of Collected Sample	No	No	
<b>39</b>	Collector's Comment	No	No	
<b>40</b>	Transport Arrangement Responsibility	No	No	
<b>41</b>	Transport Arranged	No	No	
<b>42</b>	Escort Required	No	No	
<b>43</b>	Planned Patient Transport Comment	No	No	
<b>44</b>	Procedure Code	No	Yes	OBR 44,1-3 maps to DICOM Requested Procedure Code Sequence (0032,1064) . OBR 44,2 maps to Requested Procedure Description (0032,1060)



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