

Mach7 Enterprise Imaging Platform v11.8 HL7 Conformance Statement



Manufacturer:

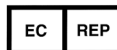
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About this Conformance Statement

Symbols Used

	Manufacturer name
	European Authorized Representative
	Consult Instructions for Use.
	Year of Manufacturer
	Caution

Cautions

 Federal (USA) law restricts this device to sale by or on the order of a physician or medical institution.

Introduction

Mach7 Enterprise Imaging Platform provides an Enterprise Clinical Imaging Platform for managing medical images. As a component of those capabilities, Mach7 Enterprise Imaging Platform is a consumer of HL7 messages (HL7 V2.3) for communicating with other medical system. Through this HL7 communication, data integrity of archived studies within the Mach7 Archive is maintained. Patient updates and patient merges shall trigger the updating of metadata on medical imaging studies.

Intended Audience

This conformance statement is intended for administrators of the Mach7 Enterprise Imaging Platform with knowledge of system configurations, medical imaging, and general understanding of the integrated solution architecture.

Related Documents

- HL7 Standard: www.hl7.org
- IHE Technical Framework: www.ihe.net

Acronyms

- ADT: Admission, Discharge, and Transfer message
- CVIS: Cardiovascular Information System

- HL7: Health Level 7
- IHE: Integrating the Healthcare Enterprise
- MRG: Merge Patient Information segment
- MSH: Message Header segment
- OBR: Observation Request segment
- ORC: Common Order segment
- ORM: Order Request Messages
- PID: Patient ID segment
- PV1: Patient Visit segment
- RIS: Radiology Information System

Release History

Release Version	Release Date	Sections Affected	Description
11.7.2	April 2017	General Release	This is the general release of this statement for the Mach7 Enterprise Imaging Platform v11.7.2
11.8.3	November 2018	General Release	This is the general release of this statement for the Mach7 Enterprise Imaging Platform v11.8.3

HL7 Supported Events

The following sections describe the support of Mach7 Enterprise Imaging Platform based on the noted HL7 events. Events are organized by HL7 message types. With each of those message types, segments and their fields are identified by their requirement to the HL7 standard and their use by Mach7 Enterprise Imaging Platform.

Abbreviation	Definition
R	Required by the HL7 Standard
C	Conditionally required per the HL7 standard
O	Optional per the HL7 Standard

Admission Discharge and Transfer (ADT) Messages

The Mach7 Enterprise Imaging Platform will create patient demographic metadata based on HL7 Patient Registered (ADT A04) and shall update patient metadata on archived studies based on HL7 Patient Updates (ADT A08) and Patient Merges (ADT A18 and A40). Updates shall affect all archived imaging metadata within the Mach7 database and file system.

ADT Messages

Message Type	Event Code	Action	Segments
ADT	A04	Register Patient	MSH, EVN, PID, PV1
	A08	Update Patient	MSH, EVN, PID, PV1
	A18	Merge Patient	MSH, EVN, PID, PV1, MRG
	A40	Merge Patient	

ADT A08: Patient Update

Message Type	Event Code	Action
ADT	A08	Update patient metadata within the Mach7 Archive

Supported Segments

Segment	Segment Name	HL7 Requirement	Mach7 Use
MSH	Message Header	R	Yes
EVN	Event Type	R	No
PID	Patient Identification	R	Yes
PV1	Patient Visit	R	No
OBX	Observation Results	C	No
AL1	Allergy	C	No

MSH Segment Supported Fields

Field Name	Sequence	HL7 Requirement	Mach7 Use
Field Separator	1	R	Yes
Encoding	2	R	Yes
Sending Application	3	R	Yes

Sending Facility	4	R	Yes
Receiving Application	5	R	Yes
Receiving Facility	6	R	Yes
Date/Time of Message	7	O	No
Security	8	O	No
Message Type	9	R	Yes
Message Control ID	10	R	Yes
Processing ID	11	R	Yes
Version ID	12	R	Yes
Sequence Number	13	O	No
Continuation Pointer	14	O	No
Accept Acknowledgement Type	15	O	No
Application Acknowledgement Type	16	O	No
Country Code	17	O	No
Character Set	18	C	No
Principal Language of Message	19	O	No
Alternate Character Set Handling Scheme	20	O	No

PID Segment Supported Fields

Field Name	Sequence	HL7 Requirement	Mach7 Use
Set ID – Patient ID	1	C	No
Patient ID	2	C	No
Patient Identifier List	3	R	Yes

Alternate Patient ID	4	C	No
Patient Name	5	R	Yes
Mother's Maiden Name	6	C	No
Date of Birth	7	R	Yes
Sex	8	R	Yes
Patient Alias	9	C	No
Race	10	C	No
Patient Address	11	C	No
Country Code	12	C	No
Phone Number – Home	13	C	No
Phone Number – Business	14	C	No
Primary Language	15	C	No
Marital Language	16	C	No
Religion	17	C	No
Patient Account Number	18	C	No
Patient Social Security Number	19	C	No
Driver's License Number	20	C	No
Mother's Identifier	21	C	No
Ethnic Group	22	C	No
Birth Place	23	C	No
Multiple Birth Indicator	24	C	No
Birth Order	25	C	No
Citizenship	26	C	No

Veterans Military Status	27	C	No
Nationality	28	C	No
Patient Death Date/Time	29	C	No
Patient Death Indicator	30	C	No

ADT A40: Patient Merge

Message Type	Event Code	Action
ADT	A40	Merge patients within the Mach7 Archive

Supported Segments

Segment	Segment Name	HL7 Requirement	Mach7 Use
MSH	Message Header	R	Yes
EVN	Event Type	R	No
PID	Patient Identification	R	Yes
PV1	Patient Visit	R	No
MRG	Merge Information	R	Yes

MSH Segment Supported Fields

Field Name	Sequence	HL7 Requirement	Mach7 Use
Field Separator	1	R	Yes
Encoding	2	R	Yes
Sending Application	3	R	Yes
Sending Facility	4	R	Yes
Receiving Application	5	R	Yes
Receiving Facility	6	R	Yes
Date/Time of Message	7	O	No

Security	8	O	No
Message Type	9	R	Yes
Message Control ID	10	R	Yes
Processing ID	11	R	Yes
Version ID	12	R	Yes
Sequence Number	13	O	No
Continuation Pointer	14	O	No
Accept Acknowledgement Type	15	O	No
Application Acknowledgement Type	16	O	No
Country Code	17	O	No
Character Set	18	C	No
Principal Language of Message	19	O	No
Alternate Character Set Handling Scheme	20	O	No

PID Segment Supported Fields

Field Name	Sequence	HL7 Requirement	Mach7 Use
Set ID – Patient ID	1	O	No
Patient ID	2	O	No
Patient Identifier List	3	R	Yes
Alternate Patient ID	4	O	No
Patient Name	5	R	Yes
Mother’s Maiden Name	6	C	No
Date of Birth	7	O	Yes

Sex	8	O	Yes
Patient Alias	9	O	No
Race	10	O	No
Patient Address	11	O	No
Country Code	12	O	No
Phone Number – Home	13	O	No
Phone Number – Business	14	O	No
Primary Language	15	O	No
Marital Language	16	O	No
Religion	17	O	No
Patient Account Number	18	O	No
Patient Social Security Number	19	O	No
Driver’s License Number	20	O	No
Mother’s Identifier	21	O	No
Ethnic Group	22	O	No
Birth Place	23	O	No
Multiple Birth Indicator	24	O	No
Birth Order	25	O	No
Citizenship	26	O	No
Veterans Military Status	27	O	No
Nationality	28	O	No
Patient Death Date/Time	29	O	No
Patient Death Indicator	30	O	No

MRG Segment Supported Fields

Field Name	Sequence	HL7 Requirement	Mach7 Use
Prior Patient Identifier List	1	R	Yes
Prior Alternate Patient ID	2	O	No
Prior Patient Account Number	3	O	No
Prior Patient ID	4	O	No
Prior Visit Number	5	O	No
Prior Alternate Visit ID	6	O	No
Prior Patient Name	7	O	No

Order Entry (ORM) Messages

The Mach7 Enterprise Imaging Platform will update patient metadata on archived studies based on the below listed HL7 Order Entry Messages. DICOM study prefetching may also be triggered by the receipt of ORM messages within the Mach7 Workflow Engine.

ORM Messages

Message Type	Event Code	Action	Segments
ORM	O01 / NW	Order Scheduled	MSH, PID, PV1, ORC, OBR, OBX
	O01 / SC	Order Status Change	MSH, PID, PV1, ORC, OBR, OBX
	O01 / XO	Order Change / Update	MSH, PID, PV1, ORC, OBR, OBX
	O01 / CA	Order Cancelled	MSH, PID, PV1, ORC, OBR, OBX

Supported Segments

Segment	Segment Name	HL7 Requirement	Mach7 Use
MSH	Message Header	R	Yes
PID	Patient Identification	R	Yes
PV1	Patient Visit	R	No
ORC	Common Order	R	Yes
OBR	Observation Request	C	Yes
OBX	Observation Result	C	No

MSH Segment Supported Fields

Field Name	Sequence	HL7 Requirement	Mach7 Use
Field Separator	1	R	Yes
Encoding	2	R	Yes
Sending Application	3	R	Yes
Sending Facility	4	R	Yes

Receiving Application	5	R	Yes
Receiving Facility	6	R	Yes
Date/Time of Message	7	O	No
Security	8	O	No
Message Type	9	R	Yes
Message Control ID	10	R	Yes
Processing ID	11	R	Yes
Version ID	12	R	Yes
Sequence Number	13	O	No
Continuation Pointer	14	O	No
Accept Acknowledgement Type	15	O	No
Application Acknowledgement Type	16	O	No
Country Code	17	O	No
Character Set	18	C	No
Principal Language of Message	19	O	No
Alternate Character Set Handling Scheme	20	O	No

PID Segment Supported Fields

Field Name	Sequence	HL7 Requirement	Mach7 Use
Set ID – Patient ID	1	O	No
Patient ID	2	O	No
Patient Identifier List	3	R	Yes
Alternate Patient ID	4	O	No
Patient Name	5	R	Yes
Mother’s Maiden Name	6	C	No
Date of Birth	7	O	Yes
Sex	8	O	Yes
Patient Alias	9	O	No
Race	10	O	No
Patient Address	11	O	No
Country Code	12	O	No
Phone Number – Home	13	O	No
Phone Number – Business	14	O	No
Primary Language	15	O	No
Marital Language	16	O	No
Religion	17	O	No
Patient Account Number	18	O	No
Patient Social Security Number	19	O	No
Driver’s License Number	20	O	No
Mother’s Identifier	21	O	No
Ethnic Group	22	O	No
Birth Place	23	O	No
Multiple Birth Indicator	24	O	No
Birth Order	25	O	No

Citizenship	26	O	No
Veterans Military Status	27	O	No
Nationality	28	O	No
Patient Death Date/Time	29	O	No
Patient Death Indicator	30	O	No

Field Name	Sequence	HL7 Requirement	Mach7 Use
Set ID – Patient ID	1	O	No
Patient ID	2	O	No
Patient Identifier List	3	R	Yes
Alternate Patient ID	4	O	No
Patient Name	5	R	Yes
Mother’s Maiden Name	6	C	No
Date of Birth	7	O	Yes
Sex	8	O	Yes
Patient Alias	9	O	No
Race	10	O	No
Patient Address	11	O	No
Country Code	12	O	No
Phone Number – Home	13	O	No
Phone Number – Business	14	O	No
Primary Language	15	O	No
Marital Language	16	O	No
Religion	17	O	No
Patient Account Number	18	O	No
Patient Social Security Number	19	O	No
Driver’s License Number	20	O	No
Mother’s Identifier	21	O	No
Ethnic Group	22	O	No
Birth Place	23	O	No
Multiple Birth Indicator	24	O	No
Birth Order	25	O	No
Citizenship	26	O	No
Veterans Military Status	27	O	No
Nationality	28	O	No
Patient Death Date/Time	29	O	No
Patient Death Indicator	30	O	No

ORC Segment Supported Fields

Field Name	Sequence	HL7 Requirement	Mach7 Use
Order Control	1	R	Yes
Placer Order Number	2	C	No
Filler Order Number	3	C	Yes

OBR Segment Supported Fields

Field Name	Sequence	HL7 Requirement	Mach7 Use
Set ID - OBR	1	O	No
Placer Order Number	2	C	No
Filler Order Number	3	C	Yes
Universal Service Identifier	4	O	No
Priority - OBR	5	O	No
Requested Date/Time	6	O	No
Observation Date/Time #	7	O	No
Observation End Date/Time #	8	O	No
Collection Volume	9	O	No
Collector Identifier	10	O	No

Observation Result (ORU) Messages

The Mach7 Enterprise Imaging Platform will store and archive image results and lab results based on the below listed HL7 Observation Result Messages.

ORU Messages

Message Type	Event Code	Action	Segments
ORU	R01	Discreet Result	MSH, PID, PV1, ORC, OBR, NTE, OBX
	R03	Display Result	MSH, PID, PV1, ORC, OBR, NTE, OBX

Supported Segments

Segment	Segment Name	HL7 Requirement	Mach7 Use
MSH	Message Header	R	Yes
PID	Patient Identification	R	Yes
PV1	Patient Visit	R	No
ORC	Common Order	R	Yes
OBR	Observation Request	C	Yes
OBX	Observation Result	C	Yes

Scheduling Information Unsolicited (SIU) Messages

The Mach7 Enterprise Imaging Platform will update patient metadata on archived studies based on the below listed HL7 Order Entry Messages. DICOM study prefetching may also be triggered by the receipt of ORM messages within the Mach7 Workflow Engine.

SIU Messages

Message Type	Event Code	Action	Segments
SIU	S12	Visit Scheduled	MSH, SCH, PID, PV1, OBX
	S13	Visit Rescheduled	MSH, SCH, PID, PV1, OBX
	S14	Visit Updated	MSH, SCH, PID, PV1, OBX
	S15	Visit Cancelled	MSH, SCH, PID, PV1, OBX

Supported Segments

Segment	Segment Name	HL7 Requirement	Mach7 Use
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MSH	Message Header	R	Yes
SCH	Schedule Activity Information	R	
PID	Patient Identification	R	Yes
PV1	Patient Visit	R	No
OBX	Observation Result	C	Yes