

DICOM Conformance Statement

AltaTrack System R1.1 based on Interventional Workspot R1.5



Issued by:

Philips Medical Systems Nederland BV, a Philips Healthcare company,

P.O. Box 10.000
5680 DA Best
The Netherlands

Internet: <https://www.philips.com/healthcare/about/customer-support>

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1. Introduction

This DICOM Conformance Statement annex is applicable to the AltaTrack System R1.1 based on the Philips Interventional Workspot R1.5 hosting platform. The DICOM behavior of Interventional Workspot R1.5 is described in DICOM Conformance Statement Interventional Workspot R1.5.

The AltaTrack System is based on Fiber Optic Real Shape technology. The technology involves sending laser light into an optical fiber sensor and measuring light reflected back from that sensor. This allows for live, 3D reconstruction of the shape of that fiber sensor, by means of software and electronic components. The optical fiber sensor is integrated into an angiographic device, which enables live, 3D visualization of the angiographic device.

The AltaTrack System is used in conjunction with a Philips Interventional X-ray system. The real time, 3D visualization of the angiographic device by the AltaTrack System is overlaid on an anatomical context displayed by the X-ray system. The anatomical context is intra-procedurally acquired X-ray data, without or in combination with, overlaid pre-procedurally acquired CT-data.

1.1. Revision History

The revision history below provides dates and differences among individual document versions.

Table 1: Revision History

Document Version	Date of Issue	Description of change
00	02-Sep-2020	Final version for AltaTrack System R1.1 based on Interventional Workspot R1.5

1.2. Terminology

Abbreviation/Term	Explanation
CT	Computed Tomography
DICOM	Digital Imaging and Communications in Medicine
IOD	Information Object Definition
SC	Secondary Capture
SOP	Service Object Pair
UID	Unique Identifier
VR	Value Representation
XA	X-Ray Angiographic

2. Data Specifications

2.1. Supported IOD's

This section specifies each IOD accepted and / or created by AltaTrack System.

- ACCEPTED** The applicable IOD is accepted for storage in the repository of the hosting platform and supported for import in AltaTrack System.
- CREATED** The AltaTrack System supports generation of derived data by using the applicable IOD and is able to store this data in the repository of the hosting platform.

Table 2: Supported IOD's

IOD		Support	
Name	UID	ACCEPTED	CREATED
Computed Tomography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	Yes	No
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	No	Yes

2.1.1. Acceptance Criteria

AltaTrack System accepts all CT objects that are available in the Interventional Workspot hosting platform.

2.1.2. Contents of Created IOD's

This section specifies in detail the attribute contents of created data objects. Attributes are grouped together by its corresponding module as specified by DICOM standard. Philips private attributes are excluded for specification.

Abbreviations used in the Module table for the column "Presence of Value" are:

- ALWAYS** The attribute is always present with a value
- EMPTY** The attribute is always present without any value (attribute sent zero length)
- VNAP** The attribute is always present and its Value is Not Always Present (attribute sent zero length if no value is present)
- ANAP** The attribute is present under specified condition – if present then it will always have a value

The abbreviations used in the Module table for the column "Source" are:

- AUTO** The attribute value is generated automatically
- CONFIG** The attribute value source is a configurable parameter
- COPY** The attribute value source is another SOP instance
- FIXED** The attribute value is hard-coded in the application
- IMPLICIT** The attribute value source is a user-implicit setting
- MPPS** The attribute value is the same as that use for Modality Performed Procedure Step
- MWL** The attribute value source is a Modality Worklist
- USER** The attribute value source is explicit user input

2.1.2.1. List of created SOP Classes

Table 3: List of created SOP Classes

SOP Class Name	SOP Class UID
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7

2.1.2.1.1. Secondary Capture Image Storage SOP class

Table 4: IOD of Created Secondary Capture Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL(If present in the source data)
Series	General Series Module	ALWAYS
Equipment	General Equipment Module	CONDITIONAL(If present in the source data)
	SC Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
	Image Pixel Module	ALWAYS
	SC Image Model	ALWAYS
	SOP Common Module	ALWAYS

Table 5: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		ALWAYS	COPY	Copied from Source CT object or from Philips Interventional X-ray system
Patient ID	0010,0020	LO		ALWAYS	COPY	Copied from Source CT object or from Philips Interventional X-ray system
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	Copied from Source CT object or from Philips Interventional X-ray system
Patient's Birth Date	0010,0030	DA		ALWAYS	COPY	Copied from Source CT object or from Philips Interventional X-ray system
Patient's Sex	0010,0040	CS		ALWAYS	COPY	Copied from Source CT object or from Philips Interventional X-ray system

Table 6: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		ALWAYS	COPY	Copied from Source CT object
Study Time	0008,0030	TM		ALWAYS	COPY	Copied from Source CT object
Accession Number	0008,0050	SH		VNAP	COPY	Copied from Source CT object
Referring Physician's Name	0008,0090	PN		VNAP	COPY	Copied from Source CT object
Study Instance UID	0020,000D	UI		ALWAYS	COPY	Copied from Source CT object
Study ID	0020,0010	SH		ALWAYS	COPY	Copied from Source CT object
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	Copied from Source CT object

>Code Value	0008,0100	SH		ALWAYS	COPY	Copied from Source CT object
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	Copied from Source CT object
>Code Meaning	0008,0104	SQ		ALWAYS	COPY	Copied from Source CT object

Table 7: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Age	0010,1010	AS		ANAP	COPY	Copied from CT source
Patient's Size	0010,1020	DS		ANAP	COPY	Copied from CT source
Patient's Weight	0010,1030	DS		ANAP	COPY	Copied from CT source

Table 8: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ALWAYS	AUTO	
Series Time	0008,0031	TM		ALWAYS	AUTO	
Modality	0008,0060	CS	XA	ALWAYS	FIXED	
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	
Series Number	0020,0011	IS		VNAP	AUTO	
Performed Procedure Step ID	0040,0253	SH		ANAP	AUTO	
Related Series Sequence	0008,1250	SQ		VNAP	AUTO	
>Study Instance UID	0020,000D	UI		ALWAYS	AUTO	
>Series Instance UID	0020,000E	UI		ALWAYS	AUTO	
>Purpose of Reference Code Sequence	0040,A170	SQ		VNAP	AUTO	

Table 9: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Institution Name	0008,0080	LO		ANAP	AUTO	
Manufacturer's Model Name	0008,1090	LO	Interventional Workspot	ALWAYS	FIXED	
Device Serial Number	0018,1000	LO		ANAP	AUTO	
Software Version(s)	0018,1020	LO	1.5.x	ALWAYS	AUTO	1.5.x where "x" is the detailed SW version of Interventional Workspot hosting platform.

Table 10 : SC Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Conversion Type	0008,0064	CS	WSD	ALWAYS	FIXED	

Table 11: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Instance Number	0020,0013	IS		ALWAYS	AUTO	
Image Type	0008,0008	CS	DERIVED\ SECONDARY	ANAP	FIXED	
Content Date	0008,0023	DA		VNAP	AUTO	
Content Time	0008,0033	TM		VNAP	AUTO	

Patient Orientation	0020,0020	CS		VNAP	AUTO	
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Table 12: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	AUTO	
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO	
Planar Configuration	0028,0006	US		ALWAYS	AUTO	
Rows	0028,0010	US		ALWAYS	AUTO	
Columns	0028,0011	US		ALWAYS	AUTO	
Bits Allocated	0028,0100	US	8	ALWAYS	AUTO	
Bits Stored	0028,0101	US	8	ALWAYS	AUTO	
High Bit	0028,0102	US	7	ALWAYS	AUTO	
Pixel Representation	0028,0103	US	0000	ALWAYS	AUTO	
Pixel Data	7FE0,0010	OW		ALWAYS	AUTO	

Table 13: SC Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Date of Secondary Capture	0018,1012	DA		ANAP	FIXED	
Time of Secondary Capture	0018,1014	TM		ANAP	FIXED	

Table 14: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.7	ALWAYS	FIXED	
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	
Instance Creation Date	0008,0012	DA		ANAP	AUTO	
Instance Creation Time	0008,0013	TM		ANAP	AUTO	
Instance Number	0020,0013	IS		ANAP	AUTO	