

DICOM Conformance Statement

Application Annex:

Cath Viewer on Xcelera R3.2L1 SP2



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1. Introduction

This DICOM Conformance Statement annex is applicable to the Cath Viewer on Xcelera R3.2L1 SP2 V4.0 hosting platform. In general the Cath Viewer is the user environment for viewing and analyzing various clinical images.

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	Status	Description
00	02-January-2012	Final version	Initial version

1.2. Terminology

DICOM	Digital Imaging and Communications in Medicine
IOD	Information Object Definition
UID	Unique Identifier
VR	Value Representation

2. Data Specifications

2.1. Supported IOD's

This section specifies each IOD accepted and / or created by Cath Viewer.

ACCEPTED	The applicable IOD is accepted for storage in the repository of the hosting platform and supported for import in Cath Viewer for viewing and analysis.
CREATED	The Cath Viewer 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
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	Yes	Yes
Computed Radiography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.1	Yes	No
CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	Yes	No
Digital X-Ray Image Storage - For Pres. SOP	1.2.840.10008.5.1.4.1.1.1.1	Yes	No
Digital X-Ray Image Storage - For Proc. SOP	1.2.840.10008.5.1.4.1.1.1.1.1	Yes	No
MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	Yes	No
Nuclear Medicine Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.20	Yes	No
Ultrasound Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.6.1	Yes	No
Ultrasound Multi-frame Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.3.1	Yes	No
X-Ray Angiographic Bi-Plane Image Storage SOP Class (Retired)	1.2.840.10008.5.1.4.1.1.12.3	Yes	No
X-Ray Angiographic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.1	Yes	No
X-Ray Radiofluoroscopic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.2	Yes	No

2.1.1. Acceptance Criteria

This section specifies the acceptance criteria applied by Cath Viewer to which a dataset should adhere before it can be imported into the application. This can be criteria on the highest level (e.g. data from a certain manufacturer or system model) or certain DICOM attributes mandatory to be present into the dataset holding a specific value. In case one or more Philips private attributes are required, then a list of supported Philips system models will be mentioned.

Table 3: Accepted system models

Manufacturer	Modality	System Model Name(s)
Not applicable	Not applicable	Not applicable

Table 4: Accepted transfer syntaxes per IOD

IOD	
Name	UID
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7
Computed Radiography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.1
CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2
Digital X-Ray Image Storage - For Pres. SOP	1.2.840.10008.5.1.4.1.1.1.1

Digital X-Ray Image Storage - For Proc. SOP	1.2.840.10008.5.1.4.1.1.1.1.1
MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4
Nuclear Medicine Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.20
Ultrasound Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.6.1
Ultrasound Multi-frame Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.3.1
X-Ray Angiographic Bi-Plane Image Storage SOP Class (Retired)	1.2.840.10008.5.1.4.1.1.12.3
X-Ray Angiographic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.1
X-Ray Radiofluoroscopic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.2

Table 5: Accepted attribute values

Attribute Name	Attribute Number	Values / Comments
Modality	0008,0060	Must equal to "CT", "CR", "DX", "IVUS", "MR", "NM", "OT", "RF", "US", "XA"

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
ANAPCV	The attribute is present under specified condition – if present then its Value is Not Always Present (attribute sent zero length if condition applies and no value is present)
ANAPEV	The attribute is present under specified condition – if present then it will not have any 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. Secondary Capture Image Storage SOP Class

Table 6: 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
Series	General Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Equipment	SC Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	VOI LUT Module	ALWAYS

Image	SOP Common Module	ALWAYS
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Table 7: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		VNAP	COPY	-
Patient's Sex	0010,0040	CS	F, M, O	VNAP	COPY	-
Issuer of Patient ID	0010,0021	LO		VNAP	COPY	If Issuer of Patient ID is not present in the imported object, then "Default Institution" will be put by Xcelera.

Table 8: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		ALWAYS	COPY	-
Study Time	0008,0030	TM		ALWAYS	COPY	-
Accession Number	0008,0050	SH		ALWAYS	COPY	-
Referring Physician's Name	0008,0090	PN		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	COPY	-
Study ID	0020,0010	SH		ALWAYS	COPY	-

Table 9: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Performing Physician's Name	0008,1050	PN		VNAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		ALWAYS	COPY	-

Table 10: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips Medical Systems	ALWAYS	AUTO	-

Table 11: SC Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ALWAYS	COPY	-
Conversion Type	0008,0064	CS	WSD	ALWAYS	AUTO	-

Table 12: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	Value 1: DERIVED, Value 2: SECONDARY	ALWAYS	AUTO	-
Instance Number	0020,0013	IS		ALWAYS	AUTO	-
Patient Orientation	0020,0020	CS		VNAP	COPY	-

Table 13: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US	0x0001=1, 1	ALWAYS	AUTO	-

Photometric Interpretation	0028,0004	CS	MONOCHROME2	ALWAYS	AUTO	-
Rows	0028,0010	US		ALWAYS	AUTO	-
Columns	0028,0011	US		ALWAYS	AUTO	-
Pixel Aspect Ratio	0028,0034	IS		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	0	ALWAYS	AUTO	-
Pixel Data	7FE0,0010	OW/OB		ALWAYS	AUTO	-

Table 14: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ALWAYS	AUTO	-
Window Width	0028,1051	DS		ALWAYS	AUTO	-

Table 15: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	COPY	Required if expanded/replacement character set used
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.7	ALWAYS	AUTO	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-