

DICOM Conformance Statement

EP navigator R5.6 on Interventional Workspot R1.8



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1. DICOM Conformance Statement Overview

For information about this section, Refer to 1068450 DICOM Conformance Statement Interventional Workspot R1.8.

2. Contents

- 1. DICOM Conformance Statement Overview 3
- 2. Contents 4
- 3. Introduction..... 5
 - 3.1. Revision History.....5
 - 3.2. Audience.....5
 - 3.3. Remarks.....5
 - 3.4. Definitions, Terms and Abbreviations.....6
 - 3.5. References.....6
- 4. Networking..... 7
- 5. Media Interchange 7
- 6. Support of Character Set 7
- 7. Security 7
- 8. Annexes of "EP navigator R5.6 Application" 8
 - 8.1. IOD Contents8
 - 8.1.1. Acceptance Criteria8
 - 8.1.2. Created SOP Instance9
 - 8.1.2.1. List of Created SOP Classes9

3. Introduction

This DICOM Conformance Statement annex is applicable to EP navigator R5.6 Application. In general, the EP navigator R5.6 application is the user environment for viewing and analyzing MR and CT images. EP navigator also stores (creates) 3D-ATG as CT series SOP class, but with Modality type XA.

3.1. Revision History

The revision history provides dates and differences of the different releases.

Table 1: Revision History

| Document Version | Date of Issue | Description of change |
|------------------|---------------|--|
| 01 | 10-Feb-2023 | First Release for EP navigator R5.6 on Interventional Workspot R1.8 |
| 02 | 27-Feb-2024 | Second Release for EP navigator R5.6 on Interventional Workspot R1.8 <ul style="list-style-type: none"> • Updated support of DICOM attribute Station Name (0008,1010) under General Equipment Module for all the applicable created SOP Classes • Updated support of below DICOM Conditional Modules with implemented attributes: <ul style="list-style-type: none"> ○ Contrast/Bolus Module ○ VOI LUT Module |
| 03 | 13-Aug-2025 | Release for EP navigator R5.6.10 as a part of Interventional Workspot R1.8.10 |

3.2. Audience

This Conformance Statement is intended for:

- (Potential) customers
- System integrators of medical equipment
- Marketing staff interested in system functionality
- Software designers implementing DICOM interfaces

It is assumed that the reader is familiar with the DICOM standard.

3.3. Remarks

The DICOM Conformance Statement is contained in chapter 4 through 8 and follows the contents and structuring requirements of DICOM PS 3.2.

This DICOM Conformance Statement by itself does not guarantee successful interoperability of Philips equipment with non-Philips equipment. The user (or user's agent) should be aware of the following issues:

- **Interoperability**
 Interoperability refers to the ability of application functions, distributed over two or more systems, to work successfully together. The integration of medical devices into an IT environment may require application functions that are not specified within the scope of DICOM. Consequently, using only the information provided by this Conformance Statement does not guarantee interoperability of Philips equipment with non-Philips equipment.
 It is the user's responsibility to analyze thoroughly the application requirements and to specify a solution that integrates Philips equipment with non-Philips equipment.
- **Validation**
 Philips equipment has been carefully tested to ensure that the actual implementation of the DICOM interface corresponds with this Conformance Statement.
 Where Philips equipment is linked to non-Philips equipment, the first step is to compare the relevant Conformance Statements. If the Conformance Statements indicate that successful information

exchange should be possible, additional validation tests will be necessary to ensure the functionality, performance, accuracy and stability of image and image related data. It is the responsibility of the user (or user's agent) to specify the appropriate test suite and to carry out the additional validation tests.

- **New versions of the DICOM Standard**

The DICOM Standard will evolve in future to meet the user's growing requirements and to incorporate new features and technologies. Philips is actively involved in this evolution and plans to adapt its equipment to future versions of the DICOM Standard. In order to do so, Philips reserves the right to make changes to its products or to discontinue its delivery. The user should ensure that any non-Philips provider linking to Philips equipment also adapts to future versions of the DICOM Standard. If not, the incorporation of DICOM enhancements into Philips equipment may lead to loss of connectivity (in case of networking) and incompatibility (in case of media).

3.4. Definitions, Terms and Abbreviations

Table 2: Definitions, Terms and Abbreviations

| Abbreviation/Term | Explanation |
|-------------------|--|
| DICOM | Digital Imaging and Communications in Medicine |
| IOD | Information Object Definition |
| IW | Interventional Workspot |
| HSDP | HealthSuiteDigitalPlatform |
| NEMA | National Electrical Manufacturers Association |
| SOP | Service Object Pair |
| UID | Unique Identifier |
| VR | Value Representation |
| XA | X-Ray Angiography |

3.5. References

[DICOM] Digital Imaging and Communications in Medicine, Parts 1 - 22 (NEMA PS 3.1- PS 3.22),
 National Electrical Manufacturers Association
 1300 North 17th Street
 Suite 900
 Arlington, Virginia 22209
 Internet: <https://www.dicomstandard.org/current>

4. Networking

For information about this section, Refer to 1068450 DICOM Conformance Statement Interventional Workspot R1.8.

5. Media Interchange

For information about this section, Refer to 1068450 DICOM Conformance Statement Interventional Workspot R1.8.

6. Support of Character Set

For information about this section, Refer to 1068450 DICOM Conformance Statement Interventional Workspot R1.8.

7. Security

For information about this section, Refer to 1068450 DICOM Conformance Statement Interventional Workspot R1.8.

8. Annexes of "EP navigator R5.6 Application"

8.1. IOD Contents

This section specifies each IOD accepted and / or created by EP navigator R5.6 application.

- ACCEPTED The applicable IOD is accepted for storage in the repository of the hosting platform and supported as input data for EP navigator R5.6 Application or viewing and analysis.
- CREATED The EP navigator R5.6 Application 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 3: List of Created SOP Classes

| IOD | | Supported | |
|---|---------------------------|-----------|---------|
| Name | UID | Accepted | Created |
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 | Yes | Yes |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 | Yes | No |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 | No | Yes |

Note: EP navigator can also use session data as input, which is stored as SC image. However, it cannot use any other SC image object.

8.1.1. Acceptance Criteria

This section specifies the acceptance criteria applied by EP navigator Application 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 4: Accepted System Models

| Manufacturer | Modality | System Model Name(s) |
|------------------|----------|---|
| Philips | MR | Intera 1.5T and 3T, |
| | | Achieva 1.5T and 3T |
| | | Ingenia 1.5T and 3T (SW release 2.5.3 onwards) |
| | CT | Brilliance 10, 16, 40, 64, 256 slice systems |
| Philips | XA | Allura |
| | | Azurion |
| Siemens | MR | Avanto 1.5T |
| | CT | Definition Sensation 16, 64 (32 channels) |
| General Electric | CT | Lightspeed 16, 16Pro, VCT Select (32), VCT (64) |
| Toshiba | CT | Aquilion One |

Table 5: Accepted Transfer Syntaxes per IOD

For information about this Table, Refer to 1068450 DICOM Conformance Statement Interventional Workspot R1.8.

Table 6: Accepted Attribute Values

| Attribute Name | Attribute Number | Values/Comments |
|----------------|------------------|-----------------|
| Not Applicable | Not Applicable | Not Applicable |

8.1.2. Created SOP Instance

This section specifies each IOD created by this application.

This section specifies each IOD created. It should specify the attribute name, tag, VR, and value. The value should specify the range and source (e.g. user input, Modality Worklist, automatically generated, etc.). For content items in templates, the range and source of the concept name and concept values should be specified. Whether the value is always present or not shall be specified.

Abbreviations used in the IOD tables for the column "Presence of Module" are:

- ALWAYS The module is always present
- CONDITIONAL The module is used under specified condition

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

8.1.2.1. List of Created SOP Classes

Table 7: List of Created SOP Classes

| Name | UID |
|---|---------------------------|
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 |

8.1.2.1.1 CT Image Storage SOP Class

Table 8: IOD of Created CT Image Storage SOP Class Instances

| Information Entity | Module | Presence Of Module |
|--------------------|----------------------------|---|
| Patient | Patient Module | ALWAYS |
| Study | General Study Module | ALWAYS |
| | Patient Study Module | ALWAYS |
| Series | General Series Module | ALWAYS |
| | Frame of Reference Module | ALWAYS |
| Equipment | General Equipment Module | ALWAYS |
| Acquisition | General Acquisition Module | CONDITIONAL (If the module is present in the source data) |
| Image | General Image Module | ALWAYS |
| | General Reference Module | ALWAYS |

| Information Entity | Module | Presence Of Module |
|--------------------|-----------------------|--------------------|
| | Image Plane Module | ALWAYS |
| | Image Pixel Module | ALWAYS |
| | Contrast/Bolus Module | CONDITIONAL |
| | CT Image Module | ALWAYS |
| | VOI LUT Module | ALWAYS |
| | SOP Common Module | ALWAYS |

Table 9: Patient Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|----------------------|-----------|----|-------|-------------------|--------|----------|
| 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 Sex | 0010,0040 | CS | | VNAP | COPY | |
| Other Patient IDs | 0010,1000 | LO | | ANAP | COPY | |

Table 10: General Study Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|----------------------------|-----------|----|-------|-------------------|--------|----------|
| Study Date | 0008,0020 | DA | | ALWAYS | COPY | |
| Study Time | 0008,0030 | TM | | ALWAYS | COPY | |
| Accession Number | 0008,0050 | SH | | VNAP | COPY | |
| Referring Physician's Name | 0008,0090 | PN | | VNAP | COPY | |
| Study Instance UID | 0020,000D | UI | | ALWAYS | COPY | |
| Study ID | 0020,0010 | SH | | VNAP | COPY | |
| Study Description | 0008,1030 | LO | | ANAP | COPY | |

Table 11: Patient Study Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------------|-----------|----|-------|-------------------|-----------|---------|
| Patient's Age | 0010,1010 | AS | | ANAP | MWL, USER | |
| Patient's Weight | 0010,1030 | DS | | ALWAYS | COPY | |
| Additional Patient History | 0010,21B0 | LT | | ANAP | MWL, USER | |
| Admitting Diagnoses Description | 0008,1080 | LO | | ANAP | COPY | |

Table 12: General Series Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|--|-----------|----|-------|-------------------|--------|----------|
| Series Date | 0008,0021 | DA | | ALWAYS | AUTO | |
| Series Time | 0008,0031 | TM | | ALWAYS | AUTO | |
| Modality | 0008,0060 | CS | CT | ALWAYS | FIXED | |
| Series Description | 0008,103E | LO | | ANAP | COPY | |
| Operators' Name | 0008,1070 | PN | | ANAP | COPY | |
| Performing Physician's Name | 0008,1050 | PN | | ANAP | COPY | |
| Referenced Performed Procedure Step Sequence | 0008,1111 | SQ | | ANAP | COPY | |

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|---------------------------------------|-----------|----|-------|-------------------|--------|----------|
| >Referenced SOP Class UID | 0008,1150 | UI | | ALWAYS | AUTO | |
| >Referenced SOP Instance UID | 0008,1155 | UI | | ALWAYS | AUTO | |
| Body Part Examined | 0018,0015 | CS | | ANAP | AUTO | |
| Protocol Name | 0018,1030 | LO | | ANAP | AUTO | |
| Patient Position | 0018,5100 | CS | | VNAP | AUTO | |
| Related Series Sequence | 0008,1250 | SQ | | ANAP | 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 | |
| Series Instance UID | 0020,000E | UI | | ALWAYS | AUTO | |
| Series Number | 0020,0011 | IS | | ALWAYS | AUTO | |
| Performed Procedure Step Start Date | 0040,0244 | DA | | ANAP | COPY | |
| Performed Procedure Step Start Time | 0040,0245 | TM | | ANAP | COPY | |
| Performed Procedure Step ID | 0040,0253 | SH | | ANAP | COPY | |
| Performed Procedure Step Description | 0040,0254 | LO | | ANAP | COPY | |
| Request Attributes Sequence | 0040,0275 | SQ | | ANAP | COPY | |
| >Requested Procedure Description | 0032,1060 | LO | | ANAP | COPY | |
| >Requested Procedure Code Sequence | 0032,1064 | SQ | | ANAP | COPY | |
| >>Code Value | 0008,0100 | SH | | ALWAYS | AUTO | |
| >>Coding Scheme Designator | 0008,0102 | SH | | ALWAYS | AUTO | |
| >>Code Meaning | 0008,0104 | LO | | ALWAYS | AUTO | |
| >Scheduled Procedure Step Description | 0040,0007 | LO | | ANAP | COPY | |
| >Scheduled Protocol Code Sequence | 0040,0008 | SQ | | ANAP | COPY | |
| >>Code Value | 0008,0100 | SH | | ALWAYS | AUTO | |
| >>Coding Scheme Designator | 0008,0102 | SH | | ALWAYS | AUTO | |
| >>Code Meaning | 0008,0104 | LO | | ALWAYS | AUTO | |
| >Scheduled Procedure Step ID | 0040,0009 | SH | | ANAP | COPY | |
| >Requested Procedure ID | 0040,1001 | SH | | ANAP | COPY | |

Table 13: Frame Of Reference Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|------------------------|-----------|----|-------|-------------------|--------|----------|
| Frame of Reference UID | 0020,0052 | UI | | ALWAYS | COPY | |

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|------------------------------|-----------|----|-------|-------------------|--------|----------|
| Position Reference Indicator | 0020,1040 | LO | | VNAP | COPY | |

Table 14: General Equipment Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|-------------------------------|-----------|----|-------------------------|-------------------|--------|---|
| Manufacturer | 0008,0070 | LO | Philips | ALWAYS | FIXED | |
| Institution Name | 0008,0080 | LO | | VNAP | CONFIG | Configured Hospital name |
| Institution Address | 0008,0081 | ST | | ANAP | CONFIG | |
| Institutional Department Name | 0008,1040 | LO | | ANAP | CONFIG | |
| Manufacturer's Model Name | 0008,1090 | LO | Interventional Workspot | ALWAYS | FIXED | |
| Device Serial Number | 0018,1000 | LO | | ALWAYS | AUTO | Mac address of Hospital NIC |
| Station Name | 0008,1010 | SH | | ALWAYS | AUTO | Windows Host Name |
| Pixel Padding Value | 0028,0120 | SS | | ALWAYS | AUTO | |
| Software Versions | 0018,1020 | LO | 5.6.x.y | ALWAYS | AUTO | Where "x.y" is the detailed application SW version. |

Table 15: General Acquisition Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|-----------------------|-----------|----|-------|-------------------|--------|----------|
| Acquisition Date | 0008,0022 | DA | | ANAP | COPY | |
| Acquisition Time | 0008,0032 | TM | | ANAP | COPY | |
| Irradiation Event UID | 0008,3010 | DA | | ANAP | COPY | |
| Acquisition Number | 0020,0012 | IS | | ANAP | COPY | |

Table 16: General Image Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|-------------------------|-----------|----|------------------------|-------------------|--------|----------|
| Image Type | 0008,0008 | CS | ORIGINAL\PRIMARY\AXIAL | ALWAYS | AUTO | |
| Content Date | 0008,0023 | DA | | ALWAYS | AUTO | |
| Content Time | 0008,0033 | TM | | ALWAYS | AUTO | |
| Instance Number | 0020,0013 | IS | | ALWAYS | AUTO | |
| Patient Orientation | 0020,0020 | CS | | ANAP | AUTO | |
| Image Comments | 0020,4000 | LT | | ANAP | USER | |
| Lossy Image Compression | 0028,2110 | CS | | ANAP | AUTO | |

Table 17: General Reference Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------|-----------|----|-------|-------------------|--------|---------|
| Referenced Image Sequence | 0008,1140 | SQ | | ANAP | COPY | |

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|------------------------------|-----------|----|-------|-------------------|--------|---------|
| >Referenced SOP Class UID | 0008,1150 | UI | | ALWAYS | COPY | |
| >Referenced SOP Instance UID | 0008,1155 | UI | | ALWAYS | COPY | |

Table 18: Image Plane Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|-----------------------------|-----------|----|-------|-------------------|--------|----------|
| Slice Thickness | 0018,0050 | DS | | VNAP | COPY | |
| Spacing Between Slices | 0018,0088 | DS | | ANAP | COPY | |
| Image Position (Patient) | 0020,0032 | DS | | ALWAYS | COPY | |
| Image Orientation (Patient) | 0020,0037 | DS | | ALWAYS | COPY | |
| Slice Location | 0020,1041 | DS | | ANAP | COPY | |
| Pixel Spacing | 0028,0030 | DS | | ALWAYS | COPY | |

Table 19: Image Pixel Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|----------------------------|-----------|----|-------------|-------------------|--------|----------|
| Samples per Pixel | 0028,0002 | US | | ALWAYS | AUTO | |
| Photometric Interpretation | 0028,0004 | CS | MONOCHROME2 | ALWAYS | AUTO | |
| Rows | 0028,0010 | US | | ALWAYS | AUTO | |
| Columns | 0028,0011 | US | | ALWAYS | AUTO | |
| Bits Allocated | 0028,0100 | US | | ALWAYS | AUTO | |
| Bits Stored | 0028,0101 | US | | ALWAYS | AUTO | |
| High Bit | 0028,0102 | US | | ALWAYS | AUTO | |
| Pixel Representation | 0028,0103 | US | | ALWAYS | AUTO | |
| Pixel Data | 7FE0,0010 | OW | | ALWAYS | AUTO | |

Table 20: Contrast/Bolus Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---|-----------|----|-------|-------------------|--------|---------|
| Contrast/Bolus Agent | 0018,0010 | LO | | VNAP | AUTO | |
| Contrast/Bolus Route | 0018,1040 | LO | | ANAP | AUTO | |
| Contrast/Bolus Volume | 0018,1041 | DS | | ANAP | COPY | |
| Contrast/Bolus Total Dose | 0018,1044 | DS | | ANAP | COPY | |
| Contrast Flow Rate | 0018,1046 | DS | | ANAP | COPY | |
| Contrast Flow Duration | 0018,1047 | DS | | ANAP | COPY | |
| Contrast/Bolus Ingredient Concentration | 0018,1049 | DS | | ANAP | COPY | |

Table 21: CT Image Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|--|-----------|----|------------------------|-------------------|--------|----------|
| Image Type | 0008,0008 | CS | ORIGINAL\PRIMARY\AXIAL | ALWAYS | COPY | |
| Scan Options | 0018,0022 | CS | | ANAP | COPY | |
| KVP | 0018,0060 | DS | | VNAP | COPY | |
| Data Collection Diameter | 0018,0090 | DS | | ANAP | COPY | |
| Reconstruction Diameter | 0018,1100 | DS | | ANAP | COPY | |
| Distance Source to Detector | 0018,1110 | DS | | ANAP | COPY | |
| Distance Source to Patient | 0018,1111 | DS | | ANAP | COPY | |
| Gantry/Detector Tilt | 0018,1120 | DS | | ANAP | COPY | |
| Table Height | 0018,1130 | DS | | ANAP | COPY | |
| Exposure Time | 0018,1150 | IS | | ANAP | COPY | |
| X-Ray Tube Current | 0018,1151 | IS | | ANAP | COPY | |
| Exposure | 0018,1152 | IS | | ANAP | COPY | |
| Filter Type | 0018,1160 | SH | | ANAP | COPY | |
| Convolution Kernel | 0018,1210 | SH | | ANAP | COPY | |
| Revolution Time | 0018,9305 | FD | | ANAP | COPY | |
| Single Collimation Width | 0018,9306 | FD | | ANAP | COPY | |
| Total Collimation Width | 0018,9307 | FD | | ANAP | COPY | |
| Table Speed | 0018,9309 | FD | | ANAP | COPY | |
| Table Feed per Rotation | 0018,9310 | FD | | ANAP | COPY | |
| Spiral Pitch Factor | 0018,9311 | FD | | ANAP | COPY | |
| Reconstruction Target Center (Patient) | 0018,9318 | FD | | ANAP | COPY | |
| Exposure Modulation Type | 0018,9323 | CS | | ANAP | COPY | |
| CTDIvol | 0018,9345 | FD | | ANAP | COPY | |
| CTDI Phantom Type Code Sequence | 0018,9346 | SQ | | ANAP | COPY | |
| >Code Value | 0008,0100 | SH | | ALWAYS | AUTO | |
| >Coding Scheme Designator | 0008,0102 | SH | | ALWAYS | AUTO | |
| >Code Meaning | 0008,0104 | LO | | ALWAYS | AUTO | |
| Acquisition Number | 0020,0012 | IS | | VNAP | COPY | |
| Samples per pixel | 0028,0002 | US | | ALWAYS | AUTO | |
| Photometric Interpretation | 0028,0004 | US | | ALWAYS | AUTO | |
| Bits Allocated | 0028,0100 | US | | ALWAYS | AUTO | |
| Bits Stored | 0028,0101 | US | | ALWAYS | AUTO | |
| High Bit | 0028,0102 | US | | ALWAYS | AUTO | |

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|--------------------|-----------|----|-------|-------------------|--------|----------|
| Rescale Intercept | 0028,1052 | DS | | ALWAYS | AUTO | |
| Rescale Slope | 0028,1053 | DS | | ALWAYS | AUTO | |
| Rescale Type | 0028,1054 | LO | US | ALWAYS | AUTO | |
| Isocenter Position | 300A,012C | DS | | ANAP | AUTO | |

Table 22:-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 23: SOP Common Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|------------------------|-----------|----|---------------------------|-------------------|--------|----------------------------------|
| Specific Character Set | 0008,0005 | CS | | ANAP | AUTO | As supported by hosting platform |
| Instance Creation Date | 0008,0012 | DA | | ALWAYS | AUTO | |
| Instance Creation Time | 0008,0013 | TM | | ALWAYS | AUTO | |
| SOP Class UID | 0008,0016 | UI | 1.2.840.10008.5.1.4.1.1.2 | ALWAYS | FIXED | |
| SOP Instance UID | 0008,0018 | UI | | ALWAYS | AUTO | |
| Instance Number | 0020,0013 | IS | | ALWAYS | AUTO | |

8.1.2.1.2 Secondary Capture Image Storage SOP Class

Table 24: 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 |
| | Patient Study Module | CONDITIONAL (If the module is present in the source data) |
| Series | General Series Module | ALWAYS |
| Equipment | General Equipment Module | ALWAYS |
| | SC Equipment Module | ALWAYS |
| Image | General Image Module | ALWAYS |
| | General Reference Module | ALWAYS |
| | Image Pixel Module | ALWAYS |
| | SC Image Module | ALWAYS |
| | Modality LUT Module | ALWAYS |
| | VOI LUT Module | ALWAYS |
| | SOP Common Module | ALWAYS |

Table 25: Patient Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|----------------|-----------|----|-------|-------------------|--------|----------|
| Patient's Name | 0010,0010 | PN | | VNAP | COPY | |

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|----------------------|-----------|----|-------|-------------------|--------|----------|
| Patient ID | 0010,0020 | LO | | VNAP | COPY | |
| Patient's Birth Date | 0010,0030 | DA | | VNAP | COPY | |
| Patient's Sex | 0010,0040 | CS | | VNAP | COPY | |
| Other Patient IDs | 0010,1000 | LO | | ANAP | COPY | |

Table 26: General Study Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|------------------------------|-----------|----|-------|-------------------|--------|----------|
| Study Date | 0008,0020 | DA | | ALWAYS | COPY | |
| Study Time | 0008,0030 | TM | | ALWAYS | COPY | |
| Accession Number | 0008,0050 | SH | | VNAP | COPY | |
| Referring Physician's Name | 0008,0090 | PN | | VNAP | COPY | |
| Study Instance UID | 0020,000D | UI | | ALWAYS | COPY | |
| Study ID | 0020,0010 | SH | | VNAP | COPY | |
| Study Description | 0008,1030 | LO | | ANAP | COPY | |
| Procedure Code Sequence | 0008,1032 | SQ | | ANAP | COPY | |
| >Code Value | 0008,0100 | SH | | ALWAYS | COPY | |
| >Coding Scheme Designator | 0008,0102 | SH | | ALWAYS | COPY | |
| >Code Meaning | 0008,0104 | LO | | ALWAYS | COPY | |
| Physician(s) of Record | 0008,1048 | PN | | ANAP | COPY | |
| Referenced Study Sequence | 0008,1110 | SQ | | ANAP | COPY | |
| >Referenced SOP Class UID | 0008,1150 | UI | | ALWAYS | COPY | |
| >Referenced SOP Instance UID | 0008,1155 | UI | | ALWAYS | COPY | |
| Requesting Service | 0032,1033 | LO | | ANAP | COPY | |

Table 27: Patient Study Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|---------------------------------|-----------|----|-------|-------------------|--------|----------|
| Patient's Weight | 0010,1030 | DS | | ANAP | COPY | |
| Patient's Age | 0010,1010 | AS | | ANAP | COPY | |
| Pregnancy Status | 0010,21C0 | US | | ANAP | COPY | |
| Admitting Diagnoses Description | 0008,1080 | LO | | ANAP | COPY | |

Table 28: General Series Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|---------------------|-----------|----|-------|-------------------|--------|----------|
| Series Date | 0008,0021 | DA | | ALWAYS | AUTO | |
| Series Description | 0008,103E | LO | | ANAP | COPY | |
| 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 | | ALWAYS | AUTO | |

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|---------------------------------------|-----------|----|-------|-------------------|--------|----------|
| Operators' Name | 0008,1070 | PN | | ANAP | COPY | |
| Performing Physician's Name | 0008,1050 | PN | | ANAP | COPY | |
| 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 | |
| Performed Procedure Step Start Date | 0040,0244 | DA | | ANAP | COPY | |
| Performed Procedure Step Start Time | 0040,0245 | TM | | ANAP | COPY | |
| Performed Procedure Step ID | 0040,0253 | SH | | ANAP | COPY | |
| Performed Procedure Step Description | 0040,0254 | LO | | ANAP | COPY | |
| Request Attributes Sequence | 0040,0275 | SQ | | ANAP | COPY | |
| >Requested Procedure Description | 0032,1060 | LO | | ANAP | COPY | |
| >Requested Procedure Code Sequence | 0032,1064 | SQ | | ANAP | COPY | |
| >>Code Value | 0008,0100 | SH | | ALWAYS | AUTO | |
| >>Coding Scheme Designator | 0008,0102 | SH | | ALWAYS | AUTO | |
| >>Code Meaning | 0008,0104 | LO | | ALWAYS | AUTO | |
| >Scheduled Procedure Step Description | 0040,0007 | LO | | ANAP | COPY | |
| >Scheduled Protocol Code Sequence | 0040,0008 | SQ | | ANAP | COPY | |
| >>Code Value | 0008,0100 | SH | | ALWAYS | AUTO | |
| >>Coding Scheme Designator | 0008,0102 | SH | | ALWAYS | AUTO | |
| >>Code Meaning | 0008,0104 | LO | | ALWAYS | AUTO | |
| >Scheduled Procedure Step ID | 0040,0009 | SH | | ANAP | COPY | |
| >Requested Procedure ID | 0040,1001 | SH | | ANAP | COPY | |

Table 29: General Equipment Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|------------------|-----------|----|---------|-------------------|--------|--------------------------|
| Manufacturer | 0008,0070 | LO | Philips | ALWAYS | FIXED | |
| Institution Name | 0008,0080 | LO | | ANAP | CONFIG | Configured Hospital Name |
| Station Name | 0008,1010 | SH | | ALWAYS | AUTO | Windows Host Name |

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|---------------------------|-----------|----|--------------|-------------------|--------|---|
| Device Serial Number | 0018,1000 | LO | | ANAP | AUTO | Mac address of Hospital NIC |
| Manufacturer's Model Name | 0008,1090 | LO | EP navigator | ALWAYS | FIXED | |
| Software Versions | 0018,1020 | LO | 5.6.x.y | ALWAYS | AUTO | Where "x.y" is the detailed application SW version. |

Table 30: SC Equipment Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|-----------------|-----------|----|----------|-------------------|--------|--|
| Modality | 0008,0060 | CS | XA/CT/MR | ALWAYS | AUTO | In Case Application Session: XA: In case of Study or Carto export depending on input data CT=>CT,MR=>MR, 3D-ATG => CT |
| Conversion Type | 0008,0064 | CS | WSD | ALWAYS | FIXED | copied from source data |

Table 31: General Image Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|---------------------|-----------|----|---------------------------------|-------------------|--------|---|
| Image Type | 0008,0008 | CS | DERIVED\ SECONDARY\ 3DSEG | ALWAYS | AUTO | For Study and Carto Export: DERIVED\ SECONDARY\ 3DSEG For Application Session: DERIVED\ SECONDARY |
| Content Date | 0008,0023 | DA | | ALWAYS | AUTO | |
| Content Time | 0008,0033 | TM | | ALWAYS | AUTO | |
| Instance Number | 0020,0013 | IS | | VNAP | AUTO | |
| Patient Orientation | 0020,0020 | CS | | VNAP | AUTO | |
| Image Comments | 0020,4000 | LT | 3Dseg | ALWAYS | FIXED | |

Table 32: General Reference Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|-------------------------------|-----------|----|-------|-------------------|--------|----------|
| Referenced Image Sequence | 0008,1140 | SQ | | ALWAYS | AUTO | |
| > Referenced SOP class UID | 0008,1150 | UI | | ALWAYS | AUTO | |
| > Referenced SOP Instance UID | 0008,1155 | UI | | ALWAYS | AUTO | |

Table 33: Image Pixel Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|-------------------|-----------|----|-------|-------------------|--------|----------|
| Samples per Pixel | 0028,0002 | US | | ALWAYS | AUTO | |

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|----------------------------|-----------|-----------|----------------------|-------------------|--------|--|
| Photometric Interpretation | 0028,0004 | CS | RGB, MONOCHROME 2 | ALWAYS | AUTO | For Study and Carto Export: RGB, For Application Session: MONOCHROME2 |
| Planar Configuration | 0028,0006 | US | | ANAP | 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 | 0 | ALWAYS | AUTO | |
| Pixel Data | 7FE0,0010 | OW/ OB | | ALWAYS | AUTO | |

Table 34: SC Image Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|---------------------------|-----------|----|-------|-------------------|--------|----------|
| Date of Secondary Capture | 0018,1012 | DA | | ALWAYS | AUTO | |
| Time of Secondary Capture | 0018,1014 | TM | | ALWAYS | AUTO | |

Table 35: Modality LUT Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|-------------------|-----------|----|-------|-------------------|--------|----------|
| Rescale Intercept | 0028,1052 | DS | 0 | ALWAYS | COPY | |
| Rescale Slope | 0028,1053 | DS | 1 | ALWAYS | COPY | |
| Rescale Type | 0028,1054 | LO | US | ALWAYS | COPY | |

Table 36: VOI LUT Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|----------------|-----------|----|-------|-------------------|--------|----------|
| Window Center | 0028,1050 | DS | 0 | ALWAYS | COPY | |
| Window Width | 0028,1051 | DS | 0 | ALWAYS | COPY | |

Table 37: SOP Common Module

| Attribute Name | TAG | VR | Value | Presence of Value | Source | Comments |
|------------------------|-----------|----|---------------------------|-------------------|--------|----------------------------------|
| Specific Character Set | 0008,0005 | CS | | ANAP | AUTO | As supported by hosting platform |
| 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 | | ALWAYS | AUTO | |
| Instance Creation Time | 0008,0013 | TM | | ALWAYS | AUTO | |
| Instance Number | 0020,0013 | IS | | ALWAYS | AUTO | |

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Doc Id: 1068575

Date: 13-Aug-2025

