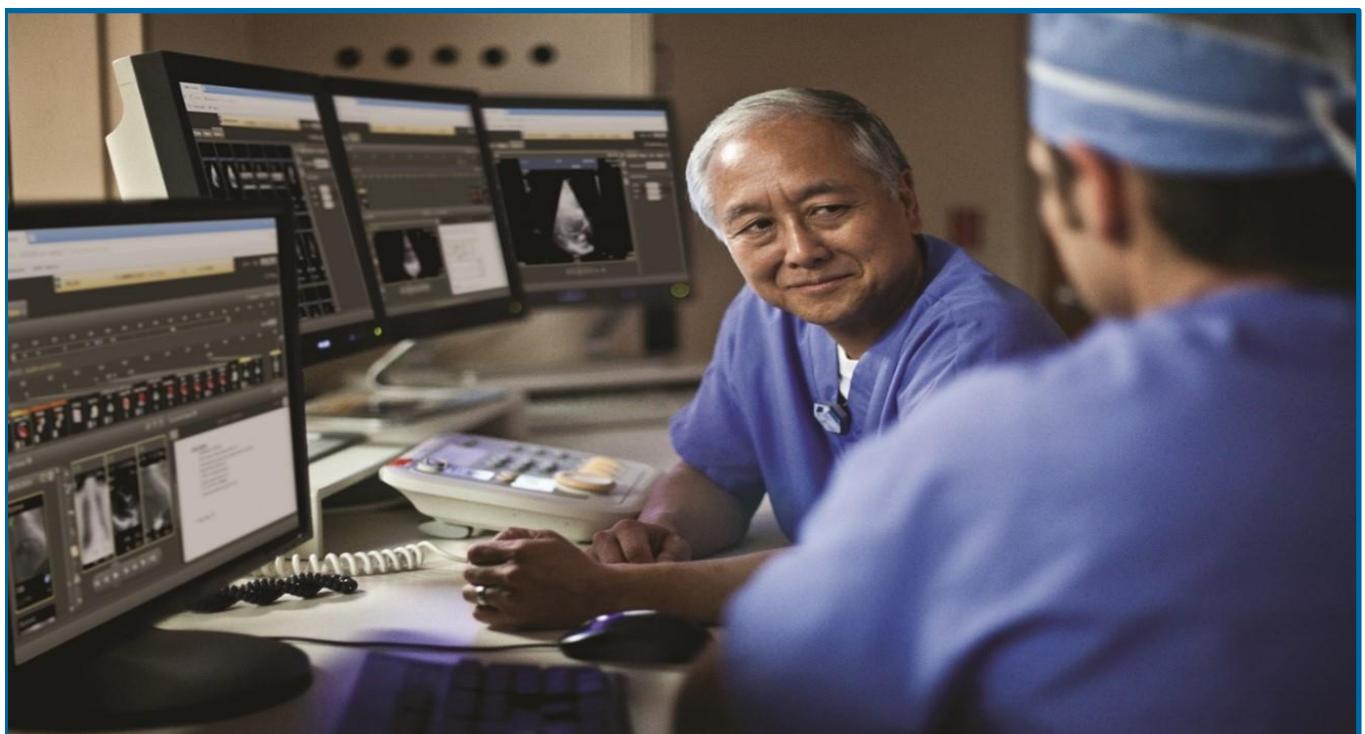


DICOM Conformance Statement

Intellispace Cardiovascular 9.2



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1. DICOM Conformance Statement Overview

IntelliSpace Cardiovascular is the Philips Cardiology multi-modality image and information management solution that allows images, information and reports to be reviewed, stored and distributed throughout the cardiology department and beyond.

IntelliSpace Cardiovascular is intended to:

- Review the high-quality medical study data provided by modalities.
- Serve as a permanent archive for such data.

As such, the IntelliSpace Cardiovascular system consists of a central image and database server and several connected viewer workspots capable of running various viewer applications (also called review station).

The IntelliSpace Cardiovascular is designed with the concerns for the system as: data integrity, performance, image quality, serviceability, and large number of users. Added with ease of use, privacy/confidentiality, flexibility, and expandability.

Data is imported from the image acquisition system through a vendor provided DICOM port. This port is provided as a safe and reliable way to access clinical data.

In addition to DICOM, IntelliSpace Cardiovascular also maintains compatibility with the installed base of Philips Sonos US image acquisition system in supporting the proprietary DSR-TIFF format.

The system also offers DICOM ports such that external systems (viewers, other PACS systems and etc) can access the data.

Data can also be imported from and exported to CD or DVD.

The primary point of user contact with the system is the viewer workspot, consisting of several clinical tools, e.g. for Cath, Echo, CT and MR, including tools like QLAB. These programs use the common Windows GUI metaphors for selecting items or entering information in the common patient and study search window.

A network based on standard technology, connects the IntelliSpace Cardiovascular server, the viewer workspots and external DICOM nodes, such as Cath labs, Ultrasound labs, EP labs and other acquisition systems, DICOM archives, DICOM viewers etc.

MWL SCP and MPPS SCU & SCP is a highly programmable interface engine to connect the IntelliSpace Cardiovascular Image Management System (IMS) and DICOM competent (imaging) modalities to the Hospital Information Systems (HIS) and/or the Cardiology Information System (CIS).

Prime objective of the interface engine is to match the HL7 domain of the hospital information management systems (HIS, CIS, EMR) to the DICOM domain of Imaging modalities, IntelliSpace Cardiovascular Image Management system and its connected (diagnostic) viewing workstations.

MWL SCP and MPPS SCU & SCP support DICOM Modality Worklist Management (MWLM) as a Service Class provider (SCP) and Service Class User (SCU) and DICOM Modality Performed Procedure Step (MPPS) both as a Service Class Provider (SCP) and Service Class User (SCU).

The SCU role of MPPS is required to support the IHE requirements on Cardiology workflow. IntelliBridge Enterprise, on behalf of IntelliSpace Cardiovascular IMS, may propagate the MPPS data from the DICOM modalities to an IHE compliant Order Filler system. MPPS SCU/SCP and MWL SCP are realized by IBE on behalf of ISCV.

IAN SCU Service is implemented to inform the Hospital Information Systems (HIS), Cardiology Information System (CIS) or any DICOM peer who is interested in availability of study instances stored on IntelliSpace Cardiovascular PACS. IntelliSpace Cardiovascular will send Instance Available Notifications whenever new instances for a study are being imported.

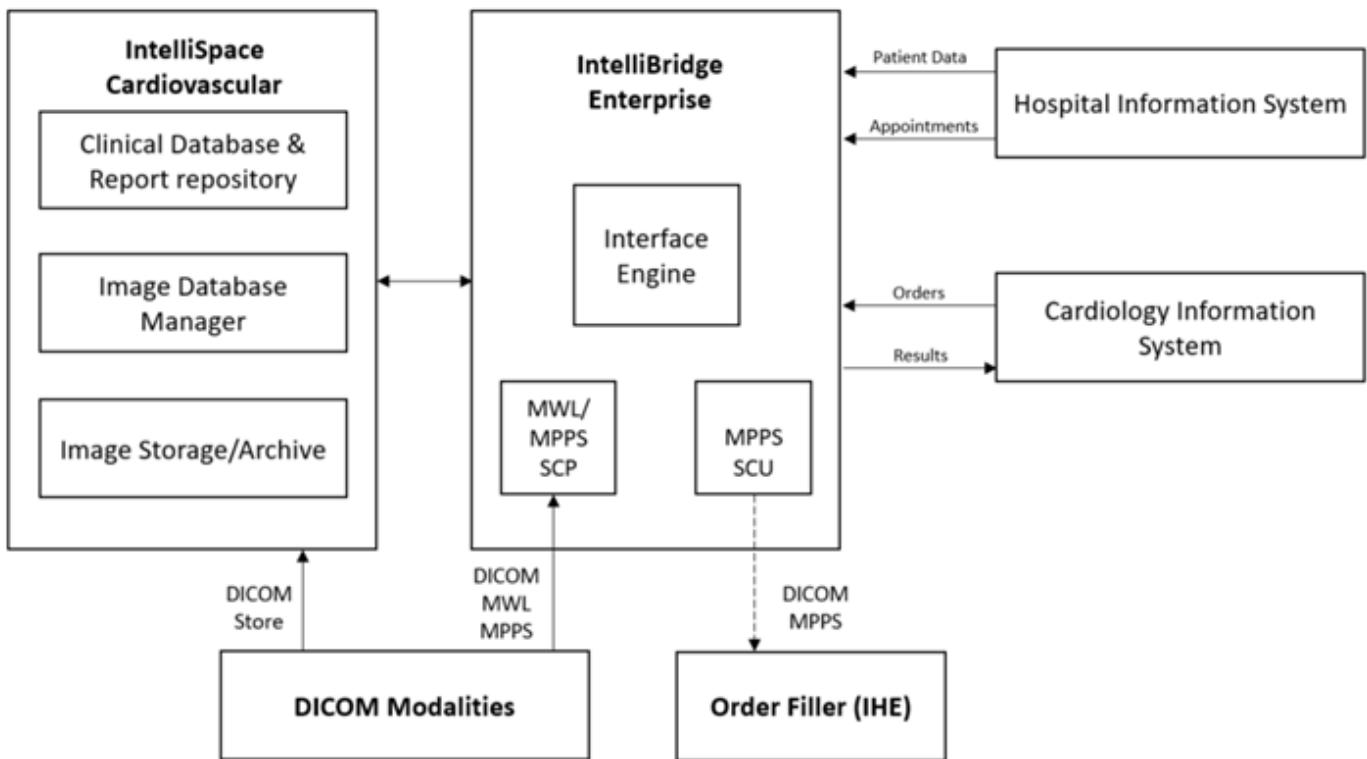


Figure 1: IntelliSpace Cardiovascular Data flow in Network

1.1. Display limitations on Content and Transfer

The following display limitations are applicable for the supported transfer content:

- Overlays are not displayed in the UI by ISCV, however export/import of the overlay is supported.
- Presentation state objects are not displayed in the UI by ISCV, however export/import of the presentation state objects is supported.
- (0008,1080) Admitting Diagnoses Description (e.g. Reason for Study) is not displayed in UI by ISCV when imported via DICOM. When a user in ISCV has supplied a Reason for study in its database, and this value is longer than 60 characters (on UI 255 characters are supported) ISCV stores it in multiple values of 63 characters along with three dots ("...") after 60 characters. The remainder part of the value will not have three dots ("...").

Table 1: Network Services

| SOP Class | | User of Service (SCU) | Provider of Service (SCP) |
|---|------------------------|-----------------------|---------------------------|
| Name | UID | | |
| Other | | | |
| Verification SOP Class* | 1.2.840.10008.1.1 | Yes | Yes |
| Print Management | | | |
| Print Job SOP Class | 1.2.840.10008.5.1.1.14 | Yes | No |
| Basic Annotation Box SOP Class | 1.2.840.10008.5.1.1.15 | Yes | No |
| Stored Print Storage SOP Class (Retired) | 1.2.840.10008.5.1.1.27 | Yes | No |
| Basic Grayscale Print Management Meta SOP Class | 1.2.840.10008.5.1.1.9 | Yes | No |
| >Basic Film Session SOP Class | 1.2.840.10008.5.1.1.1 | Yes | No |

| SOP Class | | User of Service (SCU) | Provider of Service (SCP) |
|--|-------------------------------|-----------------------|---------------------------|
| Name | UID | | |
| >Basic Film Box SOP Class | 1.2.840.10008.5.1.1.2 | Yes | No |
| >Basic Grayscale Image Box SOP Class | 1.2.840.10008.5.1.1.4 | Yes | No |
| >Printer SOP Class | 1.2.840.10008.5.1.1.16 | Yes | No |
| Query/Retrieve | | | |
| Patient Root QR Information Model - FIND SOP Class | 1.2.840.10008.5.1.4.1.2.1.1 | No | Yes |
| Patient Root QR Information Model - MOVE SOP Class | 1.2.840.10008.5.1.4.1.2.1.2 | No | Yes |
| Study Root QR Information Model - FIND SOP Class | 1.2.840.10008.5.1.4.1.2.2.1 | Yes | Yes |
| Study Root QR Information Model - MOVE SOP Class | 1.2.840.10008.5.1.4.1.2.2.2 | Yes | Yes |
| PatientStudy Only QR Info. Model - FIND SOP Class (Retired) | 1.2.840.10008.5.1.4.1.2.3.1 | No | Yes |
| PatientStudy Only QR Info. Model - MOVE SOP Class (Retired) | 1.2.840.10008.5.1.4.1.2.3.2 | No | Yes |
| Transfer | | | |
| Hardcopy Grayscale Image Storage (Retired) | 1.2.840.10008.5.1.1.29 | Yes | Yes |
| Hardcopy Color Image Storage (Retired) | 1.2.840.10008.5.1.1.30 | Yes | Yes |
| Computed Radiography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 | Yes | Yes |
| Digital X-Ray Image Storage - For Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.1 | Yes | Yes |
| Digital X-Ray Image Storage - For Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.1.1 | Yes | Yes |
| Digital Mammography X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.2 | Yes | Yes |
| Digital Mammography X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.2.1 | Yes | Yes |
| Digital Intra-oral X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.3 | Yes | Yes |
| Digital Intra-oral X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.3.1 | Yes | Yes |
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 | Yes | Yes |
| Enhanced CT Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.2.1 | Yes | Yes |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Yes | Yes |
| Ultrasound Multi-frame Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.3.1 | Yes | Yes |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 | Yes | Yes |
| Enhanced MR Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.4.1 | Yes | Yes |
| MR Spectroscopy Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.4.2 | Yes | Yes |
| Nuclear Medicine Image Storage (Retired) [Note 1] | 1.2.840.10008.5.1.4.1.1.5 | Yes | Yes |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | Yes | Yes |
| Ultrasound Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6.1 | Yes | Yes |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 | Yes | Yes |
| Multi-frame Single Bit Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.1 | Yes | Yes |
| Multi-frame Grayscale Byte SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.2 | Yes | Yes |
| Multi-frame Grayscale Word SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.3 | Yes | Yes |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | Yes | Yes |
| Standalone Overlay Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.8 | Yes | Yes |
| Standalone Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.9 | Yes | Yes |
| 12-lead ECG Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.1.1 | Yes | Yes |
| General ECG Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.1.2 | Yes | Yes |
| Ambulatory ECG Waveform Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.9.1.3 | Yes | Yes |

| SOP Class | | User of Service (SCU) | Provider of Service (SCP) |
|---|----------------------------------|-----------------------|---------------------------|
| Name | UID | | |
| Standard Hemodynamic Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.2.1 | Yes | Yes |
| Cardiac Electrophysiology Waveform Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.9.3.1 | Yes | Yes |
| Basic Voice Audio Waveform Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.9.4.1 | Yes | Yes |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 | Yes | Yes |
| Standalone VOI LUT Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.11 | Yes | Yes |
| Grayscale Softcopy Presentation State Storage SOP Class | 1.2.840.10008.5.1.4.1.1.11.1 | Yes | Yes |
| Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.2 | Yes | Yes |
| Pseudo-Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.3 | Yes | Yes |
| Blending Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.4 | Yes | Yes |
| X-Ray Angiographic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.1 | Yes | Yes |
| Enhanced XA Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.12.1.1 | Yes | Yes |
| X-Ray Radiofluoroscopic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.2 | Yes | Yes |
| Enhanced XRF Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.12.2.1 | Yes | Yes |
| X-Ray Angiographic Bi-Plane Image Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.12.3 | Yes | Yes |
| Nuclear Medicine Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.20 | Yes | Yes |
| Raw Data Storage SOP Class | 1.2.840.10008.5.1.4.1.1.66 | Yes | Yes |
| Spatial Registration Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.66.1 | Yes | Yes |
| Spatial Fiducials Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.66.2 | Yes | Yes |
| Real World Value Mapping Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.67 | Yes | Yes |
| VL Endoscopic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.1 | Yes | Yes |
| Video Endoscopic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.1.1 | Yes | Yes |
| VL Microscopic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2 | Yes | Yes |
| Video Microscopic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2.1 | Yes | Yes |
| VL Slide-Coordinates Microscopic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.3 | Yes | Yes |
| VL Photographic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.4 | Yes | Yes |
| Video Photographic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.4.1 | Yes | Yes |
| Ophthalmic Photography 8 Bit Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.1 | Yes | Yes |
| Ophthalmic Photography 16 Bit Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.2 | Yes | Yes |
| Stereometric Relationship Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.3 | Yes | Yes |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 | Yes | Yes |
| Basic Text SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.11 | Yes | Yes |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.22 | Yes | Yes |
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.33 | Yes | Yes |
| Procedure Log Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.40 | Yes | Yes |
| Mammography CAD SR [Note 1] | 1.2.840.10008.5.1.4.1.1.88.50 | Yes | Yes |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 | Yes | Yes |
| Chest CAD SR [Note 1] | 1.2.840.10008.5.1.4.1.1.88.65 | Yes | Yes |
| X-Ray Radiation Dose SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.67 | Yes | Yes |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 | Yes | Yes |

| SOP Class | | User of Service (SCU) | Provider of Service (SCP) |
|--|-------------------------------|-----------------------|---------------------------|
| Name | UID | | |
| Positron Emission Tomography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.128 | Yes | Yes |
| Standalone PET Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.129 | Yes | Yes |
| RT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.1 | Yes | Yes |
| RT Dose Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.2 | Yes | Yes |
| RT Structure Set Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.3 | Yes | Yes |
| RT Beams Treatment Record Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.481.4 | Yes | Yes |
| RT Plan Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.5 | Yes | Yes |
| RT Brachy Treatment Record Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.481.6 | Yes | Yes |
| RT Treatment Summary Record Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.481.7 | Yes | Yes |
| RT Ion Plan Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.481.8 | Yes | Yes |
| RT Ion Beams Treatment Record Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.481.9 | Yes | Yes |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | Yes | Yes |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | Yes | Yes |
| Philips Private iE33 3D NEO Presentation State Subpage Storage | 1.3.46.670589.2.5.1.1 | Yes | Yes |
| Philips Private Xcelera Info Object Storage | 1.3.46.670589.2.6.1.1 | Yes | Yes |
| Philips Private ViewForum 3D Volume New Storage | 1.3.46.670589.5.0.1.1 | Yes | Yes |
| Philips Private ViewForum 3D Volume Object New Storage | 1.3.46.670589.5.0.2.1 | Yes | Yes |
| Philips Private ViewForum Surface New Storage | 1.3.46.670589.5.0.3.1 | Yes | Yes |
| Philips Private ViewForum MR Cardio New Storage | 1.3.46.670589.5.0.8.1 | Yes | Yes |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Yes | Yes |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Yes | Yes |
| Philips Private ViewForum MR Cardio Analysis New Storage | 1.3.46.670589.5.0.11.1 | Yes | Yes |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Yes | Yes |
| Philips Private ViewForum Perfusion Storage | 1.3.46.670589.5.0.13 | Yes | Yes |
| Philips Private ViewForum Perfusion Analysis Storage | 1.3.46.670589.5.0.14 | Yes | Yes |
| Workflow Management | | | |
| Storage Commitment Push Model SOP Class | 1.2.840.10008.1.20.1 | Yes | Yes |
| Modality Performed Procedure Step SOP Class | 1.2.840.10008.3.1.2.3.3 | Yes | Yes |
| Modality Worklist Information Model - FIND SOP Class | 1.2.840.10008.5.1.4.31 | No | Yes |
| Instance Availability Notification SOP Class | 1.2.840.10008.5.1.4.33 | Yes | No |

Note 1: Not available in default configuration. Please consult customer service representative to enable this.

Note 2: ISCV claim viewing of mamo images, but not diagnostic viewing (diagnostic viewing is claimed only for US). ISCV should be able to store and export these images, which is mostly what is required.

Table below shows the Supported Media Storage Application Profiles (with roles).

Table 2: Media Services

| Media Storage Application Profile | File-set Creator (FSC) | File-set Updater (FSU) | File-set Reader (FSR) |
|--|------------------------|------------------------|-----------------------|
| Compact Disk-Recordable | | | |
| 1024 X-Ray Angiographic Studies on CD-R | Yes | No | Yes |
| Basic Cardiac X-RAY Angiographic Studies on CD-R | Yes | No | Yes |
| CT/MR Studies on CD-R | Yes | No | Yes |
| General Purpose CD-R Interchange | Yes | No | Yes |
| Image Display (Ultrasound {SF MF}) | Yes | No | Yes |
| DVD | | | |
| CT/MR Studies on DVD Media | Yes | No | Yes |
| General Purpose DVD Interchange with JPEG | Yes | No | Yes |

Table 3: DICOMweb Transactions

| Resource | User Agent | Origin Server |
|--|------------|---------------|
| Retrieve Transaction DICOM resources | | |
| Retrieve Study | No | Yes |
| Retrieve Series | No | Yes |
| Retrieve Instance | No | Yes |
| Retrieve Frame | No | Yes |
| Retrieve Bulk data | No | Yes |
| Retrieve Transaction Metadata resources | | |
| Retrieve Study Metadata | No | Yes |
| Retrieve Series Metadata | No | Yes |
| Retrieve Instance Metadata | No | Yes |
| Search Transaction resources | | |
| All Studies | No | Yes |
| Study's Series | No | Yes |
| Study's Instances | No | Yes |
| All Series | No | Yes |
| Study's Series' Instance | No | Yes |
| All Instances | No | Yes |
| Series' Instances | No | Yes |
| Store Transaction resources | | |
| Store Transaction (STOW-RS) | No | Yes |

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3. Introduction

The introduction specifies product and relevant disclaimers as well as any general information that the vendor feels is appropriate.

3.1. Revision History

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

Table 4: Revision History

| Document Version | Date of Issue | Description of change |
|------------------|---------------|---|
| 01 | 05-Nov-2025 | Initial release for IntelliSpace Cardiovascular 9.2 |

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 5: Definitions, Terms and Abbreviations

| Abbreviation/Term | Explanation |
|-------------------|--|
| AE | Application Entity |
| ANSI | American National Standard Institute |
| AP | Application Profile |
| BOT | Basic Offset Table |
| CD | Compact Disc |
| CD-R | CD-Recordable |
| CD-M | CD-Medical |
| CR | Computed Radiography |
| CT | Computed Tomography |
| DCR | Dynamic Cardio Review |
| DICOM | Digital Imaging and Communications in Medicine |
| DIMSE | DICOM Message Service Element |
| DIMSE-C | DIMSE-Composite |
| DIMSE-N | DIMSE-Normalized |
| DX | Digital X-Ray |
| EBE | DICOM Explicit VR Big Endian |
| ELE | DICOM Explicit VR Little Endian |
| FSC | File-set Creator |
| FSR | File-set Reader |
| FSU | File-set Updater |
| GUI | Graphic User Interface |
| HIS | Hospital Information System |
| HL7 | Health Level Seven |
| ILE | DICOM Implicit VR Little Endian |
| IOD | Information Object Definition |
| ISIS | Information System – Imaging System |
| ISCV | IntelliSpace Cardiovascular |
| MOD | Magneto-Optical Disk |
| MPPS | Modality Performed Procedure Step |
| MR | Magnetic Resonance |
| NEMA | National Electrical Manufacturers Association |
| NM | Nuclear Medicine |
| N/A | Not Applicable means product does not support it |
| PDU | Protocol Data Unit |

| Abbreviation/Term | Explanation |
|-------------------|---|
| RF | X-Ray Radiofluoroscopic |
| RIS | Radiology Information System |
| RT | Radiotherapy |
| RWA | Real-World Activity |
| SC | Secondary Capture |
| SCM | Study Component Management |
| SCP | Service Class Provider |
| SCU | Service Class User |
| SOP | Service Object Pair |
| TCP/IP | Transmission Control Protocol/Internet Protocol |
| UID | Unique Identifier |
| US | Ultrasound |
| USMF | Ultrasound multi-frame |
| WLM | Worklist Management |
| XA | X-Ray Angiographic |

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. Implementation Model

The implementation model consists of three sections:

- The application data flow diagram, specifying the relationship between the Application Entities and the "external world" or Real-World Activities,
- A functional description of each Application Entity, and
- The sequencing constraints among them.

4.1. Application Data Flow

As part of the implementation model, an application data flow diagram is included. This diagram represents all of the Application Entities present in an implementation, and graphically depicts the relationship of the AE's use of DICOM to Real-World Activities as well as any applicable user interaction.

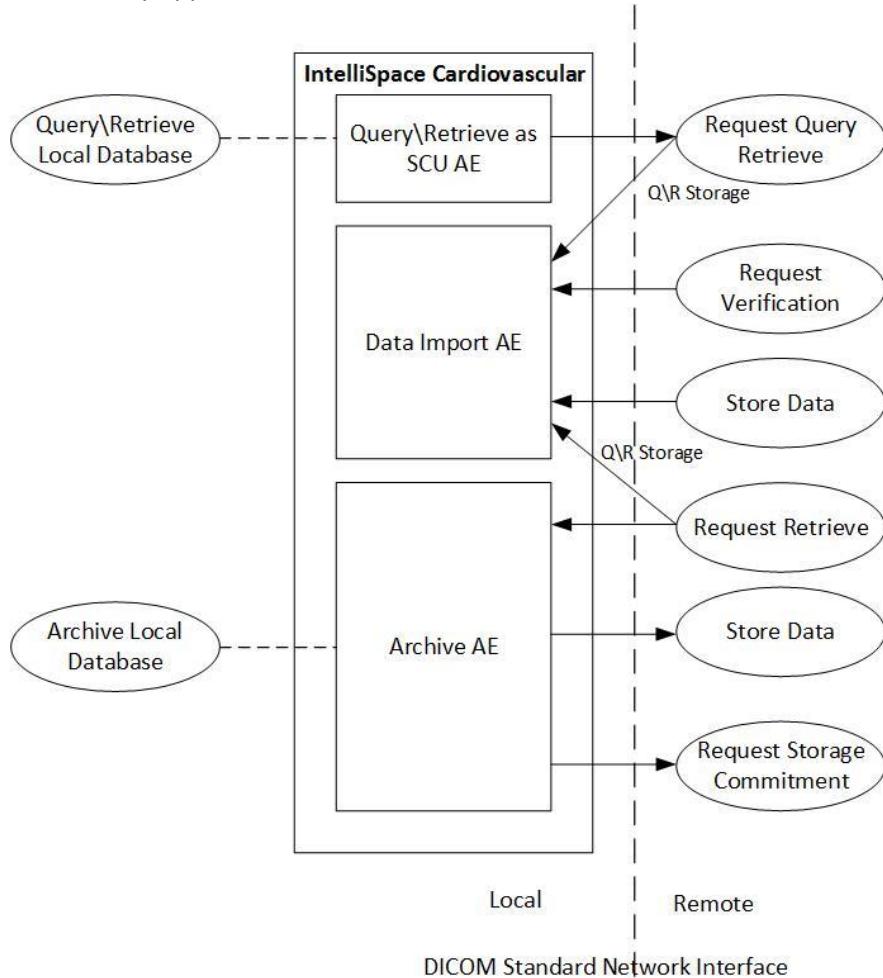


Figure 2: Application Data Flow Diagram (1)

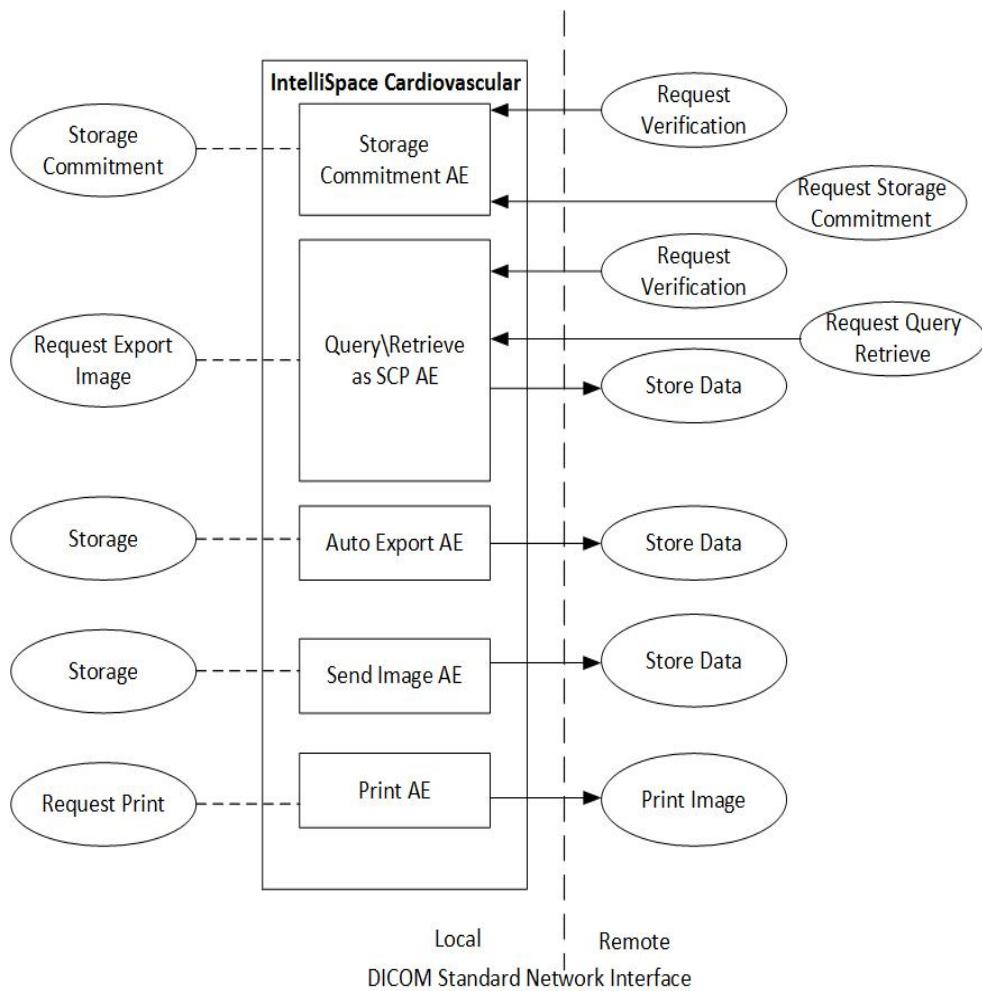


Figure 3: Application Data Flow Diagram (2)

4.2. Application Data Flow MWL SCP and MPPS SCU & SCP

As part of the implementation model, an application data flow diagram is included. This diagram represents all of the Application Entities present in an implementation and graphically depicts the relationship of the AE's use of DICOM to Real-World Activities (RWA) as well as any applicable user interaction.

The related Implementation Model (for a single AE) is shown in Figure below.

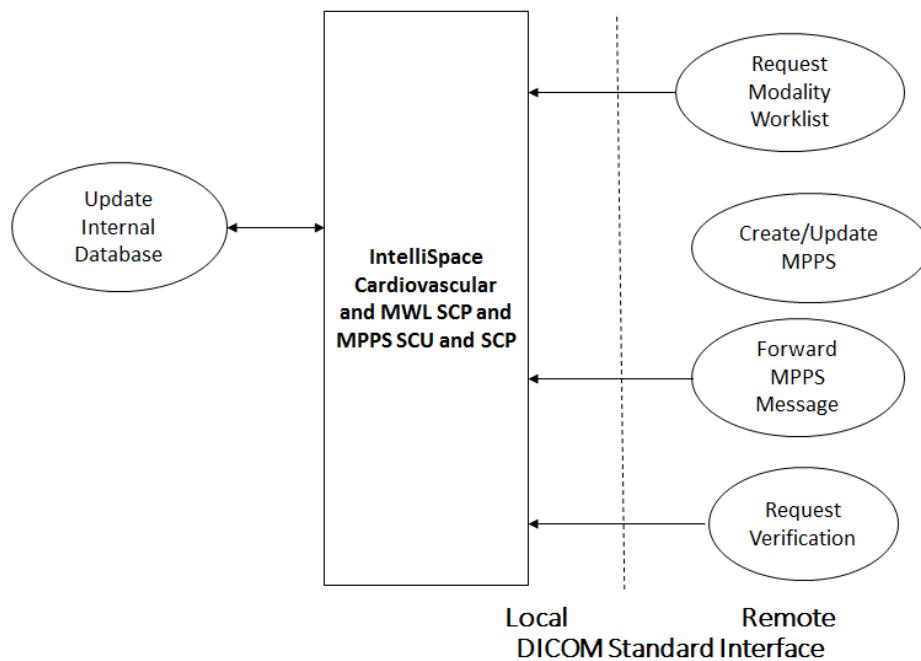


Figure 4: (Real World) Activity – Application Data flow Diagram

MWL SCP, MPPS SCU & SCP can accept associations in order to receive worklist requests from modalities for an up-to-date Worklist. The Worklist management application of MWL SCP and MPPS SCU & SCP will interpret the modalities requests, retrieve the requested modality worklist data from its internal database and send the detailed worklist contents to the modalities.

MWL SCP and MPPS SCU & SCP will also accept associations related to start and completion of (performed) procedures (i.e. examinations). The MPPS message will be interpreted by the relevant application in MWL SCP and MPPS SCU & SCP and stored in its internal database.

If required, MWL SCP and MPPS SCU & SCP can receive/queue the MPPS messages from the modalities and forward these to an external, MPPS Manager, acting as a DICOM SCU.

MWL SCP and MPPS SCU & SCP also support DICOM Verification requests from the remote modalities.

4.3. Functional Definition of AE's

This section contains a functional definition for each individual local Application Entity.

4.3.1. Functional Definition of Archive AE

The Archive AE handles the communication between IntelliSpace Cardiovascular and the DICOM Archive. For storing instances to an archive, an automatic function, Storage with Storage Commitment will be used. To pull the instance from an archive, a C-MOVE with Study Instance UID handles this action. The study/instance will be retrieved via the Import AE.

4.3.2. Functional Definition of Auto Export AE

IntelliSpace Cardiovascular (SCU) automatically initiates an association with a remote DICOM AE (SCP) to send a storage request and the applicable instance data. (DICOM Storage Service Class)

This Auto export behavior of IntelliSpace Cardiovascular, when configured, happens for all imported studies. It is also possible to auto export only studies from an import AE-Title.

4.3.3. Functional Definition of Image Import AE

IntelliSpace Cardiovascular (SCP) accepts an association with a remote DICOM AE (SCU) to receive a storage request and the applicable instance data. (DICOM Storage Service Class)

4.3.4. Functional Definition of Print AE

The Print AE in IntelliSpace Cardiovascular supports the functionality for basic grayscale print management, basic annotation box, and print job. On demand, IntelliSpace Cardiovascular (SCU) initiates an association with a printer (SCP) and sends a create requests to the printer (DICOM Print Management SOP class).

4.3.5. Functional Definition of Query Retrieve as SCP AE

IntelliSpace Cardiovascular Query/Retrieve as SCP AE consists of two functions. IntelliSpace Cardiovascular (SCP) accepts an association from a remote DICOM AE (SCU) to receive a Query/Retrieve request. (DICOM Query/Retrieve Service Class). - When a retrieve of an instance is requested, IntelliSpace Cardiovascular sends that requested instance through Store SCU AE (DICOM Storage Service Class).

4.3.6. Functional Definition of Query Retrieve as SCU AE

IntelliSpace Cardiovascular (SCU) initiates an association on event, initiated by the user, with a remote DICOM AE (SCP) to send a Query/Retrieve request (DICOM Storage Service Class).

4.3.7. Functional Definition of Send AE

When the Send function in IntelliSpace Cardiovascular is addressed, IntelliSpace Cardiovascular (SCU) initiates an association on event, initiated by the user, with a remote DICOM AE (SCP) to send a storage request and the applicable instance data. (DICOM Storage Service Class).

4.3.8. Functional Definition of Storage Commitment AE

IntelliSpace Cardiovascular (SCP) accepts an association from a remote DICOM AE (SCU) to receive a storage commitment request. After handling the requested storage commitment, IntelliSpace Cardiovascular initiates an association with the SCU to report the status of the storage commitment (DICOM Storage Commitment Service Class).

4.3.9. Functional Definition of MWL AE and MPPS AE

MWL SCP and MPPS SCU & SCP implements a DICOM Service Class Provider (SCP) for the Verification, Basic Worklist Management and for the Modality Performed Procedure Step SOP Class. These SCP's entire are contained within a single Application Entity. The same Application Entity can also act as DICOM Service Class Users (SCU) for the Modality Performed Procedure Step SOP Class (MPPS Forwarding).

4.3.10. Functional Definition of IAN AE

IntelliSpace Cardiovascular (SCU) initiates an association on event, DICOM Study import, with a remote DICOM AE (SCP) to send a create request and the applicable instance data (DICOM Instance Availability Notification SOP Class).

4.3.11. Functional Definition of Web Services AE

IntelliSpace Cardiovascular implements the following DICOMweb Transactions for Origin Server.

- Store Transaction (STOW-RS)
- Search Transaction (QIDO-RS)
- Retrieve Transaction (WADO-RS)

4.4. Sequencing of Real-World Activities

All Real-World Activities as specified in the Functional Definition of Application Entities may occur independently from each other.

MWL SCP and MPPS SCU & SCP do not require any specific sequence of activities.

Modalities are setup in such a way that the requests for MWLM updates are issued at regular intervals. Moreover, the user may press a button on the modality console to refresh the modality worklist instantaneously.

Regarding the MPPS service, the modality has to comply with the normal sequence as defined in the DICOM standard. An MPPS-Created message should be followed by an MPPS-In Progress and/or a MPPS-Completed/Discontinued message type.

5. AE Specifications

This section in the DICOM Conformance Statement is a set of Application Entity specifications. There are as many of these subsections as there are different AE's in the implementation.

5.1. Archive AE

Details of this specific Application Entity is specified in this section.

5.1.1. SOP Classes

Archive AE is used for archiving the patient studies either in IntelliSpace Cardiovascular Server (IntelliSpace Cardiovascular DICOM Archive) or in external DICOM Archive.

Archive AE is intended to do the functioning of storing the patient studies in the DICOM Archive, Sending the Storage Commitment to the DICOM Archive and Retrieving studies from the DICOM Archive whenever they are needed. These functions are undertaken automatically.

Archive AE, for its functioning, makes use of following DICOM functions:

- Verification as SCU, which uses C-ECHO service element.
- Image Storage as SCU, which uses C-STORE as service element.
- Storage Commitment as SCU, which uses N-ACTION, N-EVENT-REPORT service elements.
- Retrieve as SCU, which uses C-MOVE as service element.
- Patient/study attributes will be updated with the latest information before instances are exported to the DICOM Archive (Refer to the tables in section [4.2.1.3.3.3 SOP Specific Conformance for Storage SOP Classes](#) for the list of updated patient and study attributes.)

Separate Application Entities need to be configured for Storage, Storage Commitment and Fetch (Retrieve) functionalities.

These DICOM functionalities are described here.

This Application Entity provides Standard Conformance to the following SOP Classes.

Table 6: SOP Classes for Archive AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|---|-------------------------------|-----|-----|
| Verification SOP Class | 1.2.840.10008.1.1 | Yes | No |
| Storage Commitment Push Model SOP Class | 1.2.840.10008.1.20.1 | Yes | No |
| Hardcopy Grayscale Image Storage (Retired) | 1.2.840.10008.5.1.1.29 | Yes | Yes |
| Hardcopy Color Image Storage (Retired) | 1.2.840.10008.5.1.1.30 | Yes | Yes |
| Computed Radiography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 | Yes | Yes |
| Digital X-Ray Image Storage - For Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.1 | Yes | Yes |
| Digital X-Ray Image Storage - For Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.1.1 | Yes | Yes |
| Digital Mammography X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.2 | Yes | Yes |
| Digital Mammography X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.2.1 | Yes | Yes |
| Digital Intra-oral X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.3 | Yes | Yes |

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|-------------------------------|-----|-----|
| Digital Intra-oral X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.3.1 | Yes | Yes |
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 | Yes | Yes |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Yes | Yes |
| Ultrasound Multi-frame Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.3.1 | Yes | Yes |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 | Yes | Yes |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | Yes | Yes |
| Ultrasound Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6.1 | Yes | Yes |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 | Yes | Yes |
| Multi-frame Single Bit Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.1 | Yes | Yes |
| Multi-frame Grayscale Byte SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.2 | Yes | Yes |
| Multi-frame Grayscale Word SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.3 | Yes | Yes |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | Yes | Yes |
| Standalone Overlay Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.8 | Yes | Yes |
| Standalone Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.9 | Yes | Yes |
| General ECG Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.1.2 | Yes | Yes |
| Standard Hemodynamic Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.2.1 | Yes | Yes |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 | Yes | Yes |
| Standalone VOI LUT Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.11 | Yes | Yes |
| Grayscale Softcopy Presentation State Storage SOP Class | 1.2.840.10008.5.1.4.1.1.11.1 | Yes | Yes |
| X-Ray Angiographic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.1 | Yes | Yes |
| X-Ray Radiofluoroscopic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.2 | Yes | Yes |
| X-Ray Angiographic Bi-Plane Image Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.12.3 | Yes | Yes |
| Nuclear Medicine Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.20 | Yes | Yes |
| Raw Data Storage SOP Class | 1.2.840.10008.5.1.4.1.1.66 | Yes | Yes |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 | Yes | Yes |
| Positron Emission Tomography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.128 | Yes | Yes |
| Standalone PET Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.129 | Yes | Yes |
| RT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.1 | Yes | Yes |
| RT Dose Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.2 | Yes | Yes |
| RT Structure Set Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.3 | Yes | Yes |
| RT Plan Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.5 | Yes | Yes |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 | Yes | Yes |
| Basic Text SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.11 | Yes | Yes |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.22 | Yes | Yes |
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.33 | Yes | Yes |
| Procedure Log Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.40 | Yes | Yes |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 | Yes | Yes |
| X-Ray Radiation Dose SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.67 | Yes | Yes |
| Study Root QR Information Model - MOVE SOP Class | 1.2.840.10008.5.1.4.1.2.2.2 | Yes | No |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | Yes | Yes |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | Yes | Yes |

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|------------------------|-----|-----|
| Philips Private iE33 3D NEO Presentation State Subpage Storage | 1.3.46.670589.2.5.1.1 | Yes | Yes |
| Philips Private Xcelera Info Object Storage | 1.3.46.670589.2.6.1.1 | Yes | Yes |
| Philips Private ViewForum 3D Volume New Storage | 1.3.46.670589.5.0.1.1 | Yes | Yes |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Yes | Yes |
| Philips Private ViewForum MR Cardio Analysis New Storage | 1.3.46.670589.5.0.11.1 | Yes | Yes |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Yes | Yes |
| Philips Private ViewForum Perfusion Storage | 1.3.46.670589.5.0.13 | Yes | Yes |
| Philips Private ViewForum Perfusion Analysis Storage | 1.3.46.670589.5.0.14 | Yes | Yes |
| Philips Private ViewForum 3D Volume Object New Storage | 1.3.46.670589.5.0.2.1 | Yes | Yes |
| Philips Private ViewForum Surface New Storage | 1.3.46.670589.5.0.3.1 | Yes | Yes |
| Philips Private ViewForum MR Cardio New Storage | 1.3.46.670589.5.0.8.1 | Yes | Yes |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Yes | Yes |

Note: Any SOP class specific behavior is documented later in this conformance statement in the applicable SOP class specific conformance section.

5.1.2. Association Policies

Each AE specification contains a description of the general association establishment and acceptance policies of the AE.

5.1.2.1. General

The DICOM standard application context is specified below.

Table 7: DICOM Application Context

| Description | Value |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |

5.1.2.2. Number of Associations

The number of simultaneous associations that an Application Entity may support as an Initiator or Acceptor is specified here.

Table 8: Number of associations as an Association Initiator for this AE

| Description | Value |
|---|-------|
| Maximum number of simultaneous associations | 1 |

5.1.2.3. Implementation Identifying Information

The value supplied for Implementation Class UID and version name are documented here.

Table 9: DICOM Implementation Class and Version for Archive AE

| Property | Value |
|-----------------------------|----------------------|
| Implementation Class UID | 1.3.46.670589.58.9.2 |
| Implementation Version Name | ISCV 9.2 |

5.1.2.4. Communication Failure Handling

The behavior of the AE during communication failure is summarized in the next table.

Table 10: Communication Failure Behavior

| Exception | Behavior |
|---------------|--|
| ARTIM Timeout | The association is closed, and the reason is logged. |

5.1.3. Association Initiation Policy

The Application Entity will respond on a received reject Association attempt as shown in next table.

Table 11: Association Rejection response

| Result | Source | Reason/Diagnosis | Explanation |
|------------------------|---|--|---|
| 1 - rejected-permanent | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |
| 2 - rejected-transient | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |

| Result | Source | Reason/Diagnosis | Explanation |
|---|--------|------------------------------------|---|
| 2 - DICOM UL service-provider (ACSE related function) | | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| 3 - DICOM UL service-provider (Presentation related function) | | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |

The behavior of the AE on receiving an association abort is summarized in the next table.

Table 12: Association Abort Handling

| Source | Reason/Diagnosis | Behavior |
|---|---------------------------------|--|
| 0 - DICOM UL service-user (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| 2 - DICOM UL service-provider (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| | 1 - unrecognized-PDU | When received, terminates the connection and logs the event. |
| | 2 - unexpected-PDU | When received, terminates the connection and logs the event. |
| | 4 - unrecognized-PDU-parameter | When received, terminates the connection and logs the event. |
| | 5 - unexpected-PDU-parameter | When received, terminates the connection and logs the event. |
| | 6 - invalid-PDU-parameter-value | When received, terminates the connection and logs the event. |

5.1.3.1. (Real-World) Activity – Verification as SCU

5.1.3.1.1 Description and Sequencing of Activities

The Archive AE sends associations to systems to verify application level communication using the C-ECHO command.

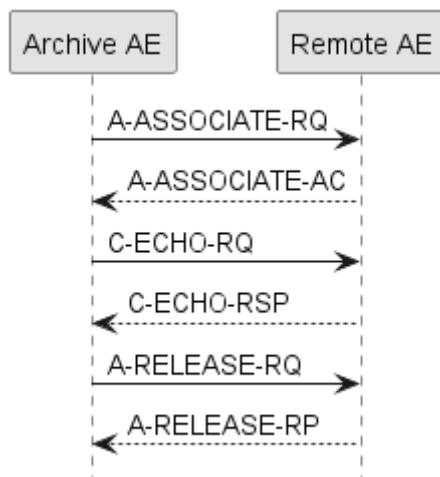


Figure 5: (Real World) Activity - Verification as SCU

5.1.3.1.1.1 Proposed Presentation Contexts

The Archive AE proposes the following presentation contexts to the remote AE during the association request before sending the C-ECHO.

Table 13: Proposed Presentation Contexts for (Real-World) Activity – Verification as SCU

| Presentation Context Table | | | | | |
|----------------------------|-------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Verification SOP Class | 1.2.840.10008.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

5.1.3.1.2 SOP Specific Conformance for Verification SOP Class

The Archive AE provides standard conformance to Verification SOP Class.

5.1.3.1.2.1 Dataset Specific Conformance for Verification C-ECHO-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 14: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|--------------------|------------|-------------------------------------|--------------------------------------|
| Success | 0000 | Confirmation | the SCU has successfully sent C-ECHO |
| Other than success | xxxx | Problems with sending the C-ECHO-RQ | Archive AE sends C-ECHO-RQ |

5.1.3.2. (Real-World) Activity – MOVE as SCU

5.1.3.2.1 Description and Sequencing of Activities

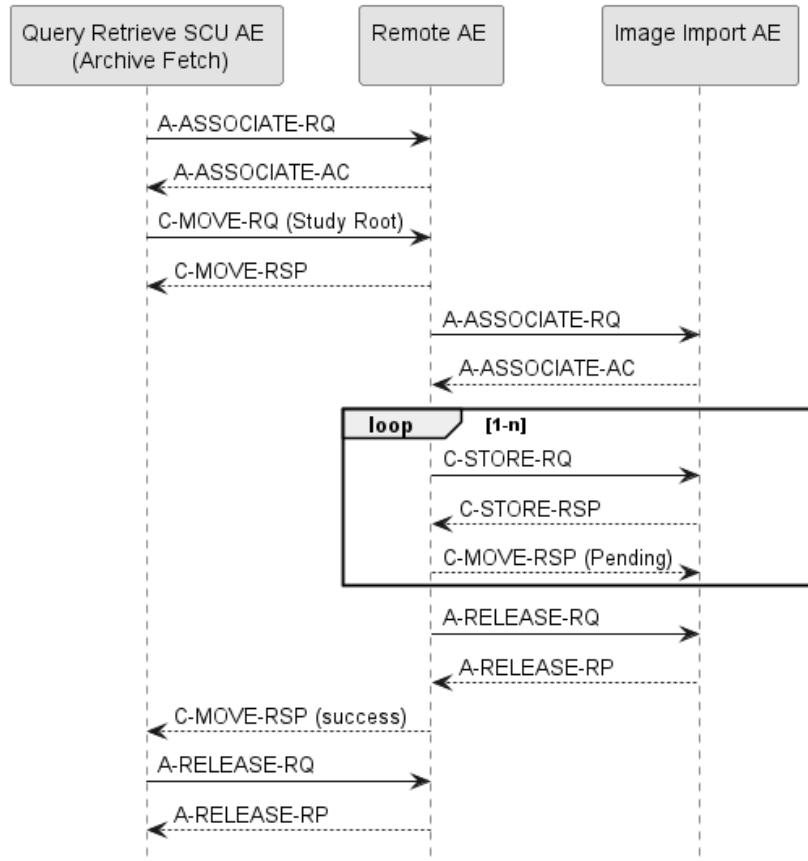


Figure 6: (Real World) Activity - MOVE As SCU (Archive Fetch)

Steps in fetch from DICOM Archive:

1. Send a DICOM C-MOVE (using Study UID from the database as identifier) request to the DICOM archive for each study to be fetched.
2. In response to the C-MOVE, DICOM Archive performs a C-STORE to IntelliSpace Cardiovascular data Import AE.

5.1.3.2.2 Proposed Presentation Contexts

The presentation contexts proposed by Archive QR SCU AE for (Real-World) Activity – C-MOVE are defined in next table.

Table 15: Proposed Presentation Contexts for (Real-World) Activity – MOVE As SCU

| Presentation Context Table | | | | | | |
|--|-----------------------------|--------------------------|---------------------|------|----------------------|--|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation | |
| Name | UID | Name List | UID List | | | |
| Study Root QR Information Model - MOVE SOP Class | 1.2.840.10008.5.1.4.1.2.2.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | | |

5.1.3.2.3 SOP Specific Conformance for Study Root QR Information Model - MOVE SOP Class

Only Study level queries are supported.

The Archive QR SCU AE supports queries based on the combination of the following (Study level) attributes and attribute matching types (as defined in [DICOM] PS 3.4).

Exceptions:

1. If after setting up the connection and sending the move request, if no data is received from the external DICOM node before a (user configurable) time out has passed; the QR SCU AE aborts the connection.
2. If an error occurs on the external DICOM node while setting up the connection, the QR SCU AE will abort all actions related to the connection and report errors.
3. If no agreement between the two parties can be reached concerning communication parameters the connection will be closed and no query communications will take place.
4. If an error occurs on the DICOM Archive server during query communications, the DICOM Archive server will abort the connection.

5.1.3.2.3.1 Dataset Specific Conformance for Study Root QR Information Model - MOVE SOP Class C-MOVE-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 16: Identifiers for MOVE Study Root Information Model as SCU

| Study Root Information Model | | | | |
|------------------------------|-----------|----|---------------------|--|
| Attribute Name | Tag | VR | Comment | |
| Query/Retrieve Level | 0008,0052 | CS | STUDY | |
| Q/R Study level | | | | |
| Study Instance UID | 0020,000D | UI | Universal Matching. | |

C-MOVE-SCU acts on the possible Status Responses with are shown in the next Table.

Table 17: DICOM Command response status handling behavior

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|----------------------|--|--|
| Success | 0000 | Sub-operations complete – No failures | The Retrieve job is marked as Completed at the queue manager. The association is released. |
| Failed | A900 | Identifier does not match SOP class | The Retrieve job is marked as Failed at the queue manager. The association is released. The reason is logged. |
| | Cxxx | Unable to process | The Retrieve job is marked as Failed at the queue manager. The association is released. The reason is logged. |
| Refused | A701 | Out of resources – Unable to calculate number of matches | The Retrieve job is marked as Failed at the queue manager. The association is released. The reason is logged. |
| | A702 | Out of resources – Unable to perform sub-operations | The Retrieve job is marked as Failed at the queue manager. The association is released. The reason is logged. |
| | A801 | Destination unknown | The Retrieve job is marked as Failed at the queue manager. The association is released. The reason is logged. |
| Pending | FF00 | Sub-operations are continuing | The Retrieve job continues. |
| Warning | B000 | Sub-operations complete – One or more failures | The Retrieve job is marked as Completed at the queue manager. The association is released. The reason is logged. |
| Cancel | FE00 | Sub-operations terminated due to Cancel indication | The Retrieve job is marked as Failed at the queue manager. The association is released. The reason is logged. |
| | When no status match | | The Retrieve job is marked as Failed at the queue manager. The association is released. The reason is logged. |

The possible Communication Failures are listed here.

Table 18: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|--------------------------|--|
| Reply Time-out | The job fails and the association is aborted. The reason is logged and reported to the user. |
| Association Time-out SCU | N/A |
| Association Aborted | The job fails. The reason is logged and reported to the user. |

5.1.3.3. (Real-World) Activity – Image Export

5.1.3.3.1 Description and Sequencing of Activities

In this chapter the Export of Instance (Archive Storage SCU) behavior of the IntelliSpace Cardiovascular will be described.

Normal flow of events for Image Export (Archive Storage SCU):

- 1.when the condition for Archiving of study/studies is met (based on the Archive Configuration settings); IntelliSpace Cardiovascular sets up a store connection and negotiates communication parameters with this Archive DICOM node. Connection setup is executed according to DICOM Store protocols, with IntelliSpace Cardiovascular acting as DICOM Store SCU.
2. After this connection is setup, IntelliSpace Cardiovascular send study/studies to the external DICOM node. Upon completion of this, the connection is closed. Start and end of the connection and data transfer are logged.

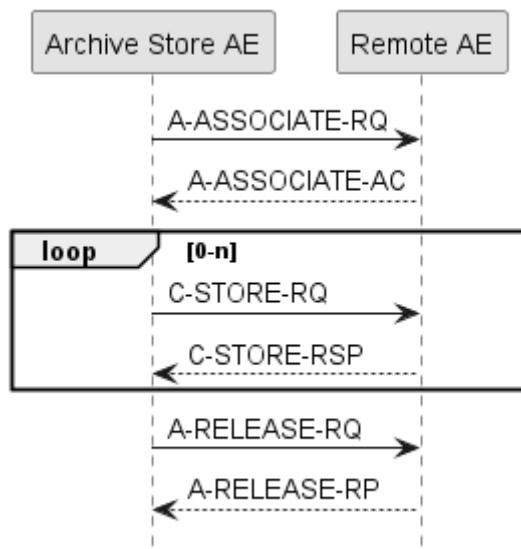


Figure 7: (Real World) Activity – Export of Instances (Archive Storage SCU)

5.1.3.3.2 Proposed Presentation Contexts

The presentation contexts for the Export Instances are defined in the next table.

Table 19: Proposed Presentation Contexts for (Real-World) Activity – Image Export

| Presentation Context Table | | | | | |
|--|---------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Hardcopy Grayscale Image Storage (Retired) | 1.2.840.10008.5.1.1.29 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Hardcopy Color Image Storage (Retired) | 1.2.840.10008.5.1.1.30 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Computed Radiography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|---|-------------------------------|---|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Digital X-Ray Image Storage - For Pres. SOP | 1.2.840.10008.5.1.4.1.1.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| Digital X-Ray Image Storage - For Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| Digital Mammography X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.2 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Digital Mammography X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.2.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|---|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Digital Intra-oral X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Digital Intra-oral X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.3.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Standalone VOI LUT Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.11 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Grayscale Softcopy Presentation State Storage SOP Class | 1.2.840.10008.5.1.4.1.1.11.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|--|------------------------------|---|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| X-Ray Angiographic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.1 | JPEG Lossless, Non- Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| X-Ray Radiofluoroscopic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| X-Ray Angiographic Bi- Plane Image Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.12.3 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|--|-----------------------------|---|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | JPEG Lossless, Non- Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Positron Emission Tomography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.128 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standalone PET Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.129 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Nuclear Medicine Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.20 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Ultrasound Multi- frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |

| Presentation Context Table | | | | | |
|--|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Ultrasound Multi-frame Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.3.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| RT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.1 | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | SCU | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |

| Presentation Context Table | | | | | |
|------------------------------------|-------------------------------|---|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| RT Dose Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.2 | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Structure Set Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | | | | |
| Ultrasound Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6.1 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|--|-----------------------------|---|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Raw Data Storage SOP Class | 1.2.840.10008.5.1.4.1.1.66 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Multi-frame Single Bit Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.1 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |

| Presentation Context Table | | | | | |
|---|-----------------------------|---|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG Lossless, Non- Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Multi-frame Grayscale Byte SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.2 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non- Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Multi-frame Grayscale Word SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.3 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non- | 1.2.840.10008.1.2.4.70 | | |

| Presentation Context Table | | | | | |
|--|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | Hierarchical, FOP (Process 14) | | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Standalone Overlay Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.8 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Basic Text SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.11 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.22 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|--|-------------------------------|------------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.33 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| X-Ray Radiation Dose SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.67 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standalone Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.9 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| General ECG Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.1.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standard Hemodynamic Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Procedure Log Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.40 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|--|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Enhanced CT Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.2.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Enhanced MR Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| MR Spectroscopy Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4.2 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Nuclear Medicine Image Storage (Retired)SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.5 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |

| Presentation Context Table | | | | | |
|--|--------------------------------|------------------------------|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| Ambulatory ECG Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9.1.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Cardiac Electrophysiology Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9.3.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Pseudo-Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Basic Voice Audio Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9.4.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Blending Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.4 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Enhanced XA Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.12.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image | 1.2.840.10008.1.2.4.90 [Note 1] | | |

| Presentation Context Table | | | | | |
|---|--------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Enhanced XRF Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.12.2.1 | Compression (Lossless Only) | | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Spatial Registration Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.66.1 | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | SCU | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| Spatial Fiducials Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.66.2 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCU | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| Real World Value Mapping Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.67 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCU | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| VL Endoscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.1 | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |

| Presentation Context Table | | | | | |
|---|----------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Video Endoscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.1.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| VL Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| Video Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2.1 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| VL Slide-Coordinates Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |

| Presentation Context Table | | | | | |
|--|----------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| VL Photographic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.4 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Video Photographic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.77.1.4.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Ophthalmic Photography 8 Bit Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Ophthalmic Photography 16 Bit Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image | 1.2.840.10008.1.2.4.90 [Note 1] | | |

| Presentation Context Table | | | | | |
|--|----------------------------------|-----------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Compression (Lossless Only) | | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Stereometric Relationship Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Mammography CAD SR SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.88.50 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Chest CAD SR SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.88.65 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Beams Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.4 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Brachy Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.6 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Treatment Summary Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.7 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|--|-------------------------------|------------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| RT Ion Plan Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.8 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Ion Beams Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.9 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private iE33 3D NEO Presentation State Subpage Storage | 1.3.46.670589.2.5.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private Xcelera Info Object Storage | 1.3.46.670589.2.6.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum 3D Volume New Storage | 1.3.46.670589.5.0.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|--|------------------------|--------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Cardio Analysis New Storage | 1.3.46.670589.5.0.11.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Perfusion Storage | 1.3.46.670589.5.0.13 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Perfusion Analysis Storage | 1.3.46.670589.5.0.14 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum 3D Volume Object New Storage | 1.3.46.670589.5.0.2.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Surface New Storage | 1.3.46.670589.5.0.3.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|--|-----------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Philips Private ViewForum MR Cardio New Storage | 1.3.46.670589.5.0.8.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

Note 1: Not available in default configuration. Please consult customer service representative to enable this.

5.1.3.3.3 SOP Specific Conformance for Storage SOP Classes

During DICOM based auto-forward, transfer negotiations may indicate that the original format of the data is not accepted by the target node. In such cases, the DICOM ARCHIVE server will try to apply one of the transfer syntax conversions indicated by '+', in order to get to transfer syntax that is supported by the external system. The Transfer syntax conversion is supported from SCU to SCP.

| Source Syntax | Destination Syntax | | |
|---|--------------------|-----|-----|
| | ILE | ELE | EBC |
| ILE | - | + | + |
| ELE | + | - | + |
| EBC | + | + | - |
| JPEG Baseline | - | - | - |
| JPEG Lossless Non-hierarchical /Proc 14 | - | - | - |
| JPEG Lossless FOP Non-Hierarchical 14 | + | + | + |
| JPEG 2000 Image Compression (Lossless Only) | - | - | - |
| RLE | + | - | + |

Figure 8: Transfer Syntax Conversion from Source to Destination.

The list of updated patient and study attributes are explained in the section [4.2.1.1](#) (before export to DICOM archive, all instances are updated with the latest study/patient information)

Table 20: List of updated Patient Attributes

| Attribute | DICOM Tag |
|----------------------------------|---------------------|
| Last Name | Part of (0010,0010) |
| First name | Part of (0010,0010) |
| Middle name | Part of (0010,0010) |
| Date of birth | (0010,0030) |
| Sex | (0010,0040) |
| Issuer of Patient ID | (0010,0021) |
| MRN | (0010,0020) |
| Alternate ID# | (0010,1000) |
| Title | Part of (0010,0010) |
| Honorific | Part of (0010,0010) |
| Address 1 | Part of (0010,1040) |
| Address 2 (if Address1 is empty) | Part of (0010,1040) |
| City | Part of (0010,1040) |
| State/Province | (0010,2152) |
| Postal code | Part of (0010,1040) |
| Country | (0010,2150) |
| Race | (0010,2160) |
| Home phone | Part of (0010,2154) |
| Business phone | Part of (0010,2154) |
| Mobile phone | Part of (0010,2154) |

Table 21: List of updated Study Attributes

| Attribute | DICOM Tag |
|---------------------------------|-------------|
| Study Description | (0008,1030) |
| Accession Number | (0008,0050) |
| Body Part | (0018,0015) |
| Admitting Diagnoses Description | (0008,1080) |
| Performed By | (0008,1050) |
| Reading Physician | (0008,1060) |
| Ordering Physician | (0032,1032) |
| Reviewer | (300E,0008) |
| Referring Physician | (0008,0090) |
| Institution Department Name | (0008,1040) |
| Station Name | (0008,1010) |
| Study Comments | (0032,4000) |

5.1.3.3.1 Dataset Specific Conformance for C-STORE-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

This includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

STORE-SCU acts on the Status Responses which are shown in the next table:

Table 22: DICOM command response status handling behavior

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|---|---|
| Success | 0000 | Successful stored | Status will be logged. |
| Refused | A700 | Data set does not match SOP class | Status will be logged. |
| | 0122 | SOP Class Not Supported | Status will be logged. |
| Warning | B000 | Coercion of data elements | Status will be logged. Job will Continue. |
| | B006 | Elements discarded | Status will be logged. Job will Continue. |
| | B007 | Data set does not match SOP class | Status will be logged Job will continue. |
| Error | 0110 | Error – Processing failure | Status will be logged. |
| | A900 | Error – Data set does not match SOP class | Status will be logged. |
| | C000 | Error – Cannot understand | Status will be logged. |
| | A701 | Error - Out of resources. Store operation fails | Association will be release. |

Exceptions:

1. If, after setting up the connection, no data can be sent to the external DICOM node for 2 minutes, IntelliSpace Cardiovascular will retry for 15 times with an interval of 2^n and then it will abort the connection.
2. If an error occurs on IntelliSpace Cardiovascular while setting up the connection, IntelliSpace Cardiovascular aborts and reports error.
3. If an error occurs on the external DICOM node while setting up the connection, IntelliSpace Cardiovascular will abort all actions related to that connection and report errors.
4. If no agreement between the two parties can be reached concerning communication parameters the connection will be closed and no data transfer will take place.
5. When a network error occurs during connection set up or during data transfer, IntelliSpace Cardiovascular will abort all actions related to the connection.
6. If an error occurs on IntelliSpace Cardiovascular during the data transfer, IntelliSpace Cardiovascular will notify the external DICOM node of this problem. After retrying notifying the external DICOM node of this problem for 15 times, with an interval of 2^n , the connection will be closed.

Table 23: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|---------------------|---|
| Timeout | The association is closed and the reason logged |
| Association aborted | The association is closed and the reason logged |

5.1.3.4. (Real-World) Activity – Storage Commitment Push Model as SCU**5.1.3.4.1 Description and Sequencing of Activities****Normal Flow of events:**

1. After the configured time, IntelliSpace Cardiovascular will initiate a Storage Commit request for the study that it stored into the DICOM Archive.
2. When a successful response from the DICOM archive is received, for this study, IntelliSpace Cardiovascular marks this study as correctly archived.

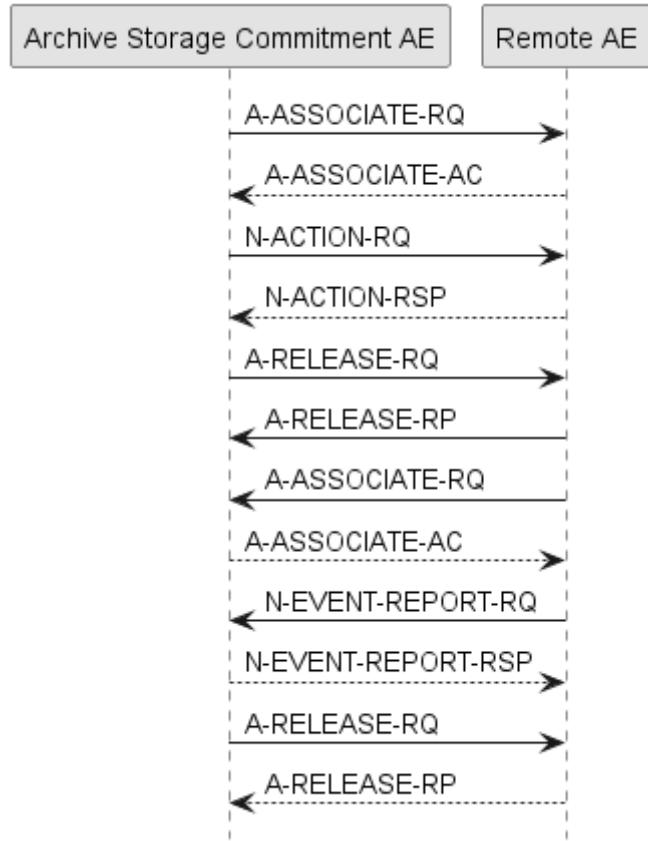


Figure 9: (Real World) Activity - Storage Commitment Push Model AS SCU

5.1.3.4.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 24: Proposed Presentation Contexts for (Real-World) Activity – Storage Commitment Push Model AS SCU

| Presentation Context Table | | | | | |
|---|----------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Storage Commitment Push Model SOP Class | 1.2.840.10008.1.20.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

5.1.3.4.3 SOP Specific Conformance for Storage Commitment Push Model SOP Class

The Archive AE (Storage Commitment) provides standard conformance to the Storage Commitment Push Model SOP Class.

5.1.3.4.3.1 Dataset Specific Conformance for Storage Commitment Push Model SOP Class N-EVENT-REPORT-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

The N-EVENT-REPORT-RSP can send the next status responses as listed in the table below:

Table 25: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|---|---|
| Success | 0000 | Confirmation | The association will be released. The reason is logged. |
| Failure | 0119 | Class/Instance conflict; the SOP Class of an instance in the Referenced SOP Instance Sequence did not correspond to the SOP class of the SOP Instance stored at the SCP | The reason is logged. |
| | 0213 | Resource limitation The SCP does not currently have enough resources to store the requested SOP Instance(s). | The reason is logged. |
| | 0110 | Processing failure A general failure in processing the operation was encountered | The reason is logged. |
| | 0112 | No such object instance One or more of the elements in the Referenced SOP Instance Sequence was not available. | The reason is logged. |
| | 0122 | Referenced SOP Class not supported Storage Commitment has been requested for a SOP Instance with a SOP Class that is not supported by the SCP. | The reason is logged. |
| | 0131 | Duplicate transaction UID The Transaction UID of the Storage Commitment Request is already in use. | The reason is logged. |

Table 26: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|--------------------------|------------------------------|
| Reply Time-out | The association is released. |
| Association Time-out SCU | The association is released. |
| Association Aborted | The association is released. |

5.1.3.4.3.2 Dataset Specific Conformance for Storage Commitment Push Model SOP Class N-ACTION-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 27: Storage Commitment Attribute for N-ACTION-RQ

| Attribute Name | Tag | Comment |
|----------------------------------|-----------|---------|
| Storage Commitment Module | | |
| Transaction UID | 0008,1195 | - |
| Referenced SOP Sequence | 0008,1199 | - |
| >Referenced SOP Class UID | 0008,1150 | - |
| >Referenced SOP Instance UID | 0008,1155 | - |

The N-ACTION-SCU will act the status responses as listed in the table below:

Table 28: DICOM command response status handling behavior

| Service Status | Error Code | Further Meaning | Behavior |
|--------------------|------------|--|---|
| Success | 0000 | Confirmation | The association will not release. The reason is logged. |
| Other than Success | xxxx | Problems with sending the N-ACTION Request | The reason is logged. |

During the N-ACTION-RQ communication the next failures can occur:

Table 29: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|--------------------------|------------------------------|
| Reply Time-out | The association is released. |
| Association Time-out SCU | The association is released. |
| Association Aborted | The association is released. |

Exceptions:

1. After setting up the connection, if no data can be sent to the external node for 60 seconds, IntelliSpace Cardiovascular aborts the connection and reports an error.
2. An error occurs on the target node while setting up the connection. If the retries are unsuccessful, the system will mark the data for later archiving.
3. If an error or warning concerning data transfer is received from the target node during data transfer. If it is related to the data being sent IntelliSpace Cardiovascular tries to correct the cause of the error
4. When IntelliSpace Cardiovascular cannot setup connection with the DICOM Archive, IntelliSpace Cardiovascular will retry for 3 times (configurable). If within these retries, if it is still not possible to setup the connection, the study will be re-archived, conforming its own retry mechanism and a warning will be reported.
5. When IntelliSpace Cardiovascular does not receive a storage commitment report within 72 hours, the study will be re-archived, conforming its own retry mechanism and a warning will be reported.
6. When the IntelliSpace Cardiovascular receives a storage commit response other than successful, the study will be re-archived, conforming its own retry mechanism and a warning will be reported.

5.1.4. Association Acceptance Policy

The Application Entity may reject Association attempts as shown in the table below.

Table 30: Association Reject Reasons

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|---------------------------|--|---|
| 1 - rejected permanent | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|---|--|---|
| | 2 - DICOM UL service provider (ACSE related function) | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |
| 2 - rejected-transient | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |

The behavior of the AE for sending an association abort is summarized in the next table.

Table 31: Association Abort Policies

| Source | Reason/Diagnosis | Behavior |
|---|---------------------------------|---|
| 0 - DICOM UL service-user (initiated abort) | 0 - reason-not-specified | Notifies Remote AE, terminates the connection and logs the event. |
| 2 - DICOM UL service-provider (initiated abort) | 0 - reason-not-specified | Notifies Remote AE, terminates the connection and logs the event |
| | 1 - unrecognized-PDU | Notifies Remote AE, terminates the connection and logs the event |
| | 2 - unexpected-PDU | Notifies Remote AE, terminates the connection and logs the event |
| | 4 - unrecognized-PDU parameter | Notifies Remote AE, terminates the connection and logs the event |
| | 5 - unexpected-PDU parameter | Notifies Remote AE, terminates the connection and logs the event |
| | 6 - invalid-PDU-parameter value | Notifies Remote AE, terminates the connection and logs the event |

5.1.4.1. (Real-World) Activity – Image Import as SCP

As defined by the IntelliSpace Cardiovascular System RWA Import instances, the Import image AE acts as an Archive for any DICOM Remote AE that is configured on the IntelliSpace Cardiovascular System, using an accepted presentation context. This is further described in the Image Import AE.

5.2. Auto Export AE

Details of this specific Application Entity is specified in this section.

5.2.1. SOP Classes

The Image Export AE is used for exporting DICOM Instances (images, objects) from IntelliSpace Cardiovascular Server to remote system. The Image Export AE makes use of the following DICOM functions:

- Verification as SCU, which uses C-ECHO service element.
- Storage as SCU, which uses C-STORE as service element.
- Patient / Study are always updated with the latest information for the exported studies.

These DICOM functions will be described in the following subsections.

The Auto Export Application Entity provides Standard Conformance to the following SOP Classes:

Table 32: SOP Classes for Auto Export AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|---------------------------|-----|-----|
| Verification SOP Class | 1.2.840.10008.1.1 | Yes | No |
| Hardcopy Grayscale Image Storage (Retired) | 1.2.840.10008.5.1.1.29 | Yes | No |
| Hardcopy Color Image Storage (Retired) | 1.2.840.10008.5.1.1.30 | Yes | No |
| Computed Radiography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 | Yes | No |

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|-------------------------------|-----|-----|
| 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 |
| Digital Mammography X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.2 | Yes | No |
| Digital Mammography X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.2.1 | Yes | No |
| Digital Intra-oral X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.3 | Yes | No |
| Digital Intra-oral X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.3.1 | Yes | No |
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 | Yes | No |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Yes | No |
| Ultrasound Multi-frame Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.3.1 | Yes | No |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 | Yes | No |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | Yes | No |
| Ultrasound Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6.1 | Yes | No |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 | Yes | No |
| Multi-frame Single Bit Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.1 | Yes | No |
| Multi-frame Grayscale Byte SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.2 | Yes | No |
| Multi-frame Grayscale Word SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.3 | Yes | No |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | Yes | No |
| Standalone Overlay Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.8 | Yes | No |
| Standalone Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.9 | Yes | No |
| General ECG Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.1.2 | Yes | No |
| Standard Hemodynamic Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.2.1 | Yes | No |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 | Yes | No |
| Standalone VOI LUT Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.11 | Yes | No |
| Grayscale Softcopy Presentation State Storage SOP Class | 1.2.840.10008.5.1.4.1.1.11.1 | 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 |
| X-Ray Angiographic Bi-Plane Image Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.12.3 | Yes | No |
| Nuclear Medicine Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.20 | Yes | No |
| Raw Data Storage SOP Class | 1.2.840.10008.5.1.4.1.1.66 | Yes | No |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 | Yes | No |
| Basic Text SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.11 | Yes | No |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.22 | Yes | No |
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.33 | Yes | No |
| Procedure Log Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.40 | Yes | No |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 | Yes | No |
| X-Ray Radiation Dose SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.67 | Yes | No |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 | Yes | No |
| Positron Emission Tomography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.128 | Yes | No |
| Standalone PET Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.129 | Yes | No |
| RT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.1 | Yes | No |
| RT Dose Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.2 | Yes | No |

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|-------------------------------|-----|-----|
| RT Structure Set Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.3 | Yes | No |
| RT Plan Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.5 | Yes | No |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | Yes | No |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | Yes | No |
| Philips Private iE33 3D NEO Presentation State Subpage Storage | 1.3.46.670589.2.5.1.1 | Yes | No |
| Philips Private Xcelera Info Object Storage | 1.3.46.670589.2.65.1.1 | Yes | No |
| Philips Private ViewForum 3D Volume New Storage | 1.3.46.670589.5.0.1.1 | Yes | No |
| Philips Private ViewForum 3D Volume Object New Storage | 1.3.46.670589.5.0.2.1 | Yes | No |
| Philips Private ViewForum Surface New Storage | 1.3.46.670589.5.0.3.1 | Yes | No |
| Philips Private ViewForum MR Cardio New Storage | 1.3.46.670589.5.0.8.1 | Yes | No |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Yes | No |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Yes | No |
| Philips Private ViewForum MR Cardio Analysis New Storage | 1.3.46.670589.5.0.11.1 | Yes | No |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Yes | No |
| Philips Private ViewForum Perfusion Storage | 1.3.46.670589.5.0.13 | Yes | No |
| Philips Private ViewForum Perfusion Analysis Storage | 1.3.46.670589.5.0.14 | Yes | No |

Note that any SOP specific behavior is documented later in this conformance statement into the applicable SOP specific conformance section.

5.2.2. Association Policies

Each AE specification contains a description of the general association establishment and acceptance policies of the AE.

5.2.2.1. General

The DICOM standard application context is specified below.

Table 33: DICOM Application Context

| Description | Value |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |

5.2.2.2. Number of Associations

The number of simultaneous associations that an Application Entity may support as an Initiator or Acceptor is specified here.

Table 34: Number of associations as an Association Initiator for this AE

| Description | Value |
|---|-----------------------------|
| Maximum number of simultaneous associations | Limited by system resource. |

5.2.2.3. Implementation Identifying Information

The value supplied for Implementation Class UID and version name are documented here.

Table 35: DICOM Implementation Class and Version for Auto Export AE

| Property | Value |
|-----------------------------|----------------------|
| Implementation Class UID | 1.3.46.670589.58.9.2 |
| Implementation Version Name | ISCV 9.2 |

5.2.2.4. Communication Failure Handling

The behavior of the AE during communication failure is summarized in the next table.

Table 36: Communication Failure Behavior

| Exception | Behavior |
|---------------|--|
| ARTIM Timeout | The association closed and the reason is logged. |

5.2.3. Association Initiation Policy

The Application Entity will respond on a received reject Association attempt as shown in next table.

Table 37: Association Rejection response

| Result | Source | Reason/Diagnosis | Explanation |
|------------------------|---|--|---|
| 1 - rejected-permanent | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |
| 2 - rejected-transient | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |

| Result | Source | Reason/Diagnosis | Explanation |
|--------|---|--|---|
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |

The behavior of the AE on receiving an association abort is summarized in the next table.

Table 38: Association Abort Handling

| Source | Reason/Diagnosis | Behavior |
|---|---------------------------------|--|
| 0 - DICOM UL service-user (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| 2 - DICOM UL service-provider (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| | 1 - unrecognized-PDU | When received, terminates the connection and logs the event. |
| | 2 - unexpected-PDU | When received, terminates the connection and logs the event. |
| | 4 - unrecognized-PDU-parameter | When received, terminates the connection and logs the event. |
| | 5 - unexpected-PDU-parameter | When received, terminates the connection and logs the event. |
| | 6 - invalid-PDU-parameter-value | When received, terminates the connection and logs the event. |

5.2.3.1. (Real-World) Activity – Verification as SCU

5.2.3.1.1 Description and Sequencing of Activities

Auto Export AE initiates an association with the remote AE.

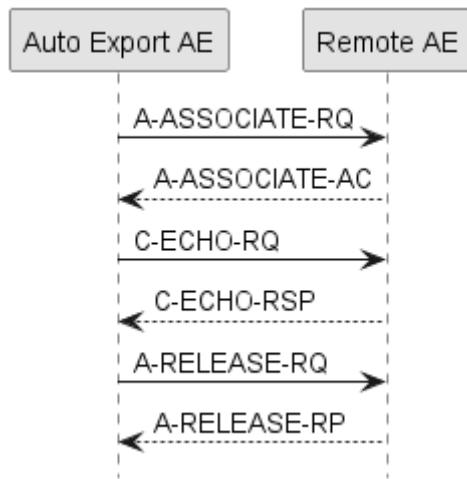


Figure 10: (Real World) Activity - Verification as SCU.

5.2.3.1.2 Proposed Presentation Contexts

Each time an association is initiated, the association initiator proposes a number of presentation contexts to be used on that association. The association will be closed immediately upon receiving the response.

The presentation contexts proposed by Auto Export AE for (Real-World) Activity - Verification as SCU are defined in the following table.

Table 39: Proposed Presentation Contexts for (Real-World) Activity – Verification as SCU

| Presentation Context Table | | | | | |
|----------------------------|-------------------|------------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Verification SOP Class | 1.2.840.10008.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

5.2.3.1.3 SOP Specific Conformance for Verification SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

5.2.3.1.3.1 Dataset Specific Conformance for Verification C-ECHO-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 40: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|--------------------|------------|----------------------------------|--|
| Success | 0000 | Success, Matching is complete | The SCU has successfully sent C-ECHO. |
| Other than success | xxxx | Problems with sending the C-ECHO | The SCU failed to send the C-ECHO; users are notified. Logged |

5.2.3.2. (Real-World) Activity – Image Export

5.2.3.2.1 Description and Sequencing of Activities

The (Real World) Activity - Image Export (Data Export) is explained here for a normal flow of events:

1. IntelliSpace Cardiovascular sets up a connection with the target DICOM node and negotiates communications parameters. If the two parties cannot agree on transfer using the data format stored on the server, IntelliSpace Cardiovascular will negotiate an alternative DICOM transfer syntax and create a converted copy of the study data to be transferred.
2. Then IntelliSpace Cardiovascular transfers data (complete study or SC only) to the target DICOM node depending on configuration setting, IntelliSpace Cardiovascular auto forwards studies completely, or only new deltas such as photo files or new instances coming from an acquisition system.
3. Upon completion of this transfer, the connection is closed. Connection set up and connection release, and data transfer takes place according to the DICOM Store protocol defined as part of the DICOM 3.0 standard.

The next figure shows the image (instance) export functionality.

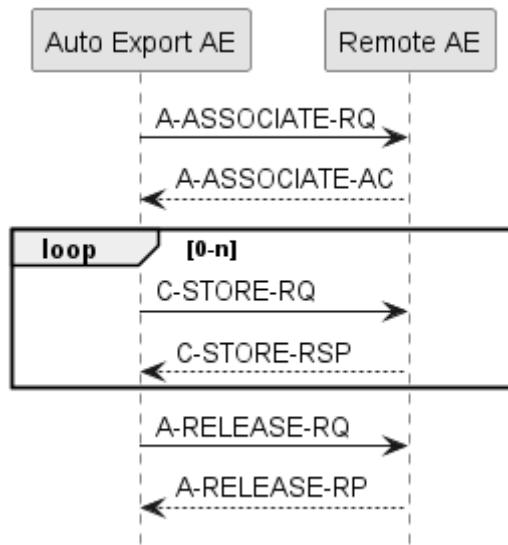


Figure 11: (Real World) Activity - Image Export (Data Export)

5.2.3.2.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 41: Proposed Presentation Contexts for (Real-World) Activity – Image Export

| Presentation Context Table | | | | | |
|--|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Hardcopy Grayscale Image Storage (Retired) | 1.2.840.10008.5.1.1.29 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Hardcopy Color Image Storage (Retired) | 1.2.840.10008.5.1.1.30 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Computed Radiography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Digital X-Ray Image Storage - For Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Digital X-Ray Image Storage - For Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Digital Mammography X-Ray | 1.2.840.10008.5.1.4.1.1.1.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|---|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Image Storage - Pres. SOP | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Digital Mammography X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.2.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Digital Intra-oral X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Digital Intra-oral X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.3.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|---|------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Standalone VOI LUT Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.11 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Grayscale Softcopy Presentation State Storage SOP Class | 1.2.840.10008.5.1.4.1.1.11.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| X-Ray Angiographic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| X-Ray Radiofluoroscopic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|---|------------------------------|---|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| X-Ray Angiographic Bi-Plane Image Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.12.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Positron Emission Tomography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.128 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Standalone PET Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.129 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Nuclear Medicine Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.20 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|--|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Ultrasound Multi-frame Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.3.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 | RLE Lossless | 1.2.840.10008.1.2.5 | SCU | None |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| RT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |

| Presentation Context Table | | | | | |
|------------------------------------|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| RT Dose Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.2 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| RT Structure Set Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.3 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Ultrasound Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |

| Presentation Context Table | | | | | |
|---|-----------------------------|---|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Raw Data Storage SOP Class | 1.2.840.10008.5.1.4.1.1.66 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| Multi-frame Single Bit Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.1 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |

| Presentation Context Table | | | | | |
|---|-----------------------------|---|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Multi-frame Grayscale Byte SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.2 | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | SCU | None |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Multi-frame Grayscale Word SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.3 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |

| Presentation Context Table | | | | | |
|--|-------------------------------|---|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standalone Overlay Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.8 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Basic Text SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.11 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.22 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.33 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|---|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| X-Ray Radiation Dose SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.67 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | SCU |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Standalone Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.9 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| General ECG Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.1.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Standard Hemodynamic Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.2.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Procedure Log Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.40 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Enhanced CT Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.2.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|---|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Enhanced MR Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| MR Spectroscopy Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4.2 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Nuclear Medicine Image Storage (Retired)SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.5 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Ambulatory ECG Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9.1.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| Cardiac Electrophysiology Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9.3.1 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCU | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.2 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|---|--------------------------------|---|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Pseudo-Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.3 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Basic Voice Audio Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9.4.1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Blending Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.4 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Enhanced XA Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.12.1.1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Enhanced XRF Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.12.2.1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| Spatial Registration Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.66.1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|---|----------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Spatial Fiducials Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.66.2 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Real World Value Mapping Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.67 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| VL Endoscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| Video Endoscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.1.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| VL Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | 1.2.840.10008.5.1.4.1.1.77.1.2.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | 1.2.840.10008.5.1.4.1.1.77.1.2.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|---|----------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Video Microscopic Image Storage SOP Class [Note 1] | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| VL Slide-Coordinates Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| VL Photographic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.4 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Video Photographic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.4.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Ophthalmic Photography 8 Bit Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |

| Presentation Context Table | | | | | |
|--|----------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Ophthalmic Photography 16 Bit Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.2 | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| Stereometric Relationship Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.3 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCU | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| Mammography CAD SR SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.88.50 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCU | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| Chest CAD SR SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.88.65 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCU | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| RT Beams Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.4 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCU | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |

| Presentation Context Table | | | | | |
|--|-------------------------------|--------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| RT Brachy Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.6 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Treatment Summary Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.7 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Ion Plan Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.8 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Ion Beams Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.9 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private iE33 3D NEO Presentation State Subpage Storage | 1.3.46.670589.2.5.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|--|------------------------|--------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Philips Private Xcelera Info Object Storage | 1.3.46.670589.2.5.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum 3D Volume New Storage | 1.3.46.670589.5.0.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Cardio Analysis New Storage | 1.3.46.670589.5.0.11.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Perfusion Storage | 1.3.46.670589.5.0.13 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Perfusion Analysis Storage | 1.3.46.670589.5.0.14 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|--|-----------------------|--------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Philips Private ViewForum 3D Volume Object New Storage | 1.3.46.670589.5.0.2.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Surface New Storage | 1.3.46.670589.5.0.3.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Cardio New Storage | 1.3.46.670589.5.0.8.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

Note 1: Not available in default configuration. Please consult customer service representative to enable this.

5.2.3.2.3 SOP Specific Conformance for Storage SOP Classes

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

5.2.3.2.3.1 Dataset Specific Conformance for C-STORE-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

This includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 42: DICOM command response status handling behavior

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|----------------------------|--|
| Success | 0000 | Successful stored | Log: Continue. |
| Refused | A700 | Refused – Out of resources | Log; Release association; Release application; Retry to send the images. |
| Failure | 0110 | Error – Processing failure | Log; Release association; Release application; Retry to send the images |

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|---|---|
| | A900 | Error – Data set does not match SOP class | Log; Release association; Release application; Retry to send the images |
| | C000 | Error – Cannot understand | Log; Release association; Release application; Retry to send the images |
| Warning | B000 | Coercion of Data Elements | Log; Continue |
| | B007 | Data Set does not match SOP Class | Log; Continue |
| | B006 | Elements Discarded | Log; Continue |

Exceptions:

IntelliSpace Cardiovascular always retry in case of errors for 15 times, with an interval of 2^n , before aborting the connection in the following cases:

1. If, after setting up the connection, no data can be sent to the external node for 60 seconds, IntelliSpace Cardiovascular aborts the connection.
2. If an error occurs on IntelliSpace Cardiovascular while setting up the connection, IntelliSpace Cardiovascular aborts the connection.
3. If an error occurs on the target node while setting up the connection. If the retries are unsuccessful, the system will mark the data for later.
4. If an error occurs on IntelliSpace Cardiovascular during the instance conversion or the instance transfer, IntelliSpace Cardiovascular will abort the auto forward process. A final error will be reported.
5. If an error occurs on the target node during data transfer, results the connection to be aborted IntelliSpace Cardiovascular will report this error.
6. An error or warning concerning data transfer is received from the target node during data transfer. If it is related to the data being sent, IntelliSpace Cardiovascular tries to correct the cause of the error (e.g. by redoing the conversion). All information available on the error or warning will be reported.
7. Only the DICOM instances of the services where both parties agreed upon are forwarded, this will be reported. During the DICOM based auto-forward, the transfer negotiations may indicate that the original format of the data is not accepted by the target node. In such cases, the DICOM ARCHIVE server will try to apply one of the transfer syntax conversions indicated by '+', in order to get to transfer syntax that is supported by the external system.

Next table gives an overview of the supported Transfer Syntax conversions from SCU to SCP.

| Source Syntax | Destination Syntax | | |
|---|--------------------|-----|-----|
| | ILE | ELE | EBC |
| ILE | - | + | + |
| ELE | + | - | + |
| EBC | + | + | - |
| JPEG Baseline | - | - | - |
| JPEG Lossless Non-hierarchical /Proc 14 | - | - | - |
| JPEG Lossless FOP Non-Hierarchical 14 | + | + | + |
| JPEG 2000 Image Compression (Lossless Only) | - | - | - |
| RLE | + | - | + |

Figure 12: Transfer Syntax Conversion from SCU to SCP.

The list of updated patient and study attributes are mentioned in the tables in section [4.2.1.3.3.3 SOP Specific Conformance for Storage SOP Classes](#).

The possible Communication Failures are given in the following table:

Table 43: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|---------------------|---|
| Timeout | The association is closed and the reason is logged. |
| Association aborted | The association is closed and the reason is logged. |

5.2.4. Association Acceptance Policy

Not applicable, Auto Export AE does not accept any associations.

5.3. Image Import AE

Details of this specific Application Entity is specified in this section.

5.3.1. SOP Classes

The Image Import AE is used for importing DICOM Instances (images, objects) from remote system into IntelliSpace Cardiovascular Server. The Image Import AE makes use of the following DICOM functions:

- Verification as SCP, which uses C-ECHO service element.
- Storage as SCP, which uses C-STORE as service element.
- Storage Commitment as SCP, which uses N-ACTION and N-EVENT-REPORT service elements.

The separate AE's need to be configured for Storage and Storage Commitment functionalities.

This Application Entity provides Standard Conformance to the following SOP Classes.

Table 44: SOP Classes for Image Import AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|---|-------------------------------|-----|-----|
| Verification SOP Class | 1.2.840.10008.1.1 | No | Yes |
| Storage Commitment Push Model SOP Class | 1.2.840.10008.1.20.1 | No | Yes |
| Hardcopy Grayscale Image Storage (Retired) | 1.2.840.10008.5.1.1.29 | No | Yes |
| Hardcopy Color Image Storage (Retired) | 1.2.840.10008.5.1.1.30 | No | Yes |
| Computed Radiography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 | No | Yes |
| Digital X-Ray Image Storage - For Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.1 | No | Yes |
| Digital X-Ray Image Storage - For Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.1.1 | No | Yes |
| Digital Mammography X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.2 | No | Yes |
| Digital Mammography X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.2.1 | No | Yes |

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|-------------------------------|-----|-----|
| Digital Intra-oral X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.3 | No | Yes |
| Digital Intra-oral X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.3.1 | No | Yes |
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 | No | Yes |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | No | Yes |
| Ultrasound Multi-frame Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.3.1 | No | Yes |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 | No | Yes |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | No | Yes |
| Ultrasound Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6.1 | No | Yes |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 | No | Yes |
| Multi-frame Single Bit Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.1 | No | Yes |
| Multi-frame Grayscale Byte SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.2 | No | Yes |
| Multi-frame Grayscale Word SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.3 | No | Yes |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | No | Yes |
| Standalone Overlay Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.8 | No | Yes |
| Standalone Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.9 | No | Yes |
| General ECG Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.1.2 | No | Yes |
| Standard Hemodynamic Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.2.1 | No | Yes |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 | No | Yes |
| Standalone VOI LUT Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.11 | No | Yes |
| Grayscale Softcopy Presentation State Storage SOP Class | 1.2.840.10008.5.1.4.1.1.11.1 | No | Yes |
| X-Ray Angiographic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.1 | No | Yes |
| X-Ray Radiofluoroscopic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.2 | No | Yes |
| X-Ray Angiographic Bi-Plane Image Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.12.3 | No | Yes |
| Nuclear Medicine Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.20 | No | Yes |
| Raw Data Storage SOP Class | 1.2.840.10008.5.1.4.1.1.66 | No | Yes |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 | No | Yes |
| Basic Text SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.11 | No | Yes |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.22 | No | Yes |
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.33 | No | Yes |
| Procedure Log Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.40 | No | Yes |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 | No | Yes |
| X-Ray Radiation Dose SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.67 | No | Yes |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 | No | Yes |
| Positron Emission Tomography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.128 | No | Yes |
| Standalone PET Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.129 | No | Yes |
| RT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.1 | No | Yes |
| RT Dose Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.2 | No | Yes |
| RT Structure Set Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.3 | No | Yes |
| RT Plan Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.5 | No | Yes |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | No | Yes |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | No | Yes |
| Philips Private iE33 3D NEO Presentation State Subpage Storage | 1.3.46.670589.2.5.1.1 | No | Yes |

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|------------------------|-----|-----|
| Philips Private Xcelera Info Object Storage | 1.3.46.670589.2.6.1.1 | No | Yes |
| Philips Private ViewForum 3D Volume New Storage | 1.3.46.670589.5.0.1.1 | No | Yes |
| Philips Private ViewForum 3D Volume Object New Storage | 1.3.46.670589.5.0.2.1 | No | Yes |
| Philips Private ViewForum Surface New Storage | 1.3.46.670589.5.0.3.1 | No | Yes |
| Philips Private ViewForum MR Cardio New Storage | 1.3.46.670589.5.0.8.1 | No | Yes |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | No | Yes |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | No | Yes |
| Philips Private ViewForum MR Cardio Analysis New Storage | 1.3.46.670589.5.0.11.1 | No | Yes |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | No | Yes |
| Philips Private ViewForum Perfusion Storage | 1.3.46.670589.5.0.13 | No | Yes |
| Philips Private ViewForum Perfusion Analysis Storage | 1.3.46.670589.5.0.14 | No | Yes |

Note: Any SOP specific behavior is documented later in the conformance statement in the applicable SOP specific conformance section.

5.3.2. Association Policies

Each AE specification contains a description of the general association establishment and acceptance policies of the AE.

5.3.2.1. General

The DICOM standard application context is specified below.

Table 45: DICOM Application Context

| Description | Value |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |

5.3.2.2. Number of Associations

The number of simultaneous associations that an Application Entity may support as an Initiator or Acceptor is specified here.

Table 46: Number of associations as an Association Acceptor for this AE

| Description | Value |
|---|----------------------------|
| Maximum number of simultaneous associations | Limit of system resources. |

5.3.2.3. Implementation Identifying Information

The value supplied for Implementation Class UID and version name are documented here.

Table 47: DICOM Implementation Class and Version for Image Import AE

| Property | Value |
|-----------------------------|----------------------|
| Implementation Class UID | 1.3.46.670589.58.9.2 |
| Implementation Version Name | ISCV 9.2 |

5.3.2.4. Communication Failure Handling

The behavior of the AE during communication failure is summarized in the next table.

Table 48: Communication Failure Behavior

| Exception | Behavior |
|------------------------|---|
| ARTIM Timeout | The association is released and the reason is logged. |
| ABORT by remote system | The abort will be logged. |

5.3.3. Association Initiation Policy

Not applicable, Image Import AE does not initiate any associations.

5.3.4. Association Acceptance Policy

The Application Entity may reject Association attempts as shown in the table below.

Table 49: Association Reject Reasons

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|---|--|---|
| 1 - rejected permanent | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |
| 2 - rejected-transient | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |

The behavior of the AE for sending an association abort is summarized in next table.

Table 50: Association Abort Policies

| Source | Reason/Diagnosis | Behavior |
|---|--------------------------|---|
| 0 - DICOM UL service-user (initiated abort) | 0 - reason-not-specified | Notifies Remote AE, terminates the connection and logs the event. |
| 2 - DICOM UL service-provider (initiated abort) | 0 - reason-not-specified | Notifies Remote AE, terminates the connection and logs the event |
| | 1 - unrecognized-PDU | Notifies Remote AE, terminates the connection and logs the event |

| Source | Reason/Diagnosis | Behavior |
|--------|---------------------------------|--|
| | 2 - unexpected-PDU | Notifies Remote AE, terminates the connection and logs the event |
| | 4 - unrecognized-PDU parameter | Notifies Remote AE, terminates the connection and logs the event |
| | 5 - unexpected-PDU parameter | Notifies Remote AE, terminates the connection and logs the event |
| | 6 - invalid-PDU-parameter value | Notifies Remote AE, terminates the connection and logs the event |

5.3.4.1. (Real-World) Activity – Verification as SCP

5.3.4.1.1 Description and Sequencing of Activities

The Import Image AE accepts associations from systems that wish to verify application level communication using the C-ECHO command.

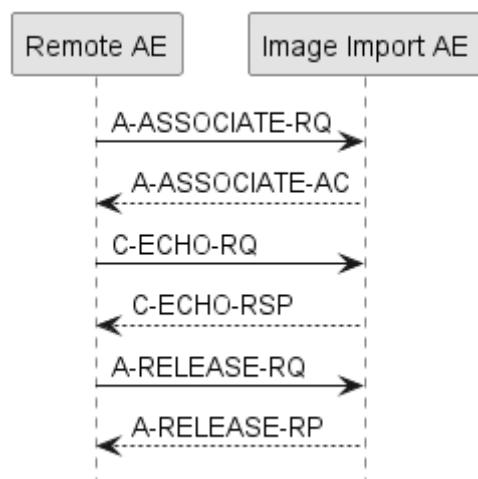


Figure 13: (Real World) Activity - Verification as SCP

5.3.4.1.2 Accepted Presentation Contexts

The presentation contexts are defined in the next table.

Table 51: Acceptable Presentation Contexts for (Real-World) Activity – Verification as SCP

| Presentation Context Table | | | | | |
|----------------------------|-------------------|------------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Verification SOP Class | 1.2.840.10008.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

The Import Image AE accepts all contexts in the intersection of the proposed and acceptable Presentation Context. This means that the Import Image AE will accept multiple proposed Presentation Contexts with the same SOP Class but different Transfer Syntaxes, so there will be no checks for duplicate Presentation Contexts.

5.3.4.1.3 SOP Specific Conformance for Verification SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

5.3.4.1.3.1 Dataset Specific Conformance for Verification C-ECHO-RSP

The DICOM command communication behavior is shown in the following table. The standard as well as the specific status codes and their corresponding behavior are also specified.

Table 52: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-----------------|----------------------|
| Success | 0000 | Confirmation | Message in log file. |

5.3.4.2. (Real-World) Activity – Image Import as SCP

5.3.4.2.1 Description and Sequencing of Activities

A remote system can set up an association with IntelliSpace Cardiovascular. If IntelliSpace Cardiovascular has not reached the maximum number of associations, IntelliSpace Cardiovascular will communicate with each remote system.

If suitable, IntelliSpace Cardiovascular will accept the association with a preferred presentation context. Then the remote system may transfer its instance data to IntelliSpace Cardiovascular. When the complete instance has been received, IntelliSpace Cardiovascular will send a C-STORE response to notify the remote system that the transfer is completed successfully and the remote system may release the association.

Next figure shows the Image Import functionality.

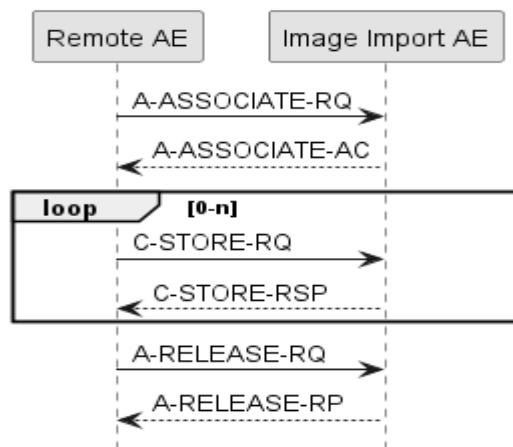


Figure 14: (Real World) Activity - Image Import

Note that only for configured systems some additional information can be configured, like institution-, department- and station - name, and whether the study must be archived or not.

5.3.4.2.2 Accepted Presentation Contexts

The presentation contexts are defined in the next table.

Table 53: Acceptable Presentation Contexts for (Real-World) Activity – Image Import

| Presentation Context Table | | | | | |
|---|---------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Hardcopy Grayscale Image Storage (Retired) | 1.2.840.10008.5.1.1.29 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Hardcopy Color Image Storage (Retired) | 1.2.840.10008.5.1.1.30 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Computed Radiography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Digital X-Ray Image Storage - For Pres. SOP | 1.2.840.10008.5.1.4.1.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Digital X-Ray Image Storage - For Proc. SOP | 1.2.840.10008.5.1.4.1.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Digital Mammography X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|---|-----------------------------------|---|------------------------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| Digital Mammography X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1 .2.1 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCP | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Digital Intra-oral X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1 .3 | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | SCP | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Digital Intra-oral X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1 .3.1 | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | SCP | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.1 0 | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | SCP | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.1 04.1 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCP | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| Standalone VOI LUT Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.1 1 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCP | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|---|----------------------------------|--|------------------------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Grayscale Softcopy Presentation State Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| X-Ray Angiographic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 2.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless, Non- Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | JPEG Lossless Non- hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| X-Ray Radiofluoroscopic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 2.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| X-Ray Angiographic Bi-Plane Image Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.1 2.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless, Non- Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|--|---------------------------------|---|------------------------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| Positron Emission Tomography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 28 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standalone PET Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.1 29 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Nuclear Medicine Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 0 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|--|-----------------------------------|---|------------------------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| Ultrasound Multi-frame Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.3 .1 | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 81.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Dose Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 81.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Structure Set Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 81.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | 1.2.840.10008.5.1.4.1.1.6 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|---|------------------------------|---|---------------------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| Ultrasound Image Storage (Retired) | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Ultrasound Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6 .1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | | | | |
| Raw Data Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6 6 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|--|-----------------------------|---|---------------------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Multi-frame Single Bit Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.1 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCP | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Multi-frame Grayscale Byte SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.2 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCP | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Multi-frame Grayscale Word SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.3 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCP | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|--|--------------------------------|---|---------------------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7 .4 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCP | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Standalone Overlay Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.8 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Basic Text SR SOP Class | 1.2.840.10008.5.1.4.1.1.8 8.11 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.8 8.22 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.8 8.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|---|-----------------------------------|---|------------------------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.8 8.33 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| X-Ray Radiation Dose SR SOP Class | 1.2.840.10008.5.1.4.1.1.8 8.67 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standalone Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.9 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| General ECG Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9 .1.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standard Hemodynamic Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9 .2.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Procedure Log Storage SOP Class | 1.2.840.10008.5.1.4.1.1.8 8.40 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.8 8.59 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Enhanced CT Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.2 .1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|---|-----------------------------------|---|------------------------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| Enhanced MR Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4 .1 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCP | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| MR Spectroscopy Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4 .2 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCP | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| Nuclear Medicine Image Storage (Retired) SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.5 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCP | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| Ambulatory ECG Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9 .1.3 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCP | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| Cardiac Electrophysiology Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9 .3.1 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCP | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.1 1.2 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCP | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | | | SCP | None |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|---|------------------------------------|---|------------------------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| Pseudo-Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.1 1.3 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Basic Voice Audio Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9 .4.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Blending Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.1 1.4 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Enhanced XA Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.1 2.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Enhanced XRF Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.1 2.2.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Spatial Registration Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.6 6.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Spatial Fiducials Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.6 6.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|---|----------------------------------|---|---------------------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| Real World Value Mapping Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.67 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| VL Endoscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Video Endoscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| VL Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Video Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| VL Slide-Coordinates Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|--|--------------------------------------|---|------------------------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| VL Photographic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.7 7.1.4 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57[Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Video Photographic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.7 7.1.4.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Ophthalmic Photography 8 Bit Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.7 7.1.5.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57[Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Ophthalmic Photography 16 Bit Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.7 7.1.5.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57[Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|--|--------------------------------------|------------------------------|---------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| Stereometric Relationship Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.7 7.1.5.3 | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Mammography CAD SR SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.8 8.50 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Chest CAD SR SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.8 8.65 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Beams Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4 81.4 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Brachy Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4 81.6 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Treatment Summary Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4 81.7 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Ion Plan Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4 81.8 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Ion Beams Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4 81.9 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |

Presentation Context Table

| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
|--|------------------------|------------------------------|---------------------|------|----------------------|
| Name | UID | Name List | UID List | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private iE33 3D NEO Presentation State Subpage Storage | 1.3.46.670589.2.5.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private Xcelera Info Object Storage | 1.3.46.670589.2.6.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum 3D Volume New Storage | 1.3.46.670589.5.0.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Cardio Analysis New Storage | 1.3.46.670589.5.0.11.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Perfusion Storage | 1.3.46.670589.5.0.13 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|---|-----------------------|--------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Philips Private ViewForum Perfusion Analysis Storage | 1.3.46.670589.5.0.14 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum 3D Volume Object New Storage | 1.3.46.670589.5.0.2.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Surface New Storage | 1.3.46.670589.5.0.3.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Cardio New Storage | 1.3.46.670589.5.0.8.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

Note 1: Not available in default configuration. Please consult customer service representative to enable this.

The Import Image AE accepts all Presentation contexts listed in the above table. This means that the Import Image AE will accept multiple proposed Presentation Contexts with the same SOP Class but different Transfer Syntaxes, so there will be no checks for duplicate Presentation Contexts.

5.3.4.2.3 SOP Specific Conformance for Storage SOP Classes

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

IntelliSpace Cardiovascular conforms to the SOP classes of the Storage Service Class. IntelliSpace Cardiovascular discards no data elements.

The instances received by IntelliSpace Cardiovascular are merged with Study UID and Series UID. For ultrasound images only the Image Information Entity level is supported.

The following are the restrictions and exceptions for the normal behavior of the Image Import AE:

1. IntelliSpace Cardiovascular try to notify the external DICOM node about the reason for not accepting the connection and will be reported.
2. If no agreement between the two parties can be reached concerning (DICOM) communication parameters the connection will be closed and no data transfer will take place and this will be reported.
3. IntelliSpace Cardiovascular will close the connection if no data is received within 2 minutes after the setup and will be reported.
4. If a network error occurs during set up of a connection or during data transfer, this is reported. IntelliSpace Cardiovascular will abort the connection and data transfer will not be completed.
5. By errors during data transfer IntelliSpace Cardiovascular will notify the external DICOM node and closed the connection and will be reported.
6. DICOM Type 1 Attributes checked during storing of study objects:

Table 54: DICOM Type 1 Attributes Checked During Storing of Study Objects

| DICOM Attributes | Presence | Non Empty Value |
|---------------------|----------|-----------------|
| Study Instance UID | Yes | Yes |
| Series Instance UID | Yes | Yes |
| SOP Class UID | Yes | Yes |
| SOP Instance UID | Yes | Yes |

The following attributes are checked as well for image objects:

Table 55: DICOM Type 1 Attributes Checked During Storing of Image Objects

| DICOM Attributes | Presence | Non Empty Value |
|----------------------------|----------|-----------------|
| Samples per pixel | Yes | Yes |
| Rows | Yes | Yes |
| Columns | Yes | Yes |
| Bits Allocated | Yes | Yes |
| Bits Stored | Yes | Yes |
| High Bit | Yes | Yes |
| Photometric Interpretation | Yes | Yes |
| Pixel Data | Yes | Yes |

If DICOM composite-object attributes are missing or empty then the system will:

- a. Discard all data received for the associated objects.
- b. Return an appropriate DICOM error message to the DICOM image system making the store request.

7. If an object received has the same DICOM SOP Instance UID as an object already stored on IntelliSpace Cardiovascular, IntelliSpace Cardiovascular will do either of the following:

- If the already stored object has the same UID's on instance, study and series level as the new one, IntelliSpace Cardiovascular will replace the stored object with the new object. This will not be communicated to the DICOM instance system, which will thus perceive this as a normal store.

OR

- Depending on the configuration setting "Send Study after Finalized State or Time out Expired" on the Archive page of the service tool, the following will be done. When the study has the status "finalize" and has the same requirements as the previous bullet point, the study will be discarded and will be communicated to the external DICOM node with the status

"C-STORE_WARNING_ELEMENTS_DISCARDED"

- If the already stored object has a different study or series UID as the new one; IntelliSpace Cardiovascular will discard the object and send an error to the DICOM image system. The connection will remain open in order to allow the DICOM image system to recover from this error.

Importing of DICOM Structure Reports.

IntelliSpace Cardiovascular Image Import AE supports the DICOM Structured Reports from any DICOM nodes. IntelliSpace Cardiovascular is multi-vendor compliant for Structured Reports.

ISCV supports importing and interpreting the data of the following DICOM SR templates:

For Fetal studies:

- TID 5000 OB-GYN Ultrasound Procedure Report
- TID 5220 - 125196 Fetal Cardiac Ultrasound Report

For Adult studies:

- TID 5200 Adult Echocardiography Procedure Report

For Pediatric studies:

- TID 5220 Pediatric Ultrasound Reports
- TID 995300 Philips Private Pediatric Echo

For Vascular studies:

- TID 5100 Vascular Ultrasound Procedure Reports

Other SR templates are only stored and exported as received. The ISCV applications will not display the contents of these SR's.

5.3.4.2.3.1 Dataset Specific Conformance for C-STORE-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

This includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 56: C-STORE-RSP Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|--|--|
| Success | 0000 | Success | Log; Continue |
| Refused | A700 | Remote is not Licensed | Log; Abort association. |
| Warning | B006 | Elements Discarded (Duplicate instances) | SOP instance will be skipped. |
| Error | 0110 | Internal error IntelliSpace Cardiovascular | Send notification; Log; Abort association. |
| | A900 | Invalid dataset | Send notification; Log. |

Table 57: DICOM Command Communication Failure Behavior

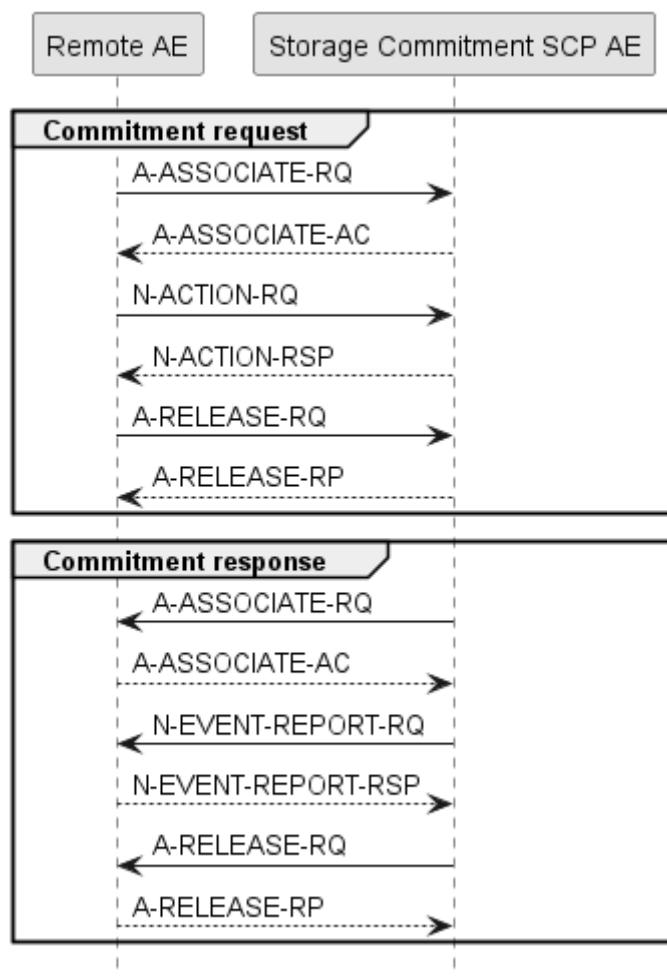
| Exception | Behavior |
|-----------|---|
| Timeout | Time-out for reception is set fixed to 2 minutes. |

5.3.4.3. (Real-World) Activity – Storage Commitment Push Model as SCP

5.3.4.3.1 Description and Sequencing of Activities

Normal Flow of events:

1. Remote AE will initiate a request to the Storage Commitment SCP AE.
2. When a successful response from the Storage Commitment SCP AE is received, the Remote AE knows that all the data is correctly archived.

**Figure 15: (Real World) Activity-Storage Commitment as SCP**

5.3.4.3.2 Accepted Presentation Contexts

The presentation contexts are defined in the next table.

Table 58: Acceptable Presentation Contexts for (Real-World) Activity – Storage Commitment Push Model AS SCP

| Presentation Context Table | | | | | |
|---|----------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Storage Commitment Push Model SOP Class | 1.2.840.10008.1.20.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

5.3.4.3.3 SOP Specific Conformance for Storage Commitment Push Model SOP Class

The Remote AE (Storage Commitment) provides standard conformance to the Storage Commitment Push Model SOP Class.

5.3.4.3.3.1 Dataset Specific Conformance for Storage Commitment Push Model SOP Class N-EVENT-REPORT-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 59: Storage Commitment attribute for N-EVENT-REPORT

| Event Type Name | EVENT Type ID | Attribute Name | Tag | Commit |
|---|---------------|------------------------------|-----------|--------|
| StorageCommitmentRequestSuccessful | 1 | Transaction UID | 0008,1195 | |
| | | Referenced SOP Sequence | 0008,1199 | |
| | | >Referenced SOP Class UID | 0008,1150 | |
| | | >Referenced SOP Instance UID | 0008,1155 | |
| StorageCommitmentRequestCompleteFailuresExist | 1 | Transaction UID | 0008,1195 | |
| | | Referenced SOP Sequence | 0008,1199 | |
| | | >Referenced SOP Class UID | 0008,1150 | |
| | | >Referenced SOP Instance UID | 0008,1155 | |
| | | Transaction UID | 0008,1195 | |
| | 2 | Failed SOP Sequence | 0008,1198 | |
| | | >Referenced SOP Class UID | 0008,1150 | |
| | | >Referenced SOP Instance UID | 0008,1155 | |
| | | >Failure Reason | 0008,1197 | |

On receiving a storage commitment result with Event Type ID 1 (Storage Commitment Request Successful) the Application Entity will mark these images as committed.

On receiving a storage commitment result with Event Type ID 2 (Storage Commitment Request Complete - Failures Exist) the Application Entity will behave as described in next table.

Table 60: Storage Commitment N-EVENT-REPORT Failure Handling Behavior

| Service Status | Error Code | Further Meaning | Description |
|----------------|------------|-----------------|---|
| Success | 0000 | conformation | Association will be released. The reason is logged. |
| Failure | xxxx | (any reason) | The reason is logged. |

Table 61: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|--------------------------|----------------------|
| Success | 0000 | Verification is complete | Successful received. |

5.3.4.3.3.2 Dataset Specific Conformance for Storage Commitment Push Model SOP Class N-ACTION-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 62: Storage Commitment Attribute for N-ACTION-RSP

| Attribute Name | Tag | Comment |
|----------------------------------|-----------|---------|
| Storage Commitment Module | | |
| Transaction UID | 0008,1195 | |
| Referenced SOP Sequence | 0008,1199 | |

Below the possible status Responses for Storage commitment are listed:

Table 63: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-----------------|---|
| Success | 0000 | conformation | The association will be released. Reason is logged. |
| Failure | xxxx | (any failure) | The reason is logged. |

Exceptions:

1. After setting up the connection, if no data can be sent to IntelliSpace Cardiovascular before timeout, Remote AE aborts the connection and reports an error.
2. If an error or warning concerning data transfer is received from the target node during data transfer. If it is related to the data being sent Remote AE tries to correct the cause of the error
3. When Remote AE cannot setup connection with the IntelliSpace Cardiovascular. Remote AE will retry to make connection. If it is still not possible to setup the connection, it conforms to its own retry mechanism, and warning will be reported.
4. When the Remote AE receives a storage commit response other than successful, the study will be re-archived, conforms to its own retry mechanism and a warning will be reported.

5.4. Print AE

Details of this specific Application Entity is specified in this section.

5.4.1. SOP Classes

After the print job is selected, IntelliSpace Cardiovascular will initiate DICOM associations for the DICOM Basic Grayscale Printing Service and the DICOM Verification Service with the DICOM printer (SCP).

The print job with or without annotation is send to the printer. IntelliSpace Cardiovascular supports a maximum PDU size of 64KBytes.

The printer prints the print job and sends a successful response back to IntelliSpace Cardiovascular. IntelliSpace Cardiovascular shows this response on the system screen.

This Application Entity provides Standard Conformance to the following SOP Classes.

Table 64: SOP Classes for Print AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|---|------------------------|-----|-----|
| Print Job SOP Class | 1.2.840.10008.5.1.1.14 | Yes | No |
| Basic Annotation Box SOP Class | 1.2.840.10008.5.1.1.15 | Yes | No |
| Basic Grayscale Print Management Meta SOP Class | 1.2.840.10008.5.1.1.9 | Yes | No |
| >Basic Film Session SOP Class | 1.2.840.10008.5.1.1.1 | Yes | No |
| >Basic Film Box SOP Class | 1.2.840.10008.5.1.1.2 | Yes | No |
| >Basic Grayscale Image Box SOP Class | 1.2.840.10008.5.1.1.4 | Yes | No |
| >Printer SOP Class | 1.2.840.10008.5.1.1.16 | Yes | No |
| >Basic Annotation Box SOP Class | 1.2.840.10008.5.1.1.15 | Yes | No |

Any SOP specific behavior above is documented later in this conformance statement in the applicable SOP specific conformance section.

5.4.2. Association Policies

Each AE specification contains a description of the general association establishment and acceptance policies of the AE.

5.4.2.1. General

The maximum PDU Size that the Print AE will use is not configurable.

The DICOM standard application context is specified below.

Table 65: DICOM Application Context

| Description | Value |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |

5.4.2.2. Number of Associations

The number of simultaneous associations that an Application Entity may support as an Initiator or Acceptor is specified here.

Print AE can have only one open connection at a given time.

Table 66: Number of associations as an Association Initiator for this AE

| Description | Value |
|---|-------|
| Maximum number of simultaneous associations | 1 |

5.4.2.3. Implementation Identifying Information

The value supplied for Implementation Class UID and version name are documented here.

Table 67: DICOM Implementation Class and Version for Print AE

| Property | Value |
|-----------------------------|----------------------|
| Implementation Class UID | 1.3.46.670589.58.9.2 |
| Implementation Version Name | ISCV 9.2 |

5.4.2.4. Communication Failure Handling

The behavior of the AE during communication failure is summarized in the next table.

Table 68: Communication Failure Behavior

| Exception | Behavior |
|---------------|---|
| ARTIM Timeout | The association is closed and the reason is logged. |

5.4.3. Association Initiation Policy

The Application Entity will respond on a received reject Association attempt as shown in next table.

Table 69: Association Rejection response

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|---------------------------|--|---|
| 1 - rejected-permanent | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not supported | The user is informed. Details are logged in central log file. |

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|---|--|---|
| 2 - rejected-transient | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |
| | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |

The behavior of the AE on receiving an association abort is summarized in the next table.

Table 70: Association Abort Handling

| Source | Reason/Diagnosis | Behavior |
|---|--------------------------------|--|
| 0 - DICOM UL service-user (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| 2 - DICOM UL service-provider (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| | 1 - unrecognized-PDU | When received, terminates the connection and logs the event. |
| | 2 - unexpected-PDU | When received, terminates the connection and logs the event. |
| | 4 - unrecognized-PDU-parameter | When received, terminates the connection and logs the event. |

| Source | Reason/Diagnosis | Behavior |
|--------|---------------------------------|--|
| | 5 - unexpected-PDU-parameter | When received, terminates the connection and logs the event. |
| | 6 - invalid-PDU-parameter-value | When received, terminates the connection and logs the event. |

5.4.3.1. (Real-World) Activity – Print Management as SCU

5.4.3.1.1 Description and Sequencing of Activities

The sequence of interactions between the IntelliSpace Cardiovascular Print AE and a remote printer AE to print one film sheet is presented as follows:

After the print job is selected on IntelliSpace Cardiovascular a connection with the DICOM printer will be made. The print job consists of data describing the images and graphics to be printed as well as the requested layout and other parameters. One print job on the IntelliSpace Cardiovascular may result in a number of film sessions with the printer equal to the number of printed film sheets. Each film sheet within the print job is internally processed, converted to a STANDARD/1,1 page and then an association towards the remote Print Server is established and the page image is sent with or without annotation to the selected DICOM printer.

The printer prints the print job and sends a successful response back to the IntelliSpace Cardiovascular. The IntelliSpace Cardiovascular reports the success on the screen for the user.

Once the transmission of the film sheet is completed, the association with the printer is closed.

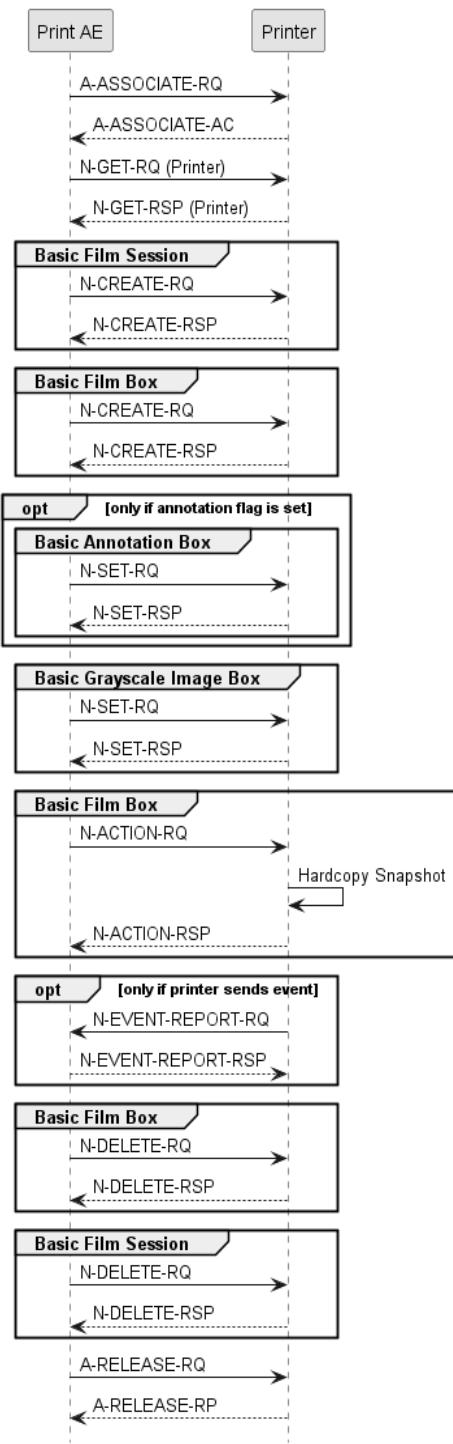


Figure 16: (Real World) Activity - Print Management As SCU

5.4.3.1.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 71: Proposed Presentation Contexts for (Real-World) Activity – Print Management As SCU

| Presentation Context Table | | | | | |
|---|------------------------|------------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Print Job SOP Class | 1.2.840.10008.5.1.1.14 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Basic Annotation Box SOP Class | 1.2.840.10008.5.1.1.15 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Basic Grayscale Print Management Meta SOP Class | 1.2.840.10008.5.1.1.9 | | | SCU | None |
| >Basic Film Session SOP Class | 1.2.840.10008.5.1.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| >Basic Film Box SOP Class | 1.2.840.10008.5.1.1.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| >Basic Grayscale Image Box SOP Class | 1.2.840.10008.5.1.1.4 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| >Printer SOP Class | 1.2.840.10008.5.1.1.16 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

This section specifies each IOD created (including private IOD's).

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 |

5.4.3.1.3 SOP Specific Conformance for Basic Film Session SOP Class of the Basic Grayscale Print Management Meta SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

Exceptions:

The printer cannot complete the print job:

1. Printer errors are handled as given in the next table.
2. DICOM transfer errors to the printer are treated as normal DICOM transfer errors and are recorded appropriately.
3. The printer can use the Basic Annotation Box SOP Class when the annotation flag is set. A control on the SOP Classes during setup of the Association is used to check of the printer known this SOP Class.

Table 72: DICOM Command Response Status Handling Behavior

| Service Status | Error Code | Further Meaning | Behavior |
|-----------------|------------|-----------------------|----------------|
| Success | 0000 | Success | Log; Continue. |
| Warning/Failure | xxxx | (any warning/failure) | Log; Continue. |
| Error | xxxx | (any error) | Log; Abort. |

5.4.3.1.3.1 Dataset Specific Conformance for Basic Film Session SOP Class N-CREATE-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 73: Basic Film Session Presentation Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|------------------|-----------|----|-------|-------------------|--------|---------|
| Number of Copies | 2000,0010 | IS | | ANAP | USER | - |
| Print Priority | 2000,0020 | CS | | ANAP | USER | - |

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 74: DICOM command response status handling behavior

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-----------------------------------|--|
| Success | 0000 | Film Session successfully created | The print job continues. |
| Warning | B600 | Memory Allocation not supported | The print job continues and the warning is logged. |

Table 75: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|--------------------------|---|
| ARTIM Time-out | Print job Fails |
| Reply Time-out | The association is rejected. |
| Association Time-out SCU | The association is released. |
| Association aborted | The Print job is marked as failed. The reason is logged and reported to the user. |

5.4.3.1.4 SOP Specific Conformance for Print Job SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

Exceptions:

The printer cannot complete the print job:

1. Printer errors are handled as given in the next table.
2. DICOM transfer errors to the printer are treated as normal DICOM transfer errors and are recorded appropriately.
3. The printer can use the Basic Annotation Box SOP Class when the annotation flag is set. A control on the SOP Classes during setup of the Association is used to check of the printer known this SOP Class.

Table 76: DICOM Command Response Status Handling Behavior

| Service Status | Error Code | Further Meaning | Behavior |
|-----------------|------------|-----------------------|----------------|
| Success | 0000 | Success | Log; Continue. |
| Warning/Failure | xxxx | (any warning/failure) | Log; Continue. |
| Error | xxxx | (any error) | Log; Abort. |

5.4.3.1.4.1 Dataset Specific Conformance for Print Job N-EVENT-REPORT-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

IntelliSpace Cardiovascular does not process the N-EVENT-REPORT-RQ from the Printer.

Note:

N-EVENT-REPORT is an asynchronous message from the printer in situations such as no film supply, low cartridge, print door opened, etc. IntelliSpace Cardiovascular does not handle this and responds with either ABORT or releasing the association. On the User Interface the Print Job is displayed as failed and the user needs to resend the image.

5.4.3.1.5 SOP Specific Conformance for Basic Annotation Box SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

Exceptions:

The printer cannot complete the print job:

1. Printer errors are handled as given in the next table.
2. DICOM transfer errors to the printer are treated as normal DICOM transfer errors and are recorded appropriately.
3. The printer can use the Basic Annotation Box SOP Class when the annotation flag is set. A control on the SOP Classes during setup of the Association is used to check of the printer known this SOP Class.

Table 77: DICOM Command Response Status Handling Behavior

| Service Status | Error Code | Further Meaning | Behavior |
|-----------------|------------|-----------------------|----------------|
| Success | 0000 | Success | Log; Continue |
| Warning/Failure | xxxx | (any warning/failure) | Log; Continue. |
| Error | xxxx | (any error) | Log; Abort. |

5.4.3.1.5.1 Dataset Specific Conformance for Basic Annotation Box SOP Class N-SET-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 78: Basic Annotation Presentation Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------|-----------|----|-------|-------------------|--------|------------------------------------|
| Annotation Position | 2030,0010 | US | | ALWAYS | AUTO | - |
| Text String | 2030,0020 | LO | | ALWAYS | AUTO | Contains Patient Name (0010,0010). |

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 79: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|---------------------|---|
| Timeout | The association is closed and the reason is logged. |
| Association aborted | The association is closed and the reason is logged. |

5.4.3.1.6 SOP Specific Conformance for Printer SOP Class of the Basic Grayscale Print Management Meta SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

Exceptions:

The printer cannot complete the print job:

1. Printer errors are handled as given in the next table.
2. DICOM transfer errors to the printer are treated as normal DICOM transfer errors and are recorded appropriately.
3. The printer can use the Basic Annotation Box SOP Class when the annotation flag is set. A control on the SOP Classes during setup of the Association is used to check the printer known this SOP Class.

Table 80: DICOM Command Response Status Handling Behavior

| Service Status | Error Code | Further Meaning | Behavior |
|-----------------|------------|-----------------------|------------------|
| Success | 0000 | Success | Print Successful |
| Warning/Failure | xxxx | (any warning/failure) | Log; Continue. |
| Error | xxxx | (any error) | Log; Abort. |

5.4.3.1.6.1 Dataset Specific Conformance for Printer SOP Class N-EVENT-REPORT-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

IntelliSpace Cardiovascular does not process the N-EVENT-REPORT-RQ from the Printer.

Note:

N-EVENT-REPORT is an asynchronous message from the printer in situations such as no film supply, low cartridge, print door opened, etc. IntelliSpace Cardiovascular does not handle this and responds with either ABORT or releasing the association. On the User Interface the Print Job is displayed as failed and the user needs to resend the image.

5.4.3.1.6.2 Dataset Specific Conformance for Printer SOP Class N-GET-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 81: Printer Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------|-----------|----|-------|-------------------|--------|---------|
| Manufacturer | 0008,0070 | LO | | ALWAYS | AUTO | - |
| Manufacturer's Model Name | 0008,1090 | LO | | ALWAYS | AUTO | - |
| Device Serial Number | 0018,1000 | LO | | ALWAYS | AUTO | - |
| Software Versions | 0018,1020 | LO | | ALWAYS | AUTO | - |
| Date of Last Calibration | 0018,1200 | DA | | ALWAYS | AUTO | - |
| Time of Last Calibration | 0018,1201 | TM | | ALWAYS | AUTO | - |
| Printer Status | 2110,0010 | CS | | ALWAYS | AUTO | - |
| Printer Name | 2110,0030 | LO | | ALWAYS | AUTO | - |

5.4.3.1.7 SOP Specific Conformance for Basic Film Box SOP Class of the Basic Grayscale Print Management Meta SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

Print AE conforms to the Basic Film Box SOP Class. No data elements are discarded or coerced by Print AE.

Exceptions:

The printer cannot complete the print job:

1. Printer errors are handled as given in the next table.
2. DICOM transfer errors to the printer are treated as normal DICOM transfer errors and are recorded appropriately.
3. The printer can use the Basic Annotation Box SOP Class when the annotation flag is set. A control on the SOP Classes during setup of the Association is used to check the printer known this SOP Class.

Table 82: DICOM Command Response Status Handling Behavior

| Service Status | Error Code | Further Meaning | Behavior |
|-----------------|------------|-----------------------|----------------|
| Success | 0000 | Success | Log; Continue |
| Warning/Failure | xxxx | (any warning/failure) | Log; Continue. |
| Error | xxxx | (any error) | Log; Abort. |

5.4.3.1.7.1 Dataset Specific Conformance for Basic Film Box SOP Class N-CREATE-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 83: Basic Film Box Presentation Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|------------------------------|-----------|----|---|-------------------|--------|---------|
| Image Display Format | 2010,0010 | ST | STANDARD, Value 2: 1,1, 1,2, 2,1, 2,2, 2,3, 3,2, 3,3, 3,4, 3,5, 4,4, 4,5, 4,6 | ALWAYS | AUTO | - |
| Annotation Display Format ID | 2010,0030 | CS | ANNOTATION | ALWAYS | AUTO | - |
| Film Orientation | 2010,0040 | CS | LANDSCAPE, PORTRAIT | ALWAYS | AUTO | - |

Table 84: Basic Film Box Relationship Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------------------------|-----------|----|-------|-------------------|--------|---------|
| Referenced Film Session Sequence | 2010,0500 | SQ | | ALWAYS | AUTO | - |
| >Referenced SOP Class UID | 0008,1150 | UI | | ALWAYS | AUTO | - |
| >Referenced SOP Instance UID | 0008,1155 | UI | | ALWAYS | AUTO | - |

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 85: DICOM command response status handling behavior

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|---|--|
| Success | 0000 | Film Box successfully created | The print job continues. |
| Warning | B605 | Requested Min Density or Max Density outside of Printer's operating Range | The print job continues, and the warning is logged. |
| Failure | C616 | There is an existing Film Box that has not been printed | The print job is marked as failed, and the reason is logged. |

Table 86: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|--------------------------|---|
| ARTIM Time-out | Print job Fails. |
| Reply Time-out | The association is rejected. |
| Association Time-out SCU | The association is released. |
| Association aborted | The Print job is marked as failed. The reason is logged and reported to the user. |

5.4.3.1.7.2 Dataset Specific Conformance for Basic Film Box SOP Class N-ACTION-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 87: DICOM command response status handling behavior

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|--|---|
| Success | 0000 | Film accepted for printing | The print job continues. |
| Warning | B603 | Film Box SOP Instance Hierarchy does not contain Image Box SOP Instances | The print job continues and the warning is logged and reported to the user. |

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|---|--|
| | B604 | Image Size is larger than Image Box Size – The Image has been de-magnified | The print job continues and the warning is logged and reported to the user. |
| | B609 | Image Size is larger than Image Box Size – The Image has been cropped to fit | The print job continues and the warning is logged and reported to the user. |
| | B60A | Image Size or combined Print Image Size is larger than Image Box Size – The Image or combined Print Image has been decimated to fit | The print job continues and the warning is logged and reported to the user. |
| Failure | C602 | Unable to create Print Job SOP Instance – Print Queue is full | The print job is marked as failed and the reason is logged and reported to the user. |
| | C603 | Image Size is larger than Image Box Size | The print job is marked as failed and the reason is logged and reported to the user. |
| | C613 | Combined Print Image Size is larger than Image Box Size | The print job is marked as failed and the reason is logged and reported to the user. |

Table 88: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|--------------------------|---|
| ARTIM Time-out | Print job Fails |
| Reply Time-out | The association is rejected |
| Association Time-out SCU | The association is released. |
| Association aborted | The Print job is marked as failed. The reason is logged and reported to the user. |

5.4.3.1.8 SOP Specific Conformance for Basic Grayscale Image Box SOP Class of the Basic Grayscale Print Management Meta SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

The Print AE conforms to the Basic Grayscale Image Box SOP Class. No data elements are discarded or coerced by the Print AE.

Exceptions:

The printer cannot complete the print job:

1. Printer errors are handled as given in the next table.
2. DICOM transfer errors to the printer are treated as normal DICOM transfer errors and are recorded appropriately.
3. The printer can use the Basic Annotation Box SOP Class when the annotation flag is set. A control on the SOP Classes during setup of the Association is used to check of the printer known this SOP Class.

Table 89: DICOM Command Response Status Handling Behavior

| Service Status | Error Code | Further Meaning | Behavior |
|-----------------|------------|-----------------------|----------------|
| Success | 0000 | Success | Log; Continue |
| Warning/Failure | xxxx | (any warning/failure) | Log; Continue. |
| Error | xxxx | (any error) | Log; Abort. |

5.4.3.1.8.1 Dataset Specific Conformance for Basic Grayscale Image Box SOP Class N-SET-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 90: Image Box Pixel Presentation Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|--------------------------------|-----------|--------|--------------|-------------------|--------|-----------------------|
| Image Box Position | 2020,0010 | US | | ALWAYS | AUTO | - |
| Basic Grayscale Image Sequence | 2020,0110 | SQ | | ALWAYS | AUTO | - |
| >Samples per Pixel | 0028,0002 | US | 1 | ALWAYS | AUTO | - |
| >Photometric Interpretation | 0028,0004 | CS | MONOCHROME2 | ALWAYS | AUTO | - |
| >Planar Configuration | 0028,0006 | US | | ANAP | CONFIG | Additional attribute. |
| >Rows | 0028,0010 | US | | ALWAYS | AUTO | - |
| >Columns | 0028,0011 | US | | ALWAYS | AUTO | - |
| >Pixel Aspect Ratio | 0028,0034 | IS | Value 1: 1\1 | 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 | - |
| >Window Center | 0028,1050 | DS | | ANAP | CONFIG | Additional attribute. |
| >Window Width | 0028,1051 | DS | | ANAP | CONFIG | Additional attribute. |
| >Pixel Data | 7FE0,0010 | OW/ OB | | ALWAYS | AUTO | - |

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 91: DICOM command response status handling behavior

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|--|---|
| Success | 0000 | Image successfully stored in Image Box | The print job continues. |
| Warning | B604 | Image Size is larger than Image Box Size – The Image has been de-magnified | The print job continues and the warning is logged and reported to the user. |

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|---|--|
| | B605 | Requested Min Density or Max Density outside of Printer's operating Range | The print job continues and the warning is logged and reported to the user. |
| | B609 | Image Size is larger than Image Box Size – The Image has been cropped to fit | The print job continues and the warning is logged and reported to the user. |
| | B60A | Image Size or combined Print Image Size is larger than Image Box Size – The Image or combined Print Image has been decimated to fit | The print job continues and the warning is logged and reported to the user. |
| Error | C603 | Image Size is larger than Image Box Size | The print job is marked as failed and the reason is logged and reported to the user. |
| | C605 | Insufficient Memory in Printer to store the Image | The print job is marked as failed and the reason is logged and reported to the user. |
| | C613 | Combined Print Image Size is larger than Image Box Size | The print job is marked as failed and the reason is logged and reported to the user. |

Table 92: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|--------------------------|---|
| ARTIM Time-out | Print job Fails |
| Reply Time-out | The association is rejected. |
| Association Time-out SCU | The association is released. |
| Association aborted | The Print job is marked as failed. The reason is logged and reported to the user. |

5.4.4. Association Acceptance Policy

Not applicable, Print AE does not accept any associations.

5.5. Query Retrieve as SCP AE

Details of this specific Application Entity is specified in this section.

Normal flow of events:

1. IntelliSpace Cardiovascular accepts the set up request of the remote node. Once the connection has been set up IntelliSpace Cardiovascular receives the query request. In response IntelliSpace Cardiovascular will send (0 or more) responses in the result. The connection will be closed.
2. A new connection will be set up for the retrieve request. If request was successful an association with the store remote node will be set up.
3. The requested data will be sending to the store remote node
4. Connection with the store remote node and the request retrieve node will be closed.
5. Patient Study data will be updated with the latest information. (Refer to the tables in section [4.2.1.3.3.3 SOP Specific Conformance for Storage SOP Classes](#) for the list of updated patient and study attributes.)

5.5.1. SOP Classes

The Query/Retrieve SCP AE is used for handling incoming Query/Retrieve requests. The actual sending of DICOM Instances (images, objects) from IntelliSpace Cardiovascular Server to remote system is handled by another AE. The Query/Retrieve SCP AE makes use of the following DICOM functions:

- Verification as SCP, which uses C-ECHO service element.
- Query as SCP, which uses C-FIND as service element.
- Retrieve as SCP, which uses C-MOVE as service element.
- Patient / Study are always updated with the latest information for the exported studies.

This Application Entity provides Standard Conformance to the following SOP Classes.

Table 93: SOP Classes for Query Retrieve as SCP AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|-------------------------------|-----|-----|
| Verification SOP Class | 1.2.840.10008.1.1 | No | Yes |
| Hardcopy Grayscale Image Storage (Retired) | 1.2.840.10008.5.1.1.29 | Yes | No |
| Hardcopy Color Image Storage (Retired) | 1.2.840.10008.5.1.1.30 | Yes | No |
| Computed Radiography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 | 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 |
| Digital Mammography X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.2 | Yes | No |
| Digital Mammography X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.2.1 | Yes | No |
| Digital Intra-oral X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.3 | Yes | No |
| Digital Intra-oral X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.3.1 | Yes | No |
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 | Yes | No |
| Enhanced CT Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.2.1 | Yes | Yes |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Yes | No |
| Ultrasound Multi-frame Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.3.1 | Yes | No |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 | Yes | No |
| Enhanced MR Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.4.1 | Yes | Yes |
| MR Spectroscopy Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.4.2 | Yes | Yes |
| Nuclear Medicine Image Storage (Retired) [Note 1] | 1.2.840.10008.5.1.4.1.1.5 | Yes | Yes |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | Yes | No |
| Ultrasound Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6.1 | Yes | No |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 | Yes | No |
| Multi-frame Single Bit Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.1 | Yes | No |
| Multi-frame Grayscale Byte SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.2 | Yes | No |
| Multi-frame Grayscale Word SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.3 | Yes | No |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | Yes | No |
| Standalone Overlay Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.8 | Yes | No |
| Standalone Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.9 | Yes | No |
| General ECG Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.1.2 | Yes | No |
| Ambulatory ECG Waveform Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.9.1.3 | Yes | Yes |

| SOP Class Name | SOP Class UID | SCU | SCP |
|---|----------------------------------|-----|-----|
| Standard Hemodynamic Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.2.1 | Yes | No |
| Cardiac Electrophysiology Waveform Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.9.3.1 | Yes | Yes |
| Basic Voice Audio Waveform Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.9.4.1 | Yes | Yes |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 | Yes | No |
| Grayscale Softcopy Presentation State Storage SOP Class | 1.2.840.10008.5.1.4.1.1.11.1 | Yes | No |
| Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.2 | Yes | No |
| Pseudo-Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.3 | Yes | Yes |
| Blending Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.4 | Yes | Yes |
| X-Ray Angiographic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.1 | Yes | No |
| Enhanced XA Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.12.1.1 | Yes | Yes |
| X-Ray Radiofluoroscopic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.2 | Yes | No |
| Enhanced XRF Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.12.2.1 | Yes | Yes |
| X-Ray Angiographic Bi-Plane Image Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.12.3 | Yes | No |
| Nuclear Medicine Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.20 | Yes | No |
| Raw Data Storage SOP Class | 1.2.840.10008.5.1.4.1.1.66 | Yes | No |
| Spatial Registration Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.66.1 | Yes | Yes |
| Spatial Fiducials Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.66.2 | Yes | Yes |
| Real World Value Mapping Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.67 | Yes | Yes |
| VL Endoscopic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.1 | Yes | Yes |
| Video Endoscopic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.1.1 | Yes | Yes |
| VL Microscopic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2 | Yes | Yes |
| Video Microscopic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2.1 | Yes | Yes |
| VL Slide-Coordinates Microscopic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.3 | Yes | Yes |
| VL Photographic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.4 | Yes | Yes |
| Video Photographic Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.4.1 | Yes | Yes |
| Ophthalmic Photography 8 Bit Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.1 | Yes | Yes |
| Ophthalmic Photography 16 Bit Image Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.2 | Yes | Yes |
| Stereometric Relationship Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.3 | Yes | Yes |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 | Yes | No |
| Basic Text SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.11 | Yes | No |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.22 | Yes | No |
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.33 | Yes | No |
| Procedure Log Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.40 | Yes | No |
| Mammography CAD SR [Note 1] | 1.2.840.10008.5.1.4.1.1.88.50 | Yes | Yes |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 | Yes | No |
| Chest CAD SR [Note 1] | 1.2.840.10008.5.1.4.1.1.88.65 | Yes | Yes |
| X-Ray Radiation Dose SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.67 | Yes | No |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 | Yes | No |
| Positron Emission Tomography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.128 | Yes | No |
| Standalone PET Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.129 | Yes | No |

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|-------------------------------|-----|-----|
| RT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.1 | Yes | No |
| RT Dose Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.2 | Yes | No |
| RT Structure Set Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.3 | Yes | No |
| RT Beams Treatment Record Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.481.4 | Yes | Yes |
| RT Plan Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.5 | Yes | No |
| RT Brachy Treatment Record Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.481.6 | Yes | Yes |
| RT Treatment Summary Record Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.481.7 | Yes | Yes |
| RT Ion Plan Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.481.8 | Yes | Yes |
| RT Ion Beams Treatment Record Storage [Note 1] | 1.2.840.10008.5.1.4.1.1.481.9 | Yes | Yes |
| Patient Root QR Information Model - FIND SOP Class | 1.2.840.10008.5.1.4.1.2.1.1 | No | Yes |
| Patient Root QR Information Model - MOVE SOP Class | 1.2.840.10008.5.1.4.1.2.1.2 | No | Yes |
| Study Root QR Information Model - FIND SOP Class | 1.2.840.10008.5.1.4.1.2.2.1 | No | Yes |
| Study Root QR Information Model - MOVE SOP Class | 1.2.840.10008.5.1.4.1.2.2.2 | No | Yes |
| PatientStudy Only QR Info. Model - FIND SOP Class (Retired) | 1.2.840.10008.5.1.4.1.2.3.1 | No | Yes |
| PatientStudy Only QR Info. Model - MOVE SOP Class (Retired) | 1.2.840.10008.5.1.4.1.2.3.2 | No | Yes |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | Yes | No |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | Yes | No |
| Philips Private iE33 3D NEO Presentation State Subpage Storage | 1.3.46.670589.2.5.1.1 | Yes | No |
| Philips Private Xcelera Info Object Storage | 1.3.46.670589.2.6.1.1 | Yes | No |
| Philips Private ViewForum 3D Volume New Storage | 1.3.46.670589.5.0.1.1 | Yes | No |
| Philips Private ViewForum 3D Volume Object New Storage | 1.3.46.670589.5.0.2.1 | Yes | No |
| Philips Private ViewForum Surface New Storage | 1.3.46.670589.5.0.3.1 | Yes | No |
| Philips Private ViewForum MR Cardio New Storage | 1.3.46.670589.5.0.8.1 | Yes | No |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Yes | No |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Yes | No |
| Philips Private ViewForum MR Cardio Analysis New Storage | 1.3.46.670589.5.0.11.1 | Yes | No |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Yes | No |
| Philips Private ViewForum Perfusion Storage | 1.3.46.670589.5.0.13 | Yes | No |
| Philips Private ViewForum Perfusion Analysis Storage | 1.3.46.670589.5.0.14 | Yes | No |

Note: Any SOP specific behavior is documented later in the conformance statement in the applicable SOP specific conformance section.

5.5.2. Association Policies

Each AE specification contains a description of the general association establishment and acceptance policies of the AE.

5.5.2.1. General

The DICOM standard application context is specified below.

Table 94: DICOM Application Context

| Description | Value |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |

5.5.2.2. Number of Associations

The number of simultaneous associations that an Application Entity may support as an Initiator or Acceptor is specified here.

The number of associations that Query Retrieve SCP AE can handle is up to 10. For the verification service at least one association can be handled simultaneously. The Query Retrieve SCP AE will only accept DICOM associations from other DICOM nodes whose AE titles are listed in the IntelliSpace Cardiovascular configuration files. The storage part of the Query Retrieve SCP function can handle maximum of 5 associations simultaneously.

Table 95: Number of associations as an Association Initiator for this AE (C-STORE)

| Description | Value |
|---|-------|
| Maximum number of simultaneous associations | 5 |

Table 96: Number of associations as an Association Acceptor for this AE (C-FIND, C-MOVE)

| Description | Value |
|---|-------|
| Maximum number of simultaneous associations | 5 |

Table 97: Number of associations as an Association Acceptor for this AE (C-ECHO)

| Description | Value |
|---|-------|
| Maximum number of simultaneous associations | 1 |

5.5.2.3. Implementation Identifying Information

The value supplied for Implementation Class UID and version name are documented here.

Table 98: DICOM Implementation Class and Version for Query Retrieve as SCP AE

| Property | Value |
|-----------------------------|----------------------|
| Implementation Class UID | 1.3.46.670589.58.9.2 |
| Implementation Version Name | ISCV 9.2 |

5.5.2.4. Communication Failure Handling

The behavior of the AE during communication failure is summarized in the next table.

Table 99: Communication Failure Behavior

| Exception | Behavior |
|---------------|---|
| ARTIM Timeout | The association is released and the reason is logged. |

5.5.3. Association Acceptance Policy

The Application Entity may reject Association attempts as shown in the table below.

Table 100: Association Reject Reasons

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|---|--|---|
| 1 - rejected permanent | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |
| 2 - rejected-transient | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |

The behavior of the AE for sending an association abort is summarized in next table.

Table 101: Association Abort Policies

| Source | Reason/Diagnosis | Behavior |
|---|---------------------------------|--|
| 0 - DICOM UL service-user (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| 2 - DICOM UL service-provider (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| | 1 - unrecognized-PDU | When received, terminates the connection and logs the event. |
| | 2 - unexpected-PDU | When received, terminates the connection and logs the event. |
| | 4 - unrecognized-PDU parameter | When received, terminates the connection and logs the event. |
| | 5 - unexpected-PDU parameter | When received, terminates the connection and logs the event. |
| | 6 - invalid-PDU-parameter value | When received, terminates the connection and logs the event. |

5.5.3.1. (Real-World) Activity – Verification as SCP

5.5.3.1.1 Description and Sequencing of Activities

The Query/Retrieve as SCP AE accepts associations from systems that wish to verify application level communication using the C-ECHO command.

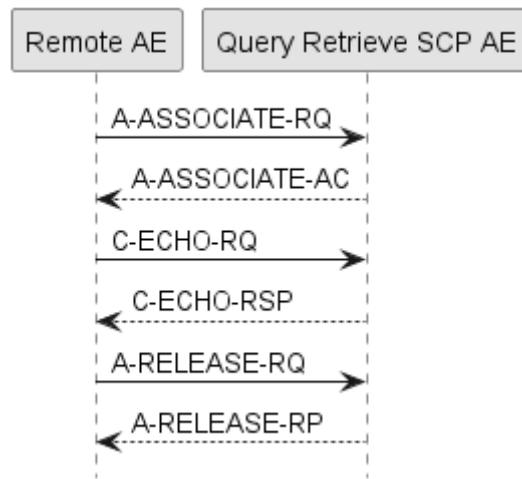


Figure 17: (Real World) Activity - Verification as SCP

5.5.3.1.2 Accepted Presentation Contexts

The presentation contexts are defined in the next table.

Table 102: Acceptable Presentation Contexts for (Real-World) Activity – Verification as SCP

| Presentation Context Table | | | | | |
|----------------------------|-------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Verification SOP Class | 1.2.840.10008.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

5.5.3.1.3 SOP Specific Conformance for Verification SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

The Query/Retrieve as SCP AE provides standard conformance to Verification SOP Class

The Query/Retrieve as SCP (C-ECHO) accept all contexts in the intersection of the proposed and acceptable Presentation Context. This means that the Query/Retrieve as SCP AE will accept multiple proposed Presentation Contexts with the same SOP Class but different Transfer Syntaxes, so there will be no checks for duplicate Presentation Contexts.

5.5.3.1.3.1 Dataset Specific Conformance for Verification C-ECHO-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 103: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-----------------|----------------------|
| Success | 0000 | Confirmation | Message in log file. |

5.5.3.2. (Real-World) Activity – FIND as SCP

5.5.3.2.1 Description and Sequencing of Activities

IntelliSpace Cardiovascular allows the clinical user to query and retrieve data from other systems in the DICOM network. In communications with other nodes, IntelliSpace Cardiovascular operates as a DICOM Query/Retrieve SCP and DICOM Store SCU, which are compatible with DICOM Query/Retrieve SCU and Store SCP provided by other products.

Query/Retrieve as SCP AE accepts associations from systems that wish to query IntelliSpace Cardiovascular database using the C-FIND command.

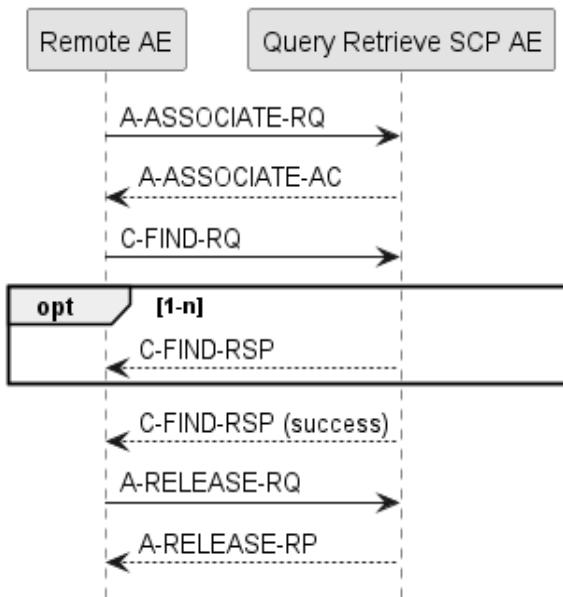


Figure 18: (Real World) Activity - FIND as SCP

5.5.3.2.2 Accepted Presentation Contexts

The presentation contexts are defined in the next table.

Table 104: Acceptable Presentation Contexts for (Real-World) Activity – FIND As SCP

| Presentation Context Table | | | | | |
|---|-----------------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Patient Root QR Information Model - FIND SOP Class | 1.2.840.10008.5.1.4.1.2.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Study Root QR Information Model - FIND SOP Class | 1.2.840.10008.5.1.4.1.2.2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| PatientStudy Only QR Info. Model - FIND SOP Class (Retired) | 1.2.840.10008.5.1.4.1.2.3.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

5.5.3.2.3 SOP Specific Conformance for Patient Root QR Information Model - FIND SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

The Query/Retrieve as SCP provides standard conformance.

The Query/Retrieve as SCP accepts all contexts in the intersection of the proposed and acceptable Presentation Context. This means that the Query/Retrieve as SCP will accept multiple proposed Presentation Contexts with the same SOP Class but different Transfer Syntaxes, so there will be no checks for duplicate Presentation Contexts.

If the C-FIND query is such that more than 1000 matches are found the Query/Retrieve SCP will return an error "out of resources" indicating there are more matches than the system can handle.

If a wildcards are used in a C-FIND, all matching records and all null records are returned by IntelliSpace Cardiovascular.

5.5.3.2.3.1 Dataset Specific Conformance for Patient Root QR Information Model - FIND SOP Class C-FIND-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 105: Requested Query Keys for Patient Root Information Model

| Patient Root Information Model | | | | |
|-----------------------------------|-----------|----|-----------------------------------|-------------------------------|
| Attribute Name | Tag | VR | Type Of Matching | Comment |
| Query/Retrieve Level | 0008,0052 | CS | | Patient, Study, Series, image |
| Specific Character Set | 0008,0005 | CS | | - |
| Q/R Patient level | | | | |
| Patient ID | 0010,0020 | LO | Single Value, Wildcard, Universal | - |
| Patient's Birth Date | 0010,0030 | DA | Single Value, Universal | - |
| Patient's Name | 0010,0010 | PN | Single Value, Universal, WildCard | - |
| Patient's Sex | 0010,0040 | CS | Single Value, Universal, WildCard | - |
| Q/R Study level | | | | |
| Accession Number | 0008,0050 | SH | Single Value, Universal, WildCard | - |
| Issuer of Patient ID | 0010,0021 | LO | Single Value, Universal, WildCard | - |
| Modalities in Study | 0008,0061 | CS | Universal | - |
| Number of Study Related Instances | 0020,1208 | IS | Universal | - |
| Number of Study Related Series | 0020,1206 | IS | Universal | - |
| Referring Physician's Name | 0008,0090 | PN | Single Value, Universal, WildCard | - |

| | | | | |
|------------------------------------|-----------|-----|--------------------------------------|---|
| Study Date | 0008,0020 | DA | Range, Single Value, Universal | - |
| Study ID | 0020,0010 | SH | Single Value, Universal, WildCard | - |
| Study Instance UID | 0020,000D | UI | List Of UID, Single Value, Universal | - |
| Study Time | 0008,0030 | T M | Range, Single Value, Universal | - |
| Q/R Series level | | | | |
| Body Part Examined | 0018,0015 | CS | | - |
| Modality | 0008,0060 | CS | Single Value, Universal | - |
| Performing Physician's Name | 0008,1050 | PN | | - |
| Protocol Name | 0018,1030 | LO | | - |
| Series Instance UID | 0020,000E | UI | List Of UID, Single Value, Universal | - |
| Series Number | 0020,0011 | IS | Single Value, Universal | - |
| Number of Series Related Instances | 0020,1209 | IS | Universal | |
| Series Description | 0008,103E | LO | Single value | |
| Q/R Image level | | | | |
| Instance Number | 0020,0013 | IS | Single Value, Universal | - |
| SOP Class UID | 0008,0016 | UI | List Of UID, Single Value, Universal | |
| SOP Instance UID | 0008,0018 | UI | List Of UID, Single Value, Universal | - |
| Rows | 0028,0010 | US | Universal | |
| Columns | 0028,0011 | US | Universal | |
| Bits Allocated | 0028,0100 | US | Universal | |
| Number of Frames | 0028,0008 | IS | Universal | |

Note: See chapter 6 Support of Character Sets for details about VR attributes as PN.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Possible Status Responses during C-FIND responses are listed here:

Table 106: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|---------------------------|---|
| Success | 0000 | Matching is complete | No final identifier is supplied. Logged and continued. |
| Failed | A900 | Invalid dataset | Related fields (0000,0901) (0000,0902) |
| Pending | FF01 | Current match is supplied | Matches are continuing; Current match is supplied and any Optional Keys were supported in the same manner as Required Keys. (Related fields: identifier) |
| | FF01 | Warning | Matches are continuing; Warning that one or more Optional Keys were not supported for existence and/or matching for this identifier (Related fields: identifier). |
| Refused | A700 | Out of resources | Related fields (0000,0902) |

If a query returns more than 1000 results, the system sends an “out of resources” messages back to the client instead of returning query results.

Possible communication failures during the query process are:

Table 107: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|---------------------|---|
| Timeout | The association is released and the reason is logged. |
| Association aborted | The association is released and the reason is logged. |

5.5.3.2.4 SOP Specific Conformance for Study Root QR Information Model - FIND SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

The IntelliSpace Cardiovascular Query/Retrieve SCP AE provides standard conformance to the Study Root Q/R Information model.

5.5.3.2.4.1 Dataset Specific Conformance for Study Root QR Information Model - FIND SOP Class C-FIND-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 108: Requested Query Keys for Study Root Information Model

| Study Root Information Model | | | | |
|------------------------------|-----------|----|-------------------------|-------------------------------|
| Attribute Name | Tag | VR | Type Of Matching | Comment |
| Query/Retrieve Level | 0008,0052 | CS | | Patient, Study, Series, image |
| Specific Character Set | 0008,0005 | CS | | - |
| Q/R Study level | | | | |
| Accession Number | 0008,0050 | SH | Single Value, Universal | - |
| Patient ID | 0010,0020 | LO | Single Value | - |

| | | | | |
|------------------------------------|-----------|--------|--------------------------------------|-------------------------------------|
| Patient's Birth Date | 0010,0030 | DA | Single Value, Universal, WildCard | - |
| Patient's Name | 0010,0010 | PN | Single Value, Universal, WildCard | Wildcard matching is not sensitive. |
| Patient's Sex | 0010,0040 | CS | Single Value, Universal | - |
| Referring Physician's Name | 0008,0090 | PN | Single Value, Universal | - |
| Study Date | 0008,0020 | DA | Range, Single Value, Universal | - |
| Study ID | 0020,0010 | SH | Single Value, Universal, WildCard | - |
| Study Instance UID | 0020,000D | UI | List Of UID, Single Value, Universal | - |
| Study Time | 0008,0030 | T M | Single Value, Universal | - |
| Number of Study Related Series | 0020,1206 | IS | Universal | |
| Number of Study Related Instances | 0020,1208 | IS | Universal | |
| Instance Availability | 0008,0056 | CS | | ONLINE |
| Q/R Series level | | | | |
| Modality | 0008,0060 | CS | Single Value, Universal | - |
| Series Instance UID | 0020,000E | UI | List Of UID, Single Value, Universal | - |
| Series Number | 0020,0011 | IS | Single Value, Universal | - |
| Number of Series Related Instances | 0020,1209 | IS | Universal | |
| Series Description | 0008,103E | LO | Single value | |
| Q/R Image level | | | | |
| Instance Number | 0020,0013 | IS | Single Value, Universal | - |
| SOP Instance UID | 0008,0018 | UI | List Of UID, Single Value, Universal | - |
| SOP Class UID | 0008,0016 | UI | Universal | |
| Rows | 0028,0010 | US | Universal | |
| Columns | 0028,0011 | US | Universal | |
| Bits Allocated | 0028,0100 | US | Universal | |
| Number of Frames | 0028,0008 | IS | Universal | |
| Instance Availability* | 0008,0056 | CS | | ONLINE |

Note: See chapter 6 Support of Character Sets for details about VR attributes as PN.

*Note: Required image level attributes are not available for Image Level responses. Because these attributes are not in the Database, these have to be captured from the object. This is difficult for archived Studies (removed from repository) in case of OFFLINE.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 109: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|--|--|
| Success | 0000 | Matching is complete | The C-FIND request handling is completed, no more C-FIND responses are sent. |
| Refused | A700 | Out of Resources | N/A |
| Failed | A900 | Identifier does not match SOP class | N/A |
| | C000 | Unable to process | The C-FIND request cannot be parsed |
| Cancel | FE00 | Matching terminated due to Cancel Request | The C-FIND request is canceled, no more C-FIND responses are sent. |
| Pending | FF00 | Matches are continuing – Current match is supplied and any optional keys were supported in the same manner as required keys | The C-FIND responses are continuing. |
| | FF01 | Matches are continuing – Warning that one or more optional keys were not supported for existence and/or matching for this identifier | The C-FIND responses are continuing. |

Table 110: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|----------------|---|
| ARTIM Time-out | The query fails in case of association setup. The reason is logged. |
| Reply Time-out | The query fails and association is aborted. The reason is logged. |

5.5.3.2.5 SOP Specific Conformance for PatientStudy Only QR Info. Model - FIND SOP Class (Retired)

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

The IntelliSpace Cardiovascular Query/Retrieve SCP AE provides standard conformance to the Patient/ Study only Q/R Information model.

5.5.3.2.5.1 Dataset Specific Conformance for PatientStudy Only QR Info. Model - FIND SOP Class C-FIND-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 111: Requested Query Keys for Patient/Study Only Information Model

Patient/Study Only Information Model

| Attribute Name | Tag | VR | Type Of Matching | Comment |
|----------------------------|-----------|----|-----------------------------------|-------------------------------------|
| Query/Retrieve Level | 0008,0052 | CS | | PATIENT, STUDY. |
| Specific Character Set | 0008,0005 | CS | | - |
| Q/R Patient level | | | | |
| Patient ID | 0010,0020 | LO | Single Value, Universal, WildCard | - |
| Patient's Birth Date | 0010,0030 | DA | Range, Single Value, Universal | - |
| Patient's Name | 0010,0010 | PN | Single Value, Universal, WildCard | Wildcard matching is not sensitive. |
| Patient's Sex | 0010,0040 | CS | Single Value, Universal | - |
| Q/R Study level | | | | |
| Accession Number | 0008,0050 | SH | | - |
| Referring Physician's Name | 0008,0090 | PN | | - |
| Study Date | 0008,0020 | DA | Single Value, Range | - |
| Study ID | 0020,0010 | SH | Single Value, Wildcard, Universal | - |
| Study Instance UID | 0020,000D | UI | | - |
| Study Time | 0008,0030 | TM | | - |

Note: See chapter 5.12 Support of Character Sets for details about VR attributes as PN.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

The table with possible Status Responses for C-FIND request handling is shown here:

Table 112: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|--|---|
| Success | 0000 | Matching is complete | The C-FIND request handling is completed, no more C-FIND responses are sent. status logged; continued |
| Refused | A700 | Out of Resources | N/A |
| Failed | A900 | Identifier does not match SOP class | N/A |
| | C000 | Unable to process | The C-FIND request cannot be parsed. |
| Cancel | FE00 | Matching terminated due to Cancel Request | The C-FIND request is canceled, no more C-FIND responses are sent. |
| Pending | FF00 | Matches are continuing – Current match is supplied and any optional keys were supported in the same manner as required keys | The C-FIND responses are continuing. |
| | FF01 | Matches are continuing – Warning that one or more optional keys were not supported for existence and/or matching for this identifier | The C-FIND responses are continuing. |

Below can be seen the table with the possible communication failures during the C-FIND request handling:

Table 113: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|----------------|---|
| ARTIM Time-out | The query fails in case of association setup. The reason is logged. |
| Reply Time-out | The query fails and association is aborted. The reason is logged. |

5.5.3.3. (Real-World) Activity – MOVE as SCP

5.5.3.3.1 Description and Sequencing of Activities

The Query/Retrieve as SCP AE accepts associations from systems that wish to retrieve instances from IntelliSpace Cardiovascular database using the C-MOVE service. The Query/Retrieve as SCP AE accepts all contexts in the intersection of the proposed and acceptable Presentation Context. This means that the Query/Retrieve as SCP AE will accept multiple proposed Presentation Contexts with the same SOP Class but different Transfer Syntaxes, so there will be no checks for duplicate Presentation Contexts.

After the C-MOVE request the Query/Retrieve as SCP (C-STORE) will only export the requested instances. IntelliSpace Cardiovascular send these instances intermediate during the C-MOVE responses or not intermediate than the C-MOVE status "PENDING" is sending to the Remote AE.

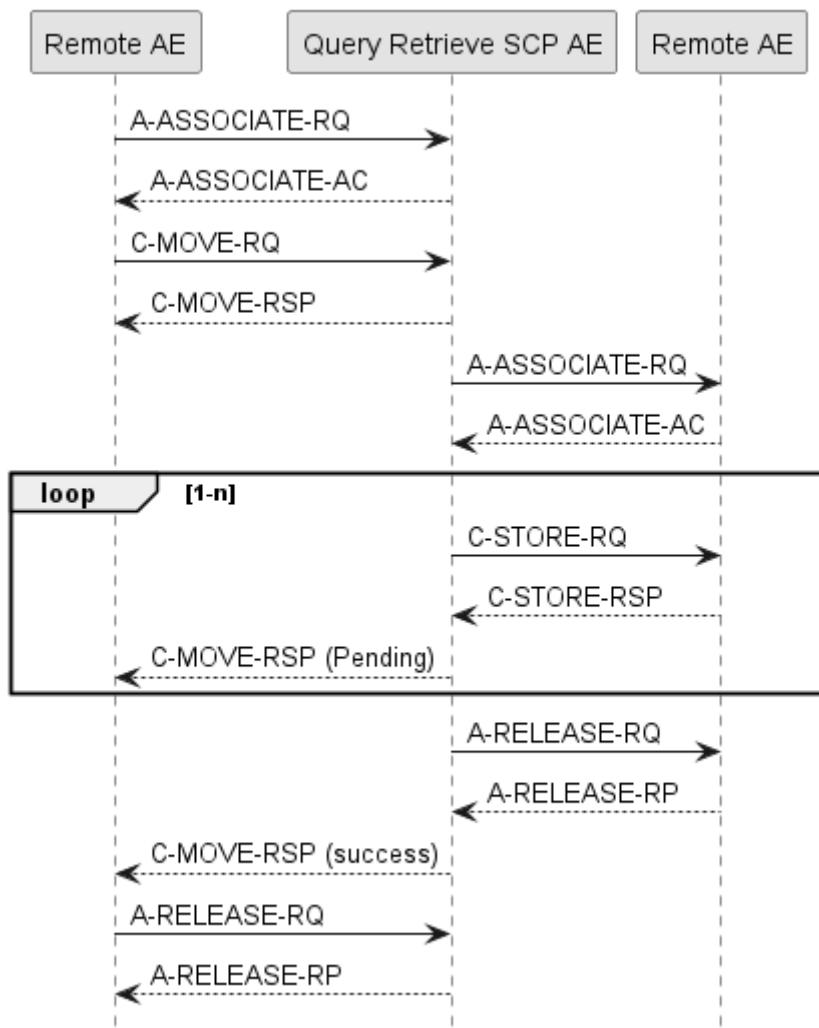


Figure 19: (Real World) Activity - MOVE as SCP

5.5.3.3.2 Accepted Presentation Contexts

The presentation contexts are defined in the next table.

Table 114: Acceptable Presentation Contexts for (Real-World) Activity – MOVE As SCP

| Presentation Context Table | | | | | |
|--|-----------------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Patient Root QR Information Model - MOVE SOP Class | 1.2.840.10008.5.1.4.1.2.1.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |

| Presentation Context Table | | | | | | |
|---|-----------------------------|--|--------------------------|---------------------|------|----------------------|
| Abstract Syntax | | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | | Name List | UID List | | |
| Study Root QR Information Model - MOVE SOP Class | | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| PatientStudy Only QR Info. Model - MOVE SOP Class (Retired) | 1.2.840.10008.5.1.4.1.2.3.2 | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCP | None |
| | | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

5.5.3.3.3 SOP Specific Conformance for Patient Root QR Information Model - MOVE SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

The IntelliSpace Cardiovascular Query/Retrieve as SCP AE provides standard conformance to Patient Root Q/R Information Model – MOVE SOP Class.

The Query/Retrieve as SCP AE supports all Query/Retrieve SOP classes. A C-STORE association is built after the C-MOVE request. The Query/Retrieve as SCP AE does not send intermediate C-MOVE responses with status pending.

5.5.3.3.3.1 Dataset Specific Conformance for Patient Root QR Information Model - MOVE SOP Class C-MOVE-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 115: Identifiers for MOVE Patient Root Information Model as SCP

| Patient Root Information Model | | | | |
|--------------------------------|-----------|----|----------------------------|---------|
| Attribute Name | Tag | VR | | Comment |
| Query/Retrieve Level | 0008,0052 | CS | - | |
| Q/R Patient level | | | | |
| Patient ID | 0010,0020 | LO | - | |
| Q/R Study level | | | | |
| Study Instance UID | 0020,000D | UI | Single Value, List of UIDs | |
| Q/R Series level | | | | |
| Series Instance UID | 0020,000E | UI | Single Value, List of UIDs | |
| Q/R Image level | | | | |
| SOP Instance UID | 0008,0018 | UI | Single Value | |

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 116: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-------------------------------|---|
| Success | 0000 | Sub-operations complete | No final identifier is supplied Related fields (0000, 1020) (0000, 1021) (0000, 1022) (0000, 1023). |
| Warning | B000 | Sub-operations complete | One or more failures Related fields (0000, 1020) (0000, 1022) (0000, 1023). |
| Failed | A900 | Invalid dataset | Related fields (0000, 0901) (0000, 0902). |
| | C001 | Unable to process | Related fields (0000, 0901) (0000, 0902). |
| Pending | FF00 | Sub-operations are continuing | The move job continues. |

Table 117: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|----------------|---|
| ARTIM Time-out | The query fails in case of association setup. The reason is logged. |
| Reply Time-out | The query fails and association is aborted. The reason is logged. |

5.5.3.3.4 SOP Specific Conformance for Study Root QR Information Model - MOVE SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

The IntelliSpace Cardiovascular Query/Retrieve as SCP AE provides standard conformance to Study Root Q/R Information Model – MOVE SOP Class.

5.5.3.3.4.1 Dataset Specific Conformance for Study Root QR Information Model - MOVE SOP Class C-MOVE-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 118: Identifiers for MOVE Study Root Information Model as SCP

| Study Root Information Model | | | | |
|------------------------------|-----------|----|---------------------------|--|
| Attribute Name | Tag | VR | Comment | |
| Query/Retrieve Level | 0008,0052 | CS | - | |
| Q/R Study level | | | | |
| Study Instance UID | 0020,000D | UI | Single Value, List of UID | |
| Q/R Series level | | | | |
| Series Instance UID | 0020,000E | UI | Single Value, List of UID | |
| Q/R Image level | | | | |
| SOP Instance UID | 0008,0018 | UI | Single Value, List of UID | |

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 119: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-------------------------|--|
| Success | 0000 | Sub-operations complete | No final identifier is supplied. Related fields (0000,1020) (0000,1021) (0000,1022) (0000,1023). |
| Warning | B000 | Sub-operations complete | One or more failures. Related fields (0000, 1020) (0000, 1022) (0000, 1023). |
| Failed | A900 | Invalid dataset | Related fields (0000, 0901) (0000, 0902). |
| | C001 | Unable to process | Related fields (0000, 0901) (0000, 0902). |

Table 120: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|----------------|---|
| ARTIM Time-out | The query fails in case of association setup. The reason is logged. |
| Reply Time-out | The query fails and the association is aborted. The reason is logged. |

5.5.3.3.5 SOP Specific Conformance for Patient Study Only QR Info. Model - MOVE SOP Class (Retired)

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

The IntelliSpace Cardiovascular Query/Retrieve as SCP AE provides standard conformance to Patient/Study Only Q/R Information Model – MOVE SOP Class.

5.5.3.3.5.1 Dataset Specific Conformance for PatientStudy Only QR Info. Model - MOVE SOP Class C-MOVE-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 121: Identifiers for MOVE Patient/Study Only Information Model as SCP

| Patient/Study Only Information Model | | | |
|--------------------------------------|-----------|----|---------------------------|
| Attribute Name | Tag | VR | Comment |
| Query/Retrieve Level | 0008,0052 | CS | - |
| Q/R Patient level | | | |
| Patient ID | 0010,0020 | LO | - |
| Q/R Study level | | | |
| Study Instance UID | 0020,000D | UI | Single Value, List of UID |

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 122: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-------------------------|---|
| Success | 0000 | Sub-operations complete | No final identifier is supplied Related fields (0000, 1020) (0000, 1021) (0000, 1022) (0000, 1023). |

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-------------------------|---|
| Warning | B000 | Sub-operations complete | One or more failures Related fields (0000, 1020) (0000, 1022) (0000, 1023). |
| Failed | A900 | Invalid dataset | Related fields (0000, 0901) (0000, 0902). |
| | C001 | Unable to process | Related fields (0000, 0901) (0000, 0902). |

Table 123: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|----------------|---|
| ARTIM Time-out | The query fails in case of association setup. The reason is logged. |
| Reply Time-out | The query fails and association is aborted. The reason is logged. |

5.5.3.4. (Real-World) Activity – Image Export

5.5.3.4.1 Description and Sequencing of Activities

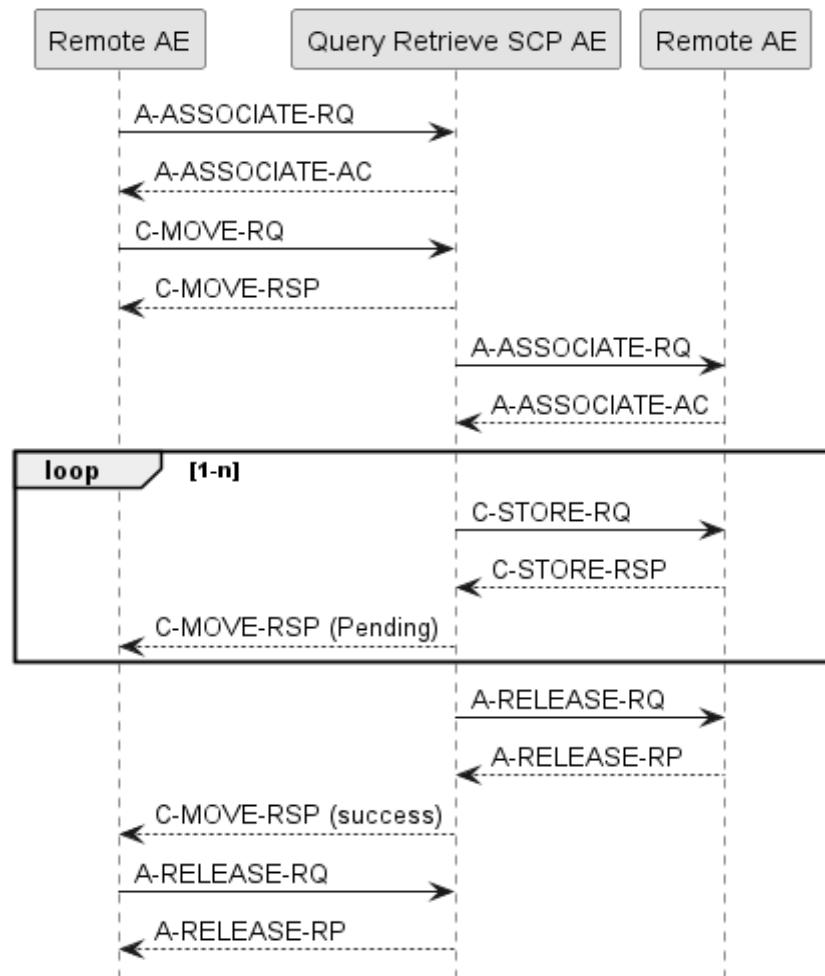


Figure 20: (Real World) Activity - Image Export

5.5.3.4.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 124: Proposed Presentation Contexts for (Real-World) Activity – Image Export

| Presentation Context Table | | | | | |
|--|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Hardcopy Grayscale Image Storage (Retired) | 1.2.840.10008.5.1.1.29 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Hardcopy Color Image Storage (Retired) | 1.2.840.10008.5.1.1.30 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Computed Radiography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Digital X-Ray Image Storage - For Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Digital X-Ray Image Storage - For Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|---|-----------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Digital Mammography X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Digital Mammography X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Digital Intra-oral X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Digital Intra-oral X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.3.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|--|-----------------------------------|--|-------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.10 4.1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Grayscale Softcopy Presentation State Storage SOP Class | 1.2.840.10008.5.1.4.1.1.11 .1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11 .2 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| X-Ray Angiographic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12 .1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.5 0 | | |
| | | JPEG Lossless, Non- Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.7 0 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG Lossless Non- hierarchical /Proc 14 | 1.2.840.10008.1.2.4.5 7 [Note 1] | | |
| X-Ray Radiofluoroscopic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12 .2 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |

| Presentation Context Table | | | | | |
|--|----------------------------------|--|-------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| X-Ray Angiographic Bi- Plane Image Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.12 .3 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.5 0 | SCU | None |
| | | JPEG Lossless, Non- Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.7 0 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Positron Emission Tomography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12 8 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standalone PET Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.12 9 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|--|-----------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Nuclear Medicine Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.20 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Ultrasound Multi-frame Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.3.1 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | | | | |
| | | | | | |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|------------------------------------|-----------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| RT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.48 1.1 | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| RT Dose Storage SOP Class | 1.2.840.10008.5.1.4.1.1.48 1.2 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| RT Structure Set Storage SOP Class | 1.2.840.10008.5.1.4.1.1.48 1.3 | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | SCU | None |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| RT Plan Storage SOP Class | 1.2.840.10008.5.1.4.1.1.48 1.5 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |

| Presentation Context Table | | | | | |
|---|-----------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Ultrasound Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6.1 | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | SCU | None |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Raw Data Storage SOP Class | 1.2.840.10008.5.1.4.1.1.66 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | | | | |

| Presentation Context Table | | | | | |
|--|-----------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Multi-frame Single Bit Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.1 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Multi-frame Grayscale Byte SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Multi-frame Grayscale Word SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |

| Presentation Context Table | | | | | |
|--|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Standalone Overlay Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.8 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Basic Text SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.11 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|---|-------------------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.22 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.33 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| X-Ray Radiation Dose SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.67 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standalone Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.9 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| General ECG Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.1.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standard Hemodynamic Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|--|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Procedure Log Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.40 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Enhanced CT Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Enhanced MR Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | | | | |
| MR Spectroscopy Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Nuclear Medicine Image Storage (Retired)SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.5 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |

| Presentation Context Table | | | | | |
|---|-------------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Ambulatory ECG Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9. 1.3 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Cardiac Electrophysiology Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9. 3.1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Pseudo-Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11. .3 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Basic Voice Audio Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9. 4.1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Blending Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11. .4 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Enhanced XA Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.12. .1.1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |

| Presentation Context Table | | | | | |
|---|------------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Enhanced XRF Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.12 .2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Spatial Registration Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.166 .1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Spatial Fiducials Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.166 .2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Real World Value Mapping Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.167 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| VL Endoscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.177 .1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Video Endoscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.177 .1.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |

| Presentation Context Table | | | | | |
|---|----------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| VL Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2 | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | SCU | None |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| Video Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2.1 | Implicit VR Little Endian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| VL Slide-Coordinates Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | | | | |
| VL Photographic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.4 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | | | | |

| Presentation Context Table | | | | | |
|--|--------------------------------------|---|-------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Video Photographic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77 .1.4.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Ophthalmic Photography 8 Bit Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77 .1.5.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | JPEG Lossless Non- hierarchical /Proc 14 | 1.2.840.10008.1.2.4.5 7 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Ophthalmic Photography 16 Bit Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77 .1.5.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | JPEG Lossless Non- hierarchical /Proc 14 | 1.2.840.10008.1.2.4.5 7 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Stereometric Relationship Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77 .1.5.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|--|--------------------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Mammography CAD SR SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.88 .50 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Chest CAD SR SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.88 .65 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Beams Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.48 1.4 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Brachy Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.48 1.6 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Treatment Summary Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.48 1.7 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Ion Plan Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.48 1.8 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Ion Beams Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.48 1.9 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|--|------------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private iE33 3D NEO Presentation State Subpage Storage | 1.3.46.670589.2.5.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private Xcelera Info Object Storage | 1.3.46.670589.2.6.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum 3D Volume New Storage | 1.3.46.670589.5.0.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Cardio Analysis New Storage | 1.3.46.670589.5.0.11.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|--|-----------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Perfusion Storage | 1.3.46.670589.5.0.13 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Perfusion Analysis Storage | 1.3.46.670589.5.0.14 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum 3D Volume Object New Storage | 1.3.46.670589.5.0.2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Surface New Storage | 1.3.46.670589.5.0.3.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Cardio New Storage | 1.3.46.670589.5.0.8.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

Note 1: Not available in default configuration. Please consult customer service representative to enable this.

5.5.3.4.3 SOP Specific Conformance for Storage SOP Classes

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

Not mentioned SOP classes are also supported, but only with the stored transfer syntax. This implies that not mentioned SOP classes are handled in such manner that what comes in will be sent out.

- The DICOM Store SCU exports the same attribute values as were imported into IntelliSpace Cardiovascular.
- The DICOM Store SCU updates the patient study with the latest information.
- The DICOM Store SCU supports all transfer syntaxes that are supported by DICOM import.
- The DICOM Store SCU supports conversion of transfer syntax (must be prepared to do a conversion from the transfer syntax in which the data is stored to the transfer syntax which is negotiated with the remote DICOM Store SOP Specific Conformance for SOP Classes.
- Only the DICOM instances of services where both parties agreed upon are stored, this will be reported.

5.5.3.4.3.1 Dataset Specific Conformance for C-STORE-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

This includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

The possible status responses during the C-STORE-SCU request are listed here:

Table 125: DICOM command response status handling behavior

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|--|----------------|
| Success | 0000 | Successful stored | Log; Continue. |
| Refused | A700 | Refused: Out of Resources | Log; Continue. |
| Error | 0110 | Error: Processing Failure | Log; Continue. |
| | A900 | Error: Data Set does not match SOP Class | Log; Continue. |
| | C000 | Error: cannot understand | Log; Continue. |
| Warning | B000 | Coercion of Data Elements | Log; Continue. |
| | B007 | Data Set does not match SOP Class | Log; Continue. |
| | B006 | Elements Discarded | Log; Continue. |

Next table shows the possible Communication Failure during C-STORE request.

Table 126: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|----------------------|--|
| Timeout | The association released and the reason is logged. |
| Association aborted. | The association released and the reason is logged. |

Exceptions:

1. If, after setting up the connection, no data can be sent to the external DICOM node for 2 minutes, IntelliSpace

Cardiovascular will retry once and then it will abort the connection and reports error

2. If an error occurs on IntelliSpace Cardiovascular while setting up the connection, IntelliSpace Cardiovascular will abort the connection and reports an error
3. If an error occurs on the external DICOM node while setting up the connection, IntelliSpace Cardiovascular will abort all actions related to that connection and report an error.
4. If no agreement between the two parties can be reached concerning communication parameters the connection will be closed and no data transfer will take place. IntelliSpace Cardiovascular reports an error.
5. When a network error occurs during connection set up or during data transfer, IntelliSpace Cardiovascular will abort all actions related to the connection and reports an error.

During DICOM based store, transfer negotiations may indicate that the original format of the data is not accepted by the target node.

In such cases, the remote store server will try to apply one of the transfer syntax conversions indicated by '+', in order to get to transfer syntax that is supported by the external system. The Transfer syntax conversion is supported from SCU to SCP.

| Source Syntax | Destination Syntax | | |
|---|--------------------|-----|-----|
| | ILE | ELE | EBC |
| ILE | - | + | + |
| ELE | + | - | + |
| EBC | + | + | - |
| JPEG Baseline | - | - | - |
| JPEG Lossless Non-hierarchical /Proc 14 | - | - | - |
| JPEG Lossless FOP Non-Hierarchical 14 | + | + | + |
| JPEG 2000 Image Compression (Lossless Only) | - | - | - |
| RLE | + | + | + |

Figure 21: Transfer Syntax Conversion from Source to Destination

The Archive AE conforms to the SOP classes of the Storage Service Class. No data elements are discarded or coerced by the Archive AE.

The list of updated patient and study attributes are mentioned in the tables in section [4.2.1.3.3.3 SOP Specific Conformance for Storage SOP Classes](#).

5.6. Query Retrieve as SCU AE

Details of this specific Application Entity is specified in this section.

5.6.1. SOP Classes

The Query/Retrieve SCU AE is used for sending Query/Retrieve requests to remote system. The actual import of DICOM Instances (images, objects) into IntelliSpace Cardiovascular Server is handled by another AE. The Query/Retrieve SCU AE makes use of the following DICOM functions:

- Query / Retrieve SCU, which uses C-ECHO as service element.
- Query as SCU, which uses C-FIND as service element.
- Retrieve as SCU, which uses C-MOVE as service element.

This Application Entity provides Standard Conformance to the following SOP Classes.

Table 127: SOP Classes for Query Retrieve as SCU AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|-----------------------------|-----|-----|
| Verification SOP Class | 1.2.840.10008.1.1 | Yes | No |
| Study Root QR Information Model - FIND SOP Class | 1.2.840.10008.5.1.4.1.2.2.1 | Yes | No |
| Study Root QR Information Model - MOVE SOP Class | 1.2.840.10008.5.1.4.1.2.2.2 | Yes | No |

Note: Any SOP specific behavior is documented later in the conformance statement in the applicable SOP specific conformance section.

5.6.2. Association Policies

Each AE specification contains a description of the general association establishment and acceptance policies of the AE.

5.6.2.1. General

The DICOM standard application context is specified below.

Table 128: DICOM Application Context

| Description | Value |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |

5.6.2.2. Number of Associations

The number of simultaneous associations that an Application Entity may support as an Initiator or Acceptor is specified here.

Table 129: Number of associations as an Association Initiator for this AE

| Description | Value |
|---|-------|
| Maximum number of simultaneous associations | 5 |

5.6.2.3. Implementation Identifying Information

The value supplied for Implementation Class UID and version name are documented here.

Table 130: DICOM Implementation Class and Version for Query Retrieve as SCU AE

| Property | Value |
|--------------------------|----------------------|
| Implementation Class UID | 1.3.46.670589.58.9.2 |

Implementation Version Name

ISCV 9.2

5.6.2.4. Communication Failure Handling

The behavior of the AE during communication failure is summarized in the next table.

Table 131: Communication Failure Behavior

| Exception | Behavior |
|---------------|---|
| ARTIM Timeout | The association is released and the reason is logged. |

5.6.3. Association Initiation Policy

The Application Entity will respond on a received reject Association attempt as shown in next table.

Table 132: Association Rejection response

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|---|--|---|
| 1 - rejected-permanent | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |
| 2 - rejected-transient | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |

| Result | Source | Reason/Diagnosis | Behavior |
|---|--------|------------------------------------|---|
| 3 - DICOM UL service-provider (Presentation related function) | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |

The behavior of the AE on receiving an association abort is summarized in the next table.

Table 133: Association Abort Handling

| Source | Reason/Diagnosis | Behavior |
|--|---------------------------------|--|
| 0 - DICOM UL service-user (initiated abort) 2 - DICOM UL service-provider (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| | 1 - unrecognized-PDU | When received, terminates the connection and logs the event. |
| | 2 - unexpected-PDU | When received, terminates the connection and logs the event. |
| | 4 - unrecognized-PDU-parameter | When received, terminates the connection and logs the event. |
| | 5 - unexpected-PDU-parameter | When received, terminates the connection and logs the event. |
| | 6 - invalid-PDU-parameter-value | When received, terminates the connection and logs the event. |

5.6.3.1. (Real-World) Activity – Verification as SCU

5.6.3.1.1 Description and Sequencing of Activities

As defined the Query Retrieve SCU AE acts as a Verification SCU for any Remote AE.

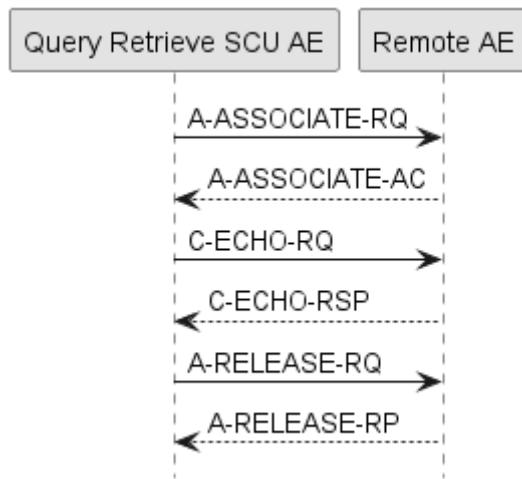


Figure 22: (Real World) Activity - Verification as SCU

5.6.3.1.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 134: Proposed Presentation Contexts for (Real-World) Activity – Verification as SCU

| Presentation Context Table | | | | | |
|----------------------------|-------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Verification SOP Class | 1.2.840.10008.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

Note: No extended negotiations supported by IntelliSpace Cardiovascular Network AE.

5.6.3.1.3 SOP Specific Conformance for Verification SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

5.6.3.1.3.1 Dataset Specific Conformance for Verification C-ECHO-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 135: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|----------------------|-------------------------------|
| Success | 0000 | Matching is complete | Continue; information logged. |

5.6.3.2. (Real-World) Activity – FIND as SCU

5.6.3.2.1 Description and Sequencing of Activities

The Query/Retrieve as SCU AE initiates associations to other systems that support the Study Root Query/Retrieve C-FIND service.

Normal flow of events for C-FIND:

1. The user selects criteria's where to query on and after that, IntelliSpace Cardiovascular sets up a connection with the selected external DICOM node.
2. Based on query results, the user selected on or more entries to be retrieved. The retrieve request will be send to the remote DICOM node.
3. In response, the external DICOM node returns (0 or more) query results in the form of a list of studies that meet the search criteria entered earlier by the clinical user. The user selects the studies to retrieve from the external DICOM node.
4. When the requested instances are stored, the remote host closes the connection with IntelliSpace Cardiovascular.

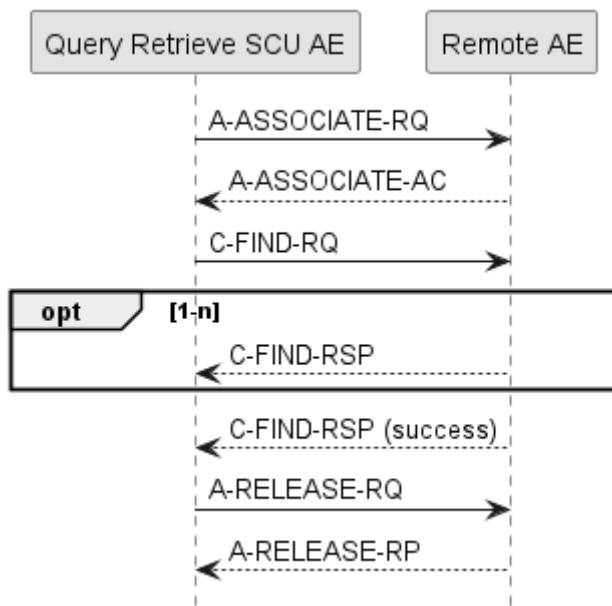


Figure 23: (Real World) Activity - FIND as SCU

5.6.3.2.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 136: Proposed Presentation Contexts for (Real-World) Activity – FIND As SCU

| Presentation Context Table | | | | | |
|-----------------------------|------------------------|-----------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| 1.2.840.10008.5.1.4.1.2.2.1 | Explicit VR Big Endian | | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|--|-----|--------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Study Root QR Information Model - FIND SOP Class | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

5.6.3.2.3 SOP Specific Conformance for Study Root QR Information Model - FIND SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

Only Study level queries are supported.

The Query/Retrieve as SCU AE supports queries based on the combination of the following (Study level) attributes and attribute matching types (as defined in [DICOM] PS 3.4).

5.6.3.2.3.1 Dataset Specific Conformance for Study Root QR Information Model - FIND SOP Class C-FIND-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 137: Supported Query Keys for Study Root Information Model

| Study Root Information Model | | | | |
|------------------------------|-----------|----|------------------------------------|---|
| Attribute Name | Tag | VR | Type Of Matching | Comment |
| Query/Retrieve Level | 0008,0052 | CS | | - |
| Specific Character Set | 0008,0005 | CS | | - |
| Q/R Study level | | | | |
| Accession Number | 0008,0050 | SH | Single Value, Universal, WildCard | - |
| Modalities in Study | 0008,0061 | CS | Single Value, Universal | CT, CR, DX, ECG, EPS, IVUS, MG, MR, NM, OT, PT, RF, US, XA |
| Patient ID | 0010,0020 | LO | Single Value, Universal, WildCard | It is called MRN here. |
| Patient's Birth Date | 0010,0030 | DA | Single Value, Universal | - |
| Patient's Name | 0010,0010 | PN | Single Value, Universal, WildCard, | - |
| Patient's Sex | 0010,0040 | CS | Single Value, Universal | All,M,F,O,U |
| Study Date | 0008,0020 | DA | Range, Single Value, Universal | All, Today, Yesterday, Last 2 days, Last 3 days, Last 4 days, Last 7 days, Last 10 days, Last 30 days, This Week, Last week, This month, Last Month, Last 2 months, This year, Last year. |
| Study Instance UID | 0020,000D | UI | Universal | - |

| | | | | |
|------------------|-----------|----|-----------|-----|
| Institution Name | 0008,0080 | LO | Universal | All |
|------------------|-----------|----|-----------|-----|

Note: The Patient's Name key attribute matching type is implicitly converted from Single Value matching to Wild Card matching by adding a Wild Card "*" character at the end of its value.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 138: DICOM command response status handling behavior

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|--|---------------------------|
| Success | 0000 | Matching is complete | Continue, Log. |
| Refused | A700 | Refused – Out of resources | Log; Release association. |
| Failed | A900 | Error – Identifier does not match SOP class | Log; Release association. |
| | C001 | Error – Unable to process | Log; Release association. |
| Cancel | FE00 | Matching terminated due to cancel request | Log; Release association. |
| Pending | FF00 | Matches are continuing – current match is supplied and any optional keys were supported in the same manner as required keys | Continue |
| | FF01 | Matches are continuing – warning that one or more optional keys were not supported for existence and/or matching for this identifier | Continue |

Table 139: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|---------------------|---|
| Timeout | The association is released and the reason is logged. |
| Association aborted | The association is released and the reason is logged. |

5.6.3.3. (Real-World) Activity – MOVE as SCU

5.6.3.3.1 Description and Sequencing of Activities

The Query/Retrieve as SCU AE initiates associations to other systems that support the Study Root Query/Retrieve C-MOVE service.

Normal flow of events for C-MOVE:

1. Based on query results, the user selected one or more entries to be retrieved.
2. IntelliSpace Cardiovascular sets up a request connection with the external DICOM node that provided the query results and negotiates communication parameters.
3. IntelliSpace Cardiovascular sends a retrieve request to the external DICOM node. The external DICOM node sets up a store connection with the Store SCP. Connection set up takes place and is only accepted by the Store SCP, if the Query/Retrieve SCU has an open retrieve connection with the external DICOM node. Meanwhile it is possible to send C-MOVE-RSP PENDING to the IntelliSpace Cardiovascular server.
4. The external DICOM node sends over the requested DICOM instance data.
5. The connection will be closed by IntelliSpace Cardiovascular.

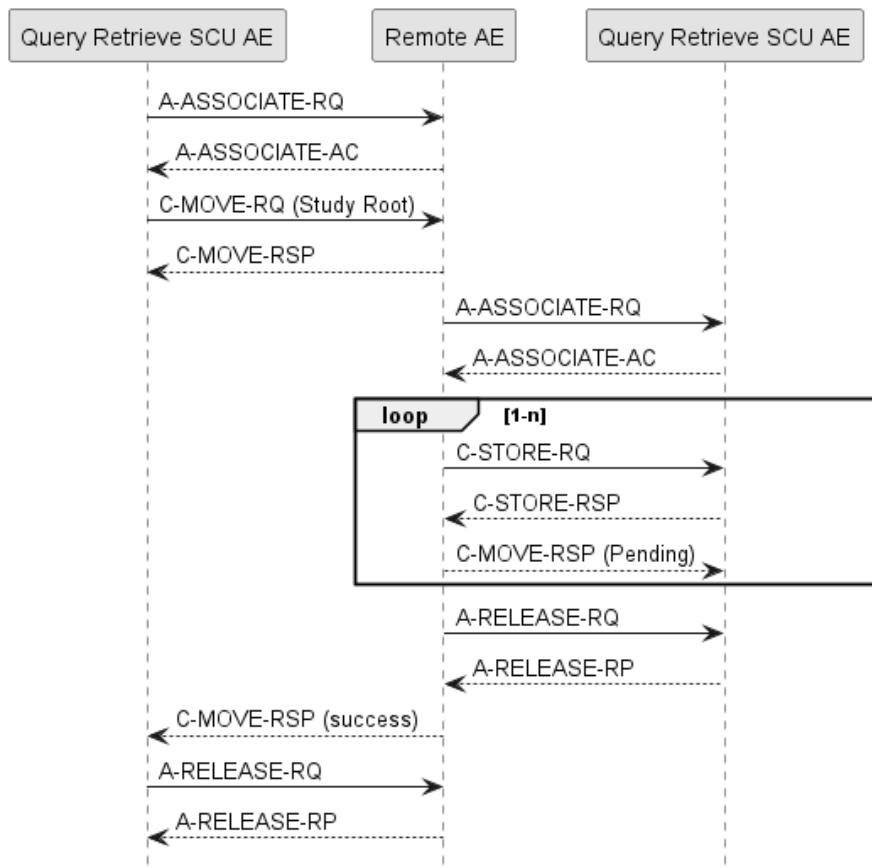


Figure 24: (Real World) Activity - MOVE as SCU

5.6.3.3.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 140: Proposed Presentation Contexts for (Real-World) Activity – MOVE As SCU

| Presentation Context Table | | | | | | |
|--|-----------------------------|--|---|-----|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | | |
| Study Root QR Information Model - MOVE SOP Class | 1.2.840.10008.5.1.4.1.2.2.2 | Explicit VR Big Endian Explicit VR Little Endian Implicit VR Little Endian | 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2 | SCU | None | |

5.6.3.3.3 SOP Specific Conformance for Study Root QR Information Model - MOVE SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

Only Study level queries are supported. The Query/Retrieve as SCU AE supports queries based on the combination of the following (Study level) attributes and attribute matching types (as defined in [DICOM] PS 3.4).

5.6.3.3.3.1 Dataset Specific Conformance for Study Root QR Information Model - MOVE SOP Class C-MOVE-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

Table 141: Identifiers for MOVE Study Root Information Model as SCU

| Study Root Information Model | | | | |
|------------------------------|-----------|----|---------|--|
| Attribute Name | Tag | VR | Comment | |
| Query/Retrieve Level | 0008,0052 | CS | - | |
| Q/R Study level | | | | |
| Study Instance UID | 0020,000D | UI | - | |

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 142: DICOM command response status handling behavior

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|---|--|
| Success | 0000 | Sub-operations complete – no failures | Continue. |
| Refused | A700 | Refused – Out of resources | Log; Release Association. |
| Failed | A900 | Error – Identifier does not match SOP class | Log; Release association. |
| | C001 | Error – Unable to process | Log; Release association. |
| Warning | B000 | Sub-operations complete – one or more failures | The SCP has retrieved all requested images. Release association. |
| Cancel | FE00 | Sub-operations terminated due to cancel request | Log; Release association. |
| Pending | FF00 | Sub-operations are continuing | Continue. |
| | FF01 | Sub-operations are continuing | Continue. |

Exceptions:

1. The maximum number of parallel query/retrieve is reached. The request is queued by FIFO order.
2. At any point in time, an error occurs in the network or on the external DICOM node; IntelliSpace Cardiovascular will close the connection and report an error
3. If an error occurs during data transfer, IntelliSpace Cardiovascular will close the connection and report an error
4. If an error occurs on the external DICOM node while setting up the connection, IntelliSpace Cardiovascular will abort all actions related to that connection and report an error.

Table 143: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|---------------------|---|
| Timeout | The association is released and the reason is logged. |
| Association aborted | The association is released and the reason is logged. |

5.6.4. Association Acceptance Policy

Not applicable, the Query/Retrieve SCU AE does not accept any associations from other DICOM nodes.

5.7. Send AE

Details of this specific Application Entity is specified in this section.

5.7.1. SOP Classes

Send AE, for its functioning, makes use of following DICOM functions:

- Verification as SCU, which uses C-ECHO service element.
- Storage as SCU, which uses C-STORE as service element.
- Patient / Study are always updated with the latest information for the exported studies.

These DICOM functions will be described in the following subsections.

This Application Entity provides Standard Conformance to the following SOP Classes.

Table 144: SOP Classes for Send AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|---|-------------------------------|-----|-----|
| Verification SOP Class | 1.2.840.10008.1.1 | Yes | No |
| Hardcopy Grayscale Image Storage (Retired) | 1.2.840.10008.5.1.1.29 | Yes | No |
| Hardcopy Color Image Storage (Retired) | 1.2.840.10008.5.1.1.30 | Yes | No |
| Computed Radiography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 | 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 |
| Digital Mammography X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.2 | Yes | No |
| Digital Mammography X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.2.1 | Yes | No |
| Digital Intra-oral X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.3 | Yes | No |
| Digital Intra-oral X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.3.1 | Yes | No |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 | Yes | No |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 | Yes | No |
| Standalone VOI LUT Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.11 | Yes | No |
| Grayscale Softcopy Presentation State Storage SOP Class | 1.2.840.10008.5.1.4.1.1.11.1 | 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 |
| X-Ray Angiographic Bi-Plane Image Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.12.3 | Yes | No |
| Positron Emission Tomography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.128 | Yes | No |
| Standalone PET Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.129 | Yes | No |
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 | Yes | No |
| Nuclear Medicine Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.20 | Yes | No |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Yes | No |
| Ultrasound Multi-frame Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.3.1 | Yes | No |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 | Yes | No |
| RT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.1 | Yes | No |

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|-------------------------------|-----|-----|
| RT Dose Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.2 | Yes | No |
| RT Structure Set Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.3 | Yes | No |
| RT Plan Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.5 | Yes | No |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | Yes | No |
| Ultrasound Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6.1 | Yes | No |
| Raw Data Storage SOP Class | 1.2.840.10008.5.1.4.1.1.66 | Yes | No |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 | Yes | No |
| Multi-frame Single Bit Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.1 | Yes | No |
| Multi-frame Grayscale Byte SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.2 | Yes | No |
| Multi-frame Grayscale Word SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.3 | Yes | No |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | Yes | No |
| Standalone Overlay Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.8 | Yes | No |
| Basic Text SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.11 | Yes | No |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.22 | Yes | No |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 | Yes | No |
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.33 | Yes | No |
| X-Ray Radiation Dose SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.67 | Yes | No |
| Standalone Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.9 | Yes | No |
| General ECG Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.1.2 | Yes | No |
| Standard Hemodynamic Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.2.1 | Yes | No |
| Procedure Log Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.40 | Yes | No |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 | Yes | No |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | Yes | No |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | Yes | No |
| Philips Private iE33 3D NEO Presentation State Subpage Storage | 1.3.46.670589.2.5.1.1 | Yes | No |
| Philips Private Xcelera Info Object Storage | 1.3.46.670589.2.6.1.1 | Yes | No |
| Philips Private ViewForum 3D Volume New Storage | 1.3.46.670589.5.0.1.1 | Yes | No |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Yes | No |
| Philips Private ViewForum MR Cardio Analysis New Storage | 1.3.46.670589.5.0.11.1 | Yes | No |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Yes | No |
| Philips Private ViewForum Perfusion Storage | 1.3.46.670589.5.0.13 | Yes | No |
| Philips Private ViewForum Perfusion Analysis Storage | 1.3.46.670589.5.0.14 | Yes | No |
| Philips Private ViewForum 3D Volume Object New Storage | 1.3.46.670589.5.0.2.1 | Yes | No |
| Philips Private ViewForum Surface New Storage | 1.3.46.670589.5.0.3.1 | Yes | No |
| Philips Private ViewForum MR Cardio New Storage | 1.3.46.670589.5.0.8.1 | Yes | No |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Yes | No |

Note: Any SOP specific behavior is documented later in the conformance statement in the applicable SOP specific conformance section.

5.7.2. Association Policies

Each AE specification contains a description of the general association establishment and acceptance policies of the AE.

5.7.2.1. General

The DICOM standard application context is specified below.

Table 145: DICOM Application Context

| Description | Value |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |

5.7.2.2. Number of Associations

The number of simultaneous associations that an Application Entity may support as an Initiator or Acceptor is specified here.

For IntelliSpace Cardiovascular the maximum number of associations limited by the availability of the system resources. The license number of the external DICOM nodes is one of these limits.

Table 146: Number of associations as an Association Initiator for this AE

| Description | Value |
|---|-------|
| Maximum number of simultaneous associations | 5 |

5.7.2.3. Asynchronous Nature

The implementation supports negotiation of multiple outstanding transactions, along with the maximum number of outstanding transactions supported.

Table 147: Asynchronous nature as an Association Initiator for this AE

| Description | Value |
|---|--------------------------|
| Maximum number of outstanding asynchronous transactions | Limit of system resource |

5.7.2.4. Implementation Identifying Information

The value supplied for Implementation Class UID and version name are documented here.

Table 148: DICOM Implementation Class and Version for Send AE

| Property | Value |
|--------------------------|----------------------|
| Implementation Class UID | 1.3.46.670589.58.9.2 |

Implementation Version Name

ISCV 9.2

5.7.2.5. Communication Failure Handling

The behavior of the AE during communication failure is summarized in the next table.

Table 149: Communication Failure Behavior

| Exception | Behavior |
|---------------|---|
| ARTIM Timeout | The association is closed and the reason is logged. |

5.7.3. Association Initiation Policy

The Application Entity will respond on a received reject Association attempt as shown in next table.

Table 150: Association Rejection response

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|---|--|---|
| 1 - rejected-permanent | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |
| 2 - rejected-transient | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |

| Result | Source | Reason/Diagnosis | Behavior |
|--------|---|--------------------------|---|
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |

The behavior of the AE on receiving an association abort is summarized in the next table.

Table 151: Association Abort Handling

| Source | Reason/Diagnosis | Behavior |
|---|---------------------------------|--|
| 0 - DICOM UL service-user (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| 2 - DICOM UL service-provider (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| | 1 - unrecognized-PDU | When received, terminates the connection and logs the event. |
| | 2 - unexpected-PDU | When received, terminates the connection and logs the event. |
| | 4 - unrecognized-PDU-parameter | When received, terminates the connection and logs the event. |
| | 5 - unexpected-PDU-parameter | When received, terminates the connection and logs the event. |
| | 6 - invalid-PDU-parameter-value | When received, terminates the connection and logs the event. |

5.7.3.1. (Real-World) Activity – Verification as SCU

5.7.3.1.1 Description and Sequencing of Activities

As defined the Network AE acts as a Verification SCP for any Remote SCU as Verification SCU.

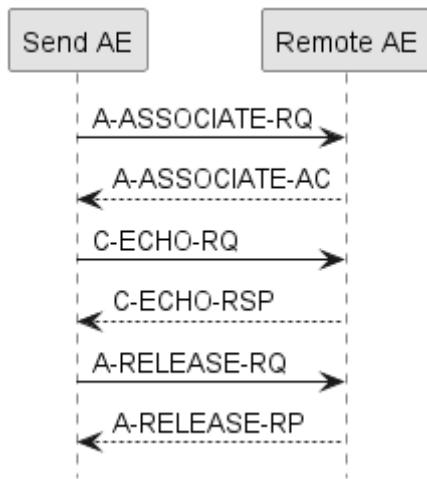


Figure 25: (Real World) Activity - Verification as SCU

5.7.3.1.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 152: Proposed Presentation Contexts for (Real-World) Activity – Verification as SCU

| Presentation Context Table | | | | | |
|----------------------------|-------------------|------------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Verification SOP Class | 1.2.840.10008.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

5.7.3.1.3 SOP Specific Conformance for Verification SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

5.7.3.1.3.1 Dataset Specific Conformance for Verification C-ECHO-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 153: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-----------------|--|
| Success | 0000 | Complete | Continue; matching information logged. |

5.7.3.2. (Real-World) Activity – Image Export

5.7.3.2.1 Description and Sequencing of Activities

Normal flow of events:

1. The user selects one or more studies from the list of studies being displayed.
2. After selection of the external DICOM node, IntelliSpace Cardiovascular sets up a store connection and negotiates communications parameters with this external DICOM node. Connection set up is executed according to the DICOM Store protocols, with IntelliSpace Cardiovascular acting as a DICOM Store SCU.
3. After this connection is set up, IntelliSpace Cardiovascular sends the user selected study to the external DICOM node. Upon completion of this, the connection is closed. Start and end of the connection and data transfer are logged.
4. Patient Study data will be updated with the latest information. (Refer to the tables in section [4.2.1.3.3.3 SOP Specific Conformance for Storage SOP Classes](#) for the list of updated patient and study attributes.)

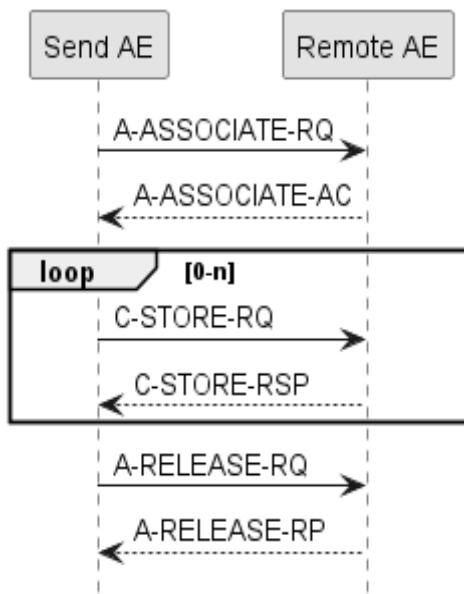


Figure 26: (Real World) Activity - Image Export (Data Export)

5.7.3.2.2 Proposed Presentation Contexts

The proposed presentation contexts are defined in the next table.

Table 154: Proposed Presentation Contexts for (Real-World) Activity – Image Export

| Presentation Context Table | | | | | |
|--|------------------------|--------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Hardcopy Grayscale Image Storage (Retired) | 1.2.840.10008.5.1.1.29 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|---|-----------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Hardcopy Color Image Storage (Retired) | 1.2.840.10008.5.1.1.30 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Computed Radiography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Digital X-Ray Image Storage - For Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Digital X-Ray Image Storage - For Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Digital Mammography X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

| Presentation Context Table | | | | | |
|---|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Digital Mammography X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Digital Intra-oral X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Digital Intra-oral X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.3.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | 1.2.840.10008.5.1.4.1.1.11 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|---|------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Standalone VOI LUT Storage SOP Class (Retired) | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Grayscale Softcopy Presentation State Storage SOP Class | 1.2.840.10008.5.1.4.1.1.11.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| X-Ray Angiographic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.1 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| X-Ray Radiofluoroscopic Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.12.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| X-Ray Angiographic Bi-Plane Image Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.12.3 | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |

| Presentation Context Table | | | | | |
|--|-----------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Positron Emission Tomography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.128 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Standalone PET Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.129 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Nuclear Medicine Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.20 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |

| Presentation Context Table | | | | | |
|--|-----------------------------|--|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | JPEG Baseline (Process 1)0 | 1.2.840.10008.1.2.4.50 | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14)0 | 1.2.840.10008.1.2.4.70 | | |
| Ultrasound Multi-frame Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.3.1 | JPEG Baseline (Process 1)0 | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14)0 | 1.2.840.10008.1.2.4.70 | | |
| | | | | | |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | | | | |

| Presentation Context Table | | | | | |
|------------------------------------|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| RT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Dose Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| RT Structure Set Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | JPEG Baseline (Process 1) 0 | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Ultrasound Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6.1 | JPEG Baseline (Process 1) 0 | 1.2.840.10008.1.2.4.50 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | RLE Lossless | 1.2.840.10008.1.2.5 | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |

| Presentation Context Table | | | | | |
|-------------------------------|----------------------------|---|-------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.7 0 | | |
| Raw Data Storage SOP Class | 1.2.840.10008.5.1.4.1.1.66 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.5 0 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.5 7 [Note 1] | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.7 0 | | |
| | | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | | |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.5 7 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|---|-----------------------------|---|--|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.5 0 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.7 0 | | |
| Multi-frame Grayscale Byte SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.5 7 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.5 0 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.7 0 | | |
| Multi-frame Grayscale Word SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.5 7 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.5 0 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.7 0 | | |
| | 1.2.840.10008.5.1.4.1.1.7.4 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|--|-------------------------------|---|------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Multi-frame True Color Secondary Capture Image Storage | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | | JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 | | |
| | | JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 | | |
| Standalone Overlay Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.8 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Basic Text SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.11 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.22 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.33 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|---|-------------------------------|------------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| X-Ray Radiation Dose SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.67 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standalone Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.9 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| General ECG Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.1.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Standard Hemodynamic Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Procedure Log Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.40 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | 1.2.840.10008.5.1.4.1.1.2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|---|-------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Enhanced CT Image Storage SOP Class [Note 1] | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Enhanced MR Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| MR Spectroscopy Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.4.2 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Nuclear Medicine Image Storage (Retired)SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.5 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Ambulatory ECG Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9.1.3 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Cardiac Electrophysiology Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9.3.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|---|--------------------------------|---|-------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Pseudo-Color Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Basic Voice Audio Waveform Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.9.4.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Blending Softcopy Presentation State Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.11.4 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Enhanced XA Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.12.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Enhanced XRF Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.12.2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Spatial Registration Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.66.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |

| Presentation Context Table | | | | | |
|---|----------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Spatial Fiducials Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.66.2 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| Real World Value Mapping Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.67 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| VL Endoscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| Video Endoscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.1.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| VL Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU | None |
| | | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | | |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |

| Presentation Context Table | | | | | |
|---|----------------------------------|---|---------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Video Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| VL Slide-Coordinates Microscopic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| VL Photographic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.4 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Video Photographic Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.4.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Ophthalmic Photography 8 Bit | 1.2.840.10008.5.1.4.1.1.77.1.5.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|---|----------------------------------|---|-------------------------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Image Storage SOP Class [Note 1] | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.5 7 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Ophthalmic Photography 16 Bit Image Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.2 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.5 7 [Note 1] | | |
| | | JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.9 0 [Note 1] | | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Stereometric Relationship Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.77.1.5.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Mammography CAD SR SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.88.50 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Chest CAD SR SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.88.65 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| | 1.2.840.10008.5.1.4.1.1.481.4 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|--|-------------------------------|--------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| RT Beams Treatment Record Storage SOP Class [Note 1] | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Brachy Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.6 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Treatment Summary Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.7 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Ion Plan Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.8 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| RT Ion Beams Treatment Record Storage SOP Class [Note 1] | 1.2.840.10008.5.1.4.1.1.481.9 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | 1.3.46.670589.2.5.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|--|------------------------|--------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Philips Private iE33 3D NEO Presentation State Subpage Storage | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private Xcelera Info Object Storage | 1.3.46.670589.2.6.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum 3D Volume New Storage | 1.3.46.670589.5.0.1.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Cardio Analysis New Storage | 1.3.46.670589.5.0.11.1 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Perfusion Storage | 1.3.46.670589.5.0.13 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |
| | 1.3.46.670589.5.0.14 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |

| Presentation Context Table | | | | | |
|--|-----------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Philips Private ViewForum Perfusion Analysis Storage | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum 3D Volume Object New Storage | 1.3.46.670589.5.0.2.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum Surface New Storage | 1.3.46.670589.5.0.3.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum MR Cardio New Storage | 1.3.46.670589.5.0.8.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

Note 1: Not available in default configuration. Please consult customer service representative to enable this.

5.7.3.2.3 SOP Specific Conformance for Storage SOP Classes

This section and sub-section include the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

No data elements are discarded or coerced by the Send Image AE.

5.7.3.2.3.1 Dataset Specific Conformance for C-STORE-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

This includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Possible status responses during C-STORE request are listed in the next table:

Table 155: DICOM command response status handling behavior

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|--|------------------|
| Success | 0000 | Successful stored | Reason is logged |
| Refused | A700 | Refused: Out of Resources | Reason is logged |
| Failure | 0110 | Error: Processing Failure | Reason is logged |
| | A900 | Error: Data Set does not match SOP Class | Reason is logged |
| | C000 | Error: cannot understand | Reason is logged |
| Warning | B000 | Coercion of Data Elements | Reason is logged |
| | B007 | Data Set does not match SOP Class | Reason is logged |
| | B006 | Elements Discarded | Reason is logged |

Exceptions:

1. The clinical user cancels the 'Send' request. If the request is already active, the store connection will be closed and no more data will be sent. If the request is not active yet, no connection will be initiated and no data will be sent.
2. If, after setting up the connection, no data can be sent to the external DICOM node, for 2 minutes, IntelliSpace Cardiovascular will retry once and then it will abort the connection. IntelliSpace Cardiovascular reports an error.
3. If an error occurs on IntelliSpace Cardiovascular while setting up the connection, IntelliSpace Cardiovascular aborts and reports an error.
4. If an error occurs on the external DICOM node while setting up the connection, IntelliSpace Cardiovascular will aborts all actions related to that connection. IntelliSpace Cardiovascular reports an error.
5. If no agreement between the two parties can be reached concerning communication parameters the connection will be closed and no data transfer will take place. IntelliSpace Cardiovascular reports an error.
6. When a network error occurs during connection set up or during data transfer, IntelliSpace Cardiovascular will abort all actions related to the connection and reports an error.
7. If an error occurs on IntelliSpace Cardiovascular during data transfer, IntelliSpace Cardiovascular will notify the external DICOM node of this problem and after that close the connection. IntelliSpace Cardiovascular reports an error.
8. If an error occurs on the external DICOM node during data transfer, this causes the connection to be aborted. IntelliSpace Cardiovascular reports an error.

Notes:

1. If the Institution Name is present in private DICOM object data it is taken from there (this only applies for CD import) If not - step 2.
2. If HIS is present and "resolve institution from HIS configured", then it is taken from HIS. If not - step 3.
3. If DICOM tag - Issuer of Patient ID (0010, 0021) in the Patient Identification Module - is not empty, Institution Name is taken from there. If not - step 4.
4. Institution Name is taken from the configuration data - default institution per AE_TITLE defined in the Service Tool (DICOM import page).

During DICOM based store, transfer negotiations may indicate that the original format of the data is not accepted by the target node.

In such cases, the remote store server will try to apply one of the transfer syntax conversions indicated by '+', in order to get to transfer syntax that is supported by the external system. The Transfer syntax conversion is supported from SCU to SCP.

| Source Syntax | Destination Syntax | | |
|---|--------------------|-----|-----|
| | ILE | ELE | EBE |
| ILE | - | + | + |
| ELE | + | - | + |
| EBE | + | + | - |
| JPEG Baseline | - | - | - |
| JPEG Lossless Non-hierarchical /Proc 14 | - | - | - |
| JPEG Lossless FOP Non-Hierarchical 14 | + | + | + |
| JPEG 2000 Image Compression (Lossless Only) | - | - | - |
| RLE | + | + | + |

Figure 27: Transfer Syntax Conversion from Source to Destination

No data elements are discarded or coerced by the Archive AE.

The list of updated patient and study attributes are mentioned in the tables in section 5.1.3.3.3 [SOP Specific Conformance for Storage SOP Classes](#).

Possible communication failures during the C-STORE request are listed here:

Table 156: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|---------------------|---|
| Timeout | The association is closed and the reason is logged. |
| Association aborted | The association is closed and the reason is logged. |

5.7.4. Association Acceptance Policy

Not applicable, the Send AE does not accept any associations.

5.8. MWL AE

MWL is implemented by using the functionality of the IntelliBridge Enterprise system.

- For information when using IBE \leq B.13 details of this specific Application Entity are specified in this section.
- For information when using IBE \geq B.14 details of this specific Application Entity are specified in the applicable IBE DICOM Conformance Statement

5.8.1. SOP Classes

This Application Entity provides Standard Conformance to the following SOP Classes.

Table 157: SOP Classes for MWL AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|------------------------|-----|-----|
| Verification SOP Class | 1.2.840.10008.1.1 | No | Yes |
| Modality Worklist Information Model - FIND SOP Class | 1.2.840.10008.5.1.4.31 | No | Yes |

Note: Any SOP specific behavior is documented later in the conformance statement in the applicable SOP specific conformance section.

5.8.2. Association Policies

Each AE specification contains a description of the general association establishment and acceptance policies of the AE.

5.8.2.1. General

The DICOM standard application context is specified below.

Table 158: DICOM Application Context

| Description | Value |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |

5.8.2.2. Number of Associations

The number of simultaneous associations that an Application Entity may support as an Acceptor is specified here.

Table 159: Number of associations as an Association Acceptor for this AE

| Description | Value |
|---|-------|
| Maximum number of simultaneous associations | 1 |

5.8.2.3. Asynchronous Nature

The implementation supports negotiation of multiple outstanding transactions, along with the maximum number of outstanding transactions supported.

5.8.2.4. Implementation Identifying Information

The value supplied for Implementation Class UID and version name are documented here.

Table 160: DICOM Implementation Class and Version for MWL AE

| Property | Value |
|--------------------------|------------------------|
| Implementation Class UID | 1.3.46.670589.49.1.1.1 |

Implementation Version Name

IBE_1_1_1

5.8.2.5. Communication Failure Handling

The behavior of the AE during communication failure is summarized in the next table.

Table 161: Communication Failure Behavior

| Exception | Behavior |
|---------------------|---|
| Timeout | IntelliBridge considers an ARTIM Timeout of 30 seconds as a communication failure |
| Association aborted | Not Associated |
| Failed to connect | Not Associated |

5.8.3. Association Acceptance Policy

The behavior of this Application Entity is summarized in the next Table.

Table 162: Response Status

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|---|--|
| Success | 0000 | e.g. Matching is complete | e.g. The SCP has successfully returned all matching information e.g. |
| Refused | A700 | Out of Resources | A response is sent with this status code. Reason is Logged and released association. |
| Failure | C000 | Unable to process | A response is send with this status code. The reason is logged in the file. |
| Pending | FF00 | Current match is supplied | Matches are continuing; Current match is supplied. |
| Cancel | FEO0 | Matching terminated due to Cancel Request | A response is sent with this status code. Reason is logged and released association. |

The Application Entity may reject Association attempts as shown in the table below

Table 163: Association Rejection Reasons

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|---------------------------|--|---|
| 1 - rejected-permanent | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|--|--|--|
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. The user is informed. Details are logged in central log file. |
| 2 - rejected-transient | 1 - DICOM UL service-user | 1 - no-reason-given 2 - application-context-name-not-supported 3 - calling-AE-title-not-recognized 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. The user is informed. Details are logged in central log file. The user is informed. Details are logged in central log file. The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. The user is informed. Details are logged in central log file. |

The behavior of the AE on receiving an Association abort is summarized in the next table.

Table 164: Association Abort Handling

| Source | Reason/Diagnosis | Behavior |
|---|---------------------------------|--|
| 0 - DICOM UL service-user (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| 2 - DICOM UL service-provider (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| | 1 - unrecognized-PDU | When received, terminates the connection and logs the event. |
| | 2 - unexpected-PDU | When received, terminates the connection and logs the event. |
| | 4 - unrecognized-PDU-parameter | When received, terminates the connection and logs the event. |
| | 5 - unexpected-PDU-parameter | When received, terminates the connection and logs the event. |
| | 6 - invalid-PDU-parameter-value | When received, terminates the connection and logs the event. |

5.8.3.1. (Real-World) Activity – Verification as SCP

5.8.3.1.1 Description and Sequencing of Activities

The MWL AE receives application level communication using the C-ECHO command.

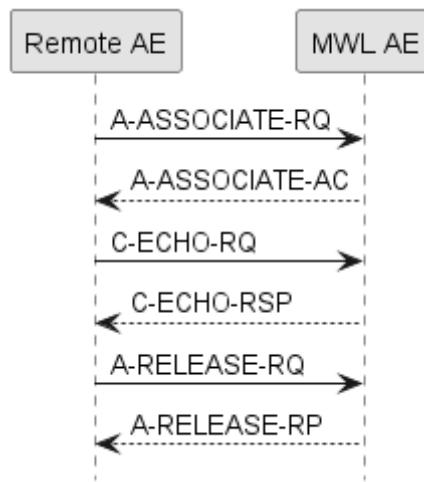


Figure 28: (Real World) Activity - Verification as SCP

5.8.3.1.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 165: Proposed Presentation Contexts for (Real-World) Activity – Verification as SCP

| Presentation Context Table | | | | | |
|----------------------------|-------------------|---------------------------|---------------------|-------------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Verification SOP Class | 1.2.840.10008.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP Role: 1 | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

5.8.3.1.3 SOP Specific Conformance for Verification SOP Class

The MWL AE provides standard conformance to Verification SOP Class as SCP.

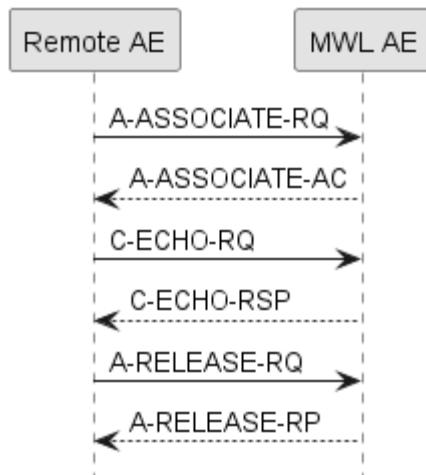


Figure 29: (Real World) Activity - Verification as SCP

Table 166: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-------------------------------------|--|
| Success | 0000 | Matching is complete | Association will be released. Message logged in IntelliBridge Enterprise |
| Failure | A900 | Identifier does not match SOP Class | Reason will be logged |

Table 167: DICOM Command Communication Failure Behavior

| Exception | Description |
|---------------------|-----------------------|
| REPLAY TIMEOUT | Reason will be logged |
| ASSOCIATION ABORTED | Reason will be logged |
| ASSOCIATION TIMEOUT | Reason will be logged |

5.8.3.2. (Real-World) Activity – Modality Worklist as SCP

5.8.3.2.1 Description and Sequencing of Activities

MWL AE as SCP accepts associations from systems that wish to have an up-to-date Modality Worklist using the C-FIND Service Element.

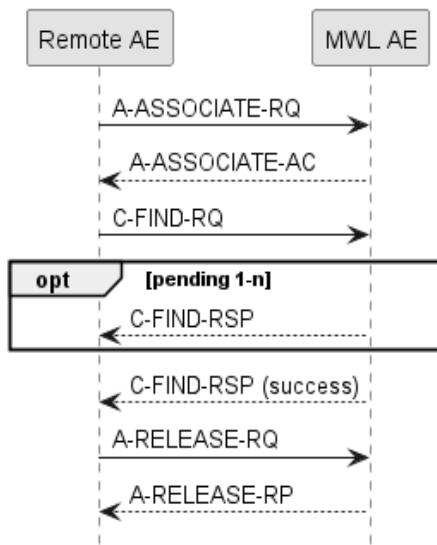


Figure 30: (Real World) Activity - Modality Worklist as SCP

5.8.3.2.2 Accepted Presentation Contexts

MWL AE SCP will accept the presentation contexts as given in the table below.

Table 168: Acceptable Presentation Contexts for (Real-World) Activity – Modality worklist as SCP

| Presentation Context Table | | | | | |
|--|------------------------|---------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Modality Worklist Information Model - C-FIND SOP Class | 1.2.840.10008.5.1.4.31 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

5.8.3.2.3 SOP Specific Conformance for Modality Worklist Information Model C-FIND SOP Class

This section and sub-section includes the manufacturer SOP and Dataset specific information as well as the status codes and their corresponding behavior.

5.8.3.2.3.1 Dataset Specific Conformance for Modality Worklist Information Model C-FIND-RSP

The supported C-Find request keys and the DICOM command communication behavior are shown in the following tables. The standard as well as the specific status codes and their corresponding behavior are also specified.

Table 169: Modality Worklist Return keys supported

| Attribute Name | Tag | VR | Remark/ Comment | Matching Key Supported | Return Key Supported |
|-------------------|-----|----|-----------------|------------------------|----------------------|
| SOP Common Module | | | | | |

| Attribute Name | Tag | VR | Remark/ Comment | Matching Key Supported | Return Key Supported |
|--|-----------|----|--|------------------------|----------------------|
| Specific Character Set | 0008,0005 | CS | Always return the values in ISO_IR100 | N | Y |
| Timezone Offset From UTC | 0008,0201 | SH | | Y | N |
| Patient Identification Module | | | | | |
| Patient's Name | 0010,0010 | PN | Returns Value. Type of Matching :S,*,U | Y | Y |
| Patient ID | 0010,0020 | LO | Returns Value. Type of Matching :S,*,U | Y | Y |
| Issuer of Patient ID | 0010,0021 | LO | Returns value. Type of Matching :S,*,U | Y | Y |
| Patient Demographic Module | | | | | |
| Patient's Birth Date | 0010,0030 | DA | | Y | Y |
| Patient's Sex | 0010,0040 | CS | Returns value. Type of Matching :S,U | Y | Y |
| Patient's Size | 0010,1020 | DS | Returns value. | N | Y |
| Patient's Weight | 0010,1030 | DS | Returns value. | N | Y |
| Confidentiality Constraint on Patient Data Description | 0040,3001 | LO | Returns Empty | N | Y |
| Patient Medical Module | | | | | |
| Medical Alerts | 0010,2000 | LO | Returns Empty | N | Y |
| Contrast Allergies | 0010,2110 | LO | Returns Empty | N | Y |
| Pregnancy Status | 0010,21C0 | US | Returns Empty | N | Y |
| Special Needs | 0038,0050 | LO | Returns Empty | N | Y |
| Patient State | 0038,0500 | LO | Returns Empty | N | Y |
| Visit Relationship Module | | | | | |
| Referenced Patient Sequence | 0008,1120 | SQ | Sequence is returned empty | N/A | Y |
| > Referenced SOP Class UID | 0008,1150 | UI | | N | N |
| > Referenced SOP Instance UID | 0008,1155 | UI | | N | N |
| Visit Identification Module | | | | | |
| Admission ID | 0038,0010 | LO | Returns Empty | N | Y |
| Visit Status Module | | | | | |
| Current Patient Location | 0038,0300 | LO | Returns Value | N | Y |
| Visit Status ID | 0038,0008 | CS | Returns value. | N | Y |
| Scheduled Procedure Step Module | | | | | |
| Scheduled Procedure Step Sequence | 0040,0100 | SQ | The Attributes of the Scheduled Procedure Step shall only be retrieved with Sequence Matching. The Scheduled Procedure Step Sequence shall contain only a single Item. | N/A | N/A |
| > Modality | 0008,0060 | CS | Returns Value. Type of Matching :S,U. | Y | Y |
| > Scheduled Station AE Title | 0040,0001 | AE | Mapped in Rhapsody Table ModalityExamCode_Mapping | Y | Y |
| > Scheduled Procedure Step Start Date | 0040,0002 | DA | SPS Time matching only supported when SPS Date is provided as matching key | Y | Y |
| > Scheduled Procedure Step Start Time | 0040,0003 | TM | | Y | Y |

| Attribute Name | Tag | VR | Remark/ Comment | Matching Key Supported | Return Key Supported |
|---|-----------|----|---|------------------------|----------------------|
| > Scheduled Performing Physician's Name | 0040,0006 | PN | | Y | Y |
| > Scheduled Procedure Step Description | 0040,0007 | LO | | N | Y |
| > Scheduled Protocol Code Sequence | 0040,0008 | SQ | | N/A | Y |
| >> Code Value | 0008,0100 | SH | | Y | Y |
| >> Coding Scheme Designator | 0008,0102 | SH | | N | Y |
| >> Code Meaning | 0008,0104 | LO | | N | Y |
| > Scheduled Procedure Step ID | 0040,0009 | SH | | N | Y |
| > Scheduled Station Name | 0040,0010 | SH | Copied from Scheduled Station AE Title. | N | Y |
| > Scheduled Procedure Step Location | 0040,0011 | SH | Returns Empty | N | Y |
| > Scheduled Procedure Step Status | 0040,0020 | CS | Currently, only one value supported is "SCHEDULED". | N | Y |
| Requested Procedure Module | | | | | |
| Referenced Study Sequence | 0008,1110 | SQ | Returns Empty | N/A | Y |
| > Referenced SOP Class UID | 0008,1150 | UI | 1.2.840.10008.3.1.2.3.1 | N | N |
| > Referenced SOP Instance UID | 0008,1155 | UI | | N | N |
| Study Instance UID | 0020,000D | UI | | N | Y |
| Requested Procedure Description | 0032,1060 | LO | | Y | Y |
| Requested Procedure Code Sequence | 0032,1064 | SQ | | N/A | Y |
| > Code Value | 0008,0100 | SH | | N | Y |
| > Coding Scheme Designator | 0008,0102 | SH | | N | Y |
| > Code Meaning | 0008,0104 | LO | | N | Y |
| Requested Procedure ID | 0040,1001 | SH | Returns Value. Type of Matching: S,U | Y | Y |
| Reason for the Requested Procedure | 0040,1002 | LO | | N | Y |
| Requested Procedure Priority | 0040,1003 | SH | Returns Empty | N | Y |
| Patient Transport Arrangements | 0040,1004 | LO | Returns Empty | N | Y |
| Imaging Service Request Module | | | | | |
| Accession Number | 0008,0050 | SH | | Y | Y |
| Referring Physician's Name | 0008,0090 | PN | Returns the value. Type of Matching : S,U. | Y | Y |
| Requesting Physician | 0032,1032 | PN | Returns Empty | N | Y |

Notes:

Keys that are specified in the C-FIND-RQ but are not supported by the MWL AE and are type 2 or 3 are returned empty.

Table 170: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|---------------------------|---|
| Success | 0000 | Matching is complete | A response is sent with this status code. |
| Failure | C000 | Unable to process | A response is sent with this status code. The reason is logged in the file. |
| Pending | FF00 | Current match is supplied | Matches are continuing; Current match is supplied. |

Note : Cancel request is not supported by IntelliSpace Cardiovascular.

Table 171: Communication Failure Behavior

| Exception | Behavior |
|---------------------|--|
| Timeout | The association is released and the reason is logged |
| Association Aborted | The association is released and the reason is logged |

5.9. MPPS AE

MPPS is implemented by using the functionality of the IntelliBridge Enterprise system.

- For information when using IBE \leq B.13 details of this specific Application Entity are specified in this section.
- For information when using IBE \geq B.14 details of this specific Application Entity are specified in the applicable IBE DICOM Conformance Statement

5.9.1. SOP Classes

This Application Entity provides Standard Conformance to the following SOP Classes.

Table 172: SOP Classes for MPPS AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|---|-------------------------|-----|-----|
| Verification SOP Class | 1.2.840.10008.1.1 | No | Yes |
| Modality Performed Procedure Step SOP Class | 1.2.840.10008.3.1.2.3.3 | Yes | Yes |

Note: Any SOP specific behavior is documented later in the conformance statement in the applicable SOP specific conformance section.

5.9.2. Association Policies

Each AE specification contains a description of the general association establishment and acceptance policies of the AE.

5.9.2.1. General

The DICOM standard application context is specified below.

Table 173: DICOM Application Context

| Description | Value |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |

5.9.2.2. Number of Associations

The number of simultaneous associations that an Application Entity may support as an Initiator or Acceptor is specified here.

Table 174: Number of associations as an Association Initiator for this AE

| Description | Value |
|---|-------|
| Maximum number of simultaneous associations | 1 |

Table 175: Number of associations as an Association Acceptor for this AE

| Description | Value |
|---|-------|
| Maximum number of simultaneous associations | 1 |

5.9.2.3. Asynchronous Nature

The implementation supports negotiation of multiple outstanding transactions, along with the maximum number of outstanding transactions supported.

Table 176: Asynchronous nature as an Association Initiator for this AE

| Description | Value |
|---|-------|
| Maximum number of outstanding asynchronous transactions | 1 |

5.9.2.4. Implementation Identifying Information

The value supplied for Implementation Class UID and version name are documented here.

Table 177: DICOM Implementation Class and Version for MPPS AE

| Property | Value |
|-----------------------------|------------------------|
| Implementation Class UID | 1.3.46.670589.49.1.1.1 |
| Implementation Version Name | IBE_1_1_1 |

5.9.2.5. Communication Failure Handling

The behavior of the AE during communication failure is summarized in the next table.

Table 178: Communication Failure Behavior

| Exception | Behavior |
|--------------------------|---|
| Timeout | IntelliBridge considers an ARTIM Timeout of 30 seconds as a communication failure |
| e.g. Association aborted | |
| e.g. Failed to connect | |

5.9.3. Association Initiation Policy

The behavior of this Application Entity is summarized in the next Table.

Table 179: Response Status Handler Behavior

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|---|--|
| Success | 0000 | e.g. Matching is complete | e.g. The SCP has successfully returned all matching information e.g. |
| Refused | A700 | Out of Resources | A response is sent with this status code. Reason is Logged and released association. |
| Failure | C000 | Unable to process | A response is send with this status code. The reason is logged in the file. |
| Pending | FF00 | Current match is supplied | Matches are continuing; Current match is supplied. |
| Cancel | FE00 | Matching terminated due to Cancel Request | A response is sent with status code. Reason is logged and released association. |

The Application Entity will respond to a received Association rejection as shown in the next table.

Table 180: Association Rejection response

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|--|--|---|
| 1 - rejected-permanent | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|--|--|---|
| 2 - rejected-transient | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |

The behavior of the AE on receiving an Association abort is summarized in the next table.

Table 181: Association Abort Handling

| Source | Reason/Diagnosis | Behavior |
|---|---------------------------------|--|
| 0 - DICOM UL service-user (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| 2 - DICOM UL service-provider (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| | 1 - unrecognized-PDU | When received, terminates the connection and logs the event. |
| | 2 - unexpected-PDU | When received, terminates the connection and logs the event. |
| | 4 - unrecognized-PDU-parameter | When received, terminates the connection and logs the event. |
| | 5 - unexpected-PDU-parameter | When received, terminates the connection and logs the event. |
| | 6 - invalid-PDU-parameter-value | When received, terminates the connection and logs the event. |

5.9.3.1. (Real-World) Activity – Modality Performed Procedure Step as SCU

5.9.3.1.1 Description and Sequencing of Activities

Modality Performed Procedure Step messages accepted by the MPPS AE are forward as SCU to a remote AE.

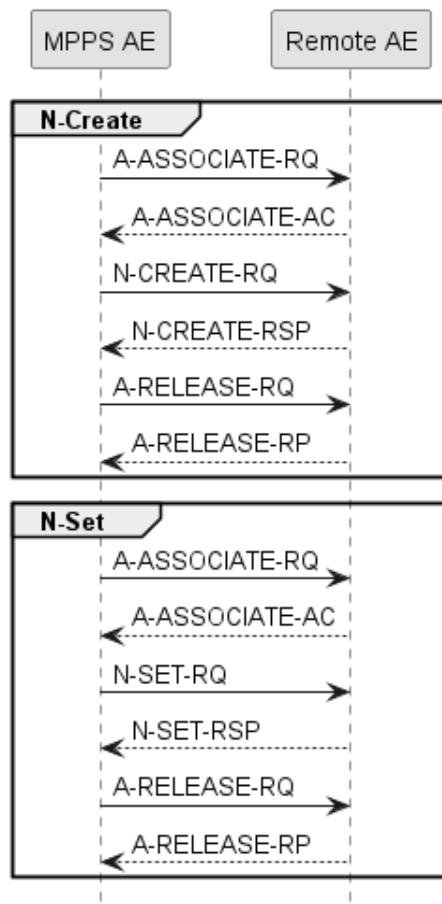


Figure 31: (Real-World) Activity – MPPS as SCU

5.9.3.1.2 SOP Specific Conformance for Modality Performed Procedure Step SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

5.9.3.1.2.1 Dataset Specific Conformance for Modality Performed Procedure Step SOP Class N-CREATE-RQ

Details regarding the Dataset Specific response behavior will be reported in this section.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 182: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-------------------------|---|
| Success | 0000 | Success, Confirmation | Message in log file |
| Failed/Warning | xxxx | All errors and warnings | The error/warning codes are received but not logged |

5.9.3.1.2.2 Dataset Specific Conformance for Modality Performed Procedure Step SOP Class N-SET-RQ

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 183: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-------------------------|---|
| Success | 0000 | Success , Confirmation | Message in Log file |
| Failed/Warning | xxxx | All errors and warnings | The error/warning codes are received but not logged |

Note: Implicit Little Endian VR transfer syntax is not supported by IntelliSpace Cardiovascular

5.9.4. Association Acceptance Policy

5.9.4.1. (Real-World) Activity – Verification as SCP

5.9.4.1.1 Description and Sequencing of Activities

The MPPS AE receives application-level communication using the C-ECHO command.

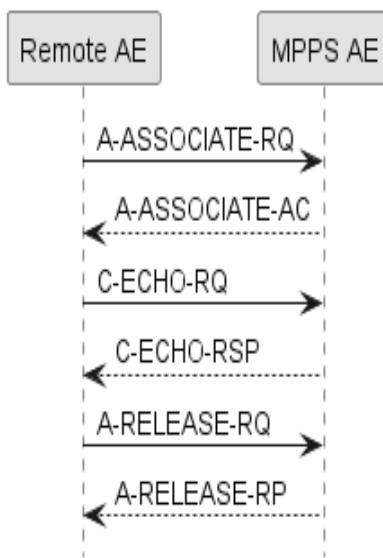


Figure 32: (Real World) Activity - Verification as SCP

5.9.4.1.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 184: Proposed Presentation Contexts for (Real-World) Activity – Verification as SCP

| Presentation Context Table | | | | | | |
|----------------------------|-------------------|------------------------------|-------------------------|----------------|----------------------|--|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation | |
| Name | UID | Name List | UID List | | | |
| Verification SOP Class | 1.2.840.10008.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2. 2 | SCP Role: 1 | None | |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2. 1 | | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | | |

5.9.4.1.3 SOP Specific Conformance for Verification SOP Class

The MPPS AE provides standard conformance to Verification SOP Class.

Table 185: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-------------------------------------|--|
| Success | 0000 | Matching is complete | Association will be released. Message logged in IntelliBridge Enterprise |
| Failure | A900 | Identifier does not match SOP Class | Reason will be logged |

Table 186: DICOM Command Communication Failure Behavior

| Exception | Description |
|---------------------|-----------------------|
| REPLAY TIMEOUT | Reason will be logged |
| ASSOCIATION ABORTED | Reason will be logged |
| ASSOCIATION TIMEOUT | Reason will be logged |

5.9.4.2. (Real-World) Activity – Modality Performed Procedure Step as SCP**5.9.4.2.1 Description and Sequencing of Activities**

The MPPS AE as SCP accepts Modality Performed Procedure Step messages received from remote AE.

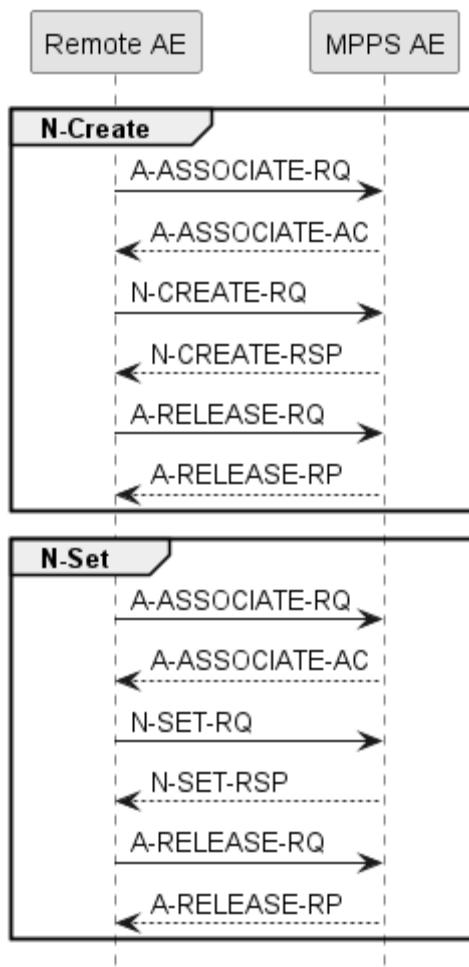


Figure 33: (Real-World) Activity – MPPS as SCP

5.9.4.2.2 Accepted Presentation Contexts

The presentation contexts are defined in the next table.

Table 187: Acceptable Presentation Contexts for (Real-World) Activity – Modality Performed Procedure Step as SCP

| Presentation Context Table | | | | | |
|---|-------------------------|--------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Modality Performed Procedure Step SOP Class | 1.2.840.10008.3.1.2.3.3 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCP | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

5.9.4.2.3 SOP Specific Conformance for Modality Performed Procedure Step SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

5.9.4.2.3.1 Dataset Specific Conformance for Modality Performed Procedure Step SOP Class N-CREATE-RSP

Details regarding the Dataset Specific response behavior will be reported in this section.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 188: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-------------------------|---------------------|
| Success | 0000 | Success, Confirmation | Message in log file |
| Failed | 0121 | Missing attribute value | Any failure |

Note:

- The IntelliSpace Cardiovascular supports all mandatory and optional attributes. It works as a MPPS Forwarder and forwards the received MPPS to another MPPS SCP.
- The IntelliSpace Cardiovascular re-opens a Completed or Discontinued instance of a Study upon receipt of a new N-CREATE request. This is a known limitation and will be fixed in a later release.

5.9.4.2.3.2 Dataset Specific Conformance for Modality Performed Procedure Step SOP Class N-SET-RSP

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 189: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-------------------------|---------------------|
| Success | 0000 | Success, Confirmation | Message in log file |
| Failed | 0121 | Missing attribute value | Any Failure |

5.10. IAN AE

Details of this specific Application Entity is specified in this section.

5.10.1. SOP Classes

IAN AE, for its functioning, makes use of the following DICOM functions:

- Instance Availability Notification as SCU, which uses N-CREATE as service element.

These DICOM functions will be described in the following subsections.

This Application Entity provides Standard Conformance to the following SOP Classes.

Table 190: SOP Classes for IAN AE

| SOP Class Name | SOP Class UID | SCU | SCP |
|--|------------------------|-----|-----|
| Instance Availability Notification SOP | 1.2.840.10008.5.1.4.33 | Yes | No |
| Verification SOP Class | 1.2.840.10008.1.1 | Yes | No |

Note: Any SOP specific behavior is documented later in the conformance statement in the applicable SOP specific conformance section.

5.10.2. Association Policies

Each AE specification contains a description of the general association establishment and acceptance policies of the AE.

5.10.2.1. General

The DICOM standard application context is specified below.

Table 191: DICOM Application Context

| Description | Value |
|--------------------------|-----------------------|
| Application Context Name | 1.2.840.10008.3.1.1.1 |

5.10.2.2. Number of Associations

The number of simultaneous associations that an Application Entity may support as an Initiator or Acceptor is specified here.

For IntelliSpace Cardiovascular the maximum number of associations limited by the availability of the system resources. The license number of the external DICOM nodes is one of these limits.

Table 192: Number of associations as an Association Initiator for this AE

| Description | Value |
|---|-------|
| Maximum number of simultaneous associations | 5 |

5.10.2.3. Implementation Identifying Information

The value supplied for Implementation Class UID and version name are documented here.

Table 193: DICOM Implementation Class and Version for Instance Availability Notification AE

| Property | Value |
|-----------------------------|----------------------|
| Implementation Class UID | 1.3.46.670589.58.9.2 |
| Implementation Version Name | ISCV 9.2 |

5.10.2.4. Communication Failure Handling

The behavior of the AE during communication failure is summarized in the next table.

Table 194: Communication Failure Behavior

| Exception | Behavior |
|---------------|--|
| ARTIM Timeout | The association is closed, and the reason is logged. |

5.10.3. Association Initiation Policy

The Application Entity will respond on a received reject Association attempt as shown in next table.

Table 195: Association Rejection response

| Result | Source | Reason/Diagnosis | Behavior |
|------------------------|---|--|---|
| 1 - rejected-permanent | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |
| 2 - rejected-transient | 1 - DICOM UL service-user | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - application-context-name-not-supported | The user is informed. Details are logged in central log file. |
| | | 3 - calling-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | | 7 - called-AE-title-not-recognized | The user is informed. Details are logged in central log file. |
| | 2 - DICOM UL service-provider (ACSE related function) | 1 - no-reason-given | The user is informed. Details are logged in central log file. |
| | | 2 - protocol-version-not-supported | The user is informed. Details are logged in central log file. |
| | 3 - DICOM UL service-provider (Presentation related function) | 1 - temporary-congestion | The user is informed. Details are logged in central log file. |

| Result | Source | Reason/Diagnosis | Behavior |
|--------|--------|--------------------------|---|
| | | 2 - local-limit-exceeded | The user is informed. Details are logged in central log file. |

The behavior of the AE on receiving an association abort is summarized in the next table.

Table 196: Association Abort Handling

| Source | Reason/Diagnosis | Behavior |
|---|---------------------------------|--|
| 0 - DICOM UL service-user (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| 2 - DICOM UL service-provider (initiated abort) | 0 - reason-not-specified | When received, terminates the connection and logs the event. |
| | 1 - unrecognized-PDU | When received, terminates the connection and logs the event. |
| | 2 - unexpected-PDU | When received, terminates the connection and logs the event. |
| | 4 - unrecognized-PDU-parameter | When received, terminates the connection and logs the event. |
| | 5 - unexpected-PDU-parameter | When received, terminates the connection and logs the event. |
| | 6 - invalid-PDU-parameter-value | When received, terminates the connection and logs the event. |

5.10.3.1. (Real-World) Activity – Verification as SCU

5.10.3.1.1 Description and Sequencing of Activities

As defined the IAN AE acts as a Verification SCU for any Remote AE SCP.

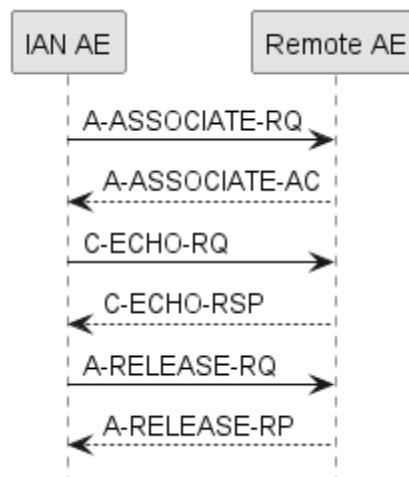


Figure 34: (Real World) Activity - Verification as SCU

5.10.3.1.2 Proposed Presentation Contexts

The presentation contexts are defined in the next table.

Table 197: Proposed Presentation Contexts for (Real-World) Activity – Verification as SCU

| Presentation Context Table | | | | | |
|----------------------------|-------------------|------------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Verification SOP Class | 1.2.840.10008.1.1 | Explicit VR Big Endian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR Little Endian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR Little Endian | 1.2.840.10008.1.2 | | |

5.10.3.1.3 SOP Specific Conformance for Verification SOP Class

This section and sub-section include the manufacturer SOP and Dataset specific information as well the status codes and their corresponding behavior.

5.10.3.1.3.1 Dataset Specific Conformance for Verification C-ECHO-RQ

Detail regarding the Dataset Specific response behavior will be reported in this section.

This part of the section includes the dataset specific behavior, i.e. error codes, error and exception handling, time-outs, etc.

Table 198: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|----------------|------------|-----------------|-----------|
| Success | 0000 | Complete | Continue. |

5.10.3.2. (Real-World) Activity – Instance Availability Notification as SCU

5.10.3.2.1 Description and Sequencing of Activities

Normal flow of events:

- If so configured, IntelliSpace Cardiovascular will create and send an Instance Availability Notification SOP Class Instance when it has imported a C-STORE Instance(s) with status SUCCESS.
- Every Association for a C-STORE import will create an IAN Instance per Study Instance UID.
- Additional Series for the specific Study Instance UID will result in a new IAN object sent with all Series included in the Referenced Series Sequence (0008, 1115).

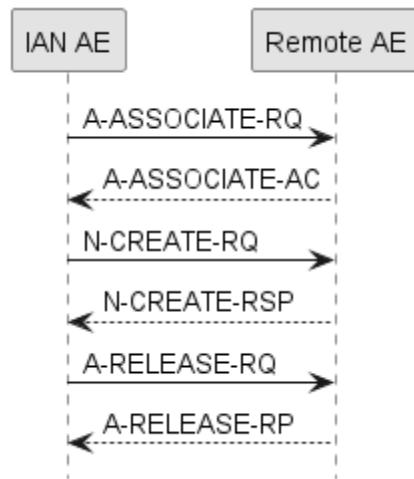


Figure 35: (Real World) Activity – Instance Availability Notification as SCU

5.10.3.2.2 Proposed Presentation Contexts

The proposed presentation contexts are defined in the next table.

Table 199: Proposed Presentation Contexts for (Real-World) Activity – Instance Availability Notification

| Presentation Context Table | | | | | |
|------------------------------------|------------------------|--------------------------|---------------------|------|----------------------|
| Abstract Syntax | | Transfer Syntax | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Instance Availability Notification | 1.2.840.10008.5.1.4.33 | Explicit VR BigEndian | 1.2.840.10008.1.2.2 | SCU | None |
| | | Explicit VR LittleEndian | 1.2.840.10008.1.2.1 | | |
| | | Implicit VR LittleEndian | 1.2.840.10008.1.2 | | |

5.10.3.2.3 SOP Specific Conformance for Instance Availability Notification SOP Class

IntelliSpace Cardiovascular provides standard conformance to the DICOM Instance Availability Notification Service Class as a SCU.

IntelliSpace Cardiovascular will create and send an Instance Availability Notification SOP Class Instance when it has imported a C-STORE Instance(s) with status SUCCESS. Every Association for a C-STORE import will create an IAN Instance. Additional Series for the specific Study Instance UID will result in a new IAN object sent with all Series included in the Referenced Series Sequence (0008,1115).

IAN SOP Class Instances created will always contain ONLINE as Instance Availability (0008,0056), Which means that every instance is always available on IntelliSpace Cardiovascular after sent of IAN to the Remote System.

5.10.3.2.3.1 Dataset Specific Conformance for Instance Availability Notification N-CREATE-RQ

Detail regarding the Dataset Specific response behavior will be reported in this section.

Table 200: Instance Availability Notification Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|--|-----------|----|--------|-------------------|--------|--------------------------------|
| Referenced Performed Procedure Step Sequence | 0008,1111 | SQ | | ALWAYS | | Sequence value is always empty |
| Study Instance UID | 0020,000D | UI | | ALWAYS | COPY | Copied from imported object |
| Referenced Series Sequence | 0008,1115 | SQ | | ALWAYS | COPY | Copied from imported object |
| >Series Instance UID | 0020,000E | UI | | ALWAYS | COPY | Copied from imported object |
| >Referenced SOP Sequence | 0008,1199 | SQ | | ALWAYS | COPY | Copied from imported object |
| >>Instance Availability | 0008,0056 | CS | ONLINE | ALWAYS | FIXED | |
| >>Retrieve AE Title | 0008,0054 | AE | | ALWAYS | COPY | Copied from imported object |
| >> Referenced SOP Class UID | 0008,1150 | UI | | ALWAYS | COPY | Copied from imported object |
| >> Referenced SOP Instance UID | 0008,1155 | UI | | ALWAYS | COPY | Copied from imported object |

Table 201: Status Response

| Service Status | Error Code | Further Meaning | Behavior |
|--------------------|------------|--|---|
| Success | 0000 | Operation complete | The request for Instance Availability Notification is considered successfully stored. |
| Other than Success | xxxx | Problems with sending the N-CREATE Request | The request for Instance Availability Notification is marked as failed. The reason is logged. |

Communication failures during the N-CREATE request are listed here:

Table 202: DICOM Command Communication Failure Behavior

| Exception | Behavior |
|---------------------|---|
| Timeout | The association is closed and the reason is logged. |
| Association aborted | The association is closed and the reason is logged. |

5.10.4. Association Acceptance Policy

Not applicable, the IAN AE does not accept any associations.

5.11. Web Services AE

IntelliSpace Cardiovascular 9.2 implements the following DICOMweb Services

- Retrieve Transaction (WADO-RS)
- Search Transaction (QIDO-RS)

- Store transaction (STOW-RS)

5.11.1. Search Transaction

IntelliSpace Cardiovascular 9.2 is an Origin Server for the QIDO-RS service. It receives QIDO-RS requests at STUDY and SERIES and INSTANCE level. On receiving the request, IntelliSpace Cardiovascular 9.2 responds with a set of matching responses.

IntelliSpace Cardiovascular 9.2 does not support non-hierarchical query model.

Table 203: QIDO-RS Specification

| Options | Restrictions |
|---------------------------------------|--|
| Request URL | {SERVICE}/qidors/ {SERVICE} is the base URL for the service. This will be a combination of scheme (HTTPS), host, port, and application. |
| Media Types Supported (Accept header) | Restricted to "application/dicom+json" |

Note: IntelliSpace Cardiovascular 9.2 does not support media type 'application/dicom+xml'.

5.11.1.1. QIDO-RS Query Matching Keys

The following attributes are supported for matching keys by IntelliSpace Cardiovascular 9.2

Table 204: Matching Keys supported for QIDO-RS

| Attribute | Tag | Type of Matching |
|------------------------|-------------|------------------|
| STUDY Level | | |
| StudyDate | 0008,0020 | R, S |
| StudyTime | 0008,0030 | R, S |
| AccessionNumber | 0008,0050 | S, * |
| ModalitiesInStudy | 0008,0061 | S |
| ReferringPhysicianName | 0008,0090 | S, * |
| PatientName | 0010,0010 | S, * |
| PatientID | 0010,0020 | S, * |
| StudyInstanceUID | 0020,000D | S |
| StudyID | 0020,0010 | S, * |
| SERIES Level | | |
| Modality | 00080060 | S |
| SeriesInstanceUID | 0020000E | S |
| SeriesNumber | 00200011 | S, * |
| Instance Level | | |
| SOP Class UID | (0008,0016) | S |
| SOP Instance UID | (0008,0018) | S |
| Instance Number | (0020,0013) | S |

'R' - Range Matching
 '*' - Wildcard Matching
 'S' - Single Value Matching

5.11.1.2. QIDO-RS Query Return Keys

The following attributes are returned by IntelliSpace Cardiovascular 9.2

Table 205: Return Keys supported for QIDO-RS

| Attribute | Tag |
|------------------------------------|-------------|
| STUDY Level | |
| Study Date | (0008,0020) |
| Study Time | (0008,0030) |
| Accession Number | (0008,0050) |
| Instance Availability* | (0008,0056) |
| Modalities in Study | (0008,0061) |
| Referring Physician's Name | (0008,0090) |
| Retrieve URL | (0008,1190) |
| Patient's Name | (0010,0010) |
| Patient ID | (0010,0020) |
| Patient's Birth Date | (0010,0030) |
| Patient's Sex | (0010,0040) |
| Study Instance UID | (0020,000D) |
| Study ID | (0020,0010) |
| Number of Study Related Series | (0020,1206) |
| Number of Study Related Instances | (0020,1208) |
| SERIES Level | |
| Modality | (0008,0060) |
| Series Description | (0008,103E) |
| Retrieve URL | (0008,1190) |
| Series Instance UID | (0020,000E) |
| Series Number | (0020,0011) |
| Number of Series Related Instances | (0020,1209) |
| Instance Level | |
| SOP Class UID | (0008,0016) |
| SOP Instance UID | (0008,0018) |
| Retrieve URL | (0008,1190) |
| Instance Number | (0020,0013) |

*Note: When OFFLINE is returned in QIDO-RS, the WADO-RS will fail to retrieve the data with HTTP Status code 404. ISCV does not automatically retrieve the OFFLINE studies. If required user may manually retrieve the OFFLINE study on the ISCV system and redo the WADO-RS call.

5.11.1.3. QIDO Response Status Codes

Table 206: Status Codes

| Service Status | HTTP Status Code | QIDO-RS Description |
|----------------|------------------|---|
| Success | 200 | The request was processed and the response is sent. |
| Failure | 204 | There are no results matching the Query |
| | 400 | The request is not recognized status is sent in the following conditions: If the request is bad. If the query contains unsupported tags. If query contains invalid tag Values. |
| | 405 | The web server is configured in a way that does not allow you to perform a search query to server |
| | 406 | The server cannot produce a response matching the list of acceptable values defined in the request's content |
| | 500 | Internal Server Error |

5.11.2. Retrieve Transaction as Origin Server

- DICOM Requester (Retrieve Study/Series/Instance DICOM Objects)
- Frame Pixel Data Requester (Retrieve Instance Frame)
- Metadata Requester (Retrieve Metadata of the requested Instance)
- Bulk data Requester (Retrieve Bulk data)

These requests are HTTP/1.1 GET requests.

5.11.2.1. WADO-RS Retrieve Study

This allows a client to obtain all the DICOM instances associated with the given Study Unique Identifier (UID). Each DICOM instance of the study is sent as a separate part in a multi-part MIME response.

Table 207: WADO-RS Retrieve Study

| Options | Restrictions |
|--|--|
| Request URL | {SERVICE}/wadors/studies/{StudyInstanceUID} Where, {SERVICE} is the base URL for the service. This will be a combination of scheme (HTTPS), host, port, and application. {StudyInstanceUID} is the study instance UID for a single study. |
| Data Types Supported (Accept Type) | Restricted to multipart/related;type=application/dicom;[transfer-syntax={TransferSyntaxUID}] |
| Transfer Syntaxes Supported (transfer-syntax Accept parameter) | DICOM data will be returned in the transfer syntax ISCV 9.2 has stored the DICOM data |

| Options | Restrictions |
|------------------------|--|
| DICOM Response | <p>Content-Type: multipart/related; type=application/dicom; boundary={MessageBoundary}</p> <p>The entire multipart response contains every instance for the specified Study.</p> <p>Each item in the multipart response represents a DICOM SOP Instance with the following http headers:</p> <ul style="list-style-type: none"> Content-Type: application/dicom |
| SOP Class Restrictions | Restricted to SOP classes supported by IntelliSpace Cardiovascular 9.2 |
| Size restrictions | For Study level retrieval the DICOM data is streamed in continuous chunks |

5.11.2.2. WADO-RS Retrieve Series

This allows a client to obtain all the DICOM instances associated with the given Series Unique Identifier (UID) for a Study. Each DICOM instance of the series is sent as a separate part in a multi-part MIME response.

Table 208: WADO-RS Retrieve Series

| Options | Restrictions |
|--|---|
| Request URL | <p>{SERVICE}/wadors/studies/{StudyInstanceUID}/series/{SeriesInstanceUID}</p> <p>Where,</p> <p>{SERVICE} is the base URL for the service. This will be a combination of scheme (HTTPS), host, port, and application.</p> <p>{StudyInstanceUID} is the study instance UID for a single study.</p> <p>{SeriesInstanceUID} is the series instance UID for a single series.</p> |
| Data Types Supported (Accept Type) | Restricted to multipart/related; type=application/dicom; [transfer-syntax={TransferSyntaxUID}] |
| Transfer Syntaxes Supported (transfer-syntax Accept parameter) | DICOM data will be returned in the transfer syntax ISCV 9.2 has stored the DICOM data |
| DICOM Response | <p>Content-Type: multipart/related; type=application/dicom; boundary={MessageBoundary}</p> <p>The entire multipart response contains every instance for the specified Series.</p> <p>Each item in the multipart response represents a DICOM SOP Instance with the following http headers:</p> <ul style="list-style-type: none"> Content-Type: application/dicom |
| SOP Class Restrictions | Restricted to SOP classes supported by IntelliSpace Cardiovascular 9.2 |
| Size restrictions | For Series level retrieval the DICOM data is streamed in continuous chunks |

5.11.2.3. WADO-RS Retrieve Instance

This allows a client to obtain a specified SOP Instance associated with a study and series. The SOP Instance is sent as a separate part in a multi-part MIME message with each SOP Instance as a DICOM P10 byte stream (application/dicom) encoded in a single part.

Table 209: WADO-RS Retrieve Instance

| Options | Restrictions |
|--|---|
| Request URL | <p>{SERVICE}/wadors/studies/{StudyInstanceUID}/series/{SeriesInstanceUID}/instances/{SOPInstanceUID}</p> <p>{SERVICE} is the base URL for the service. This will be a combination of scheme (HTTPS), host, port, and application.</p> |
| Data Types Supported (Accept Type) | Restricted to multipart/related; type=application/dicom; [transfer-syntax={TransferSyntaxUID}] |
| Transfer Syntaxes Supported (transfer-syntax Accept parameter) | DICOM data will be returned in the transfer syntax ISCV 9.2 has stored the DICOM data |
| DICOM Response | Content-Type: multipart/related; type=application/dicom; boundary={MessageBoundary} |
| SOP Class Restrictions | Restricted to SOP classes supported by IntelliSpace Cardiovascular 9.2 |
| Size restrictions | Not applicable |

5.11.2.4. WADO-RS Retrieve Frames

This allows a client to retrieve the DICOM frames for a given set of frame numbers. The response is pixel data and is encapsulated in a multipart MIME response.

Table 210: WADO-RS Retrieve Frames

| Options | Restrictions |
|--|---|
| Request URL | <p>{SERVICE}/wadors/studies/{StudyInstanceUID}/series/{SeriesInstanceUID}/instances/{SOPInstanceUID}/frames/{FrameList}</p> <p>{FrameList} is a comma or %2C separated list frame numbers, in ascending order, contained within an instance.</p> |
| Data Types Supported (Accept Type) | Restricted to multipart/related; type=application/octet-stream ; [transfer-syntax={TransferSyntaxUID}], multipart/related; type=image/jpeg ; [transfer-syntax={TransferSyntaxUID}] |
| Transfer Syntaxes Supported (transfer-syntax Accept parameter) | <p>Multipart/related; type= {MediaType} which Specifies that the response can be pixel data encoded using a {MediaType/transferSyntaxUID}</p> <p>All transfer syntax UID's supported by ISCV 9.2 are supported.</p> |
| DICOM Response | <p>Content-Type:</p> <p>multipart/related; type=application/octet-stream; boundary={MessageBoundary}</p> <p>multipart/related; type=image/jpeg; boundary={MessageBoundary}</p> <p>The entire multipart response contains all requested Frames for the specified Instance.</p> |

| Options | Restrictions |
|------------------------|--|
| | The frames will be returned in the order specified by the Frame List. |
| SOP Class Restrictions | Restricted to SOP classes supported by IntelliSpace Cardiovascular 9.2 |
| Size restrictions | Not applicable |

5.11.2.5. WADO-RS Retrieve Bulk Data

This allows a client to retrieve the bulk (pixel) data for a DICOM instance. The response is bulk data and is encapsulated in a multipart MIME response.

Table 211: WADO-RS Retrieve Bulk Data

| Options | Restrictions |
|--|---|
| Request URL | {SERVICE}/wadors/bulk/{bulkstring} |
| Data Types Supported (Accept Type) | Restricted to Multipart/related; type=application/octet-stream [transfer-syntax={TransferSyntaxUID}] |
| Transfer Syntaxes Supported (transfer-syntax Accept parameter) | Bulk data will be returned in the transfer syntax IntelliSpace Cardiovascular 9.2 has stored the bulk data |
| DICOM Response | Content-Type: multipart/related; type=application/octet-stream; boundary={MessageBoundary} The entire multipart response contains the complete bulk data. |
| SOP Class Restrictions | Not applicable |
| Size restrictions | Not applicable |

Note: IntelliSpace Cardiovascular 9.2 sends bulk data only in 'application/octet-stream' with the information about the transfer syntaxes.

5.11.2.6. WADO-RS Retrieve Metadata

This allows a requestor to retrieve DICOM instances presented as instance metadata with bulk data removed. The response is metadata for DICOM attributes in XML or JSON response formats (In key value pair). The data in bulk data fields will be replaced with a URL which can be used to get the actual bulk data separately.

The XML response will be a multi-part MIME message with each SOP Instance returned as a separate XML document and encoded as a single part.

Table 212: WADO-RS Retrieve Metadata

| Options | Restrictions |
|-------------|---|
| Request URL | {SERVICE}/wadors/studies/{StudyInstanceUID}/series/{SeriesInstanceUID}/instances/{SOPInstanceUID}/metadata {SERVICE}/wadors/studies/{StudyInstanceUID}/series/{SeriesInstanceUID}/metadata {SERVICE}/wadors/studies/{StudyInstanceUID}/metadata |

| Options | Restrictions |
|--|---|
| | {SERVICE} is the base URL for the service. This will be a combination of scheme (HTTPS), host, port, and application. |
| Data Types Supported (Accept Type) | application/dicom+json |
| Transfer Syntaxes Supported (transfer-syntax Accept parameter) | Not applicable for Metadata |
| SOP Class Restrictions | Restricted to SOP classes supported by IntelliSpace Cardiovascular 9.2 |
| Size restrictions | Not Applicable |
| Other | In a scenario where the DICOM instance has multiple OB/OW private elements /overlays they are currently returned as part of metadata calls. |

Note: Data Type format 'application/dicom+xml' is not supported by IntelliSpace Cardiovascular 9.2

5.11.2.7. WADO Response Status Codes

Table 213: Status Codes

| Service Status | HTTP Status Code | WADO-RS Description |
|----------------|------------------|--|
| Success | 200 | The request was processed and the response is sent. |
| Failure | 400 | The request is incorrect or not recognized |
| | 401 | Unauthorized |
| | 404 | There are no results matching the request or when retrieving an OFFLINE study. |
| | 406 | Not acceptable |

Note :

1. IntelliSpace Cardiovascular 9.2 does not support Rendered Media Types
2. IntelliSpace Cardiovascular 9.2 returns the data with same transfer syntax as it was originally stored
3. IntelliSpace Cardiovascular 9.2 does not support capability search option for any of the web services.
4. IntelliSpace Cardiovascular 9.2 does not support the **UC** and **UR** VR types.

5.11.3. Store Transaction (STOW-RS) as Origin Server

5.11.3.1. Supported Store Transactions

The following Study transaction resources are supported:

- Study resource - /studies/{study}

Table 214: General Parameters

| Options | Restrictions |
|-------------------------------------|------------------------|
| Media type supported (Content Type) | application/dicom |
| Media type supported (Accept Type) | application/dicom+json |

Note:

- IntelliSpace Cardiovascular 9.2 does not support accept type 'application/dicom+xml'
- IntelliSpace Cardiovascular 9.2 does not support any of the bulkdata media types like jp2, mp4, gif, jpx, jpeg, png and mpeg2
- IntelliSpace Cardiovascular 9.2 supports a max of 2 Gb request size. If you send a bigger request you will get HTTP status 400 (Bad Request)

5.11.3.2. Supported DICOM Objects for Store Transaction

Table 215: Supported SOP class

| SOP Class Name | SOP Class UID |
|--|-------------------------------|
| Storage Commitment Push Model SOP Class | 1.2.840.10008.1.20.1 |
| Hardcopy Grayscale Image Storage (Retired) | 1.2.840.10008.5.1.1.29 |
| Hardcopy Color Image Storage (Retired) | 1.2.840.10008.5.1.1.30 |
| Computed Radiography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.1 |
| 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 |
| Digital Mammography X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.2 |
| Digital Mammography X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.2.1 |
| Digital Intra-oral X-Ray Image Storage - Pres. SOP | 1.2.840.10008.5.1.4.1.1.1.3 |
| Digital Intra-oral X-Ray Image Storage - Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.3.1 |
| CT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.2 |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 |
| Ultrasound Multi-frame Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.3.1 |
| MR Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.4 |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 |
| Ultrasound Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.6.1 |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 |
| Multi-frame Single Bit Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.1 |
| Multi-frame Grayscale Byte SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.2 |
| Multi-frame Grayscale Word SC Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.3 |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 |
| Standalone Overlay Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.8 |
| Standalone Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.9 |
| General ECG Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.1.2 |

| SOP Class Name | SOP Class UID |
|--|-------------------------------|
| Standard Hemodynamic Waveform Storage SOP Class | 1.2.840.10008.5.1.4.1.1.9.2.1 |
| Standalone Modality LUT Storage (Retired) | 1.2.840.10008.5.1.4.1.1.10 |
| Standalone VOI LUT Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.11 |
| Grayscale Softcopy Presentation State Storage SOP Class | 1.2.840.10008.5.1.4.1.1.11.1 |
| 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 |
| X-Ray Angiographic Bi-Plane Image Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.12.3 |
| Nuclear Medicine Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.20 |
| Raw Data Storage SOP Class | 1.2.840.10008.5.1.4.1.1.66 |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 |
| Positron Emission Tomography Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.128 |
| Standalone PET Curve Storage SOP Class (Retired) | 1.2.840.10008.5.1.4.1.1.129 |
| RT Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.1 |
| RT Dose Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.2 |
| RT Structure Set Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.3 |
| RT Plan Storage SOP Class | 1.2.840.10008.5.1.4.1.1.481.5 |
| Detail SR Storage - Trial (Retired) | 1.2.840.10008.5.1.4.1.1.88.3 |
| Basic Text SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.11 |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.22 |
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.33 |
| Procedure Log Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.40 |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 |
| X-Ray Radiation Dose SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.67 |
| Study Root QR Information Model - MOVE SOP Class | 1.2.840.10008.5.1.4.1.2.2.2 |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 |
| Philips Private iE33 3D NEO Presentation State Subpage Storage | 1.3.46.670589.2.5.1.1 |
| Philips Private Xcelera Info Object Storage | 1.3.46.670589.2.6.1.1 |
| Philips Private ViewForum 3D Volume New Storage | 1.3.46.670589.5.0.1.1 |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 |
| Philips Private ViewForum MR Cardio Analysis New Storage | 1.3.46.670589.5.0.11.1 |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 |
| Philips Private ViewForum Perfusion Storage | 1.3.46.670589.5.0.13 |
| Philips Private ViewForum Perfusion Analysis Storage | 1.3.46.670589.5.0.14 |
| Philips Private ViewForum 3D Volume Object New Storage | 1.3.46.670589.5.0.2.1 |
| Philips Private ViewForum Surface New Storage | 1.3.46.670589.5.0.3.1 |
| Philips Private ViewForum MR Cardio New Storage | 1.3.46.670589.5.0.8.1 |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 |

Table 216: Supported Transfer Syntaxes

| Transfer Syntax Name | Transfer Syntax UID |
|---|------------------------|
| JPEG 2000 Image Compression (Lossless Only) | 1.2.840.10008.1.2.4.90 |
| JPEG Lossless, Non-Hierarchical, FOP (Process 14) | 1.2.840.10008.1.2.4.70 |
| JPEG Baseline (Process 1) | 1.2.840.10008.1.2.4.50 |
| JPEG Lossless Non-hierarchical /Proc 14 | 1.2.840.10008.1.2.4.57 |
| RLE Lossless | 1.2.840.10008.1.2.5 |

Table 217: Transfer Syntaxes supported for conversion

| Transfer Syntax Name | Transfer Syntax UID |
|----------------------------------|---------------------|
| Implicit VR Little Endian | 1.2.840.10008.1.2 |
| Explicit VR Little Endian | 1.2.840.10008.1.2.1 |
| Explicit VR Big Endian (Retired) | 1.2.840.10008.1.2.2 |

5.11.3.3. Status Code Behavior

Table 218: Status Code Behaviour

| Service Status | HTTP Status Code | Condition |
|----------------|------------------------------|---|
| Success | 200_Success | Requested operation was processed without error. |
| | 202_Accepted | The request is accepted but on failure or warning on some Instances Additional information is present in the response body |
| Failure | 400 | The request is incorrect or not recognized |
| | 401 | Unauthorized |
| | 404 | Service not found |
| | 406 | Not acceptable |
| | 409 (Conflict) | Study Instance UID mismatch |
| | 415 (Unsupported Media type) | The origin server does not support the media type specified in the Content-Type header field of the request |
| | 500_Internal Server Error | The server cannot process the request because of an internal error. |

5.12. Support of Character Set

Any support for character sets in Network and Media services is described here.

Table 219: Supported DICOM Character Sets with and without Code Extensions

| Character Set Description ** | Defined Term | | ESC* Sequence | ISO Registration Number | Code Element | Character Set |
|------------------------------|-------------------------|----------------------|-----------------|-------------------------|--------------|---------------|
| | Without code extensions | With code extensions | | | | |
| Default repertoire | None | ISO 2022 IR 6 | ESC 02/08 04/02 | ISO-IR 6 | G0 | ISO 646 |
| Chinese | GB18030 | N/A | | | | GB18030 |

| Character Set Description ** | Defined Term | | ESC* Sequence | ISO Registration Number | Code Element | Character Set |
|------------------------------|-------------------------|----------------------|-----------------------|-------------------------|--------------|--|
| | Without code extensions | With code extensions | | | | |
| Unicode in UTF-8 | ISO_IR 192 | N/A | | | | ISO IR 192 |
| Latin alphabet No. 1 | ISO_IR 100 | ISO 2022 IR 100 | ESC 02/13 04/01 | ISO-IR 100 | G1 | ISO IR 100 ISO/IEC 8859-1 |
| | | | ESC 02/08 04/02 | ISO-IR 6 | G0 | ISO 646 |
| Latin alphabet No. 2 | ISO_IR 101 | ISO 2022 IR 101 | ESC 02/13 04/02 | ISO-IR 101 | G1 | ISO IR 101 ISO/IEC 8859-2 |
| | | | ESC 02/08 04/02 | ISO-IR 6 | G0 | ISO 646 |
| Latin alphabet No. 3 | ISO_IR 109 | ISO 2022 IR 109 | ESC 02/13 04/03 | ISO-IR 109 | G1 | ISO IR 109 ISO/IEC 8859-3 |
| | | | ESC 02/08 04/02 | ISO-IR 6 | G0 | ISO 646 |
| Latin alphabet No. 4 | ISO_IR 110 | ISO 2022 IR 110 | ESC 02/13 04/04 | ISO-IR 110 | G1 | ISO IR 110 ISO/IEC 8859-4 |
| | | | ESC 02/08 04/02 | ISO-IR 6 | G0 | ISO 646 |
| Cyrillic | ISO_IR 144 | ISO 2022 IR 144 | ESC 02/13 04/12 | ISO-IR 144 | G1 | ISO IR 144 ISO/IEC 8859-5 |
| | | | ESC 02/08 04/02 | ISO-IR 6 | G0 | ISO 646 |
| Arabic | ISO_IR 127 | ISO 2022 IR 127 | ESC 02/13 04/07 | ISO-IR 127 | G1 | ISO IR 127 ISO/IEC 8859-6 |
| | | | ESC 02/08 04/02 | ISO-IR 6 | G0 | ISO 646 |
| Greek | ISO_IR 126 | ISO 2022 IR 126 | ESC 02/13 04/06 | ISO-IR 126 | G1 | ISO IR 126 ISO/IEC 8859-7 |
| | | | ESC 02/08 04/02 | ISO-IR 6 | G0 | ISO 646 |
| Hebrew | ISO_IR 138 | ISO 2022 IR 138 | ESC 02/13 04/08 | ISO-IR 138 | G1 | ISO IR 138 ISO/IEC 8859-8 |
| | | | ESC 02/08 04/02 | ISO-IR 6 | G0 | ISO 646 |
| Latin alphabet No. 5 | ISO_IR 148 | ISO 2022 IR 148 | ESC 02/13 04/13 | ISO-IR 148 | G1 | ISO IR 148 ISO/IEC 8859-9 |
| | | | ESC 02/08 04/02 | ISO-IR 6 | G0 | ISO 646 |
| Japanese | ISO_IR 13 | ISO 2022 IR 13 | ESC 02/09 04/09 | ISO-IR 13 | G1 | ISO IR 13 JIS X 0201: Katakana |
| | | | ESC 02/08 04/10 | ISO-IR 14 | G0 | ISO IR 14 JIS X 0201: Romaji |
| Japanese (Multi-byte) | none | ISO 2022 IR 87 | ESC 02/04 04/02 | ISO-IR 87 | G0 | JIS X 0208: Kanji |
| | | ISO 2022 IR 159 | ESC 02/04 02/08 04/04 | ISO-IR 159 | G0 | JIS X 0212: Supplementary Kanji set. |

| Character Set Description ** | Defined Term | | ESC* Sequence | ISO Registration Number | Code Element | Character Set |
|------------------------------|-------------------------|----------------------|-----------------------|-------------------------|--------------|-----------------------------------|
| | Without code extensions | With code extensions | | | | |
| Thai | ISO_IR 166 | ISO 2022 IR 166 | ESC 02/13 05/04 | ISO-IR 166 | G1 | ISO IR 166 TIS 620-2533 |
| | | | ESC 02/08 04/02 | ISO-IR 6 | G0 | ISO 646 |
| Korean (Multi-byte) | none | ISO 2022 IR 149 | ESC 02/04 02/09 04/03 | ISO-IR 149 | G1 | KS X 1001: Hangul and Hanja |

*The ESC sequence is applicable only to character set with code extensions.

** Character set is single byte until stated as multi-byte.

Notes:

A DICOM Value Representation of type PN can exist of three component groups in the format:

<Alphabetic group>=<Ideographic group>=<Phonetic group>

Each component group is separated by the equal sign ("=") as delimiter.

The behavior of the IntelliSpace Cardiovascular during DICOM data import as SCP

When IntelliSpace Cardiovascular imports DICOM data with PN type attributes with the above three component groups, then IntelliSpace Cardiovascular uses the alphabetic component group for storage into the internal database.

In case the alphabetic component group is absent; IntelliSpace Cardiovascular uses the ideographic component group for storage into the internal database.

In case both the alphabetic and the ideographic component groups are absent, IntelliSpace Cardiovascular uses the phonetic component group for storage into the internal database.

The behavior of IntelliSpace Cardiovascular during DICOM data export as SCU

When IntelliSpace Cardiovascular exports DICOM data, it uses the internally stored value while exporting the PN type attributes.

IntelliSpace Cardiovascular determines to which component group the internally stored value belongs by searching in the value for the first character which does not belong to the alphabetic component group.

If all characters belong to the alphabetic component group, then only the alphabetic component group is exported and the other two component groups are not exported.

If the first character which does not belong to the alphabetic component group is an ideographic character, then only the ideographic component group is exported and the other two component groups are not exported.

If the first character which does not belong to the alphabetic component group is a phonetic character, then only the phonetic component group is exported and the other two component groups are not exported.

This means that ISCV will always export only one component group.

6. Configuration

Any implementation's DICOM conformance may be dependent upon configuration, which takes place at the time of installation. Issues concerning configuration are addressed in this section.

6.1. AE Title limitations

The following characters which are allowed by the DICOM standard should not be used in IntelliSpace Cardiovascular configured AE titles: "#", "*", "[", "]", DOUBLE QUOTE and SINGLE QUOTE.

6.1.1. AE Title/Presentation Address Mapping

An important installation issue is the translation from AE title to presentation address. How this is to be performed is described here.

In IntelliSpace Cardiovascular the local Network and Media AE titles as well as the IP Address and the TCP listen port associated with these AE are configurable. The different AE's in IntelliSpace Cardiovascular can be configured to use the same AE title.

IntelliSpace Cardiovascular only accepts associations of AE Titles that are configured in IntelliSpace Cardiovascular.

Due to variety of network configurations that exist worldwide, no performance guarantees can be given with respect to the time it takes to complete the execution of a job.

6.1.1.1. Local AE Titles

The local AE title mapping and configuration are specified as:

Table 220: AE Title configuration table

| Application Entity | Default AE Title | Default TCP/IP Port |
|--------------------------|------------------|---------------------|
| Image Import AE | INTURISPRO SCP | 104 |
| Send AE | SEND SCU | NA |
| Auto Export AE | INTURISPRO SCU | 104 |
| Storage Commitment AE | STCO SCP | 4000 |
| Query/Retrieve as SCU AE | QR SCU | NA |
| Query/Retrieve as SCP AE | QR SCP | 7000 |
| Print AE | VIEWER_PRINT_SCU | 104 |
| Archive AE | Configurable | Configurable |
| MWL AE | SCP1 | 5111 |
| MPPS AE | SCP1 | 5111 |

6.1.1.2. Remote AE Title/Presentation Address Mapping

The configuration of the remote application is specified here.

Table 221: Remote AE Title Configuration Table

| AE Configuration | Description |
|--------------------------|---|
| Image Import AE | Import AE Title Hostname IP-address Listen Port Allowed AE Title Processing delay Archive data (yes/no) TTL (Time to Live) When not archiving. Import TTL is not also (yes/No) |
| Auto Export AE | SCP AE Title SCU AE Title Server IP Address Port number station name Instance name Department name. Server Name Server description (not needed/configurable for DICOM) Server path (not needed/configurable for DICOM) Username (not needed/configurable for DICOM) Password (not needed/configurable for DICOM) Jpeg Quality Factor (not needed/configurable for DICOM) Export Rule (selection is possible) |
| Send AE | AE Title Send queue TTL (Days) Client AE Title Hostname IP-address Port number Logical name |
| Storage Commitment AE | AE Title Listen port Hostname Allowed AE Title Port number |
| Query/Retrieve as SCU AE | Q/R SCU AE Title Q/R SCU DICOM Timeout Q/R SCU Retrieve Timeout Store SCU AE Title Q/R SCP AE Title Hostname IP-Address |

| AE Configuration | Description |
|--------------------------|---|
| | Port number |
| | Logical name |
| Query/Retrieve as SCP AE | Q/R SCP AE Title Listen Port Store SCU AE Title Instance name. Department name Station name Archive data TTL, Allowed Client SCU AE Title Store SCP AE Title Hostname IP-address Port number |
| Print AE | AE Title IP-address Hostname |
| Archive AE | Store SCU AE Title Archive Hostname Archive IP-address Archive Store SCU AE Title Archive Store SCP AE Title Archive SCP port number Archive Q/R SCP Hostname Archive Q/R SCP IP-Address Archive Q/R AE Title Archive Q/R port number Fetch Move SCU AE Title Archive Storage Commit SCP hostname Archive Storage Commit IP-Address Archive Storage Commit SCP AE Title Archive Storage Commit port number Read only (yes/no) Fetch Time out Server Path Username |
| MWL AE | Type AE Title IP Address Port Message Types |

| AE Configuration | Description |
|------------------|---------------------------|
| MPPS AE | Called AE Title Required |
| | Calling AE Title Required |
| | Calling AE Titles |
| | Relay AE Title |
| | Relay IP Address |
| | Relay Port |
| | Type |
| | AE Title |
| | IP Address |
| | Port |
| | Message Types |
| | Called AE Title Required |
| | Calling AE Title Required |
| | Calling AE Titles |
| | Relay AE Title |
| | Relay IP Address |
| | Relay Port |

An important installation issue is the translation from AE title to presentation address. How this is to be performed is described here.

6.1.2. Parameters

The specification of important operational parameters, their default value and range (if configurable) are specified here.

Table 222: Configuration Parameters Table

| Parameter | Configurable | Default Value |
|---|--------------|---------------|
| General Parameters | | |
| Max PDU Receive Size | No | 64 Kbytes |
| Max PDU Send Size | No | 64 Kbytes |
| Time-out for completion of a TCP/IP connect request (Low-level timeout). | No | 60 seconds |
| Time-out awaiting a Response to a DIMSE Request (Low-level timeout). | No | 60 seconds |
| Time-out for waiting for data between TCP/IP-packets (Low-level timeout). | No | 120 seconds |
| Storage Parameters | | |
| Storage SCU time-out waiting for a response to a C-STORE RQ | No | 60 seconds |
| Time out for reception | No | 2 minutes |
| Maximum number of simultaneously initiated Associations by the Storage AE | No | 10 |

| Parameter | Configurable | Default Value |
|--|----------------|---|
| Supported Transfer Syntaxes (separately configurable for each remote AE) | No | |
| Query/Retrieve Parameters (SCU and SCP) | | |
| Maximum Number of simultaneous Associations (SCU) | No | 1 (C-ECHO), 5 (C-STORE), 5 (C-FIND), 1 (Printer), 1 (Archiving) |
| Q/R SCU DICOM Timeout (SCU) | Yes {300-1500} | 450 seconds |
| Q/R SCU Retrieve Timeout (SCU) | Yes {1..7} | 1 days |
| Q/R best case query response time (SCP) | No | 2 seconds |
| Q/R worst case query response time (SCP) | No | 10 seconds |
| Storage Commitment Specific Parameters () | | |
| Maximum time to wait for cases to be archived | Yes | Maximum 8 hours |
| Maximum number of times for retrying sending a response – with one hour interval | Yes | Maximum 72 times |
| Print Parameters | | |
| Maximum number of simultaneous Associations | No | 1 |
| Maximum numbers of connected printers | No | 5 |

Additional configuration parameters such as hardware options for e.g. a printer are specified as well.

7. Network and Media Communication Details

7.1. Network Interfaces

7.1.1. Physical Network Interfaces

The System provides only DICOM V3.0 TCP/IP Network Communication Support as defined in PS 3.8 of the standard. TCP/IP is the only protocol stack supported.

Supported physical medium include:

IEEE 802.3-1995, 10BASE-T

IEEE 802.3-1995, 100BASE-TX (Fast Ethernet)

IEEE 802.3, 1000BASE-X (Fiber Optic Gigabit Ethernet).

The TCP/IP Stack as supported by the underlying Operating System.

The API is the WinSock 2 interface as supported by the underlying Operating System.

7.1.2. Additional Protocols

IntelliSpace Cardiovascular operates according to DICOM protocols, in the application layer of standardized communications networks. From this perspective the system supports a number of protocol stacks and physical network media. The system supports DICOM protocols on top of the TCP/IP version 4.

A Point-to-Point Protocol (PPP) Connection over dial-up line in the same network is possible.

7.2. Media Interchange

7.2.1. Implementation model

The implementation model identifies the DICOM Application Entities for Media in specific implementation and relates the Application Entities to Real-World Activities.

7.2.1.1. Application Data Flow Diagram

As part of the implementation model, an application data flow diagram is included. This diagram represents all of the Application Entities present in an implementation and graphically depicts the relationship of the AE's use of DICOM to Real-World Activities.

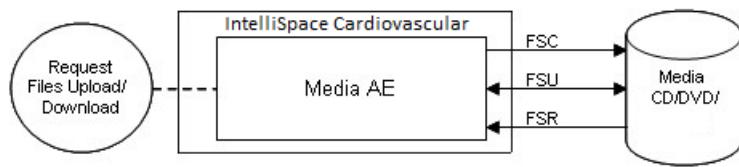


Figure 36: Application Data Flow Diagram

Note: DICOM FSU for CD and DVD as Media is not supported.

7.2.1.2. Functional Definitions of AE's

The Media AE in an IntelliSpace Cardiovascular supports the following functions for CD-R and DVD:

- Read the DICOMDIR File from the medium (representing the directory of the DICOM File(s) as recorded on the medium). This information may be displayed as an ordered list of icon images and, if present, with pertinent identifying information (patient name, etc.).
- Read the selected instances from the medium and display it on the monitor of the View Station. This information is displayed as an ordered list of frames of the selected image or as a dynamic review of the selected image.

And for CD-R, DVD

- Initialize the medium.
- Write a DICOM File-set onto the medium.
- Create a DICOMDIR File.
- Extend the DICOM File-set and update the DICOMDIR File accordingly. (DICOM Media Storage Service Class).

Note: It is not possible to finalize the DVDs from IntelliSpace Cardiovascular. Because of this the studies written on DVD by IntelliSpace Cardiovascular can only be read by IntelliSpace Cardiovascular.

7.2.1.3. Sequencing Real World Activities

A Real-World Activity of the Media AE is: The user selects a set of object to write these to the CD/DVD. Then the CD/DVD will be created with the selected objects. Once the CD/DVD has been created, the user can read this CD/DVD on the IntelliSpace Cardiovascular or for transport to another device for reading.

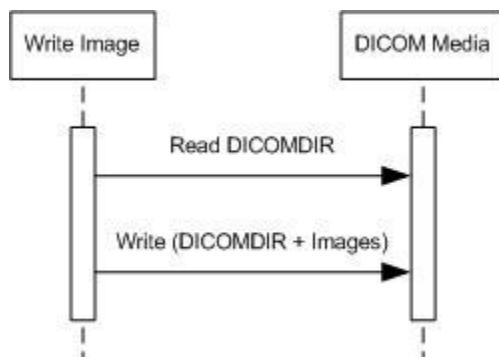


Figure 37: (Real World) Activity - Media.

Another Real-World Activity of the Media AE is: A CD/DVD from another system IntelliSpace Cardiovascular or previously created CD/DVD can be read by the IntelliSpace Cardiovascular. The IntelliSpace Cardiovascular cannot append (FSU) to this created CD/DVD.

After data is written to CD/DVD, the CD/DVD is finalized automatically by IntelliSpace Cardiovascular; the finalized CD/DVD can now be read on every CD/DVD reader.

A description of supported Application Profiles of that Media is described in the next table.

Table 223: Conformance Supported Application Profiles

| Application Profile Identifier | Abstract Syntax Name | Abstract Syntax UID | Transfer Syntax Name | Transfer Syntax UID |
|--------------------------------|---------------------------------------|------------------------------|----------------------|------------------------|
| STD-XABC-CD | X-Ray Angiographic Image Storage | 1.2.840.10008.5.1.4.1.1.12.1 | JPEG Lossless FOP | 1.2.840.10008.1.2.4.70 |
| STD-XA1K-CD | X-Ray Angiographic Image Storage | 1.2.840.10008.5.1.4.1.1.12.1 | JPEG Lossless FOP | 1.2.840.10008.1.2.4.70 |
| | Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7 | ELE | 1.2.840.10008.1.2.1 |
| STD-US-ID-SF-CD | Ultrasound Image Storage | 1.2.840.10008.5.1.4.1.1.6.1 | ELE | 1.2.840.10008.1.2.1 |
| STD-US-ID-SF-DVD | | | RLE | 1.2.840.10008.1.2.5 |
| STD-US-ID-MF-CD | Ultrasound Multi-frame Image Storage | 1.2.840.10008.5.1.4.1.1.3.1 | ELE | 1.2.840.10008.1.2.1 |
| STD-US-ID-MF-DVD | | | RLE | 1.2.840.10008.1.2.5 |
| STD-GEN-CD/ DVD | Computed Radiography Image Storage | 1.2.840.10008.5.1.4.1.1.1 | ELE | 1.2.840.10008.1.2.1 |
| | CT Image Storage | 1.2.840.10008.5.1.4.1.1.2 | | |
| | Nuclear Medicine Image Storage | 1.2.840.10008.5.1.4.1.1.20 | | |
| | X-Ray Angiographic Image Storage | 1.2.840.10008.5.1.4.1.1.12.1 | | |
| | X-Ray Radiofluoroscopic Image Storage | 1.2.840.10008.5.1.4.1.1.12.2 | | |
| | Ultrasound Multi-frame Image Storage | 1.2.840.10008.5.1.4.1.1.3.1 | | |
| | MR Image Storage | 1.2.840.10008.5.1.4.1.1.4 | | |
| | Ultrasound Image Storage | 1.2.840.10008.5.1.4.1.1.6.1 | | |
| | Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7 | | |
| | | | | |
| ALL | Media Storage Directory Storage | 1.2.840.10008.1.3.10 | ELE | 1.2.840.10008.1.2.1 |

7.2.2. AE Specifications

This section in the DICOM Conformance Statement specifies a set of Media Application Entities.

7.2.2.1. Media - Specification

If applicable, this section contains a description of sequencing of Real-World Activities that the AE's require.

Depending on the study size, the viewer can write one or more complete studies to one or more CD's. Furthermore one viewer can review and upload:

- Multi-patient CDs and DVDs;
- Multi-study CDs and DVDs;
- Multi-CD studies.

The supported Application Profiles, their Roles and the Service Class (SC) options, all defined in DICOM terminology, are listed in next table.

Table 224: AE Media AE related Application Profiles, RWA activities and roles

| Supported Application Profile | Identifier | Real-World Activities | Roles |
|--|-----------------------------------|-----------------------|-------|
| 1024 X-Ray Angiographic Studies on CD-R | STD-XA1K-CD | Create File-set | FSC |
| | | Read File-set | FSR |
| Basic Cardiac X-RAY Angiographic Studies on CD-R | STD-XABC-CD | Create File-set | FSC |
| | | Read File-set | FSR |
| CT/MR Studies on CD-R | STD-CTMR-CD | Create File-set | FSC |
| | | Read File-set | FSR |
| General Purpose CD-R Interchange | STD-GEN-CD | Create File-set | FSC |
| | | Read File-set | FSR |
| Image Display (Ultrasound {SF MF}) | STD-US-ID-SF-CDR/STD-US-ID-MF-CDR | Create File-set | FSC |
| | | Read File-set | FSR |
| CT/MR Studies on DVD Media | STD-CTMR-DVD | Create File-set | FSC |
| | | Read File-set | FSR |
| General Purpose DVD Interchange with JPEG | STD-GEN-DVD-JPEG | Create File-set | FSC |
| | | Read File-set | FSR |
| Image Display (Ultrasound {SF MF}) | STD-US-ID-SF-DVD/STD-US-ID-MF-DVD | Create File-set | FSC |
| | | Read File-set | FSR |

7.2.2.1.1 File Meta Information for the Media AE

The Application Entity title is registered in the DICOM File Meta Information header and is supported by the CD/DVD-writer (CD write option) acting only as FSC.

Table 225: File Meta Information for the Media AE

| Property | Value |
|-----------------------------|----------------------|
| Implementation Class UID | 1.3.46.670589.58.9.2 |
| Implementation Version Name | ISCV 9.2 |

7.2.2.1.2 Real-World Activities

The AE specification contains a description of the Real-World Activities, which invoke the particular AE.

7.2.2.1.2.1 RWA - Read File-set

This Media Application Entity has a File-set Reader functionality which is described here.

For the Real-World Activity Read File-set (DICOM Reading), the Media AE will act as an FSR using the Interchange option when reading the directory of the medium and when reading the requested images.

7.2.2.1.2.1.1 Media Storage Application Profile

The table below gives an overview of the supported Application Profiles.

Table 226: Supported Application Profiles

| Application Profile | Identifier | Real World Activity | Role | SC Option |
|--|------------------|------------------------|------|-------------|
| CT/MR Studies on CD-R | STD-CTMR-CD | Read image(s) from CD | FSR | Interchange |
| CT/MR Studies on DVD Media | STD-CTMR-DVD | Read image(s) from DVD | FSR | Interchange |
| General Purpose CD-R Interchange | STD_GEN-CD | Read image(s) from CD | FSR | Interchange |
| General Purpose Interchange on DVD Media | STD-GEN-DVD | Read image(s) from DVD | FSR | Interchange |
| Basic cardiac X-Ray Angiographic Studies on CD-R media | STD-XABC-CD | Read image(s) from CD | FSR | Interchange |
| 1024 X-Ray Angiographic Studies on CD-R Media | STD-XA1K-CD | Read image(s) from CD | FSR | Interchange |
| Image Display (Ultrasound {SF MF}) | STD-US-ID-MF-CDR | Read image(s) from CD | FSR | Interchange |
| | STD-US-ID-SF-CDR | Read image(s) from CD | FSR | Interchange |

7.2.2.1.2.1.1.1 Options

Not applicable.

7.2.2.1.2.2 RWA - Create File-set

This Media Application Entity has a File-set Creator functionality which is described here.

For the Real World Activities DICOM Recording the Media AE will write the SOP instances as provided by the RWA to the recordable DICOM medium and a corresponding DICOMDIR is created.

7.2.2.1.2.2.1 Media Storage Application Profile

See table below for an overview of the support of the Application Profiles.

Table 227: Supported Application Profiles

| Application Profile | Identifier | Real World Activity | Role | SC Option |
|--|------------------|---------------------------|------|-------------|
| CT/MR Studies on CD-R | STD-CTMR-CD | Write image(s) to CD-R | FSC | Interchange |
| CT/MR Studies on DVD Media | STD-CTMR-DVD | Write image(s) to CD-R | FSC | Interchange |
| General Purpose CD-R Interchange | STD_GEN-CD | Write image(s) to CD-R | FSC | Interchange |
| General Purpose Interchange on DVD Media | STD-GEN-DVD | Write image(s) to DVD-RAM | FSC | Interchange |
| Basic cardiac X-Ray Angiographic Studies on CD-R media | STD-XABC-CD | Write image(s) to CD-R | FSC | Interchange |
| 1024 X-Ray Angiographic Studies on CD-R Media | STD-XA1K-CD | Write image(s) to CD-R | FSC | Interchange |
| Image Display (Ultrasound {SF MF}) | STD-US-ID-MF-CDR | Write image(s) to CD-R | FSC | Interchange |
| | STD-US-ID-SF-CDR | Write image(s) to CD-R | FSC | Interchange |
| | STD-US-ID-SF-DVD | Write image(s) to DVD | FSC | Interchange |
| | STD-US-ID-MF-DVD | Write image(s) to DVD | FSC | Interchange |

The following table presents an overview of the defined Photometric Interpretation and Transfer Syntax pairs for the Ultrasound Application Profiles (STD-US-xx-SF/MF...).

Table 228: Defined Photometric Interpretation and Transfer Syntax Pairs

| Photometric Interpretation Value | Transfer Syntax Name | Transfer Syntax UID |
|----------------------------------|----------------------|------------------------|
| MONOCHROME2 | ELE | 1.2.840.10008.1.2.1 |
| | RLE | 1.2.840.10008.1.2.5 |
| RGB | ELE | 1.2.840.10008.1.2.1 |
| | RLE | 1.2.840.10008.1.2.5 |
| PALETTE COLOR | ELE | 1.2.840.10008.1.2.1 |
| | RLE | 1.2.840.10008.1.2.5 |
| YBR_FULL | RLE | 1.2.840.10008.1.2.5 |
| YBR_FULL_422 | ELE | 1.2.840.10008.1.2.1 |
| | JPEG Lossy Baseline | 1.2.840.10008.1.2.4.50 |
| YBR_PARTIAL_422 | ELE | 1.2.840.10008.1.2.1 |
| | JPEG Lossy Baseline | 1.2.840.10008.1.2.4.50 |

7.2.2.1.2.2.1.1 Options

In the DICOMDIR file a Basic Directory IOD is present, containing PATIENT, STUDY, SERIES and IMAGE directory record types.

The following table describes the optional directory keys of the Media AE.

Table 229: Optional Keys

| Attribute name | Tag | VR | Notes |
|----------------------------------|-----------|----|---|
| Patient Keys | | | |
| Patient's Birth Date | 0010,0030 | DA | Explicit additional DICOMDIR key for Application Profiles STD-XABC-CD and STD-XA1K-CD (VT=2). |
| Patient's Sex | 0010,0040 | CS | Explicit additional DICOMDIR key for Application Profiles STD-XABC-CD and STD-XA1K-CD (VT=2). |
| Study Keys | | | |
| Referring Physician's Name | 0008,0090 | PN | - |
| Named of Physician Reading Study | 0008,1060 | PN | - |
| Series Keys | | | |
| Series Date | 0008,0021 | DA | - |
| Series Time | 0008,0031 | TM | - |
| Institution Name | 0008,0080 | LO | Implicit additional DICOMDIR key for STD-US, and STD-GEN, Application Profiles. Explicit additional DICOMDIR key for Application Profiles STD-XABC-CD and STD-XA1K-CD (VT=2). |

| Attribute name | Tag | VR | Notes |
|-----------------------------|-----------|----|---|
| Institution Address | 0008,0081 | ST | Implicit additional DICOMDIR key for STD-US, and STD-GEN, Application Profiles. Explicit additional DICOMDIR key for Application Profiles STD-XABC-CD and STD-XA1K-CD (VT=2). |
| Series Description | 0008,103E | LO | - |
| Performing Physician's Name | 0008,1050 | PN | Explicit additional DICOMDIR key for Application Profiles STD-XABC-CD and STD-XA1K-CD (VT=2). |
| Body Part Examined | 0018,0015 | CS | - |
| Protocol Name | 0018,1030 | LO | - |
| Image Keys | | | |
| Image Type | 0008,0008 | CS | Explicit additional DICOMDIR key for Application Profiles STD-XABC-CD, STD-XA1K-CD and STD-GEN-CD (VT=1). |
| Content Date | 0008,0023 | DA | - |
| Content Time | 0008,0033 | TM | - |

During the copy of "PLACED" data of a DSR study on IntelliSpace Cardiovascular to CD/DVD Media, following options are available as the export parameter that will apply to all DSR studies:

- Export As: "DICOM" (default) and
- Compression: "Loop" and
- Compression: "Still".

Both compression values are always "RLE".

7.2.3. Augmented and Private Application Profiles

Not applicable

7.2.4. Media Configuration

Not applicable.

8. Security

8.1. Security Profiles

IntelliSpace Cardiovascular 9.2 implements secure DICOM communication only for DICOM Web. IntelliSpace Cardiovascular 9.2 allows the use of conventional (non-secure) DICOM communication or a secure DICOM communication based on the Transport Layer Security (TLS) protocol. If configured IntelliSpace Cardiovascular 9.2 supports the following security measures:

Secure authentication of a node

Integrity and confidentiality of transmitted data

Confidentiality of data on DICOM Media

Generation of audit trail records access control and user authentication

8.1.1. Security use Profiles

Not supported

8.1.2. Security Transport Connection Profiles

IntelliSpace Cardiovascular 9.2 conforms to the TLS protocol v1.2 or higher of Secure Transport Connection Profile.

IntelliSpace Cardiovascular 9.2 provides a service accessible tool to configure private keys and certificates of the local and remote DICOM nodes.

Secure communication is a “mode of operation” of IntelliSpace Cardiovascular 9.2 supported by the implementation of the DICOM TLS 1.2 or higher Secure Transport Connection Profile. This functionality will be used by the nodes that can authenticate each other before they exchange DICOM information. For secure communication the TLS protocol v1.2 or higher is used which provides message authentication, integrity, and confidentiality. Confidentiality is optional and can be controlled by the encryption settings.

IntelliSpace Cardiovascular 9.2 may communicate using the following Cipher:

TLS_DHE_RSA_WITH_AES_128_GCM_SHA256

TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256

TLS_DHE_RSA_WITH_AES_256_GCM_SHA384

TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384

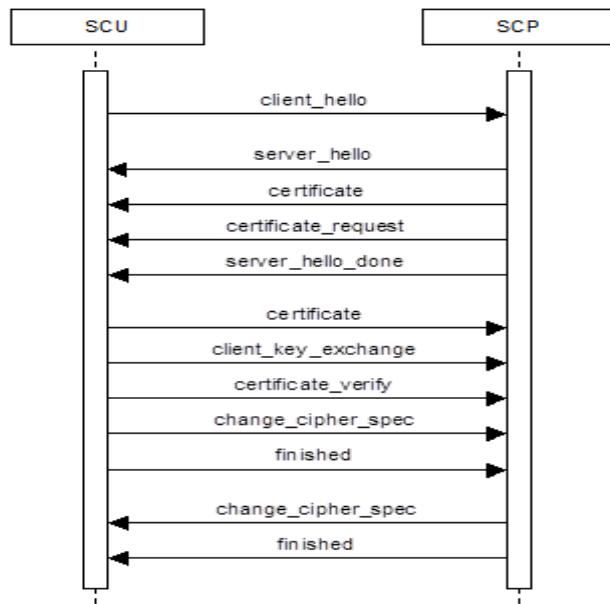
No verification is done on:

- Revocation of certificates
- Limiting the connection to a limited set of IP-addresses

Node authentication with or without encryption is only possible when both nodes have:

- An access to their own private keys
- An access to a copy of the certificate of the other node containing its public key.

Figure below presents the message flow of TLS handshake supported by IntelliSpace Cardiovascular 9.2.



8.1.3. Digital Signature Profiles

Not supported

8.1.4. Media Storage Security Profiles

Not supported

8.1.5. Attribute Confidentiality Profiles

No instances of the encrypted attributes data set are created. No transfer syntaxes are supported for encoding/decoding of encrypted attributes data sets.

The table below lists the attributes for de-Identification within a patient record. The terms used to describe the replacement value are listed below:

Empty: The attribute value is left empty (zero length).

Free editable: The user can enter or edit the value for an attribute manually.

User selectable: The user can select a predefined list of values for an attribute.

System: The attribute value will be changed automatically by the system. Not configurable.

As is: The attribute value will not be changed. The text field for the attribute is grayed out.

Fixed value: The attribute value is set according to a predefined list of values set by the system administrator.

Table 230: Basic Application-Level Confidentiality Profile Attributes

| Attribute Name | Tag | VR | Replacement Value | Remarks |
|---------------------------------|-----------|----|--|------------------------------|
| Source Application Entity Title | 0002,0016 | AE | new AE title | System automatically changes |
| Patient's Name | 0010,0010 | PN | Empty, Fixed value, As is, Free | Free editable |
| Patient ID (MRN) | 0010,0020 | LO | Empty, Fixed value, As is, Free | Free editable |
| Patient's Birth Date | 0010,0030 | DA | Empty, Fixed value, As is, Free | Free editable |
| Patient's Sex | 0010,0040 | CS | Empty, Fixed value (Female, Male, Other, Empty), As is, Free | Free editable |
| Issuer of Patient ID's | 0010,0021 | LO | Institution name | Copied from institution name |
| Other Patient IDs | 0010,1000 | LO | No values | System automatically changes |
| Other Patient Names | 0010,1001 | PN | No values | System automatically changes |
| Patients' Telephone Numbers | 0010,2154 | SH | No values | System automatically changes |
| Patient's Address | 0010,1040 | LO | No values | System automatically changes |
| Country of Residence | 0010,2150 | LO | No values | System automatically changes |
| Region of Residence | 0010,2152 | LO | No values | System automatically changes |
| Station Name | 0008,1010 | SH | No values | System automatically changes |
| Instance Creator UID | 0008,0014 | UI | new UID | System automatically changes |
| SOP Instance UID | 0008,0018 | UI | new UID | System automatically changes |
| Accession Number | 0008,0050 | SH | Empty, Fixed value, As is, Free | Free editable |
| Institution Name | 0008,0080 | LO | Selectable from fixed values. Values will be as configured | Free editable |
| Referring Physician's Name | 0008,0090 | PN | Empty, Fixed value, As is, Free | Free editable |
| Performing Physician's Name | 0008,1050 | PN | Empty, Fixed value, As is, Free | Free editable |
| Operators Name | 0008,1070 | PN | No values | System automatically changes |
| Study ID | 0020,0010 | SH | Empty, Fixed value, As is, Free | Free editable |
| Frame of Reference UID | 0020,0052 | UI | new UID | System automatically changes |
| Study Instance UID | 0020,000D | UI | new UID | System automatically changes |
| Series Instance UID | 0020,000E | UI | new UID | System automatically changes |

8.1.6. Network Address Management Profiles

Not supported

8.1.7. Time Synchronization Profiles

Not supported

8.1.8. Application Configuration Management Profiles

Not supported

8.1.9. Audit Trail Profiles

Not supported

8.2. Association Level Security

Not supported

8.3. Application-Level Security

Not supported

Annexes of application "Cath Viewer"

A.1 IOD Contents

A.1.1 Created SOP Instance

This section specifies each IOD created by this application.

This section specifies each IOD created (including private IOD's). 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

A.1.1.1 List of created SOP Classes

Table 231: 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 |

A.1.1.2 Secondary Capture Image Storage SOP Class

Table 232: 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 |
| Series | General Series Module | ALWAYS |
| Equipment | General Equipment Module | ALWAYS |
| Equipment | SC Equipment Module | ALWAYS |
| Acquisition | General Acquisition Module | ALWAYS |
| Image | General Image Module | ALWAYS |
| | Image Pixel Module | ALWAYS |
| | SC Image Module | ALWAYS |
| | VOI LUT Module | ALWAYS |
| | SOP Common Module | ALWAYS |
| Extended DICOM and Private attributes | | ALWAYS |

Table 233: Patient Module

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

Table 234: 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 | | VNAP | COPY | - |
| Referring Physician's Name | 0008,0090 | PN | | VNAP | COPY | - |
| Study Description | 0008,1030 | LO | | ANAP | COPY | - |
| Name of Physician(s) | 0008,1060 | PN | | ANAP | COPY | - |
| Reading Study | | | | | | |
| Study Instance UID | 0020,000D | UI | | ALWAYS | COPY | - |
| Study ID | 0020,0010 | SH | | VNAP | COPY | - |

Table 235: Patient Study Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------------|-----------|----|-------|-------------------|--------|---------|
| Admitting Diagnoses Description | 0008,1080 | LO | | ANAP | COPY | - |
| Patient's Weight | 0010,1030 | DS | | ANAP | COPY | - |

Table 236: General Series Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|--|-----------|----|-------|-------------------|--------|---------|
| Series Date | 0008,0021 | DA | | ANAP | COPY | - |
| Series Time | 0008,0031 | TM | | ANAP | COPY | - |
| Modality | 0008,0060 | CS | | ALWAYS | COPY | - |
| Performing Physician's Name | 0008,1050 | PN | | VNAP | COPY | |
| Series Description | 0008,103E | LO | | ANAP | COPY | - |
| Referenced Performed Procedure Step Sequence | 0008,1111 | SQ | | ANAP | COPY | - |
| >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 | COPY | - |
| Protocol Name | 0018,1030 | LO | | ANAP | COPY | - |
| Series Instance UID | 0020,000E | UI | | ALWAYS | AUTO | - |
| Series Number | 0020,0011 | IS | | VNAP | COPY | - |
| 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 | - |
| Comments on the Performed Procedure Step | 0040,0280 | ST | | ANAP | COPY | - |

Table 237: General Equipment Module

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

| | | | | | | |
|---------------------------|-----------|----|--|--------|------|---|
| Institution Name | 0008,0080 | LO | | ALWAYS | COPY | - |
| Station Name | 0008,1010 | SH | | ALWAYS | AUTO | - |
| Manufacturer's Model Name | 0008,1090 | LO | | ALWAYS | AUTO | - |
| Software Versions | 0018,1020 | LO | | ALWAYS | AUTO | - |

Table 238: SC Equipment Module

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

Table 239: General Acquisition Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------------|-----------|----|-------|-------------------|--------|---------|
| Acquisition Date | 0008,0022 | DA | | ANAP | COPY | |
| Acquisition Time | 0008,0032 | TM | | ANAP | COPY | |
| Acquisition DateTime | 0008,002A | DT | | ANAP | COPY | |
| Acquisition Duration | 0018,9073 | FD | | ANAP | COPY | |
| Acquisition Number | 0020,0012 | IS | | ANAP | COPY | |

Table 240: 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 | FIXED | - |
| Content Date | 0008,0023 | DA | | VNAP | AUTO | - |
| Content Time | 0008,0033 | TM | | VNAP | AUTO | - |
| Instance Number | 0020,0013 | IS | | VNAP | AUTO | - |
| Patient Orientation | 0020,0020 | CS | | VNAP | COPY | - |

Table 241: 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 | | ANAP | 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 Aspect Ratio | 0028,0034 | IS | | ALWAYS | AUTO | - |
| Pixel Data | 7FE0,0010 | OW/OB | | ALWAYS | AUTO | - |

Table 242: SC Image Module

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

Table 243: VOI LUT Module

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

Table 244: SOP Common Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|------------------------|-----------|----|-------------------------------|-------------------|--------|---|
| Specific Character Set | 0008,0005 | CS | | ANAP | AUTO | Required if expanded/replacement character set used |
| Instance Creation Date | 0008,0012 | DA | | ANAP | AUTO | - |
| Instance Creation Time | 0008,0013 | TM | | ANAP | AUTO | - |
| Instance Creator UID | 0008,0014 | UI | | ANAP | AUTO | - |
| 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 Number | 0020,0013 | IS | | ANAP | AUTO | - |

A.1.2 Usage of Attributes from Received IOD

The following table lists the functionality supported by this application.

Table 245: Functionalities

| Functionality | Type1 | Optional | Private |
|---------------|-------|----------|---------|
| Cath Viewer | X | | |

A.1.2.1 Usage of the Functionality Cath Viewer

Next table shows the SOP classes supported by the Cath. Viewer.

Table 246: Supported SOP Classes for functionality Cath Viewer

| SOP Class name | SOP Class UID |
|---|------------------------------|
| 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 |
| Digital X-Ray Image Storage - For Proc. SOP | 1.2.840.10008.5.1.4.1.1.1.1 |
| 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 |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 |
| 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 |

A.1.3 Attribute Mapping

Not applicable.

A.1.4 Coerced/Modified fields.

Not applicable.

A.2 Data Dictionary of Private Attributes

Not applicable.

A.3 Coded Terminology and Templates

Not applicable.

A.3.1 Context Groups

Not applicable.

A.3.2 Template Specifications

Not applicable.

A.3.3 Private code definitions

Not applicable.

A.4 Grayscale Image consistency

Not applicable.

A.5 Standard Extended/Specialized/Private SOPs

Not applicable

A.6 Private Transfer Syntaxes

Not applicable.

Annexes of application "Ultrasound Viewer"

B.1 IOD Contents

B.1.1 Created SOP Instance

Not Applicable. Ultrasound Viewer does not create SOP Instances.

B.1.2 Usage of Attributes from Received IOD

The following table lists the functionality supported by this application.

Table 247: Functionalities

| Functionality | Type1 | Optional | Private |
|-------------------|-------|----------|---------|
| Ultrasound Viewer | X | X | |

B.1.2.1 Usage of the Functionality Ultrasound Viewer

The following table lists the supported SOP Classes which can be used by this application.

Table 248: Supported SOP Classes for functionality Ultrasound Viewer

| SOP Class name | SOP Class UID |
|--|-------------------------------|
| Comprehensive SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.33 |
| Enhanced SR SOP Class | 1.2.840.10008.5.1.4.1.1.88.22 |
| Secondary Capture Image Storage SOP Class* | 1.2.840.10008.5.1.4.1.1.7 |
| 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 |
| Ultrasound Multi-frame Image Storage (Retired) SOP Class | 1.2.840.10008.5.1.4.1.1.3 |
| Ultrasound Image Storage (Retired) SOP Class | 1.2.840.10008.5.1.4.1.1.6 |
| Multi-frame True Color Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7.4 |

Note:

* Secondary Capture Image Storage SOP Class (1.2.840.10008.5.1.4.1.1.7) will only be accepted if the attribute "Modality" (0008,0060) contains one of the following values; "US", "IVUS", "SR", "SC", "OT" or "PR".

B.1.3 Attribute Mapping

Not applicable.

B.1.4 Coerced/Modified fields

Not applicable.

B.2 Data Dictionary of Private Attributes

Not applicable.

B.3 Coded Terminology and Templates

Not applicable.

B.3.1 Context Groups

Not applicable.

B.3.2 Template Specifications

Not applicable.

B.3.3 Private code definitions

Not applicable.

B.4 Grayscale Image consistency

Not applicable.

B.5 Standard Extended/Specialized/Private SOPs

Not applicable.

B.6 Private Transfer Syntaxes

Not applicable.

Annexes of application "PDF_REPORT"

C.1 IOD Contents

C.1.1 Created SOP Instance

This section specifies each IOD created by this application.

This section specifies each IOD created (including private IOD's). 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

C.1.1.1 List of created SOP Classes

Table 249: List of created SOP Classes

| SOP Class Name | SOP Class UID |
|------------------------------------|-------------------------------|
| Encapsulated PDF Storage SOP Class | 1.2.840.10008.5.1.4.1.1.104.1 |

C.1.1.2 Encapsulated PDF Storage SOP Class

Table 250: IOD of Created Encapsulated PDF Storage SOP Class Instances

| Information Entity | Module | Presence Of Module |
|--------------------|-------------------------------------|--------------------|
| Patient | Patient Module | ALWAYS |
| Study | General Study Module | ALWAYS |
| | Patient Study Module | CONDITIONAL |
| Series | Encapsulated Document Series Module | ALWAYS |
| Equipment | General Equipment Module | ALWAYS |
| | SC Equipment Module | ALWAYS |
| Image | Encapsulated Document Module | ALWAYS |
| | SOP Common Module | ALWAYS |

Table 251: Patient Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------------|-----------|----|-------|-------------------|--------|---------|
| Patient's Name | 0010,0010 | PN | | ALWAYS | COPY | - |
| Patient ID | 0010,0020 | LO | | ALWAYS | COPY | - |
| Issuer of Patient ID | 0010,0021 | LO | | ANAP | AUTO | - |
| Patient's Birth Date | 0010,0030 | DA | | VNAP | COPY | - |
| Patient's Birth Time | 0010,0032 | TM | | ANAP | COPY | - |
| Patient's Sex | 0010,0040 | CS | | ALWAYS | COPY | - |
| Other Patient Names | 0010,1001 | PN | | ANAP | COPY | - |
| Ethnic Group | 0010,2160 | SH | | ANAP | COPY | - |
| Patient Comments | 0010,4000 | LT | | ANAP | COPY | |

Table 252: General Study Module

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

Table 253: Patient Study Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------------|-----------|----|-------|-------------------|--------|---------|
| Admitting Diagnoses Description | 0008,1080 | LO | | ANAP | COPY | - |

Table 254: Encapsulated Document Series Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------|-----------|----|-------|-------------------|--------|---------|
| Modality | 0008,0060 | CS | | ALWAYS | AUTO | - |
| Series Instance UID | 0020,000E | UI | | ALWAYS | AUTO | - |
| Series Number | 0020,0011 | IS | | ALWAYS | AUTO | - |

Table 255: General Equipment Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------|-----------|----|-------|-------------------|--------|---------|
| Manufacturer | 0008,0070 | LO | | ALWAYS | AUTO | |
| Institution Name | 0008,0080 | LO | | ALWAYS | COPY | |
| Station Name | 0008,1010 | SH | | VNAP | AUTO | |
| Manufacturer's Model Name | 0008,1090 | LO | | ALWAYS | AUTO | |
| Software Versions | 0018,1020 | LO | | ALWAYS | AUTO | |

Table 256: SC Equipment Module

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

Table 257: Encapsulated Document Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|------------------------------------|-----------|----|-----------------|-------------------|--------|---------|
| Content Date | 0008,0023 | DA | | VNAP | AUTO | - |
| Acquisition Datetime | 0008,002A | DT | | VNAP | AUTO | - |
| Content Time | 0008,0033 | TM | | VNAP | AUTO | - |
| Instance Number | 0020,0013 | IS | | ALWAYS | AUTO | - |
| Burned In Annotation | 0028,0301 | CS | | ALWAYS | AUTO | - |
| Concept Name Code Sequence | 0040,A043 | SQ | | VNAP | AUTO | - |
| Verification Flag | 0040,A493 | CS | | VNAP | AUTO | |
| Document Title | 0042,0010 | ST | | VNAP | AUTO | - |
| Encapsulated Document | 0042,0011 | OB | | ALWAYS | AUTO | - |
| MIME Type of Encapsulated Document | 0042,0012 | LO | application/pdf | ALWAYS | AUTO | - |

Table 258: SOP Common Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|------------------------|-----------|----|-------------------------------|-------------------|--------|---------|
| Specific Character Set | 0008,0005 | CS | | ANAP | COPY | |
| SOP Class UID | 0008,0016 | UI | 1.2.840.10008.5.1.4.1.1.104.1 | ALWAYS | FIXED | - |

| | | | | | | |
|------------------|-----------|----|--|--------|------|---|
| SOP Instance UID | 0008,0018 | UI | | ALWAYS | AUTO | - |
| Instance Number | 0020,0013 | IS | | ANAP | AUTO | |

C.1.2 Usage of Attributes from Received IOD

Not applicable.

C.1.3 Attribute Mapping

Not applicable.

C.1.4. Coerced/Modified fields

Not applicable.

C.2 Data Dictionary of Private Attributes

Not applicable.

C.3 Coded Terminology and Templates

Not applicable.

C.3.1 Context Groups

Not applicable.

C.3.2 Template Specifications

Not applicable.

C.3.3 Private code definitions

Not applicable.

C.4 Grayscale Image consistency

Not applicable.

C.5 Standard Extended/Specialized/Private SOPs

Not applicable.

C.6 Private Transfer Syntaxes

Not applicable.

Annexes of application "Echo Module"

D.1 Supported IOD's

This section specifies each IOD accepted and / or created by Echo Module.

| | |
|----------|--|
| ACCEPTED | The applicable IOD is accepted for storage in the repository of the hosting platform and supported for import in Echo Module for viewing and analysis. |
| CREATED | The Echo Module supports generation of derived data by using the applicable IOD and is able to store this data in the repository of the hosting platform and Echo Module supports creation of KOS objects. |

Table 259: Supported IOD's

| IOD | | Support | |
|--|-------------------------------|----------|---------|
| Name | UID | ACCEPTED | CREATED |
| Encapsulated PDF Storage | 1.2.840.10008.5.1.4.1.1.104.1 | Yes | Yes |
| Ultrasound Multiframe Image Storage | 1.2.840.10008.5.1.4.1.1.3.1 | Yes | No |
| Ultrasound Multiframe Image Storage(Retired) | 1.2.840.10008.5.1.4.1.1.3 | Yes | No |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | Yes | No |
| Ultrasound Image Storage | 1.2.840.10008.5.1.4.1.1.6.1 | Yes | No |
| Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7 | Yes | Yes |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | Yes | No |
| Basic Text SR | 1.2.840.10008.5.1.4.1.1.88.11 | Yes | No |
| Enhanced SR | 1.2.840.10008.5.1.4.1.1.88.22 | Yes | No |
| Comprehensive SR | 1.2.840.10008.5.1.4.1.1.88.33 | Yes | No |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 | Yes | Yes |

D.1.1 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. |

D.1.1.1 List of created SOP Classes

Table 260: List of created SOP Classes

| SOP Class Name | SOP Class UID |
|---|-------------------------------|
| Encapsulated PDF Storage SOP Class | 1.2.840.10008.5.1.4.1.1.104.1 |
| Secondary Capture Image Storage SOP Class | 1.2.840.10008.5.1.4.1.1.7 |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 |

D.1.1.2 Encapsulated PDF Storage SOP Class

Table 261: IOD of Created Encapsulated PDF Storage SOP Class Instances

| Information Entity | Module | Presence Of Module |
|--------------------|------------------------------|--------------------|
| Patient | Patient | ALWAYS |
| Study | General Study | ALWAYS |
| | Patient Study Module | CONDITIONAL |
| Series | Encapsulated Document Series | ALWAYS |
| Equipment | General Equipment | ALWAYS |
| | SC Equipment | ALWAYS |
| Image | Encapsulated Document | ALWAYS |
| | SOP Common | ALWAYS |

Table 262: Patient Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------------|-----------|----|-------|-------------------|--------|---------|
| Patient's Name | 0010,0010 | PN | | ALWAYS | COPY | - |
| Patient ID | 0010,0020 | LO | | ALWAYS | COPY | - |
| Issuer of Patient ID | 0010,0021 | LO | | ANAP | AUTO | - |
| Patient's Birth Date | 0010,0030 | DA | | VNAP | COPY | - |
| Patient's Birth Time | 0010,0032 | TM | | ANAP | COPY | - |
| Patient's Sex | 0010,0040 | CS | | ALWAYS | COPY | - |
| Other Patient Names | 0010,1001 | PN | | ANAP | COPY | - |
| Ethnic Group | 0010,2160 | SH | | ANAP | COPY | - |
| Patient Comments | 0010,4000 | LT | | ANAP | COPY | |

Table 263: General Study Module

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

Table 264: Patient Study Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------------|-----------|----|-------|-------------------|--------|---------|
| Admitting Diagnoses Description | 0008,1080 | LO | | ANAP | COPY | - |

Table 265: Encapsulated Document Series Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------|-----------|----|-------|-------------------|--------|---------|
| Modality | 0008,0060 | CS | | ALWAYS | AUTO | - |
| Series Instance UID | 0020,000E | UI | | ALWAYS | AUTO | - |
| Series Number | 0020,0011 | IS | | ALWAYS | AUTO | - |

Table 266: General Equipment Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------|-----------|----|-------|-------------------|--------|---------|
| Manufacturer | 0008,0070 | LO | | ALWAYS | AUTO | |
| Institution Name | 0008,0080 | LO | | ALWAYS | COPY | |
| Station Name | 0008,1010 | SH | | VNAP | AUTO | |
| Manufacturer's Model Name | 0008,1090 | LO | | ALWAYS | AUTO | |
| Software Versions | 0018,1020 | LO | | ALWAYS | AUTO | |

Table 267: SC Equipment Module

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

Table 268: Encapsulated Document Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|------------------------------------|-----------|----|-----------------|-------------------|--------|---------|
| Content Date | 0008,0023 | DA | | VNAP | AUTO | - |
| Acquisition DateTime | 0008,002A | DT | | VNAP | AUTO | - |
| Content Time | 0008,0033 | TM | | VNAP | AUTO | - |
| Instance Number | 0020,0013 | IS | | ALWAYS | AUTO | - |
| Burned In Annotation | 0028,0301 | CS | | ALWAYS | AUTO | - |
| Concept Name Code Sequence | 0040,A043 | SQ | | VNAP | AUTO | - |
| Verification Flag | 0040,A493 | CS | | ANAP | AUTO | - |
| Document Title | 0042,0010 | ST | | VNAP | AUTO | - |
| Encapsulated Document | 0042,0011 | OB | | ALWAYS | AUTO | - |
| MIME Type of Encapsulated Document | 0042,0012 | LO | application/pdf | ALWAYS | AUTO | - |

Table 269: SOP Common Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|------------------------|-----------|----|-------------------------------|-------------------|--------|---------|
| Specific Character Set | 0008,0005 | CS | | ANAP | COPY | |
| SOP Class UID | 0008,0016 | UI | 1.2.840.10008.5.1.4.1.1.104.1 | ALWAYS | FIXED | - |
| SOP Instance UID | 0008,0018 | UI | | ALWAYS | AUTO | - |
| Instance Number | 0020,0013 | IS | | ANAP | AUTO | |

D.1.1.3 Secondary Capture Image Storage SOP Class

Table 270: 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 |
| Series | General Series Module | ALWAYS |
| Equipment | General Equipment Module | ALWAYS |
| Equipment | SC Equipment Module | ALWAYS |
| Acquisition | General Acquisition Module | ALWAYS |
| Image | General Image Module | ALWAYS |
| | SC Image Module | ALWAYS |
| | VOI LUT Module | ALWAYS |
| | Image Pixel Module | ALWAYS |
| | SOP Common Module | ALWAYS |
| | Extended DICOM and Private attributes | |

Table 271: Patient Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------------|-----------|----|-------|-------------------|--------|---------|
| Patient's Name | 0010,0010 | PN | | ALWAYS | COPY | - |
| Patient ID | 0010,0020 | LO | | ALWAYS | COPY | - |
| Issuer of Patient ID | 0010,0021 | LO | | ANAP | COPY | - |
| Patient's Birth Date | 0010,0030 | DA | | VNAP | COPY | - |
| Patient's Sex | 0010,0040 | CS | | ALWAYS | COPY | - |

Table 272: 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 | AUTO | - |
| Referring Physician's Name | 0008,0090 | PN | | VNAP | COPY | - |
| Study Description | 0008,1030 | LO | | ANAP | COPY | - |
| Study Instance UID | 0020,000D | UI | | ALWAYS | COPY | - |
| Study ID | 0020,0010 | SH | | VNAP | AUTO | - |

Table 273: Patient Study Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------------|-----------|----|-------|-------------------|--------|---------|
| Admitting Diagnoses Description | 0008,1080 | LO | | ANAP | COPY | - |

Table 274: General Series Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|-----------------------------|-----------|----|-------|-------------------|--------|---------|
| Series Date | 0008,0021 | DA | | ANAP | AUTO | - |
| Series Time | 0008,0031 | TM | | ANAP | AUTO | - |
| Modality | 0008,0060 | CS | | ALWAYS | AUTO | - |
| Performing Physicians' Name | 0008,1050 | PN | | VNAP | AUTO | - |
| Series Instance UID | 0020,000E | UI | | ALWAYS | AUTO | - |
| Series Number | 0020,0011 | IS | | VNAP | AUTO | - |

Table 275: General Equipment Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------|-----------|----|-------|-------------------|------------|---------|
| Manufacturer | 0008,0070 | LO | | ALWAYS | COPY, AUTO | - |
| Institution Name | 0008,0080 | LO | | ALWAYS | COPY | - |
| Station Name | 0008,1010 | SH | | ALWAYS | AUTO | - |
| Manufacturer's Model Name | 0008,1090 | LO | | ALWAYS | AUTO | - |

| | | | | | |
|-------------------|-----------|----|--------|------|---|
| Software Versions | 0018,1020 | LO | ALWAYS | AUTO | - |
|-------------------|-----------|----|--------|------|---|

Table 276: SC Equipment Module

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

Table 277: General Acquisition Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------------|-----------|----|-------|-------------------|--------|---------|
| Acquisition Date | 0008,0022 | DA | | ANAP | COPY | |
| Acquisition Time | 0008,0032 | TM | | ANAP | COPY | |
| Acquisition DateTime | 0008,002A | DT | | ANAP | COPY | |
| Acquisition Duration | 0018,9073 | FD | | ANAP | COPY | |
| Acquisition Number | 0020,0012 | IS | | ANAP | COPY | |

Table 278: General Image Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|-------------------------|-----------|----|---|-------------------|--------|---------|
| Image Type | 0008,0008 | CS | Value 1: DERIVED, Value 2: SECONDARY | ANAP | AUTO | - |
| Content Date | 0008,0023 | DA | | VNAP | AUTO | - |
| Content Time | 0008,0033 | TM | | VNAP | AUTO | - |
| Instance Number | 0020,0013 | IS | | VNAP | AUTO | - |
| Patient Orientation | 0020,0020 | CS | | ANAP | AUTO | - |
| Lossy Image Compression | 0028,2110 | CS | | VNAP | AUTO | - |

Table 279: 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 | - |
| Pixel Aspect Ratio | 0028,0034 | IS | | 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/OB | | ALWAYS | AUTO | - |

Table 280: SC Image Module

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

Table 281: VOI LUT Module

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

Table 282: SOP Common Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|------------------------|-----------|----|-------------------------------|-------------------|--------|---|
| Specific Character Set | 0008,0005 | CS | | ALWAYS | COPY | Required if expanded/replacement character set used |
| Instance Creation Date | 0008,0012 | DA | | ANAP | AUTO | - |
| Instance Creation Time | 0008,0013 | TM | | ANAP | AUTO | - |
| 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 | - |
| Instance Number | 0020,0013 | IS | | ANAP | AUTO | - |

D.1.1.4 Key Object Selection Document Storage SOP Class

The supported Module and their tags are mentioned below.

Table 283: Key Object Selection Document Storage SOP Class - Supported Modules

| Information Entity | Module | Presence Of Module |
|--------------------|----------------------------|--------------------|
| Patient | Patient | ALWAYS |
| Study | General Study | ALWAYS |
| Series | Key Object Document Series | ALWAYS |
| Equipment | General Equipment | ALWAYS |
| Document | Key Object Document | ALWAYS |
| | SR Document Content | ALWAYS |
| | SOP Common | ALWAYS |

Table 284: Patient Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------|-----------|----|-------|-------------------|--------|---------|
| Patient's Name | 0010,0010 | PN | | ALWAYS | COPY | |

| | | | | | | |
|----------------------|-----------|----|--|--------|------|--|
| Patient ID | 0010,0020 | LO | | ALWAYS | COPY | |
| Issuer of Patient ID | 0010,0021 | LO | | ANAP | COPY | |
| Patient's Birth Date | 0010,0030 | DA | | VNAP | COPY | |
| Patient's Sex | 0010,0040 | CS | | ALWAYS | COPY | |

Table 285: General Study Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------------------|-----------|----|-------|-------------------|--------|---------|
| Study Date | 0080,0020 | DA | | ALWAYS | COPY | |
| Study Time | 0008,0030 | TM | | ALWAYS | COPY | |
| Accession Number | 0008,0050 | SH | | ALWAYS | COPY | |
| Referring Physician's Name | 0008,0090 | PN | | ALWAYS | COPY | |
| Study Instance UID | 0020,000D | UI | | ALWAYS | AUTO | |
| Study ID | 0020,0010 | SH | | VNAP | COPY | |

Table 286: Key Object Document Series Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|--|-----------|----|-------|-------------------|--------|---------|
| Referenced Performed Procedure Step Sequence | 0008,1111 | SQ | | EMPTY | AUTO | |
| Modality | 0008,0060 | CS | KO | ALWAYS | FIXED | |
| Series Instance UID | 0020,000E | UI | | ALWAYS | AUTO | |
| Series Number | 0020,0011 | IS | 1 | ALWAYS | FIXED | |

Table 287: General Equipment Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------|-----------|----|-------|-------------------|--------|---------|
| Manufacturer | 0008,0070 | LO | | ALWAYS | AUTO | - |
| Institution Name | 0008,0080 | LO | | ALWAYS | COPY | - |
| Station Name | 0008,1010 | SH | | VNAP | AUTO | - |
| Manufacturer's Model Name | 0008,1090 | LO | | ALWAYS | AUTO | - |
| Software Versions | 0018,1020 | LO | | ALWAYS | AUTO | - |

Table 288: Key Object Document Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---|-----------|----|-------|-------------------|--------|---------|
| Content Date | 0008,0023 | DA | | ALWAYS | AUTO | |
| Content Time | 0008,0033 | TM | | ALWAYS | AUTO | |
| Instance Number | 0020,0013 | IS | | ALWAYS | AUTO | |
| Current Requested Procedure Evidence Sequence | 0040,A375 | SQ | | ALWAYS | AUTO | |
| >Referenced Series Sequence | 0008,1115 | SQ | | ALWAYS | AUTO | |
| >>Referenced SOP Sequence | 0008,1199 | SQ | | ALWAYS | AUTO | |

| | | | | | | |
|--------------------------------|-----------|----|--|--------|------|--|
| >>>Referenced SOP Class UID | 0008,1150 | UI | | ALWAYS | AUTO | |
| >>>Referenced SOP Instance UID | 0008,1155 | UI | | ALWAYS | AUTO | |
| >>Series Instance UID | 0020,000E | UI | | ALWAYS | AUTO | |
| >Study Instance UID | 0020,000D | UI | | ALWAYS | AUTO | |

Table 289: SR Document Content Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|-------------------------------|-----------|----|-------------------|-------------------|--------|---------------------------------|
| Value Type | 0040,A040 | CS | CONTAINER | ALWAYS | FIXED | |
| Concept Name Code Sequence | 0040,A043 | SQ | | ALWAYS | AUTO | |
| > Code Value | 0008,0100 | SH | | ALWAYS | AUTO | |
| > Coding Scheme Designator | 0008,0102 | SH | DCM | ALWAYS | FIXED | |
| > Code Meaning | 0008,0104 | LO | | ALWAYS | AUTO | |
| Continuity of Content | 0040,A050 | CS | | ALWAYS | AUTO | |
| Content Template Sequence | 0040,A504 | SQ | | ALWAYS | AUTO | |
| >Mapping Resource | 0008,0105 | CS | DCMR | ALWAYS | FIXED | |
| >Template Identifier | 0040,DB00 | CS | 2010 | ALWAYS | FIXED | |
| Content Sequence | 0040,A730 | SQ | | ALWAYS | AUTO | |
| >Relationship Type | 0040,A010 | CS | HAS CONCEPT MOD | ALWAYS | FIXED | |
| >Value Type | 0040,A040 | CS | CODE | ALWAYS | FIXED | |
| >Concept Name Code Sequence | 0040,A043 | SQ | | ALWAYS | AUTO | |
| >>Code Value | 0008,0100 | SH | | ALWAYS | AUTO | |
| >>Coding Scheme Designator | 0008,0102 | SH | DCM | ALWAYS | FIXED | |
| >>Code Meaning | 0008,0104 | LO | | ALWAYS | AUTO | |
| >Concept Code Sequence | 0040,A168 | SQ | | ANAP | AUTO | Present only for quality reason |
| >>Code Value | 0008,0100 | SH | 111207 | ALWAYS | FIXED | |
| >>Coding Scheme Designator | 0008,0102 | SH | DCM | ALWAYS | FIXED | |
| >>Code Meaning | 0008,0104 | LO | Image Artifact(s) | ALWAYS | FIXED | |
| >Relationship Type | 0040,A010 | CS | CONTAINS | ALWAYS | FIXED | |
| >Value Type | 0040,A040 | CS | IMAGE | ALWAYS | FIXED | |
| >Referenced SOP Sequence | 0008,1199 | SQ | | ALWAYS | AUTO | |
| >> Referenced SOP Class UID | 0008,1150 | UI | | ALWAYS | AUTO | |
| >>Referenced SOP Instance UID | 0008,1155 | UI | | ALWAYS | AUTO | |

Table 290: SOP Common Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|------------------------|-----------|----|-------------------------------|-------------------|--------|---------|
| Specific Character Set | 0008,0005 | CS | | VNAP | COPY | |
| SOP Class UID | 0008,0016 | UI | 1.2.840.10008.5.1.4.1.1.88.59 | ALWAYS | FIXED | |
| SOP Instance UID | 0008,0018 | UI | | ALWAYS | AUTO | |
| Instance Number | 0020,0013 | IS | 1 | ALWAYS | FIXED | |

Table 291: Private/ Additional Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|-----------------------------|-----------|----|-------|-------------------|--------|---------|
| Patient's Telephone Numbers | 0010,2154 | SH | | ANAP | COPY | |

D.1.2 Usage of Attributes from Received IOD

The following table lists the functionality supported by this application.

Table 292: Functionalities

| Functionality | Type1 | Optional | Private |
|---------------|-------|----------|---------|
| Viewer | X | | |

D.1.3 Attribute Mapping

Not applicable.

D.1.4 Coerced/Modified fields

Not applicable.

D.2 Data Dictionary of Private Attributes

Not applicable.

D.3 Coded Terminology and Templates

Not applicable.

D.3.1 Context Groups

Not applicable.

D.3.2 Template Specifications

Not applicable.

D.3.3 Private code definitions

Not applicable.

D.4 Grayscale Image consistency

Not applicable.

D.5 Standard Extended/Specialized/Private SOPs

Not applicable.

Table 293: 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 |

D.5.1 Standard Extended/Specialized/Private SOP Instance

D.5.1.1 Secondary Capture Image Storage SOP Class

Table 294: Extended DICOM and private attributes for Secondary Capture Image Storage SOP Class Instances

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------|-----------|----|-------|-------------------|--------|---------|
| Patient Telephone Numbers | 0010,2154 | SH | | ANAP | AUTO | |

D.6 Private Transfer Syntaxes

Not applicable.

Annexes of application “ECG Viewer Applet”

E.1 Supported IOD's

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

ACCEPTED The applicable IOD is accepted for storage in the repository of the hosting platform and supported for import in ECG Viewer Applet for viewing and analysis.

CREATED The ECG Viewer Applet does not create SOP Instances.

Table 295: Supported IOD's

| IOD | | Support | |
|------------------------------|-------------------------------|----------|---------|
| Name | UID | ACCEPTED | CREATED |
| 12-lead ECG Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.1.1 | Yes | No |
| General ECG Waveform Storage | 1.2.840.10008.5.1.4.1.1.9.1.2 | Yes | No |

Annexes of application “Image Viewer Applet”

F.1 Supported IOD's

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

ACCEPTED The applicable IOD is accepted for storage in the repository of the hosting platform and supported for import in Image Viewer Applet for viewing and analysis.

CREATED The Image Viewer Applet 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 296: Supported IOD's

| IOD | | Support | |
|--|------------------------------|----------|---------|
| Name | UID | ACCEPTED | CREATED |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | Yes | No |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | Yes | No |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Yes | No |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Yes | No |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Yes | No |
| Positron Emission Tomography Image Storage | 1.2.840.10008.5.1.4.1.1.128 | Yes | No |
| Nuclear Medicine Image Storage | 1.2.840.10008.5.1.4.1.1.20 | Yes | No |
| X-Ray Radiofluoroscopic Image Storage | 1.2.840.10008.5.1.4.1.1.12.2 | Yes | No |
| X-Ray Angiographic Image Storage | 1.2.840.10008.5.1.4.1.1.12.1 | Yes | No |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | Yes | No |
| Ultrasound Image Storage | 1.2.840.10008.5.1.4.1.1.6.1 | Yes | No |
| Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7 | Yes | Yes |
| Multi-frame Single Bit Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.1 | Yes | No |
| Multi-frame Grayscale Byte Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.2 | Yes | No |
| Multi-frame Grayscale Word Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.3 | Yes | No |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | Yes | No |
| MR Image Storage | 1.2.840.10008.5.1.4.1.1.4 | Yes | No |
| CT Image Storage | 1.2.840.10008.5.1.4.1.1.2 | Yes | No |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Yes | No |
| Ultrasound Multi-frame Image Storage | 1.2.840.10008.5.1.4.1.1.3.1 | Yes | No |
| Computed Radiography Image Storage | 1.2.840.10008.5.1.4.1.1.1 | Yes | No |
| Digital X-Ray Image Storage – for Presentation | 1.2.840.10008.5.1.4.1.1.1.1 | Yes | No |

| | | | |
|--|-------------------------------|-----|----|
| Digital X-Ray Image Storage – for Processing | 1.2.840.10008.5.1.4.1.1.1.1 | Yes | No |
| MG Mammography for presentation | 1.2.840.10008.5.1.4.1.1.1.2 | Yes | No |
| MG Mammography for processing | 1.2.840.10008.5.1.4.1.1.1.2.1 | Yes | No |

F.1.1 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 |

F.1.1.1 List of created SOP Classes

Table 297: 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 |

F.1.1.2 Secondary Capture Image Storage SOP Class

Table 298: 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 |
| Series | General Series Module | ALWAYS |
| Equipment | General Equipment Module | ALWAYS |
| Equipment | SC Equipment Module | ALWAYS |
| Image | General Image Module | ALWAYS |

| | | |
|--|--------------------|--------|
| | Image Pixel Module | ALWAYS |
| | VOI LUT Module | ALWAYS |
| | SOP Common Module | ALWAYS |

Table 299: Patient Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------------|-----------|----|-------|-------------------|--------|---------|
| Patient's Name | 0010,0010 | PN | | ALWAYS | COPY | - |
| Patient ID | 0010,0020 | LO | | ALWAYS | COPY | - |
| Issuer of Patient ID | 0010,0021 | LO | | ANAP | COPY | - |
| Patient's Birth Date | 0010,0030 | DA | | VNAP | COPY | - |
| Patient's Sex | 0010,0040 | CS | | ALWAYS | COPY | - |
| Ethnic Group | 0010,2160 | SH | | ANAP | COPY | - |

Table 300: 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 | AUTO | - |
| Referring Physician's Name | 0008,0090 | PN | | ALWAYS | COPY | - |
| Study Description | 0008,1030 | LO | | ANAP | COPY | - |
| Study Instance UID | 0020,000D | UI | | ALWAYS | COPY | - |
| Study ID | 0020,0010 | SH | | VNAP | COPY | - |

Table 301: Patient Study Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------------|-----------|----|-------|-------------------|--------|---------|
| Admitting Diagnoses Description | 0008,1080 | LO | | ANAP | COPY | - |

Table 302: General Series Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|-----------------------------|-----------|----|-------|-------------------|--------|---------|
| Series Date | 0008,0021 | DA | | ANAP | AUTO | - |
| Series Time | 0008,0031 | TM | | ANAP | AUTO | - |
| Modality | 0008,0060 | CS | | ALWAYS | AUTO | - |
| Performing Physicians' Name | 0008,1050 | PN | | ANAP | AUTO | - |
| Series Instance UID | 0020,000E | UI | | ALWAYS | AUTO | - |
| Series Number | 0020,0011 | IS | | VNAP | AUTO | - |
| Body Part Examined | 0018,0015 | CS | | ANAP | COPY | - |

Table 303: General Equipment Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------|-----|----|-------|-------------------|--------|---------|
| | | | | | | |

| | | | | | | |
|---------------------------|-----------|----|--|--------|------|---|
| Manufacturer | 0008,0070 | LO | | ALWAYS | AUTO | - |
| Institution Name | 0008,0080 | LO | | ALWAYS | AUTO | - |
| Station Name | 0008,1010 | SH | | VNAP | AUTO | - |
| Manufacturer's Model Name | 0008,1090 | LO | | ALWAYS | AUTO | - |
| Software Versions | 0018,1020 | LO | | ALWAYS | AUTO | - |

Table 304: SC Equipment Module

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

Table 305: General Image Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|-------------------------|-----------|----|--|-------------------|--------|---------|
| Image Type | 0008,0008 | CS | Value 1: DERIVED Value 2: SECONDARY | ANAP | AUTO | - |
| Acquisition Date | 0008,0022 | DA | | ANAP | AUTO | - |
| Content Date | 0008,0023 | DA | | VNAP | AUTO | - |
| Acquisition Time | 0008,0032 | TM | | ANAP | AUTO | - |
| Content Time | 0008,0033 | TM | | VNAP | AUTO | - |
| Instance Number | 0020,0013 | IS | | VNAP | AUTO | - |
| Patient Orientation | 0020,0020 | CS | | ANAP | AUTO | - |
| Lossy Image Compression | 0028,2110 | CS | | VNAP | AUTO | - |

Table 306: 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 | - |
| Pixel Aspect Ratio | 0028,0034 | IS | | 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/ OB | | ALWAYS | AUTO | - |

Table 307: VOI LUT Module

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

Table 308: SOP Common Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|------------------------|-----------|----|---------------------------|-------------------|--------|---|
| Specific Character Set | 0008,0005 | CS | | VNAP | COPY | Required if expanded/replacement character set used |
| Instance Creation Date | 0008,0012 | DA | | ANAP | AUTO | - |
| Instance Creation Time | 0008,0013 | TM | | ANAP | AUTO | - |
| 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 Number | 0020,0013 | IS | | ANAP | AUTO | - |

F.1.2 Usage of Attributes from Received IOD

The following table lists the functionality supported by this application.

Table 309: Functionalities

| Functionality | Type1 | Optiona l | Private |
|---------------|-------|-----------|---------|
| Viewer | X | | |

F.1.3 Attribute Mapping

Not applicable.

F.1.4 Coerced/Modified fields

Not applicable.

F.2 Data Dictionary of Private Attributes

Not applicable.

F.3 Coded Terminology and Templates

Not applicable.

F.3.1 Context Groups

Not applicable.

F.3.2 Template Specifications

Not applicable.

F.3.3 Private code definitions

Not applicable.

F.4 Grayscale Image consistency

Not applicable.

F.5 Standard Extended/Specialized/Private SOPs

Not applicable.

Table 310: 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 |

F.5.1 Standard Extended/Specialized/Private SOP Instance

F.5.1.1 Secondary Capture Image Storage SOP Class

Table 311: Extended DICOM and private attributes for Secondary Capture Image Storage SOP Class Instances

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------|-----------|----|-------|-------------------|--------|---------|
| Patient Telephone Numbers | 0010,2154 | SH | | ANAP | AUTO | |
| Image Position | 0020,0030 | DS | | ANAP | AUTO | |
| Image Orientation | 0020,0035 | DS | | ANAP | AUTO | |

F.6 Private Transfer Syntaxes

Not applicable.

Annexes of application "Study Management Tool"

G.1 Supported IOD's

This section specifies each IOD accepted and / or created by Study Management Tool.

| | |
|----------|--|
| ACCEPTED | The applicable IOD is accepted for storage in the repository of the hosting platform and supported for import in Study Management Tool for viewing and analysis. |
| CREATED | The Study Management Tool supports generation of derived data by using the applicable IOD and is able to store this data in the repository of the hosting platform. Study Management Tool supports creation of KOS objects due to "Rejection of imaging instances for Quality Reasons" and "Correction of Modality Worklist Selection" |

Table 312: Supported IOD's

| Name | IOD | Support | |
|--|------------------------------|----------|---------|
| | | ACCEPTED | CREATED |
| Philips Private X-Ray Image Storage | 1.3.46.670589.2.3.1.1 | Yes | No |
| Philips Private Reconstructed X-ray Storage | 1.3.46.670589.2.4.1.1 | Yes | No |
| Philips Private ViewForum CT Synthetic Image Storage | 1.3.46.670589.5.0.9 | Yes | No |
| Philips Private ViewForum MR Synthetic Image Storage | 1.3.46.670589.5.0.10 | Yes | No |
| Philips Private ViewForum CX Synthetic Image Storage | 1.3.46.670589.5.0.12 | Yes | No |
| Positron Emission Tomography Image Storage | 1.2.840.10008.5.1.4.1.1.128 | Yes | No |
| Nuclear Medicine Image Storage | 1.2.840.10008.5.1.4.1.1.20 | Yes | No |
| X-Ray Radiofluoroscopic Image Storage | 1.2.840.10008.5.1.4.1.1.12.2 | Yes | No |
| X-Ray Angiographic Image Storage | 1.2.840.10008.5.1.4.1.1.12.1 | Yes | No |
| Ultrasound Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.6 | Yes | No |
| Ultrasound Image Storage | 1.2.840.10008.5.1.4.1.1.6.1 | Yes | No |
| Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7 | Yes | No |
| Multi-frame Single Bit Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.1 | Yes | No |
| Multi-frame Grayscale Byte Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.2 | Yes | No |
| Multi-frame Grayscale Word Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.3 | Yes | No |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4 | Yes | No |
| MR Image Storage | 1.2.840.10008.5.1.4.1.1.4 | Yes | No |
| CT Image Storage | 1.2.840.10008.5.1.4.1.1.2 | Yes | No |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Yes | No |
| Ultrasound Multi-frame Image Storage | 1.2.840.10008.5.1.4.1.1.3.1 | Yes | No |

| | | | |
|---|-------------------------------|-----|-----|
| Computed Radiography Image Storage | 1.2.840.10008.5.1.4.1.1.1 | Yes | No |
| Digital X-Ray Image Storage – for Presentation | 1.2.840.10008.5.1.4.1.1.1.1 | Yes | No |
| Digital X-Ray Image Storage – for Processing | 1.2.840.10008.5.1.4.1.1.1.1.1 | Yes | No |
| MG Mammography for presentation | 1.2.840.10008.5.1.4.1.1.1.2 | Yes | No |
| MG Mammography for processing | 1.2.840.10008.5.1.4.1.1.1.2.1 | Yes | No |
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 | Yes | Yes |

G.1.1 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 |

G.1.1.1 List of created SOP Classes

Table 313: List of created SOP Classes

| SOP Class Name | SOP Class UID |
|---|-------------------------------|
| Key Object Selection Document Storage SOP Class | 1.2.840.10008.5.1.4.1.1.88.59 |

G.1.1.2 Key Object Selection Document Storage SOP Class

The supported Module and their tags are mentioned below.

Table 314: Key Object Selection Document Storage SOP Class - Supported Modules

| Information Entity | Module | Presence Of Module |
|--------------------|----------------------------|--------------------|
| Patient | Patient | ALWAYS |
| Study | General Study | ALWAYS |
| Series | Key Object Document Series | ALWAYS |
| Equipment | General Equipment | ALWAYS |

| | | |
|----------|---------------------|--------|
| Document | Key Object Document | ALWAYS |
| | SR Document Content | ALWAYS |
| | SOP Common | ALWAYS |

Table 315: Patient Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------------|-----------|----|-------|-------------------|--------|---------|
| Patient's Name | 0010,0010 | PN | | ALWAYS | COPY | |
| Patient ID | 0010,0020 | LO | | ALWAYS | COPY | |
| Issuer of Patient ID | 0010,0021 | LO | | ANAP | COPY | |
| Patient's Birth Date | 0010,0030 | DA | | VNAP | COPY | |
| Patient's Sex | 0010,0040 | CS | | ALWAYS | COPY | |

Table 316: General Study Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------------------|-----------|----|-------|-------------------|--------|---------|
| Study Date | 0080,0020 | 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 | | VNAP | COPY | |

Table 317: Key Object Document Series Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|--|-----------|----|-------|-------------------|--------|---------|
| Referenced Performed Procedure Step Sequence | 0008,1111 | SQ | | EMPTY | AUTO | |
| Modality | 0008,0060 | CS | KO | ALWAYS | FIXED | |
| Series Instance UID | 0020,000E | UI | | ALWAYS | AUTO | |
| Series Number | 0020,0011 | IS | 1 | ALWAYS | FIXED | |

Table 318: General Equipment Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|---------------------------|-----------|----|---------|-------------------|--------|---------|
| Manufacturer | 0008,0070 | LO | Philips | ALWAYS | FIXED | - |
| Institution Name | 0008,0080 | LO | | ALWAYS | COPY | - |
| Station Name | 0008,1010 | SH | | VNAP | AUTO | - |
| Manufacturer's Model Name | 0008,1090 | LO | | ALWAYS | AUTO | - |
| Software Versions | 0018,1020 | LO | | ALWAYS | AUTO | - |

Table 319: Key Object Document Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|----------------|-----------|----|-------|-------------------|--------|---------|
| Content Date | 0008,0023 | DA | | ALWAYS | AUTO | |

| | | | | | | |
|---|-----------|----|--|--------|------|--|
| Content Time | 0008,0033 | TM | | ALWAYS | AUTO | |
| Instance Number | 0020,0013 | IS | | ALWAYS | AUTO | |
| Current Requested Procedure Evidence Sequence | 0040,A375 | SQ | | ALWAYS | AUTO | |
| >Referenced Series Sequence | 0008,1115 | SQ | | ALWAYS | AUTO | |
| >>Referenced SOP Sequence | 0008,1199 | SQ | | ALWAYS | AUTO | |
| >>>Referenced SOP Class UID | 0008,1150 | UI | | ALWAYS | AUTO | |
| >>>Referenced SOP Instance UID | 0008,1155 | UI | | ALWAYS | AUTO | |
| >>Series Instance UID | 0020,000E | UI | | ALWAYS | AUTO | |
| >Study Instance UID | 0020,000D | UI | | ALWAYS | AUTO | |

Table 320: SR Document Content Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|-----------------------------|-----------|----|-------------------|-------------------|--------|---------------------------------|
| Value Type | 0040,A040 | CS | CONTAINER | ALWAYS | FIXED | |
| Concept Name Code Sequence | 0040,A043 | SQ | | ALWAYS | AUTO | |
| > Code Value | 0008,0100 | SH | | ALWAYS | AUTO | |
| > Coding Scheme Designator | 0008,0102 | SH | DCM | ALWAYS | FIXED | |
| > Code Meaning | 0008,0104 | LO | | ALWAYS | AUTO | |
| Continuity of Content | 0040,A050 | CS | | ALWAYS | AUTO | |
| Content Template Sequence | 0040,A504 | SQ | | ALWAYS | AUTO | |
| >Mapping Resource | 0008,0105 | CS | DCMR | ALWAYS | FIXED | |
| >Template Identifier | 0040,DB00 | CS | 2010 | ALWAYS | FIXED | |
| Content Sequence | 0040,A730 | SQ | | ALWAYS | AUTO | |
| >Relationship Type | 0040,A010 | CS | HAS CONCEPT MOD | ALWAYS | FIXED | |
| >Value Type | 0040,A040 | CS | CODE | ALWAYS | FIXED | |
| >Concept Name Code Sequence | 0040,A043 | SQ | | ALWAYS | AUTO | |
| >>Code Value | 0008,0100 | SH | | ALWAYS | AUTO | |
| >>Coding Scheme Designator | 0008,0102 | SH | DCM | ALWAYS | FIXED | |
| >>Code Meaning | 0008,0104 | LO | | ALWAYS | AUTO | |
| >Concept Code Sequence | 0040,A168 | SQ | | ANAP | AUTO | Present only for quality reason |
| >>Code Value | 0008,0100 | SH | 111207 | ALWAYS | FIXED | |
| >>Coding Scheme Designator | 0008,0102 | SH | DCM | ALWAYS | FIXED | |
| >>Code Meaning | 0008,0104 | LO | Image Artifact(s) | ALWAYS | FIXED | |

| | | | | | | |
|-------------------------------|-----------|----|----------|--------|-------|--|
| >Relationship Type | 0040,A010 | CS | CONTAINS | ALWAYS | FIXED | |
| >Value Type | 0040,A040 | CS | IMAGE | ALWAYS | FIXED | |
| >Referenced SOP Sequence | 0008,1199 | SQ | | ALWAYS | AUTO | |
| >> Referenced SOP Class UID | 0008,1150 | UI | | ALWAYS | AUTO | |
| >>Referenced SOP Instance UID | 0008,1155 | UI | | ALWAYS | AUTO | |

Table 321: SOP Common Module

| Attribute Name | Tag | VR | Value | Presence of Value | Source | Comment |
|------------------------|-----------|----|-------------------------------|-------------------|--------|---------|
| Specific Character Set | 0008,0005 | CS | | VNAP | COPY | |
| SOP Class UID | 0008,0016 | UI | 1.2.840.10008.5.1.4.1.1.88.59 | ALWAYS | FIXED | |
| SOP Instance UID | 0008,0018 | UI | | ALWAYS | AUTO | |
| Instance Number | 0020,0013 | IS | 1 | ALWAYS | FIXED | |

G.1.2 Usage of Attributes from Received IOD

The following table lists the functionality supported by this application.

Table 322: Functionalities

| Functionality | Type1 | Optional | Private |
|---------------|-------|----------|---------|
| Viewer | X | | |

G.1.3 Attribute Mapping

Not applicable.

G.1.4 Coerced/Modified fields

Not applicable.

G.2 Data Dictionary of Private Attributes

Not applicable.

G.3 Coded Terminology and Templates

Not applicable.

G.3.1 Context Groups

Not applicable.

G.3.2 Template Specifications

Not applicable.

G.3.3 Private code definitions

Not applicable.

G.4 Grayscale Image consistency

Not applicable.

G.5 Standard Extended/Specialized/Private SOPs

Not applicable.

G.6 Private Transfer Syntaxes

Not applicable.

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