DICOM Conformance Statement

syngo Dynamics VA50 (Syngo Carbon Cardiology)

Product Name

syngo Dynamics VA50

(Syngo Carbon Cardiology)

May 2026

SIEMENS Healthineers

DICOM Conformance Statement

The *syngo*® Dynamics Workplace provides diagnostic display of DICOM Images conforming to the Ultrasound Image Storage, Ultrasound Multi-frame Image Storage, X-ray Angiographic Image Storage, Nuclear Medicine Image Storage, Positron Emission Tomography Image Storage and Secondary Capture Image Storage SOP Classes. Images are reviewed through the DICOM Image Review component which displays DICOM images without any additional compression. The *syngo*® Dynamics Workplace (Syngo Carbon Cardiology) is part of the Siemens *syngo*® Suite and is designed to operate in conjunction with the *IDM backend*

The *syngo*® Dynamics Workplace (Syngo Carbon Cardiology) uses DICOM as an external interface standard. Non-DICOM internal communication mechanisms between the *syngo*® Dynamics Workplace (Syngo Carbon Cardiology) and *syngo Carbon IDM* are used for the transfer and display of images.

The *syngo*® Dynamics Workplace provides support for the DICOM US Region Calibration Module. When ultrasound images contain this module, the *syngo*® Dynamics Workplace can interpret the region calibration data provided by the Ultrasound acquisition unit. Standard pixel spacing attributes are also supported if provided with Ultrasound captures. The *syngo*® Dynamics Workplace provides support for the DICOM Imager Pixel Spacing and Estimated Radiographic Magnification Factor attributes often sent with X-Ray Angiographic captures. When XA captures contain this data the *syngo*® Dynamics Workplace can interpret them. In the case where no calibration data is provided by the acquisition device, captures may be manually calibrated using the *syngo*® Dynamics Workplace.

This conformance statement describes the DICOM Interface of the syngo® Dynamics implementation of a Medical Imaging Storage and Archive System (syngo Carbon IDM). From this point forward, syngo® Dynamics DICOM Server will be referred to as syngo Carbon IDM server.

The syngo Carbon IDM server DICOM Interface acts as a service class provider (SCP) for Storage, Storage Commitment, MPPS, Verification and Query/Retrieve Service Classes.

The syngo Carbon IDM server DICOM Interface acts as a service class user (SCU) for Storage, Storage Commitment, Verification, Query/Retrieve, MPPS, Patient Management, Study Management, Results Management and Basic Worklist Management Service Classes.

Table 1: Network Services

SOP Classes	SOP Class UID	User of Service (SCU)		Provider of Service (SCP)	
		Create	Send	Store	Display
Verification	1.2.840.10008.1.1	No	Yes	Yes	No
Basic Study Content Notification (Retired)	1.2.840.10008.1.9	No	Yes	No	No
Detached Patient Management (Retired)	1.2.840.10008.3.1.2.1.1	No	No	No	No
Detached Visit Management (Retired)	1.2.840.10008.3.1.2.2.1	No	No	No	No
Detached Study Management (Retired)	1.2.840.10008.3.1.2.3.1	No	No	No	No
Study Component Management (Retired)	1.2.840.10008.3.1.2.3.2	No	No	No	No
Detached Interpretation Management (Retired)	1.2.840.10008.3.1.2.6.1	No	No	No	No
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	No	Yes	Yes	Yes

Digital X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.1	No	Yes	Yes	Yes
Digital X-Ray Image Storage – For Processing	1.2.840.10008.5.1.4.1.1.1.1.1	No	Yes	Yes	Yes
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	No	Yes	Yes	No
Enhanced CT Image Storage	1.2.840.10008.5.1.4.1.1.2.1	No	Yes	Yes	No
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	No	Yes	Yes	Yes
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	No	Yes	Yes	Yes
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	No	Yes	Yes	No
Enhanced MR Image Storage	1.2.840.10008.5.1.4.1.1.4.1	No	Yes	Yes	No
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	No	Yes	Yes	Yes
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	No	Yes	Yes	Yes
Enhanced US Volume Storage	1.2.840.10008.5.1.4.1.1.6.2	No	Yes	Yes	No
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	No	Yes	Yes	Yes
Multi-frame Single Bit Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.1	No	Yes	Yes	Yes
Multi-frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2	No	Yes	Yes	Yes
Multi-frame Grayscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3	No	Yes	Yes	Yes
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	No	Yes	Yes	Yes
12-lead ECG Waveform Storage	1.2.840.10008.5.1.4.1.1.9.1.1	No	Yes	Yes	No
General ECG Waveform Storage	1.2.840.10008.5.1.4.1.1.9.1.2	No	Yes	Yes	No
Ambulatory ECG Waveform Storage	1.2.840.10008.5.1.4.1.1.9.1.3	No	Yes	Yes	No
Hemodynamic Waveform Storage	1.2.840.10008.5.1.4.1.1.9.2.1	No	Yes	Yes	No
Cardiac Electrophysiology Waveform Storage	1.2.840.10008.5.1.4.1.1.9.3.1	No	Yes	Yes	No
Basic Voice Audio Waveform Storage	1.2.840.10008.5.1.4.1.1.9.4.1	No	Yes	Yes	No

General Audio Waveform Storage	1.2.840.10008.5.1.4.1.1.9.4.2	No	Yes	Yes	No
Arterial Pulse Waveform Storage	1.2.840.10008.5.1.4.1.1.9.5.1	No	Yes	Yes	No
Respiratory Waveform Storage	1.2.840.10008.5.1.4.1.1.9.6.1	No	Yes	Yes	No
Grayscale Softcopy Presentation State Storage SOP Class	1.2.840.10008.5.1.4.1.1.11.1	Yes	Yes	Yes	No
X-ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	No	Yes	Yes	Yes
X-Ray Radio fluoroscopic Image	1.2.840.10008.5.1.4.1.1.12.2	No	Yes	Yes	No
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	No	Yes	Yes	Yes
Raw Data Storage	1.2.840.10008.5.1.4.1.1.66	No	Yes	Yes	No
Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.4	No	Yes	Yes	No
Basic Text SR	1.2.840.10008.5.1.4.1.1.88.11	No	Yes	Yes	No
Enhanced SR	1.2.840.10008.5.1.4.1.1.88.22	No	Yes	Yes	No
Comprehensive SR	1.2.840.10008.5.1.4.1.1.88.33	Yes	Yes	Yes	No
X-Ray Radiation Dose SR	1.2.840.10008.5.1.4.1.1.88.67	No	Yes	Yes	No
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128	No	Yes	Yes	Yes
Surface Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.5	No	Yes	Yes	No
Spatial Registration Storage	1.2.840.10008.5.1.4.1.1.66.1	No	Yes	Yes	No
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	No	Yes	Yes	No
Standalone Modality LUT Storage (Retired)	1.2.840.10008.5.1.4.1.1.10	No	Yes	Yes	No
X-Ray Angiographic Bi-Plane Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.12.3	No	Yes	Yes	No
Transfer (Private SOP Class)					
Siemens CSA Non-Image Storage	1.3.12.2.1107.5.9.1	Yes		Yes	
Storage Commitment					
Storage Commitment Push Model SOP Class	1.2.840.10008.1.20.1	Yes		Yes	
Worklist Management					
Modality Worklist Information Model - FIND	1.2.840.10008.5.1.4.31	Yes		No	
Modality Performed Procedure Step SOP Class	1.2.840.10008.3.1.2.3.3	Yes		Yes	

Query/Retrieve			
Patient Root Query/Retrieve Information Model Find	1.2.840.10008.5.1.4.1.2.1.1	Yes	Yes
Patient Root Query/Retrieve Information Model Move	1.2.840.10008.5.1.4.1.2.1.2	Yes	Yes
Study Root Query/Retrieve Information Model Find	1.2.840.10008.5.1.4.1.2.2.1	Yes	Yes
Study Root Query/Retrieve Information Model Move	1.2.840.10008.5.1.4.1.2.2.2	Yes	Yes
Patient/Study Only Query/Retrieve Information Model Find (Retired)	1.2.840.10008.5.1.4.1.2.3.1	Yes	Yes
Patient/Study Only Query/Retrieve Information Model Move (Retired)	1.2.840.10008.5.1.4.1.2.3.2	Yes	Yes

Table 2: Media Services

Supported APs	Real-World Activity	Roles	SC Option
STD-US-ID-MF- CDR	Display Directory	FSR	Interchange
STD-US-SC-MF-CDR			
STD-US-ID-SF- CDR			
STD-US-SC-SF-CDR			
STD-US-ID-SF-DVD			
STD-US-SC-SF- DVD			
STD-XABC-CD			
STD-XABC-DVD-RAM			
STD-XA1K-CD			
STD-XA1K-DVD			
STD-CTMR-CD			
STD-CTMR-DVD			
STD-GEN-DVD-JPEG			
STD-GEN-USB-JPEG			
STD-US-ID-MF- CDR			
STD-US-SC-MF-CDR			
STD-US-ID-SF- CDR			

STD-US-SC-SF-CDR	View Images	FSR	Interchange
STD-US-ID-SF-DVD			
STD-US-SC-SF- DVD			
STD-XABC-CD			
STD-XABC-DVD-RAM			
STD-XA1K-CD			
STD-XA1K-DVD			
STD-CTMR-CD			
STD-CTMR-DVD			
STD-GEN-DVD-JPEG			
STD-GEN-USB-JPEG			
STD-US-ID-MF- CDR	Copy to Local Storage	FSR	Interchange
STD-US-SC-MF-CDR			
STD-US-ID-SF- CDR			
STD-US-SC-SF-CDR			
STD-US-ID-SF-DVD			
STD-US-SC-SF- DVD			
STD-XABC-CD			
STD-XABC-DVD-RAM			
STD-XA1K-CD			
STD-XA1K-DVD			
STD-CTMR-CD			
STD-CTMR-DVD			
STD-GEN-DVD-JPEG			
STD-GEN-USB-JPEG			
STD-US-ID-MF- CDR	Update Studies	FSU	Interchange
STD-US-SC-MF-CDR			
STD-US-ID-SF- CDR			
STD-US-SC-SF-CDR			
STD-US-ID-SF-DVD			
STD-US-SC-SF- DVD			
STD-XABC-CD			
STD-XABC-DVD-RAM			
STD-XA1K-CD			

STD-XA1K-DVD			
STD-CTMR-CD			
STD-CTMR-DVD			
STD-GEN-DVD-JPEG			
STD-GEN-USB-JPEG			
STD-US-SC-MF-CDR	Create CD-R	FSC	Interchange
STD-US-SC-SF-CDR			
STD-XABC-CD			
STD-XA1K-CD			
STD-US-SC-MF-DVD	Create DVD	FSC	Interchange
STD-US-SC-SF-DVD			
STD-XA1K-DVD			
STD-CTMR-DVD			
STD-GEN-DVD-JPEG			

Table 3: Implementation Identifying Information (Client)

Name	Value
Application Context Name	1.2.840.10008.3.1.1.1
Implementation Class UID	1.3.12.2.1107.5.8.11.105
Implementation Version Name	MergeCOM3_5_5_0

1 Introduction

1.1 Revision History

Version	Date	Change
0.1	16/04/2026	Initial version for *syngo*® Dynamics Workplace (Syngo Carbon Cardiology)
1.0	06/05/2026	Released after Shared Review. Final version for *syngo*® Dynamics Workplace (Syngo Carbon Cardiology)

1.2 Audience

This document is intended for hospital staff, health system integrators, software designers or implementers. It is assumed that the reader has a working understanding of DICOM.
This document is a DICOM Conformance Statement for *syngo*® Dynamics Workplace (Syngo Carbon Cardiology)

1.3 Remarks

The scope of this DICOM Conformance Statement is to facilitate integration between *syngo* Dynamics and other DICOM products. The Conformance Statement should be read and understood in conjunction with the DICOM Standard [1]. DICOM by itself does not guarantee interoperability.
The Conformance Statement does, however, facilitate a first-level comparison for interoperability between different applications supporting compatible DICOM functionality.
This Conformance Statement is not supposed to replace validation with other DICOM equipment to ensure proper exchange of intended information. In fact, the user should be aware of the following important issues:

- The comparison of conformance statements is the first step towards assessing interconnectivity and interoperability between *syngo* Dynamics and other DICOM conformant equipment.
- Test procedures should be defined and executed to validate the required level of interoperability with specific compatible DICOM equipment, as established by the healthcare facility. Siemens Healthineers reserves the right to modify the design and specifications contained herein without prior notice. Please contact your local Siemens Healthineers representative for the most recent product information.

1.4 Definitions, Terms and Abbreviations

Definitions, terms, and abbreviations used in this document are defined within the different parts of the DICOM standard.
Additional Abbreviations and terms are as follows:

AE	DICOM Application Entity
DICOM	Digital Imaging and Communications in Medicine
FSC	File Set Creator
FSR	File Set Reader
FSU	File Set Updater
IM	Information Model
n. a.	not applicable
SOP	DICOM Service-Object Pair
SR	Structured Report

1.5 References

[1] NEMA PS3 / ISO 12052, Digital Imaging and Communications in Medicine (DICOM) Standard, National Electrical Manufacturers Association, Rosslyn, VA, USA (available free at http://www.dicomstandard.org/)
[2] Syngo Carbon IDM DICOM Conformance Statement (Refer to Latest Version).
Refer to http://www.siemens-healthineers.com/dicom

2 Networking

Refer to the latest syngo Carbon Core DICOM Conformance Statement for the server DICOM Capabilities [2]

3 Media Interchange

3.1 Introduction

This section specifies the *syngo*® Dynamics Workplace (Syngo Carbon Cardiology) compliance to the DICOM Media Interchange. It details the DICOM Media Storage Application Profiles and roles which are supported.

This station provides DICOM interchange capabilities on CD, DVD as well as regular Windows file systems and USB media with different application profiles supported for each media type. Support for CD/DVD media is dependent on the appropriate hardware being installed on the station.

3.2 Implementation Model

3.2.1 Application Data Flow Diagram

The Basic and Specific Application models for writeable and non-writeable media are shown in the following illustrations.

3.2.1.1 Description of the Data Flow Diagram for Writeable Media

The Display/Edit Application Entity (AE) handles the Directory Display, Image Viewing, Study Updating, Study Copying and Media Creation functionality for the writeable media device. The Display/Edit Application Entity (AE) is commanded by the user to perform DICOM Services operating on the DICOM media through the use of buttons and menu selections on the graphical user interface of the Workplace.

The Application models for writeable media devices are shown in the figure below.

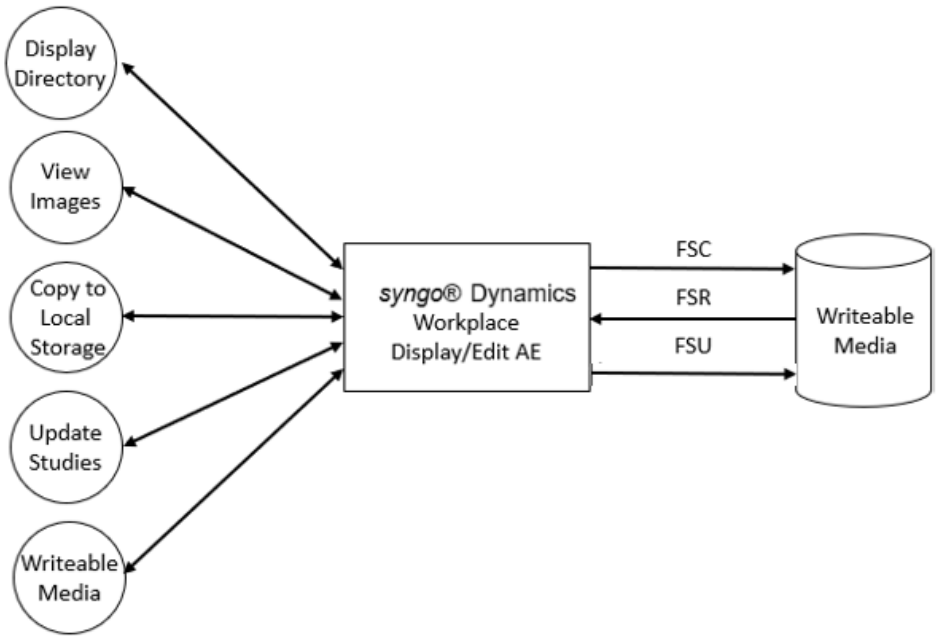

Figure 1: Writeable media Implementation Model

3.2.1.2 Description of the Data Flow Diagram for the CD-RW/DVD-RW Device

The Display/Edit Application Entity (AE) handles the Directory Display, Image Viewing, Study Updating, Study Copying and CD-RW/DVD-RW Creation functionality for the CD-RW/DVD-RW device. The Display/Edit Application Entity (AE) is commanded by the user to perform DICOM Services operating on the DICOM media through the use of buttons and menu selections on the graphical user interface of the station. The Application models for the CD/DVD device (writeable media) are shown in Figure 1. Note that the *syngo*® Dynamics Workplace does not support any official Application Profiles for CD/DVD. However, DICOM Media exchange files can be written and read along with a DICOMDIR in accordance with Figure 2.

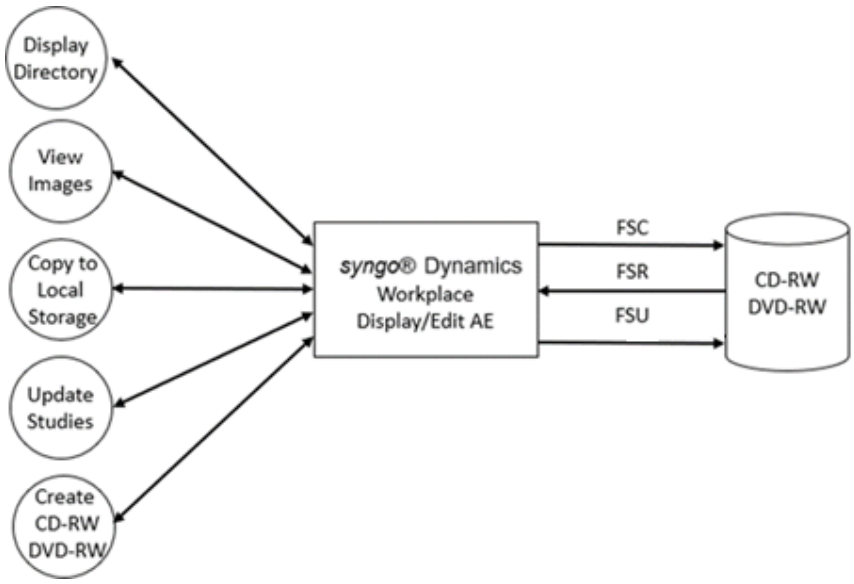

Figure 2: CD-RW and DVD-RW Implementation Model

3.2.1.3 Description of the Data Flow Diagram for non-Writeable Media

syngo® Dynamics Workplace (Syngo Carbon Cardiology) handles the Directory Display, Image Viewing, and copying studies off the non-writeable media to local storage functionality for the non-writeable media device. *syngo*® Dynamics Workplace (Syngo Carbon Cardiology) is commanded by the user to perform DICOM Services operating on the DICOM media through the use of buttons and menu selections on the graphical user interface of the Workplace.

The Application model for non-writeable media devices are shown in the figure below.

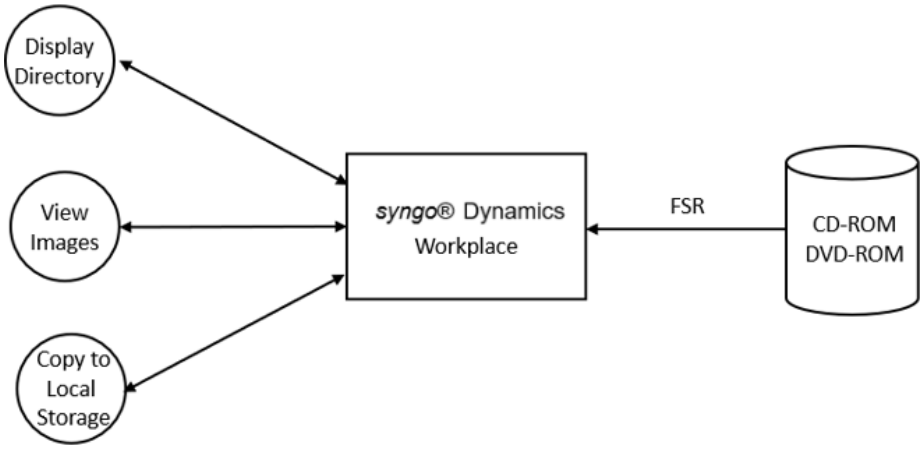

Figure 3: CD-ROM and DVD-ROM Implementation Model

3.2.2 Functional definitions of AEs

The *syngo*® Dynamics Workplace has only one Application Entity: the Display/Edit Application. The Display/Edit Application supports the following functions:

- Display a directory listing of the DICOM File Set (FSR)
- Display images from a DICOM File Set (FSR)
- Copy images from a DICOM File Set (FSR)
- Update or Delete DICOM File Sets (FSU)
- Create DICOM File Set on a CDROM/DVD (FSC)
- Create DICOM File Set on USB media or Windows file system location (FSC)

3.2.3 Sequencing of Real-World Activities

Users of the *syngo*® Dynamics Workplace initiate actions which trigger the reading, writing and updating of DICOM objects to and from the supported media.

A DICOM File Set must exist on the media for a DICOM File Set to be updated

3.2.4 File Meta Information for Implementation Class and Version

The *syngo*® Dynamics Workplace Display/Edit Application uses the following implementation identifying parameters:

- File Meta Information Version 1
- Implementation Class UID 1.3.12.2.1107.5.8.11.105

3.3 AE SPECIFICATIONS

3.3.1 Media Storage AE – Specification

3.3.1.1 Display/Edit Application Entity Specification

The Display/Edit Application Entity provides standard conformance to the DICOM Interchange Option of the Media Storage Service Class. The **Application Profiles** and roles are listed in the table

Refer to Table 2 : Media Services.

Table 2. 1 Display/Edit Application Entity Profiles, Real-World Activities, and Roles

Information Object Definition	SOP Class UID	Transfer Syntax	Transfer Syntax UID
DICOM Media Storage Directory	1.2.840.10008.1.3.10	Explicit VR Little Endian	1.2.840.10008.1.2.1
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1
		JPEG Lossless (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 Little Endian	1.2.840.10008.1.2.1
Digital X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.1 .1	JPEG Lossless (Process 14)	1.2.840.10008.1.2.4.70
Digital X-Ray Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1 .1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1
		JPEG Lossless (Process 14)	1.2.840.10008.1.2.4.70
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	Explicit VR Little Endian	1.2.840.10008.1.2.1
		JPEG Lossless (Process 14)	1.2.840.10008.1.2.4.70
Ultrasound Multi- frame Image Storage	1.2.840.10008.5.1.4.1.1.3 .1	Explicit VR Little Endian	1.2.840.10008.1.2.1
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	Explicit VR Little Endian	1.2.840.10008.1.2.1
MR Image	1.2.840.10008.5.1.4.1.1.4	JPEG Lossless (Process 14)	1.2.840.10008.1.2.4.70
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6 .1	Explicit VR Little Endian	1.2.840.10008.1.2.1
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6 .1	RLE Lossless Image Compression	1.2.840.10008.1.2.5
		JPEG Lossy, Baseline	1.2.840.10008.1.2.4.50
		Explicit VR Little Endian	1.2.840.10008.1.2.1

SC Image (grayscale / palette color)	1.2.840.10008.5.1.4.1.1.7	JPEG Lossless (Process 14)	1.2.840.10008.1.2.4.70
		Explicit VR Little Endian	1.2.840.10008.1.2.1

Table 2.2 Supported Media Storage SOP Classes

Refer to Table 1 Network Services for the supported media storage SOP classes and display sop classes are documented in table

Table 2.2.1 Supported Media Display SOP Classes

3.3.1.2 File Meta Information for Display/Edit Application Entity

The *syngo*® Dynamics Workplace Source Application Entity Title will be the AE Title assigned to the *syngo*® Dynamics Workplace.

3.3.1.3 Real-World Activities

The *syngo*® Dynamics Workplace Display/Edit Application Entity is used for the following

real world activities:

- Display Directory Listing - In this activity the Display/Edit Application Entity acts as a File-Set Reader.
- Viewing of Images - In this activity the Display/Edit Application Entity acts as a File-Set Reader.
- Copy to Local Storage - In this activity the Display/Edit Application Entity acts as a File- Set Reader.
- Updating Images - In this activity the Display/Edit Application Entity acts as a File-Set Updater.
- Creating a DVD, or CD-R - In this activity the Display/Edit Application Entity acts as a File-Set Creator.
- Creating a Windows file system or USB media set - In this activity the Display/Edit Application Entity acts as a File-Set Creator.

3.3.1.4 Real World Activity: Display Directory

The *syngo*® Dynamics Workplace Display/Edit Application is an FSR when reading the directory of the medium. This will result in an overview of the patients, studies and images in the *syngo*® Dynamics Workplace Study List.

3.3.1.5 Media Storage Application Profile for the RWA: View Images

For the list of Application Profiles that invoke this AE for the View Images RWA,

see “Table 2. 1 Display/Edit Application Entity Profiles, Real-World Activities, and Roles”.

There are no extensions or specializations.

3.3.1.6 Real World Activity: View Images

The *syngo*® Dynamics Workplace Display/Edit Application is an FSR when viewing images from the medium.

The *syngo*® Dynamics Workplace partially supports the multi-frame ultrasound "image display" Application Profile for MOD and the multi-frame ultrasound "spatial calibration" Application Profile for DVD, CD-R, Windows File System and USB media. The below table shows the supported image formats when viewing studies from re-movable media or fixed Windows file system locations.

Photometric Interpretation	Transfer Syntax	Bits Allocated	Bits Stored	Samples Per Pixel	Planar Configuration
MONOCHROME1	Explicit VR Little Endian 1.2.840.10008.1.2.1	8	8	1	Absent
	Explicit VR Little Endian 1.2.840.10008.1.2.1	16	16	1	Absent
	JPEG Lossy Baseline (Process 1) 1.2.840.10008.1.2.4.50	8	8	1	Absent
	JPEG Lossless, Non-Hierarchical (Process 14) 1.2.840.10008.1.2.4.57	8	8	1	Absent
	JPEG Lossless, Non-Hierarchical (Process 14) 1.2.840.10008.1.2.4.70	8	8	1	Absent
	RLE Lossless Image Compression 1.2.840.10008.1.2.5	8	8	1	Absent
MONOCHROME2	Explicit VR Little Endian 1.2.840.10008.1.2.1	8	8	1	Absent
	Explicit VR Little Endian 1.2.840.10008.1.2.1	16	16	1	Absent
	JPEG Lossy Baseline (Process 1) 1.2.840.10008.1.2.4.50	8	8	1	Absent
	JPEG Lossless, Non-Hierarchical (Process 14) 1.2.840.10008.1.2.4.57	8	8	1	Absent
	JPEG Lossless, Non-Hierarchical (Process 14) 1.2.840.10008.1.2.4.70	8	8	1	Absent
	RLE Lossless Image Compression 1.2.840.10008.1.2.5	8	8	1	Absent
RGB	Explicit VR Little Endian 1.2.840.10008.1.2.1	8	8	3	0 - Color-by-pixel
	Explicit VR Little Endian 1.2.840.10008.1.2.1	8	8	3	1 - Color-by-plane
PALETTE COLOR	Explicit VR Little Endian 1.2.840.10008.1.2.1	8	8	1	Absent
	RLE Lossless Image Compression 1.2.840.10008.1.2.5	8	8	1	Absent
	Explicit VR Little Endian 1.2.840.10008.1.2.1	16	16	1	Absent
	RLE Lossless Image Compression 1.2.840.10008.1.2.5	16	16	1	Absent
YBR_FULL	Explicit VR Little Endian 1.2.840.10008.1.2.1	8	8	3	0 - Color-by-pixel
	RLE Lossless Image Compression 1.2.840.10008.1.2.5	8	8	3	0 - Color-by-pixel
	RLE Lossless Image Compression 1.2.840.10008.1.2.5	8	8	3	1 - Color-by-plane
YBR_FULL_422	JPEG Lossy Baseline (Process 1) 1.2.840.10008.1.2.4.50	8	8	3	0 - Color-by-pixel

Table 3.3.1.6 :Supported Image Formats

3.3.1.6 Media Storage Application Profile for the RWA: View Images

For the list of Application Profiles that invoke this AE for the View Images RWA, see “Table 2. 1 Display/Edit Application Entity Profiles, Real-World Activities, and Roles”. There are no extensions or specializations.

The *syngo*® Dynamics Workplace displays Ultrasound, NM, PT, SC and XA Angiographic images from the *syngo Carbon IDM*.

The *syngo*® Dynamics Workplace supports the image formats shown in when displaying images using software. The *syngo*® Dynamics Workplace supports the display of 8,10,12 and 16 bit image formats.

Photometric Interpretation	Transfer Syntax	Planar Configuration
MONOCHROME1	Uncompressed Implicit VR Little Endian 1.2.840.10008.1.2	Absent
	Uncompressed Explicit VR Little Endian 1.2.840.10008.1.2.1	Absent
	RLE Lossless Image Compression 1.2.840.10008.1.2.5	Absent
	JPEG Lossless, Non-Hierarchical (Process 14) 1.2.840.10008.1.2.4.57	Absent
	JPEG Lossless, Non-Hierarchical (Process 14) 1.2.840.10008.1.2.4.70	Absent
MONOCHROME2	Uncompressed Implicit VR Little Endian 1.2.840.10008.1.2	Absent
	Uncompressed Explicit VR Little Endian 1.2.840.10008.1.2.1	Absent
	RLE Lossless Image Compression 1.2.840.10008.1.2.5	Absent
	JPEG Lossy Baseline (Process 1) 1.2.840.10008.1.2.4.50	Absent
	JPEG Lossless, Non-Hierarchical (Process 14) 1.2.840.10008.1.2.4.57	Absent
	JPEG Lossless, Non-Hierarchical (Process 14) 1.2.840.10008.1.2.4.70	Absent
RGB	Uncompressed Implicit VR Little Endian 1.2.840.10008.1.2	0 - Color-by-pixel
	Uncompressed Implicit VR Little Endian 1.2.840.10008.1.2	1 - Color-by-plane
	Uncompressed Explicit VR Little Endian 1.2.840.10008.1.2.1	0 - Color-by-pixel
	Uncompressed Explicit VR Little Endian 1.2.840.10008.1.2.1	1 - Color-by-plane
	JPEG Lossless, Non-Hierarchical (Process 14) 1.2.840.10008.1.2.4.70	0 - Color-by-pixel
YBR_FULL	RLE Lossless Image Compression 1.2.840.10008.1.2.5	0 - Color-by-pixel
	RLE Lossless Image Compression 1.2.840.10008.1.2.5	1 - Color-by-plane
	JPEG Lossless, Non-Hierarchical (Process 14) 1.2.840.10008.1.2.4.70	0 - Color-by-pixel

YBR_FULL_422	Uncompressed Implicit VR Little Endian 1.2.840.10008.1.2	0 - Color-by-pixel
	Uncompressed Explicit VR Little Endian 1.2.840.10008.1.2.1	0 - Color-by-pixel
	JPEG Lossy Baseline (Process 1) 1.2.840.10008.1.2.4.50	0 - Color-by-pixel

Table 3.3.1.3 :Supported Image Formats

3.3.1.4 Real World Activity: Update Studies

The *syngo*® Dynamics Workplace Display/Edit Application is an FSU using the Interchange option when adding studies to the medium. The Display/Edit Application will copy SOP Instances from Local Storage to the medium.

The Display/Edit Application cannot delete studies from media.

The Display/Edit Application cannot add studies to media that has been write- protected.

3.3.1.4.1 Media Storage Application Profile for the RWA: Update Studies

For the list of Application Profiles that invoke this AE for the Copy to Local Storage RWA, see “Table 2. 1 Display/Edit Application Entity Profiles, Real- World Activities, and Roles”. There are no extensions or specializations.

3.3.1.5 Real World Activity: Create CD-R/DVD

The *syngo*® Dynamics Workplace Display/Edit Application is an FSC when creating a CD- R/DVD. A DICOMDIR is created and studies can be exported to the CD-R/DVD (See RWA: Update Studies).

3.3.1.5.1 Media Storage Application Profile for the RWA: Create CD-R/DVD

For the list of Application Profiles that invoke this AE for the Create CD-R RWA, see “Table 2. 1 Display/Edit Application Entity Profiles, Real-World Activities, and Roles”. There are no extensions or specializations.

3.3.1.6 Real World Activity: Display Directory

The *syngo*® Dynamics Workplace Display/Edit Application is an FSR when reading the directory of the medium. This will result in an overview of the patients, studies and images in the *syngo*® Dynamics Workplace Study List.

3.3.1.6.1 Media Storage Application Profile for the RWA: Display Directory

For the list of Application Profiles that invoke this AE for the Display Directory RWA,

see “Table 2. 1 Display/Edit Application Entity Profiles, Real-World Activities, and Roles”.

There are no extensions or specializations.

3.3.1.7 SOP Classes and Transfer Syntaxes

n.a

3.4 AUGMENTED AND PRIVATE APPLICATION PROFILES

3.4.1 Augmented Application Profiles

The *syngo*® Dynamics Workplace has no augmented or private Application Profiles.

3.4.2 Extensions/Specializations/ Privatizations

The *syngo*® Dynamics Workplace has no extensions and specializations.

Refer Table 1 – Network Services for Privatization detail.

3.5 MEDIA CONFIGURATION

The *syngo*® Dynamics Workplace may not export all private elements of certain US SOP class objects if the private elements contain raw image data.

The Source AE Title encoded in the File Meta Information is derived from the Node Name of the workstation hosting the Workplace application.

4 Transformations of DICOM to CDA

Not Applicable to *syngo*® Dynamics Workplace (Syngo Carbon Cardiology)

5 Support of Extended Character Sets

The *syngo*® Dynamics Workplace (Syngo Carbon Cardiology) supports the following character sets:

- ISO-IR 6 (default) - Default repertoire
- ISO-IR 100 - Latin Alphabet No. 1

The *syngo*® Dynamics Workplace does not support multi-byte characters.

6 Attribute confidentiality profiles

Not Applicable to *syngo*® Dynamics Workplace (Syngo Carbon Cardiology)

7 Security

Not Applicable to *syngo*® Dynamics Workplace (Syngo Carbon Cardiology)

8 Annexes

8.1 Standard Extended / Specialized / Private SOP Classes

Refer Table 1 – Network Services for Private SOP Classes.

8.1.1 Comprehensive Text SR SOP Class IOD

IOD of created Comprehensive Text SR SOP Class Instances

IE	Module	Reference	Presence of Module
Patient	Patient Module	Table 8.1.1.2	ALWAYS
Study	General Study Module	Table 8.1.1.3	ALWAYS
Series	SR Document Series Module	Table 8.1.1.4	ALWAYS
Equipment	General Equipment Module	Table 8.1.1.5	ALWAYS
SR Document	SR Document General Module	Table 8.1.1.6	ALWAYS
	SR Document Content Module	Table 8.1.1.7	ALWAYS
	SOP Common Module	Table 8.1.1.8	ALWAYS

Table 8.1.1.1 :Supported Image Formats

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Patient's Name	(0010,0010)	AUTO	ALWAYS	ALWAYS			
Patient ID	(0010,0020)	AUTO	ALWAYS	ALWAYS			
Patient's Birth Date	(0010,0030)	AUTO	ALWAYS				
Patient's Sex	(0010,0040)	AUTO	ALWAYS				

Table 8.1.1.2 Patient Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Study Instance UID	(0020,000D)	AUTO	ALWAYS	ALWAYS			
Study Date	(0008,0020)	AUTO	ALWAYS	ALWAYS			
Study Time	(0008,0030)	AUTO	ALWAYS	ALWAYS			
Referring Physician's Name	(0008,0090)	AUTO	ALWAYS	ALWAYS			
Accession Number	(0008,0050)	AUTO	ALWAYS	ALWAYS			

Table 8.1.1.3 General Study Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Modality	(0008,0060)	AUTO	ALWAYS	ALWAYS			
Series Instance UID	(0020,000E)	AUTO	ALWAYS	ALWAYS			
Series Number	(0020,0011)	AUTO	ALWAYS	ALWAYS			
Referenced Performed Procedure Step Sequence	(0008,1111)	AUTO	ALWAYS	ALWAYS			

Table 8.1.1.4: SR Document Series Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Manufacturer	(0008,0070)	AUTO	ALWAYS	ALWAYS			

Table 8.1.1.5: General Equipment Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Instance Number	(0020,0013)	AUTO	ALWAYS	ALWAYS			
Completion Flag	(0040, A491)	AUTO	ALWAYS	ALWAYS	PARTIAL COMPLETE	PARTIAL when Verification Flag is UNVERIFIED COMPLETE when Verification Flag is VERIFIED	
Verification Flag	(0040, A493)	AUTO	ALWAYS	ALWAYS	UNVERIFIED VERIFIED	UNVERIFIED when Completion Flag is PARTIAL VERIFIED when Completion Flag is COMPLETE	
Content Date	(0008,0023)	AUTO	ALWAYS	ALWAYS			
Content Time	(0008,0033)	AUTO	ALWAYS	ALWAYS			
Verifying Observer Sequence	(0040, A073)	AUTO	ALWAYS	CONDITIONAL		Present if Verification Flag (0040, A493) is VERIFIED	
>Verifying Observer Name	(0040, A075)	AUTO	ALWAYS				
>Verifying Organization	(0040, A027)	AUTO	ALWAYS	ALWAYS			
Verification Date Time	(0040, A030)	AUTO	ALWAYS	ALWAYS			
Institution Name	(0008,0080)	AUTO	ALWAYS	ALWAYS			

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Institution Code Sequence	(0008,0082)	AUTO	ALWAYS	ALWAYS			
Study Instance UID	(0020,000D)	AUTO	ALWAYS	ALWAYS			
Referenced Study Sequence	(0008,1110)	AUTO	ALWAYS	ALWAYS			

Table 8.1.1.6 : SR Document General Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Value Type	(0040, A040)	FIXED	ALWAYS	ALWAYS	CONTAINER		

Table 8.1.1.7 : SR Document Content Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
SOP Class UID	(0008,0016)	AUTO	ALWAYS	ALWAYS			
SOP Instance UID	(0008,0018)	AUTO	ALWAYS	ALWAYS			

Table 8.1.1.8 : SOP Common Module

8.1.2 GrayScale Softcopy Presentation State SOP Class IOD

IOD of created GrayScale Softcopy Presentation State SOP Class Instances

IE	Module	Reference	Presence of Module
Patient	Patient Module	Table 8.1.2.2	ALWAYS
Study	General Study Module	Table 8.1.2.3	ALWAYS
Series	General Series Module	Table 8.1.2.4	ALWAYS
	Presentation State Module	Table 8.1.2.5	ALWAYS
Equipment	General Equipment Module	Table 8.1.2.6	ALWAYS
Presentation State	Presentation State Identification Module	Table 8.1.2.7	ALWAYS
	Presentation State Relationship Module	Table 8.1.2.8	ALWAYS
	Displayed Area Module	Table 8.1.2.9	ALWAYS
	Softcopy Presentation LUT	Table 8.1.2.10	ALWAYS
	SOP Common	Table 8.1.2.11	ALWAYS

Table 8.1.2.1 :Supported Image Formats

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Patient's Name	(0010,0010)	AUTO	ALWAYS	ALWAYS			
Patient ID	(0010,0020)	AUTO	ALWAYS	ALWAYS			
Patient's Birth Date	(0010,0030)	AUTO	ALWAYS				
Patient's Sex	(0010,0040)	AUTO	ALWAYS				

Table 8.1.2.2 : Patient Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Study Instance UID	(0020,000D)	AUTO	ALWAYS	ALWAYS			
Study Date	(0008,0020)	AUTO	ALWAYS	ALWAYS			
Study Time	(0008,0030)	AUTO	ALWAYS	ALWAYS			
Referring Physician's Name	(0008,0090)	AUTO	ALWAYS	ALWAYS			
Accession Number	(0008,0050)	AUTO	ALWAYS				

Table 8.1.2.3 : General Study Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Modality	(0008,0060)	AUTO	ALWAYS	ALWAYS			
Series Instance UID	(0020,000E)	AUTO	ALWAYS	ALWAYS			
Series Number	(0020,0011)	AUTO	ALWAYS	ALWAYS			

Table 8.1.2.4 : General Series Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Modality	(0008,0060)	AUTO	ALWAYS	ALWAYS			

Table 8.1.2.5 : Presentation Series Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value		Conditions	Com
Manufacturer	(0008,0070)	AUTO	ALWAYS	ALWAYS				

Table 8.1.2.6 : General Equipment Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Presentation Creation Date	(0070,0082)	AUTO	ALWAYS	ALWAYS			
Presentation Creation Time	(0070,0083)	AUTO	ALWAYS	ALWAYS			

Table 8.1.2.7 : Presentation State Identification Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Referenced Series Sequence	(0008,1115)	AUTO	ALWAYS	ALWAYS			
>Series Instance UID	(0020,000E)	AUTO	ALWAYS	ALWAYS			
>Referenced Image Sequence	(0008,1140)	AUTO	ALWAYS				

Table 8.1.2.8 : Presentation State Relationship Module

Table Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Displayed Area Selection Sequence	(0070,005A)	AUTO	ALWAYS	ALWAYS			

Table 8.1.2.9 : Displayed Area Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
Presentation LUT Shape	(2050,0020)	AUTO	ALWAYS	IDENTITY			

Table 8.1.2.10 : Softcopy Presentation LUT Module

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
SOP Class UID	(0008,0016)	AUTO	ALWAYS	ALWAYS			

Attribute Name	Tag	Source	Presence of Attribute	Presence of Value	Value	Conditions	Comments
SOP Instance UID	(0008,0018)	AUTO	ALWAYS	ALWAYS			

Table 8.1.2.11: SOP Common Module

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2026

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Published by Siemens Healthineers AG. Siemens Healthineers AG® 05-2026

May 2026