3mensio Workstation 9.2 Canon

DICOM Conformance Statement

Document Number: DOC-1001-1005 Revision: 12.1.1



Review and Approval



Jan de Vaan Engineering Manager



Gerard Burgstede Quality Assurance Manager

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1 Revision History

Rev.	Author	Date	Remarks	
12.1.1	Gerard Burgstede	October 18, 2018	Update for 3mensio Workstation 9.2 Canon, updated frontpage	
12.1	Peter Heil	September 6, 2018	Added support for burning structures into CT Volumes	
12.0	Bastiaan Kemp	January 3, 2018	Update for 3mensio Workstation 9.1 Added incoming image compression	
11.0	Gerard Burgstede	July 5, 2016	Update for 3mensio Workstation 9.0 Updated template	
10.0	Jan de Vaan	June 9, 2016	Update for 3mensio Workstation 8.1	
9.0	Gerard Burgstede	March 27, 2015	Update for 3mensio Workstation 8.0 Updated 3mensio logo	
8.1	Jan de Vaan	July 15, 2013	Update for 3mensio Workstation 6.1 Added JPEG 2000	
8.0	Gerard Burgstede	May 29, 2013	Updated for 3mensio Workstation 6.0 Removed Product Manager from Review/Approval	
For older revisions, please refer to the version control tags of the specific products				

2 Introduction

2.1 Description

The purpose of this document is to describe how 3mensio Workstation collaborates in a DICOM network with other medical imaging applications that conform to the DICOM standard.

2.2 Definitions, Acronyms and Abbreviations

For Definitions, acronyms and abbreviations used in the DICOM Standard refer to the Digital Imaging and Communications in Medicine (DICOM) parts 1-20 (PS 3.1 2016 – PS 3.20 2016 published by National Electrical Manufacturers Association).

2.3 Related Documents

Name	Document Number	Version	Author
DICOM PS 3 2016		2016	NEMA

3 Implementation Model

3mensio Workstation is a windows application that consists of two processes:

- The front-end process for displaying image data to the user. This is the application invoked by the user.
- A back-end process (a windows service) that implements the DICOM SCP for the image cache, the temporary storage of DICOM IOD's on the local system.

3mensio Workstation is not intended to be used as a primary data storage medium for medical imaging data. As such, the operator should not rely on the software for permanent storage, but instead must rely on permanent storage at a separate location (i.e. PACS archive).

3.1 Application Data Flow Diagram

The Implementation Model is depicted below:



3mensio Workstation issues queries to remote DICOM archive and initiates retrieve requests to for storage on the local system.

3mensio Workstation supports the Media Storage Service Class for the Interchange of images as a File Set Reader (FSR) and File Set Creator (FSC).

3.2 Functional Definitions of Application Entities

3mensio Workstation has one application entity. Data sent to this application entity is stored in the image cache. There is one exception to this: when users request to view a study directly from the remote archive, data sent to the Application Entity is stored only for the period of this viewing session.

3.3 Sequencing of Real World Activities

Not applicable.

4 Application Entity Specifications

4.1 DICOM Services AE Specifications

3mensio Workstation provides support for the following DICOM SOP Classes as SCU:

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
Study Root Query/Retrieve Model – FIND	1.2.840.10008.5.1.4.1.2.2.1
Study Root Query/Retrieve Model – MOVE	1.2.840.10008.5.1.4.1.2.2.2
SC Image Storage	1.2.840.10008.5.1.4.1.1.7
SC Multi Frame True Color Image Storage	1.2.840.10008.5.1.4.1.1.7.4
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1
Media Storage Directory Storage	1.2.840.10008.1.3.10
Surface Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.5

3mensio Workstation provides support for the following DICOM SOP Classes as SCP:

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
CT Image Storage	1.2.840.10008.5.1.4.1.1.2
Enhanced CT Image Storage	1.2.840.10008.5.1.4.1.1.2.1
MR Image Storage	1.2.840.10008.5.1.4.1.1.4
Enhanced MR Image Storage	1.2.840.10008.5.1.4.1.1.4.1
US Retired Multi Frame Image Storage	1.2.840.10008.5.1.4.1.1.3
US Multi Frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
IVUS Image Storage	1.2.840.10008.5.1.4.1.1.3.2
US Retired Image Storage	1.2.840.10008.5.1.4.1.1.6
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1
SC Image Storage	1.2.840.10008.5.1.4.1.1.7
SC Multi Frame True Color Image Storage	1.2.840.10008.5.1.4.1.1.7.4
XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1
Enhanced XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1.1
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1
Surface Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.5

4.1.1 Association Establishment Policies

4.1.1.1 General

The 3mensio Workstation back-end SCP is a windows service and configured automatically started at system boot time. It can accept associations whenever the system is running.

3mensio Workstation will initiate associations with a remote system when the user invokes certain actions such as performing a query or opening a study for viewing.

4.1.1.2 Number of Associations

3mensio Workstation supports multiple simultaneous associations both as an SCU and SCP.

4.1.1.3 Synchronous Nature

3mensio Workstation does not support asynchronous operations and will not perform asynchronous window negotiation.

4.1.1.4 Implementation Identifying Information

The Implementation Class UID is:	1.2.528.1.1014.1.1.1.1001
The version name is:	3MENSIO_DICOM_1

4.1.2 Association Initiation Policy

3mensio Workstation initiates associations for the following activities:

- The user wants to query the contents of a remote archive on a study, series or instance level.
- The user wants to view studies, series, images or other IODs from a remote archive.
- The user wants to import studies, series, images or other IODs from a remote archive into the image cache.
- The user creates a secondary capture or a report.

4.1.3 Outgoing C-STORE

4.1.3.1 Associated Real World Activity

The user creates a secondary capture or a report. The secondary capture or the report is sent to a remote archive if:

- The study has been retrieved from a remote archive
- The study is retrieved from a location (image cache or DICOMDIR) for which an "alternate storage" has been configured

4.1.3.2 Proposed Presentation Contexts

Presentation Context Table for Send To Remote System					
Abstract Syntax		Transfer	Role	Extended	
Name	UID	Syntax		Negotiation	
SC Image	1.2.840.10008.5.1.4.1.1.7	See table below	SCU	None	
Storage					
SC Multi Frame	1.2.840.10008.5.1.4.1.1.7.4	See table below	SCU	None	
True Color Image					
Storage					
Encapsulated	1.2.840.10008.5.1.4.1.1.104.1	See table below	SCU	None	
PDF Storage					

Transfer Syntaxes for Send To Remote System			
Name	UID		
Implicit VR, Little Endian	1.2.840.10008.1.2		
Explicit VR, Little Endian	1.2.840.10008.1.2.1		

The above information applies to content created by 3mensio Workstation itself.

End users may elect to manually send study data collected from other sources to other DICOM archives. 3mensio Workstation cannot transcode these SOP instances to a different transfer syntax, so this will fail unless the receiving system accepts the transfer syntax proposed by 3mensio.

4.1.3.3 SOP Specific Conformance Statement for SOP Class Storage

3mensio Workstation provides standard conformance.

4.1.4 Outgoing C-FIND

4.1.4.1 Associated Real World Activity

The user wants to have a view on a remote DICOM archive and either views the complete contents of the remote archive or fills out a query dialog box with fields for Patient Name, Patient ID, Study date, etc. Wildcards can be used instead of fully specified information to allow flexible queries.

4.1.4.2 Proposed Presentation Contexts

Presentation Context Table for Send To Remote System					
Abstract Syntax	Transfer	Role	Extended		
Name	UID	Syntax		Negotiation	
Study Root	1.2.840.10008.5.1.4.1.2.2.1	See table	SCU	None	
Query/Retrieve		below			
Model – FIND					

Transfer Syntaxes for Send To Remote System			
Name	UID		
Implicit VR, Little Endian	1.2.840.10008.1.2		
Explicit VR, Little Endian	1.2.840.10008.1.2.1		

4.1.4.3 SOP Specific Conformance Statement for SOP Class Query

3mensio Workstation limits the maximum number of results to a preconfigured maximum.

The following keys are by supported for the query:

Level	Description	Тад
Study	Accession Number	(0008,0050)
Study	Modalities In Study	(0008,0061)
Study	Modality	(0008,0060)
Study	Number of Study Related Instances	(0020,1208)
Study	Number of Study Related Series	(0020,1206)
Study	Other Patient IDs	(0010,1000)
Study	Patient ID	(0010,0020)
Study	Patient's Birth Date	(0010,0030)
Study	Patient's Sex	(0010,0040)
Study	Patient's Name	(0010,0010)
Study	Reason for Study	(0032,1030)
Study	Referring Physician's Name	(0008,0090)
Study	Study Date	(0008,0020)
Study	Study Description	(0008,1030)
Study	Study ID	(0020,0010)
Study	Study Instance UID	(0020,000D)
Study	Study Status Id	(0032,000A)
Study	Study Time	(0008,0030)
Study	Name of Physician(s) Reading Study	(0008,1060)
Series	Body Part Examined	(0018,0015)
Series	Frame of Reference UID	(0020,0052)
Series	Institutional Department Name	(0008,1040)
Series	Institution Name	(0008,0080)
Series	Laterality	(0020,0060)
Series	Modality	(0008,0060)
Series	Number of Series Related Instances	(0020,1209)
Series	Patient Position	(0018,5100)
Series	Performing Physician's Name	(0008,1050)
Series	Protocol Name	(0018,1030)
Series	Series Date	(0008,0021)
Series	Series Description	(0008,103E)
Series	Series Instance UID	(0020,000E)
Series	Series Number	(0020,0011)
Series	Series Time	(0008,0031)
Series	Station Name	(0008,1010)
Series	Study Instance UID	(0020,000D)
Series	View Position	(0018,5101)
Instance	Acquisition Number	(0020,0012)
Instance	Columns	(0028,0011)
Instance	Contrast/Bolus Agent	(0018,0010)

Instance	Derivation Description	(0008,2111)
Instance	Image Type	(0008,0008)
Instance	Instance Creation Date	(0008,0012)
Instance	Instance Number	(0020,0013)
Instance	Rows	(0028,0010)
Instance	SOP Instance UID	(0008,0018)

3mensio Workstation expects the remote Query SCP to perform all of the following matching methods:

Matching methods for Study/Patient Root Query
Single Value Matching
Wild Card Matching
Range Matching
Universal Matching

4.1.5 Outgoing C-MOVE

4.1.5.1 Associated Real World Activity

After a view on a remote DICOM archive has been obtained, the user makes a selection of one or more studies, series or images and opens them for viewing or import.

The front-end process sends a C-MOVE request, specifying its own AE title as destination. The data sent via C-STORE requests is stored in the image cache. In case the user requested "view from archive", the data is deleted immediately after the viewing session is closed.

Presentation Context Table for Send To Remote System				
Abstract Syntax		Transfer	Role	Extended
Name	UID	Syntax		Negotiation
Study Root Query/Retrieve	1.2.840.10008.5.1.4.1.2.2.2	See table below	SCU	None

4.1.5.2 Proposed Presentation Contexts

Transfer Syntaxes for Send To Remote System			
Name	UID		
Implicit VR, Little Endian	1.2.840.10008.1.2		
Explicit VR, Little Endian	1.2.840.10008.1.2.1		

4.1.5.3 SOP Specific Conformance Statement for SOP Class Retrieve

3mensio Workstation provides standard conformance.

4.1.6 Incoming C-ECHO

4.1.6.1 Associated Real World Activity

The back-end process will respond to verification request made by remote systems.

4.1.6.2 Accepted Presentation Contexts

Presentation Context Table for Send To Remote System				
Abstract Syntax		Transfer	Role	Extended
Name	UID	Syntax		Negotiation
Verification	1.2.840.10008.1.1	See table	SCP	None
		below		

Transfer Syntaxes for Send To Remote System			
Name	UID		
Implicit VR, Little Endian	1.2.840.10008.1.2		
Explicit VR, Little Endian	1.2.840.10008.1.2.1		

4.1.6.3 SOP Specific Conformance Statement for SOP Class Verification

3mensio Workstation provides standard conformance.

4.1.6.4 Presentation Context Acceptance Criterion

There are no specific rules for acceptance and prioritization of presentation contexts and 3mensio Workstation will accept all presentation contexts that match those listed in the table shown above.

4.1.7 Incoming C-STORE

4.1.7.1 Associated Real World Activity

A remote system wants to send images to the back-end process (either at the request of 3mensio Workstation through C-MOVE or otherwise initiated).

The pixel data of certain incoming images will be compressed (using JPEG lossless compression) before storing. This happens for uncompressed, single-frame, monochrome CT images (except for signed-value images which do not use all allocated bits). The back-end process can be configured to omit this compression.

4.1.7.2 Accepted Presentation Contexts

Presentation Context Table for Send To Remote System				
Abstract Syntax		Transfer	Role	Extended
Name	UID	Syntax		Negotiation
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	See table	SCP	None
		below		
Enhanced CT Image	1.2.840.10008.5.1.4.1.1.2.1	See table	SCP	None
Storage		below		
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	See table	SCP	None
		below		
Enhanced MR Image	1.2.840.10008.5.1.4.1.1.4.1	See table	SCP	None
Storage		below		
US Retired Multi	1.2.840.10008.5.1.4.1.1.3	See table	SCP	None
Frame Image Storage		below		
US Multi Frame	1.2.840.10008.5.1.4.1.1.3.1	See table	SCP	None
Image Storage		below		
IVUS Image Storage	1.2.840.10008.5.1.4.1.1.3.2	See table	SCP	None
		below		
US Retired Image	1.2.840.10008.5.1.4.1.1.6	See table	SCP	None
Storage		below		
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	See table	SCP	None
		below		
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	See table	SCP	None
		below		
SC Multi Frame True	1.2.840.10008.5.1.4.1.1.7.4	See table	SCP	None
Color Image Storage		below		
XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1	See table	SCP	None
		below		
Enhanced XA Image	1.2.840.10008.5.1.4.1.1.12.1.1	See table	SCP	None
Storage		below		
Encapsulated PDF	1.2.840.10008.5.1.4.1.1.104.1	See table	SCP	None
Storage		below		
Surface	1.2.840.10008.5.1.4.1.1.66.5	See table	SCP	None

Segmentation	below	
Storage		

Transfer Syntaxes for Send To Remote System			
Name	UID		
Implicit VR, Little Endian	1.2.840.10008.1.2		
Explicit VR, Little Endian	1.2.840.10008.1.2.1		
Explicit VR, Lossy JPEG 8-Bit	1.2.840.10008.1.2.4.50 – Only for US, IVUS Image and SC		
Image Compression	Multi Frame True Color Storage		
Explicit VR, JPEG Lossless,	1.2.840.10008.1.2.4.70 – Only for XA & CT Image Storage		
Non-Hierarchical, First-Order			
Prediction			

Note: 3mensio Workstation will also accepts instances of SOP classes not mentioned in the table above. However 3mensio Workstation has not been verified to properly display or otherwise process these instances.

4.1.7.3 SOP Specific Conformance Statement for SOP Class Storage

When an image is received that has a SOP Instance UID (0008,0018) that is already present in the back-end process, the transfers itself will complete successfully but the existing image in the cache will be kept and the newly received image will be discarded.

The back-end process will store all received images unmodified (with the transfer syntax used to send).

4.1.7.4 Presentation Context Acceptance Criterion

3mensio Workstation will only accept supported compressed transfer syntaxes when they appear as the first item in the list. Otherwise, one of the uncompressed little endian transfer syntaxes is selected (Explicit Little Endian is preferred).

4.2 DICOM Media Server AE

3mensio Workstation provides standard conformance to the DICOM Media Storage Service and File Format (DICOM Part 10, PS 3.10) and the Media Storage Application Profile for reading images from CD-R and DVD.

4.2.1 Implementation Model

4.2.1.1 Application Data Flow Diagram



3mensio Workstation implements the role of File Set Reader (FSR) when connected to a DICOM Part 10 Storage Medium, and will read directory information and/or import images from the storage medium.

4.2.1.2 AE Specifictions

3mensio Workstation can also act as a File Set Creator (FSC) when exporting image data to CD-R or DVD disk.

4.2.1.3 Application Entity Service Specification

3mensio Workstation supports the following Standard Application Profiles, defined in DICOM 3.11 Annex A - E:

Supported Application Profiles			
Description Identifier			
General Purpose CD-R Interchange	STD-GEN-CD		
General Purpose Interchange on DVD-RAM Media	STD-GEN-DVD-RAM		

4.2.1.4 Real World Activities

3mensio Workstation supports the following Real World Activities within the profile mentioned above:

Real World Activities and roles				
Supported Application Profiles	Real World Activity	Role	Service Class Option	
	Display Directory of CD-R Disk	FSR	Interchange	
STD-GEN-CD	Read image(s) from CD-R Disk	FSR	Interchange	
	Write image(s) to CD-R Disk	FSC	Interchange	
	Display Directory of DVD Disk	FSR	Interchange	
STD-GEN-DVD-RAM	Read image(s) from DVD Disk	FSR	Interchange	
	Write image(s) to CD-R Disk	FSC	Interchange	

4.2.2 Display Directory of CD-R / DVD disk

The front-end allows the user to display the directory information of a CD-R / DCD disk. Patient level information is used and applied, however the content is shown as a flat list of studies. The front-end also supports DICOM queries upon the directory contents through a Query Dialog.

4.2.3 Read images from CD-R / DVD disk

3mensio Workstation will act as a FSR when reading all or selected images from the medium, or when importing images from a medium into the image cache. When importing, the images stored are an exact copy of the images from the medium.

The images should belong to one of the following SOP classes:

SOP Class Name	SOP Class UID
CT Image Storage	1.2.840.10008.5.1.4.1.1.2
Enhanced CT Image Storage	1.2.840.10008.5.1.4.1.1.2.1
MR Image Storage	1.2.840.10008.5.1.4.1.1.4
Enhanced MR Image Storage	1.2.840.10008.5.1.4.1.1.4.1
US Retired Multi Frame Image Storage	1.2.840.10008.5.1.4.1.1.3
US Multi Frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
IVUS Image Storage	1.2.840.10008.5.1.4.1.1.3.2
US Retired Image Storage	1.2.840.10008.5.1.4.1.1.6
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1
SC Image Storage	1.2.840.10008.5.1.4.1.1.7
SC Multi Frame True Color Image Storage	1.2.840.10008.5.1.4.1.1.7.4
XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1
Enhanced XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1.1
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1
Surface Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.5

Transfer Syntaxes for Reading Images		
Name	UID	
Implicit VR, Little Endian	1.2.840.10008.1.2	
Explicit VR, Little Endian	1.2.840.10008.1.2.1	
Explicit VR, Lossy JPEG 8-Bit Image Compression	1.2.840.10008.1.2.4.50	
Explicit VR, Lossy JPEG 12-Bit Image Compression	1.2.840.10008.1.2.4.51	
Explicit VR, JPEG Lossless, Non-Hierarchical, First-	1.2.840.10008.1.2.4.70	
Order Prediction		
Jpeg2000 Part1 Lossless	1.2.840.10008.1.2.4.90	
Jpeg2000 Part1 Lossy	1.2.840.10008.1.2.4.91	
Explicit VR, RLE Lossless	1.2.840.10008.1.2.5	

4.2.4 Write images to disk or media

3mensio Workstation will act as a FSC when writing all or selected patients, studies or series to disk or media. 3mensio Workstation does provide a consistent file set but it does not apply any application profile, nor does it enforce the use of DICOM supported physical media. Therefore the export feature is useful for data exchange, but not for long term storage.

3mensio Workstation is able to write images of the following SOP classes:

SOP Class Name	SOP Class UID
CT Image Storage	1.2.840.10008.5.1.4.1.1.2
Enhanced CT Image Storage	1.2.840.10008.5.1.4.1.1.2.1
MR Image Storage	1.2.840.10008.5.1.4.1.1.4
Enhanced MR Image Storage	1.2.840.10008.5.1.4.1.1.4.1
US Retired Multi Frame Image Storage	1.2.840.10008.5.1.4.1.1.3
US Multi Frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
IVUS Image Storage	1.2.840.10008.5.1.4.1.1.3.2

US Retired Image Storage	1.2.840.10008.5.1.4.1.1.6
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1
SC Image Storage	1.2.840.10008.5.1.4.1.1.7
SC Multi Frame True Color Image Storage	1.2.840.10008.5.1.4.1.1.7.4
XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1
Enhanced XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1.1
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1
Surface Segmentation Storage	1.2.840.10008.5.1.4.1.1.66.5

3mensio Workstation creates a DICOMDIR file in the root of the media containing the keys defined in the DICOM standard.

The images written to the medium are an exact copy of the images stored in the image cache. 3mensio Workstation does not change the transfer syntax.

4.2.5 Burning structures into CT Volumes

3mensio Workstation is able to export certain segmentations or user defined structures as a new CT volume. This volume will be identical to the original but voxels overlapping the segmentations/structures will be set to a user defined Hounsfield value.

Exporting burned-in volumes is supported for the following sop-classes:		
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	

Tan	Description	Value
1ag		
0002,0010	Transfer Syntax UID	1.2.840.10008.1.2.1 (Little Endian Explicit)
0008,103E	Series Description	3mensio Burned-in Meshes
0008,0018	SOP Instance UID	<new uid=""></new>
0020,000E	Series Instance UID	<new uid=""></new>
0008,0064	Conversion Type	WSD
0018,1016	Secondary Capture Device	Pie Medical Imaging B.V.
	Manufacturer	
0018,1018	Secondary Capture Device	<3mensio application name (i.e. 3mensio
	Model Name	Structural Heart)>
0018,1019	Secondary Capture Device	<current application="" version=""></current>
	Software Version	
0008,0012	Instance Creation Date	<current date="" time=""></current>
0008,0013	Instance Creation Time	<current date="" time=""></current>
0018,1012	Date Of Secondary Capture	<current date="" time=""></current>
0018,1014	Time Of Secondary Capture	<current date="" time=""></current>
0008,0008	Image Type	DERIVED\SECONDARY
0028,0103	Pixel Representation	0
0028,2110	Lossy Image Compression	0
0028,0100	Bits Allocated	16
7FE0,0010	Pixel Data	<new data="" pixel=""></new>
3723,0003	Series Type 3mensio	3MENSIO_DICOM_SERIESTYPE_BURN
		EDEXPORT

The following DICOM tags will be modified in the burned-in volume:

Note: When storing the burned-in volume in the archive, it may compress the pixel data (See Associated Real World Activity)

5 Communication Profile

5.1 Supported Communication Stacks

3mensio Workstation provides TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard.

5.2 OSI Stack

Not supported.

5.3 TCP/IP Stack

3mensio Workstation uses the TCP/IP stack from the Microsoft Windows operating system on which it executes.

5.3.1 Physical Media Support

3mensio Workstation is not dependent on the physical medium over which the TCP/IP executes.

5.4 Point-to-Point Stack

Not supported.

6 Extensions / Specializations / Privatizations

6.1 Standard Extended / Specialized / Private SOPs

3mensio Workstation does not implement any extended/specialized or private SOPs.

6.2 Private Transfer Syntaxes

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3mensio Workstation does not support any private transfer syntaxes.

7 Configuration

7.1 AE Title/Presentation Address Mapping

For remote DICOM nodes the following information is needed:

- AE title
- Hostname
- Port number

It is **highly recommended** to use the Hostname to refer to the system running 3mensio Workstation, rather than the IP address, as the software is often run on end-user machines whose IP address may change when a DHCP lease expires.

7.2 Configurable Parameters

For the application the following parameters can be configured:

- AE title
- Port number

8 Support of extended character sets

3mensio Workstation will correctly read international person names and descriptive text received in DICOM format. This applies to text found in query responses, DICOMDIRs, DICOM files received over associations, and files imported from CD's or other media. International patient names means names written using accented characters, or non-Latin fonts, including but not limited to Greek, Hebrew, Arabic, Chinese, Japanese and Korean.

When outputting DICOM instances (PDF, secondary captures, etc.), 3mensio Workstation will prefer to use the same character sets as used in the original study. When querying other application entities, it will use either IR 100 (Western European) or IR 192 (utf-8).