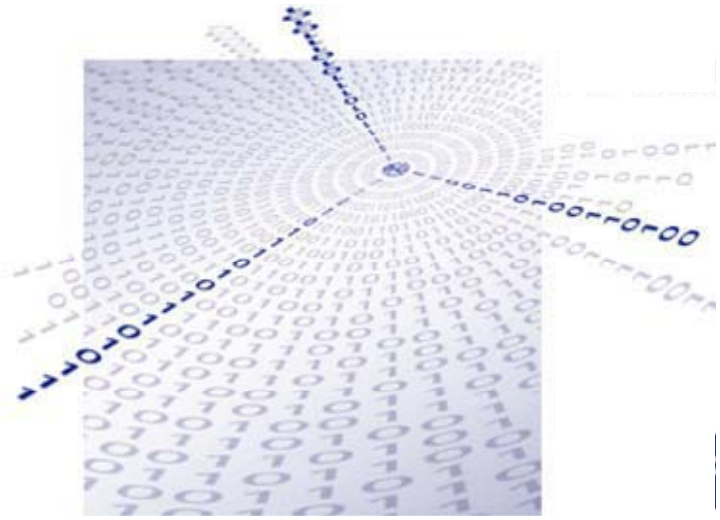
Carl Zeiss Surgical GmbH

DICOM Conformance Statement

OPMI® Pentero®

MediLive® MindStream™

Software Release 2.1



GE-30-1612-en

Version 1.2

Revision History

Change		Author	Description
Date	Version		
29.03.06	1.0	Tobias Kurzke	Initial release
18.08.06	1.1	Tobias Kurzke	Changes in Storage Commitment description, supported SOP classes & association establishment policies
15. 11. 2006	1.2	Gerhard Baur	Layout changes

Definitions

Acronym/Terms	Definitions
AE	Application Entity
ANSI	American National Standards Institute
DICOM	Digital Imaging and Communications in Medicine
DIMSE-C	DICOM Message Service Element-Composite
DIMSE-N	DICOM Message Service Element-Normalized
FSC	File Set Creator
PDU	Protocol Data Unit
SCP	Service Class Provider
SCU	Service Class User
SOP	Service Object Pair
UID	Unique Identifier

1 Networking

1.1 Introduction

The reader of this document is concerned with software design and/or system integration issues. It is assumed that the reader of this document is familiar with the DICOM 3.0 Standard and with the terminology and concepts which are used in this standard.

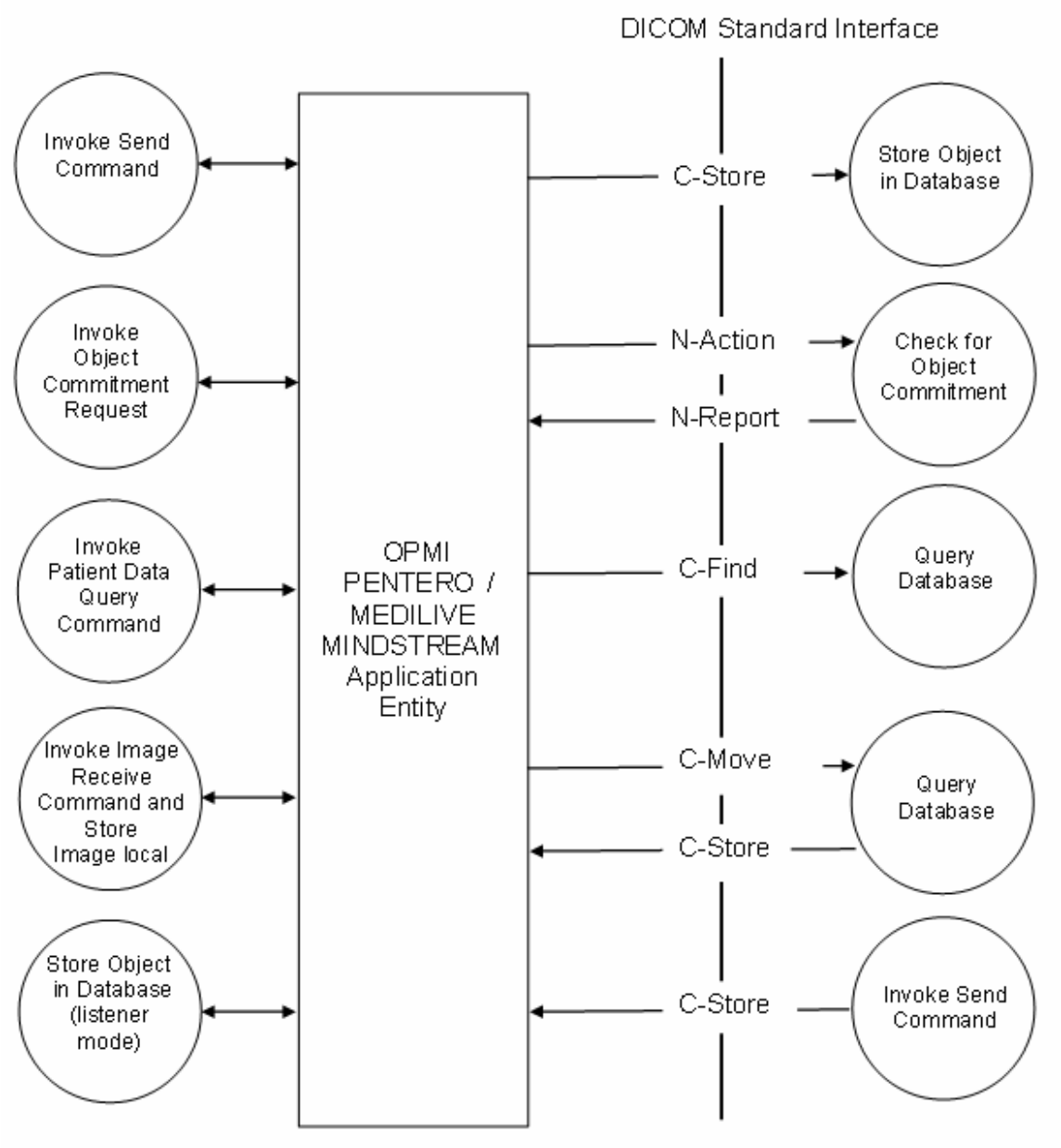
This section describes the DICOM Conformance Statement for networking in accordance with the document DICOM PS 3.2 Conformance. OPMI Pentero / MediLive MindStream DICOM Interface is implemented to support DICOM Application Entities (AE) as an SCU, which creates associations to remote Application Entities (for example PACS) and as an SCP, which accepts associations from remote Application Entities.

1.2 Implementation Model

DICOM capabilities of the OPMI Pentero / MediLive MindStream system for networking include:

- The OPMI Pentero / MediLive MindStream system can send images to a remote AE by utilizing the Storage Service Class as an SCU.
- The OPMI Pentero / MediLive MindStream system supports the DICOM Storage Commitment Service Class as an SCU.
- The OPMI Pentero / MediLive MindStream system can query and retrieve DICOM Composite Information Objects stored in a remote AE by utilizing the Query/Retrieve Service Class as an SCU.
- The OPMI Pentero / MediLive MindStream system can receive images from a remote AE by utilizing the Storage Service Class as an SCP.
- The OPMI Pentero / MediLive MindStream system can serve DICOM connection diagnostic requests from a remote AE using Verification Service as an SCP.
- The OPMI Pentero / MediLive MindStream system can send DICOM connection diagnostic requests to a remote AE using Verification Service as an SCU.

1.2.1 Application Data Flow Diagram



1.2.2 Functional Definitions of Application Entities

The user initiates (through the user interface of OPMI Pentero / MediLive MindStream) queries for patient data and image data from a remote AE. The user can use different search criteria to search for one or more patients. The received data is stored in OPMI Pentero / MediLive MindStream's database and can be viewed by the user. OPMI Pentero / MediLive MindStream acts as an SCU of the Query/Retrieve Service Class.

The user initiates (through the user interface of OPMI Pentero / MediLive MindStream) the storage of one or more images, which have been captured during the surgery, into a remote AE. Then OPMI Pentero / MediLive MindStream sends a Storage Commitment Request to the remote AE (configurable). OPMI Pentero / MediLive MindStream acts as an SCU of the Storage Service Class and the Storage Commitment Service Class.

1.2.3 Sequencing of Real-World Activities

Not applicable.

1.3 AE Specifications

1.3.1 OPMI Pentero / MediLive MindStream Specification

OPMI Pentero / MediLive MindStream provides Standard Conformance to the following DICOM V3.0 SOP Classes:

SOP Class Name	SOP Class UID	SCU/SCP Role
Verification SOP Class	1.2.840.10008.1.1	Both
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Both
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2	Both
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	Both
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	SCP
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	SCP
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	SCP
Magnetic Resonance Image Storage	1.2.840.10008.5.1.4.1.1.4	SCP
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	SCP
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	SCP
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2	SCP
Ophthalmic Photography 8 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.1	SCP
Ophthalmic Photography 16 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.2	SCP
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128	SCP
Radiotherapy Image Storage	1.2.840.10008.5.1.4.1.1.481.1	SCP
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30	SCP
Hardcopy Grayscale Image Storage	1.2.840.10008.5.1.1.29	SCP
Patient Root Query/Retrieve Information Model – FIND	1.2.840.10008.5.1.4.1.2.1.1	SCU
Patient Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.1.2	SCU
Study Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.2.1	SCU
Study Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.2.2	SCU
Storage Commitment Push Model Class	1.2.840.10008.1.20.1	SCU
Modality Worklist Information Model - FIND	1.2.840.10008.5.1.4.31	SCU

Table 1 DICOM V3.0 SOP Classes

1.3.1.1 Association Establishment Policies

1.3.1.1.1 General

OPMI Pentero / MediLive MindStream will utilize and understand the following Application Context Name:

- DICOM V3.0 Application Context 1.2.840.10008.3.1.1.1

OPMI Pentero / MediLive MindStream will attempt to establish an association whenever the user invokes a DICOM related operation (Store and Load Images from and to a remote AE, Query Patients, Verification) in the user interface of OPMI Pentero / MediLive MindStream. The maximum PDU size which OPMI Pentero / MediLive MindStream will use is 32768 Bytes.

1.3.1.1.2 Number of Associations

OPMI Pentero / MediLive MindStream initiates only one association at a time.

1.3.1.1.3 Asynchronous Nature

OPMI Pentero / MediLive MindStream does not use asynchronous communication (multiple outstanding transactions over a single association).

1.3.1.1.4 Implementation Identifying Information

The OPMI Pentero / MediLive MindStream Implementation Class UID is 1.2.276.0.75.1.1.1 and the Implementation Version Name is a version number like 2.1.0.230

1.3.1.2 Association Initiation by Real-World Activity

OPMI Pentero / MediLive MindStream attempts to initiate a new association for the following service operations:

- Send Image to a remote AE: Storage Service Class with the Storage Commitment Service Class (the association will be closed after the C-STORE-RSP has been received).
- Query/Retrieve Service Class (the association will be closed after the according dialogue has been closed by the user).
- Verification Service Class (the association will be closed after the C-ECHO-RSP has been received).

1.3.1.2.1 Real World Activity – Send Image to a remote AE

1.3.1.2.1.1 Associated Real-World Activity – Send Image to a remote AE

The associated Real-World Activity is a Storage request initiated by the user after the surgery and acquisition of one or more images. The user selects the images which shall be stored in a remote database (for example PACS) and initiates the transfer.

Note: if the acquisition date of an image is older than the study date of the currently selected study, then a new study with a new series containing all images with this acquisition date is created on the PACS.

If the Storage Commitment is enabled in the OPMI Pentero / MediLive MindStream configuration, then a Storage Commitment will be requested. If the C-Store Response from the remote AE contains a status other than Success, an error message will be displayed to the user.
The response to the requested Storage Commitment is not further evaluated in the current version.

Note: The Storage Commitment can only be requested from the same AE that the images were sent to.

1.3.1.2.1.2 Proposed Presentation Contexts – Send Image to a remote AE

The Presentation Contexts proposed by OPMI Pentero / MediLive MindStream are defined in the following table:

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
Name	**UID**	**Name List**	**UID List**		
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCU	None
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCU	None
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCU	None
Storage Commitment Push Model	1.2.840.10008.1.20.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCU	None

Table 2 Presentation Context Table - Send Image to a remote AE

1.3.1.2.1.2.1 SOP Specific Conformance Statement – Send Image to a remote AE

The DICOM images sent by OPMI Pentero / MediLive MindStream conform to the DICOM IOD definitions.

Extended negotiation is not supported.

Note: if the sent images were compressed lossy by OPMI Pentero / MediLive MindStream during recording, the "Lossy Image Compression" attribute (0028, 2110) is set to value “1”.

1.3.1.2.2 Real World Activity – Query a Remote AE

1.3.1.2.2.1 Associated Real-World Activity – Query a Remote AE

The user initiates a query through the user interface of OPMI Pentero / MediLive MindStream. The user defines one or more search criteria. OPMI Pentero / MediLive MindStream establishes an association to the remote AE and sends the C-Find Request.
If the response from the remote AE contains the Success status then OPMI Pentero / MediLive MindStream displays the result to the user. Otherwise it displays an error message.

The possible search criteria for the Patient Root Q/R Model are listed in the following table:

Level	Description	Tag	Type
PATIENT	Patient ID	(0010,0020)	U
	Patient's Name	(0010,0010)	R
	Patient's Birth Date	(0010,0030)	O
	Patient's Sex	(0010,0040)	O
	Patient Comments	(0010,4000)	O
STUDY	Study ID	(0020.0010)	R

Table 3 Search Criteria Table - Patient Root Q/R Model

The possible search criteria for Study Root Q/R Model are listed in the following table:

Level	Description	Tag	Type
STUDY	Patient ID	(0010,0020)	R
	Patient's Name	(0010,0010)	R
	Patient's Birth Date	(0010,0030)	O
	Patient's Sex	(0010,0040)	O
	Patient Comments	(0010,4000)	O
	Study ID	(0020.0010)	R

Table 4 Search Criteria Table - Study Root Q/R Model

The possible search criteria for the Modality Worklist Information Model are listed in the following table:

Description	Tag
Patient ID	(0010,0020)
Patient's Name	(0010,0010)
Accession Number	(0008,0050)
Requested Procedure ID	(0040,1001)
Scheduled Station AE Title	(0040,0001)
Scheduled Procedure Step Start Date	(0040,0002)
Scheduled Procedure Step Start Time	(0040,0003)

Table 5 Search Criteria Table - Modality Worklist Model

1.3.1.2.2.2 Proposed Presentation Contexts – Query a Remote AE

The Presentation Contexts proposed by OPMI Pentero / MediLive MindStream are defined in the following table:

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
Name	**UID**	**Name List**	**UID List**		
Patient Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.1.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCU	None
Study Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.2.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCU	None
Modality Worklist Information Model – FIND	1.2.840.10008.5.1.4.31	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCU	None

Table 6 Presentation Context Table - Query a Remote AE

1.3.1.2.2.2.1 SOP Specific Conformance Statement – Query a Remote AE with Q/R Models

The query level can be PATIENT, STUDY, SERIES or IMAGE for the Patient Root Q/R Model and STUDY, SERIES or IMAGE for the Study Root Q/R Model.
The Q/R Information Models are used in the following order:

- Study Root Query/Retrieve Information Model – FIND
- Patient Root Query/Retrieve Information Model – FIND

OPMI Pentero / MediLive MindStream checks for the following status codes in the response to the C-Find request:

- SUCCESS (0000)
- PENDING (FF00)
- PENDING (FF01)
- All other status codes are interpreted as errors

Extended behavior (relational queries) and extended negotiation are not supported.

1.3.1.2.2.2.2 SOP Specific Conformance Statement – Query a Remote AE with Modality Worklist Information Model

OPMI® Pentero® / MediLive™ MindStream takes over several Attributes from the Modality Worklist into its database. These attributes are listed in the following table:

Description	Tag
Accession Number	(0008,0050)
Institution Name	(0008,0080)
Institution Address	(0008,0081)
Scheduled Station Name	(0040,0010)

Scheduled Procedure Step ID	(0040,0009)
Requested Procedure ID	(0040,1001)

Table 7 Attributes from Modality Worklist used in exported images

Additionally, the Study Instance UID (0020,000D) can be taken over (configurable).

1.3.1.2.3 Real World Activity – Retrieve Image Data from a Remote AE

1.3.1.2.3.1 Associated Real-World Activity – Retrieve Image Data from a Remote AE

Through the user interface of OPMI Pentero / MediLive MindStream, the user selects one or more studies, series or images from a tree generated as a result of the previous C-Find operation and OPMI Pentero / MediLive MindStream establishes an association to the remote AE and sends a C-Move request. The transfer will be done by a subsequent C-Store and then the result will be displayed to the user.

1.3.1.2.3.2 Proposed Presentation Contexts – Retrieve Image Data from a Remote AE

The Presentation Contexts proposed by OPMI Pentero / MediLive MindStream are defined in the following table:

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
Name	**UID**	**Name List**	**UID List**		
Patient Root Query/Retrieve Infomration Model - MOVE	1.2.840.10008.5.1.4.1.2.1.2	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCU	None
Study Root Query/Retrieve Infomration Model - MOVE	1.2.840.10008.5.1.4.1.2.2.2	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCU	None

Table 8 Presentation Context Table - Retrieve Image Data from a Remote AE

1.3.1.2.3.2.1 SOP Specific Conformance Statement - Retrieve Image Data from a Remote AE

OPMI Pentero / MediLive MindStream checks for the following status codes in the response to the C-Move request:

- SUCCESS (0000)
- PENDING (FF00)
- All other status codes are interpreted as errors

1.3.1.2.4 Real World Activity - Verification SCU

1.3.1.2.4.1 Associated Real-World Activity – Verification SCU

Through the user interface of OPMI Pentero / MediLive MindStream, the user requests a diagnostic for DICOM connections to a remote AE using Verification Service. OPMI Pentero / MediLive MindStream establishes an association for a C-

ECHO request to the remote AE using Verification Service. The association is closed either when a correct response is received or when a time-out occurs.

1.3.1.2.4.2 Proposed Presentation Contexts - Verification SCU

The Presentation Contexts proposed by OPMI Pentero / MediLive MindStream are defined in the following table:

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
Name	**UID**	**Name List**	**UID List**		
Verification	1.2.840. 10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

Table 9 Presentation Context Table - Verification SCU

1.3.1.2.4.2.1 *SOP Specific Conformance Statement* – Verification SCU

Not applicable

1.3.1.3 Association Acceptance Policy

OPMI Pentero / MediLive MindStream accepts a new association for a C-Store Request and for the Verification Service.

1.3.1.3.1 Real-World Activity – Receive Image from Remote AE

1.3.1.3.1.1 Associated Real-World Activity – Receive Image from Remote AE

The user selects an image or a series which should be uploaded to the OPMI Pentero / MediLive MindStream system. OPMI Pentero / MediLive MindStream sends a C-MOVE Request and then accepts the association for the C-STORE Request. After the upload the sender closes the association and the images will be stored on the local hard disk.
In the listener mode OPMI Pentero / MediLive MindStream accepts association requests from AEs, which have been registered in the OPMI Pentero / MediLive MindStream system

1.3.1.3.1.2 Presentation Context table – Receive Image from Remote AE

OPMI Pentero / MediLive MindStream will accept Presentation Contexts as shown in the following table:

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
Name	**UID**	**Name List**	**UID List**		
Secondary Capture Image Storage	1.2.840.10008. 5.1.4.1.1.7	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
Ultrasound Image Storage	1.2.840.10008. 5.1.4.1.1.6.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
Magnetic Resonance Image Storage	1.2.840.10008. 5.1.4.1.1.4	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None

Presentation Context Table					
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
Radiotherapy Image Storage	1.2.840.10008.5.1.4.1.1.481.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
Hardcopy Grayscale Image Storage	1.2.840.10008.5.1.1.29	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
Magnetic Resonance Image Storage	1.2.840.10008.5.1.4.1.1.4	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
Ophthalmic Photography 8 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None
Ophthalmic Photography 16 Bit Image Storage	1.2.840.10008.5.1.4.1.1.77.1.5.2	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2	SCP	None

Table 10 Presentation Context Table - Receive Image from Remote AE

1.3.1.3.1.2.1 SOP Specific Conformance – Receive Image from Remote AE

If it was possible to store the image then OPMI Pentero / MediLive MindStream returns to the C-STORE-RSP message SUCCESS otherwise FAILURE. It stores only certain data on the local hard disk (for example the image itself) and there is no

possibility to query for those images from a remote AE: The purpose of this operation is to display the images to the physician during the surgery and not to store the images permanently. Extended negotiation is not supported.

1.3.1.3.1.3 Presentation Context Acceptance Criterion – Receive Image from Remote AE

OPMI Pentero / MediLive MindStream accepts Presentation Contexts listed in the Presentation Context Table. (Table 10 Presentation Context Table - Receive Image from Remote AE)

1.3.1.3.2 Real-World Activity – Verification SCP

1.3.1.3.2.1 Associated Real-World Activity – Verification SCP

In the listener mode OPMI Pentero / MediLive MindStream waits for an association request and accepts associations to do, among other things, the Verification Service. The association is aborted if an error occurs and is closed when the initiator requests that it be closed.

1.3.1.3.2.2 Proposed Presentation Contexts - Verification SCP

The Presentation Contexts accepted by OPMI Pentero / MediLive MindStream are defined in the following table:

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

Table 11 Presentation Context Table - Verfication SCP

1.3.1.3.2.2.1 *SOP Specific Conformance Statement* – Verification SCP

Not applicable

1.3.1.3.2.3 Presentation Context Acceptance Criterion – Verification SCP

OPMI Pentero / MediLive MindStream only supports the Implicit VR Little Endian transfer syntax.

1.4 Communication Profiles

1.4.1 Supported Communication Stacks

The OPMI Pentero / MediLive MindStream system provides DICOM V3.0 TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard (PS 3.8 Network Communication Support for Message Exchange).

1.4.2 OSI Stack

No OSI Stack communications are provided.

1.4.3 TCP/IP Stack

OPMI Pentero / MediLive MindStream uses the TCP/IP stack from Windows XP system upon which it operates.

1.4.3.1 Physical Media Support

OPMI Pentero / MediLive MindStream is independent of the physical medium via which TCP/IP operates.

1.5 Extensions / Specializations / Privatizations

None

1.6 Configuration

1.6.1 AE Title/Presentation Address Mapping

The mapping of the application entity titles to host names and port numbers can be configured by an administrator through the user interface of OPMI Pentero / MediLive MindStream. The mapping is stored in a configuration database.

Note: Incoming associations are accepted only for configured AE-titles!

The application entity title of OPMI Pentero / MediLive MindStream and the port number of OPMI Pentero / MediLive MindStream can also be configured through the user interface of OPMI Pentero / MediLive MindStream.

1.6.2 Configurable Parameters

The following parameters can be configured:

- Application entity title and port number of OPMI Pentero / MediLive MindStream
- Time-out
- Flag which indicates whether a storage commitment will be requested after a C-Store operation or not
- The order of the SOP Classes which shall be used during image storage in a remote AE. If the remote AE does not support an SOP Class then OPMI Pentero / MediLive MindStream will try to store the image with the next SOP Class.
- The character set which shall be used during image export.
- Manufacturer, Name of Institution, Model Name and Modality (DICOM attributes)

1.7 Support of Extended Character Sets

The OPMI Pentero / MediLive MindStream application supports the following character sets:

- ISO_IR 100
- ISO_IR 101
- ISO_IR 109
- ISO_IR 144
- ISO_IR 127
- ISO_IR 126
- ISO_IR 138
- ISO_IR 148
- ISO_IR 13

1.8 Security Profiles

OPMI Pentero / MediLive MindStream does not support any security profiles

2 Media Storage

2.1 Introduction

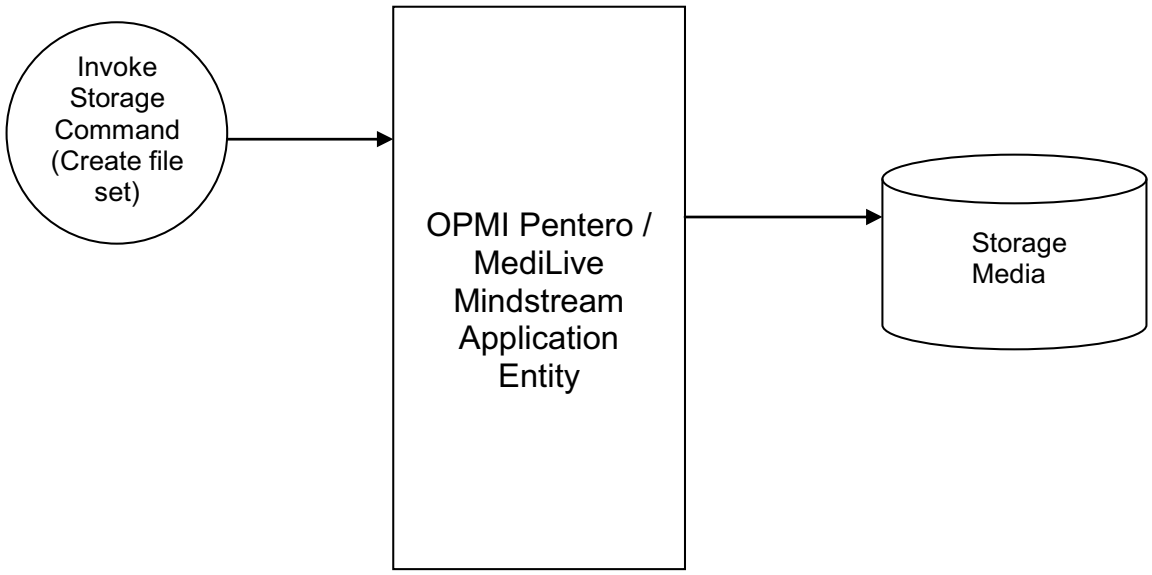
This section describes the DICOM Conformance statement for Media Storage in accordance with the document DICOM PS 3.2 Conformance.

2.2 Implementation Model

DICOM capabilities of the OPMI Pentero / MediLive MindStream system for Media Storage include:

- The OPMI Pentero / MediLive MindStream system can create a DICOM file set with various DICOM SOP instances.

2.2.1 Application Data Flow Diagram



2.2.2 Functional Definitions of Application Entities

The user initiates (through the user interface of OPMI Pentero / MediLive MindStream) the storage for patient data and image data on a storage medium. The OPMI Pentero / MediLive MindStream Application acts as an FSC. The patient data and image data come from the local database.

2.2.3 Sequencing Requirements

None

2.2.4 File Meta Information Options

The OPMI Pentero / MediLive MindStream Implementation Class UID is 1.2.276.0.75.1.1.1 and the implementation Version Name a version number like 2.1.0.230

2.3 AE Specifications

2.3.1 OPMI Pentero / MediLive MindStream Specification

The Application Profiles and roles are listed in the following Table:

Application Profiles Supported	Real World Activity	Role	SC Option
STD-GEN-CD	Create file set	FSC	Interchange

Table 12 Application Profiles, Activities and Roles

2.3.2 File Meta Information for the Application Entity

The Source Application Entity Title is set by the administrator in the configuration database.

2.3.3 Real-World Activities for the Application Entity OPMI Pentero / MediLive MindStream

2.3.3.1 Real-World Activity: Create File Set

The OPMI Pentero / MediLive MindStream Application acts as an FSC. The OPMI Pentero / MediLive MindStream Application will take a list of images provided by the user (SOP instances). These SOP Instances are written to the medium and a corresponding DICOMDIR is created.

2.3.3.1.1 Application Profiles for the RWA: Create File Set

For the list of Application Profiles that invoke this AE for the Create File Set, see Table 12 Application Profiles, Activities and Roles. There are no extensions or specializations.

2.4 Augmented and private Profiles

2.4.1 Augmented Profiles

None

2.4.2 Private Profiles

None

2.5 Extensions, Specializations, Privatizations of SOP Classes and transfer Syntaxes

None

2.6 Configuration

None

2.7 Character Sets

The OPMI Pentero / MediLive MindStream application supports the following character sets:

- ISO_IR 100
- ISO_IR 101
- ISO_IR 109
- ISO_IR 144
- ISO_IR 127
- ISO_IR 126
- ISO_IR 138
- ISO_IR 148
- ISO_IR 13

2.8 Codes and controlled Terminology

The SOP Classes supported by this implementation do not support the use of Codes and Controlled Terminology.

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