

DICOM Conformance Statement

**MagicView 300
Version VA30A**

Revision 8.0

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Siemens Health Services GmbH & Co. KG
Henkestrasse 127
D-91052 Erlangen

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Conformance-Statement

Introduction

0.1 Purpose

This DICOM Conformance Statement is written according to part PS 3.2 of [1].

This conformance statement describes the DICOM Interface of the SIEMENS implementation of a Medical Imaging Viewing Station (SIENET MagicView 300) running Software Version VA30A.

0.2 Definitions, Acronyms and Abbreviations

ACR	A merican C ollege of R adiology
AE	DICOM A pplication E ntity
DQRY	D ICOM Q uery
DQUS	D ICOM Q uery U ser
IOD	DICOM I nformation O bject D efinition
MV300	M agic V iew 300 , a SIENET Viewing Station
NEMA	N ational E lectrical M anufacturers A ssociation
NI	N etwork Interface of the SIENET MagicView 300
PDU	P rotocol D ata U nit
SCU	DICOM S ervice C lass U ser (client using this DICOM service)
SCP	DICOM S ervice C lass P rovider (server providing this service)
SOP	S ervice/ O bject P air
UID	U nique I Dentifier, string unique in the whole network

0.3 References

- [1] Digital Imaging and Communications in Medicine (DICOM),
NEMA PS 3.1-9, 1993

1 Implementation Model

Siemens MagicView 300 DICOM Interface is implemented to support DICOM Application Entities (AE) as SCP which receive associations from remote Application Entities.

Siemens MagicView 300 DICOM Interface originates associations for Storage of DICOM Composite Information Objects in Remote Application Entities.

Siemens MagicView 300 DICOM Interface originates associations for Query and Retrieve of DICOM Composite Information Objects stored in Remote Application Entities.

Siemens MagicView 300 DICOM Interface originates associations for Query of Worklists stored in remote Application Entities.

1.1 Application Data Flow Diagram

The Network Interface (NI) handles the DICOM communication for SIENET MagicView 300.

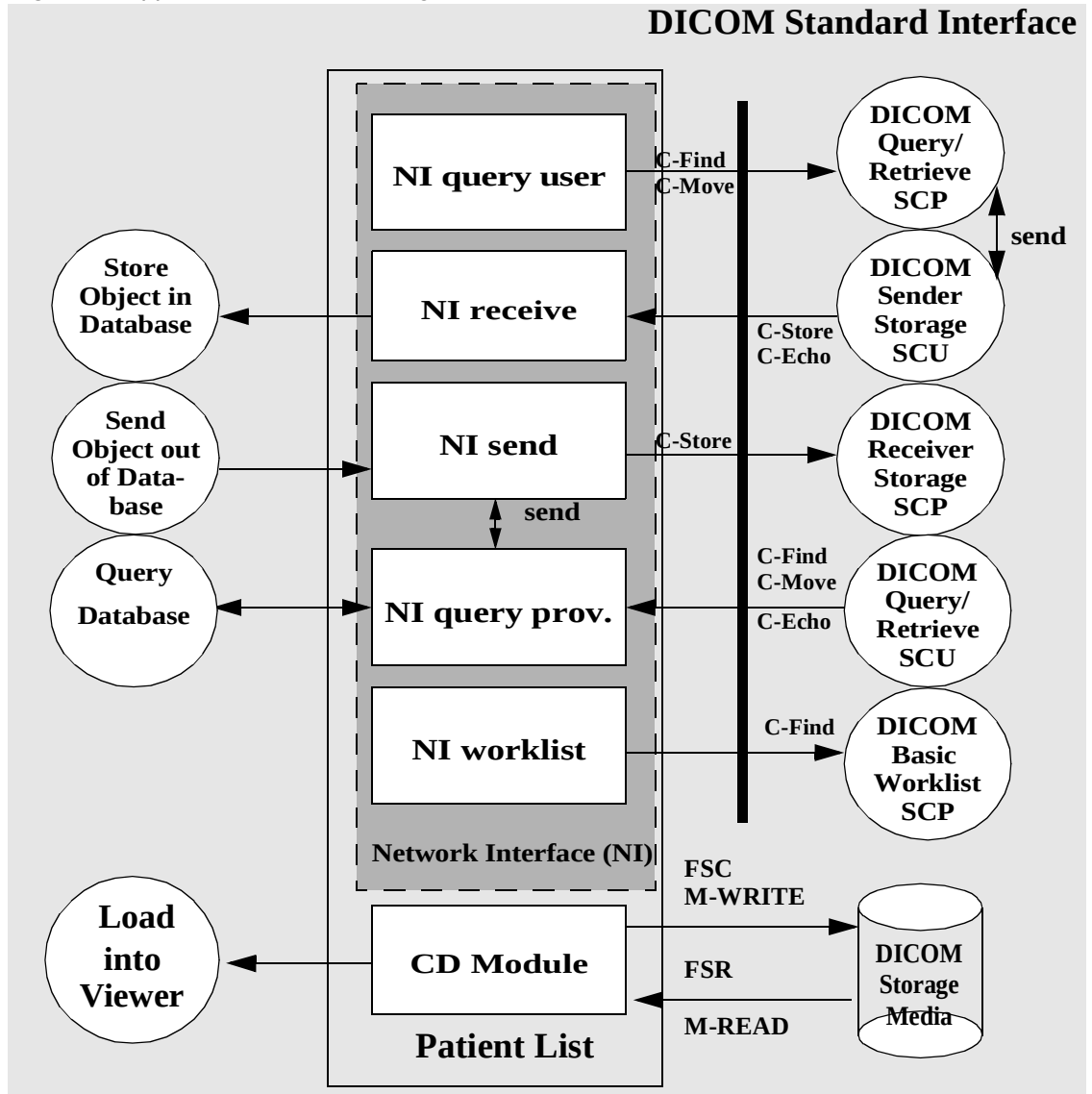
This Interface starts automatically and will be invoked automatically via the integrated SIENET MagicView 300 user-interface.

- o A remote Application Entity (AE) initiates an association for the DICOM Storage Service Class to the AE of NI. Upon acceptance of the association by NI the remote AE transmits the DICOM Information Objects to the NI receiver. After an object is received, NI initiates the transfer of the DICOM objects to the MagicView 300 image database.
- o A remote AE initiates an association for the DICOM Query/Retrieve Service Class to the AE of NI. Upon acceptance of the association by NI the remote AE transmits DICOM Query/Retrieve Requests to the NI query provider.
 - In case of a C-Find Request the NI query provider queries the database of MagicView 300 and generates a response for each match. The responses are sent back to the remote AE via DICOM query responses.

-
- In case of a C-Move Request the NI query Provider queries the database of MagicView 300 and initiates a Storage request for each match. A final Retrieve Response is sent back to the remote AE.*
 - o NI initiates associations for DICOM Storage Service Class to remote AEs. For each remote DICOM node a new association to the corresponding remote DICOM AE is initiated. The DICOM objects are sent by NI sender via that open association.
 - o NI initiates associations for DICOM Query / Retrieve Service Class to remote AEs.
 - o NI initiates associations for DICOM Basic Worklist Service Class to remote AEs.*
 - o CD Module reads DICOM Media Storage (FSR) and loads SOP Instance files into viewer (STD-GEN-CD Profile)
CD Module writes DICOM Media Storage (FSC) in a most recent write session.*

* Query SCP, Worklist SCU and Media Storage are available only with some Licensed Applications.

Figure 1: Application Data Flow Diagram



1.2 Functional Definitions of Application Entities

All components of the Siemens NI DICOM Interface are operating as background threads. They start, when the machine is powered on and wait for tasks.

NI receive acting as a SCP is waiting for association requests from a remote DICOM client. The Application Entity Title the SCP is listening on is taken from the local configuration. The Port Number is 104.

NI query provider acting as a SCP is waiting for association requests from a remote DICOM client. The Application Entity Title the SCP is listening on is taken from the local configuration. The Port Number is 104.

NI send acting as a SCU is waiting for requests from the Application. When a request is received, NI send initiates an association with a remote Application Entity.

NI query user acting as a SCU is waiting for requests from the User. When a request is started, NI query user initiates an association with a remote Application Entity.

NI worklist acting as a SCU is waiting for requests from the application. When a request is received, NI worklist initiates an association with a remote Application Entity.

1.3 Sequencing of Real World Activities

not applicable.

2 Application Entity Specifications

2.1 AE Specification

MagicView 300 Network Interface provides one Application Entity.

The Siemens MagicView 300 provides Standard Conformance to the following DICOM Storage SOP Classes as an SCU and SCP:

Storage SOP Classes as an SCU and SCP

- o CR (Computed Radiography) Image Storage
- o CT Image Storage
- o Ultrasound Image Storage Retired
- o Ultrasound Image Storage
- o Ultrasound Multiframe Image Storage
- o Ultrasound Multiframe Image Storage retired
- o MR Image Storage
- o SC Image Storage
- o X-Ray Angiographic Image Storage
- o X-Ray Radiofluoroscopic Image Storage
- o Nuclear Medicine Image Storage
- o Positron Emission Tomography Image Storage
- o Radio Therapy Image Storage
- o Digital X-Ray Image Storage - For Presentation
- o Digital Mammography X-Ray Image Storage - For Presentation
- o Digital Intra-Oral X-Ray Image Storage - For Presentation

The Siemens MagicView 300 provides Standard Conformance to the following DICOM Query/Retrieve SOP Classes as an SCU and SCP:

Query/Retrieve SOP Classes as SCU and SCP

- o Patient Root Query/Retrieve Information Model - FIND
- o Patient Root Query/Retrieve Information Model - MOVE
- o Patient Study Only Query/Retrieve Information Model - FIND
- o Patient Study Only Query/Retrieve Information Model - MOVE
- o Study Root Query/Retrieve Information Model - FIND
- o Study Root Query/Retrieve Information Model - MOVE

The Siemens MagicView 300 provides Standard Conformance to the following DICOM Modality Worklist SOP Class as an SCU:

Modality Worklist SOP Class as SCU

- o Modality Worklist Information Model - FIND

Media Storage Service Class as FSR and FSC

- o General Purpose CD-R Image Interchange Profile with Basic Directory and Composite Image & Standalone Storage
 - or configurable:
- o Ultrasound Application Profile for Image Display with Single or Multiframe images with Basic Directory and Composite Image & Standalone Storage

2.1.1 Association Establishment Policies

2.1.1.1 General

The configuration of the Siemens MagicView 300 defines the Application Entity Title, the port numbers and the host name and net address.

2.1.1.2 Number of Associations

NI send initiates only one association at a time.

NI receive accepts multiple associations from different remote DICOM AEs at a time. There may be several concurrent associations active and processed in parallel. The maximum of open associations are 10.

NI query user initiates up to 25 associations at a time for C-Find and may initiate up to 10 associations at a time for C-Move.

NI query Provider accepts multiple associations from different remote DICOM AEs at a time. There may be several concurrent associations active and processed in parallel. The maximum of open associations are 10.

NI worklist initiates only one association at a time.

2.1.1.3 Asynchronous Nature

This version of the software does not support asynchronous communication (multiple outstanding transactions over a single association).

2.1.1.4 Implementation Identifying Information

The Siemens MagicView 300 provides an Implementation Class UID of

- o "1.3.12.2.1107.5.8.2"

and an Implementation Version Name of

- o "SHS_MV300_VA30A".

2.1.2 Association Initiation Policy

The Siemens MagicView attempts to initiate a new association for

- o DIMSE-C-STORE
- o DIMSE-C-FIND
- o DIMSE-C-MOVE

service operations.

2.1.2.1 Real-World Activity - Send Image Objects to a Remote Node

2.1.2.1.1 Associated Real-World Activity - Send Image Objects to a Remote Node

The associated Real-World activity is a C-Store request initiated by the user of the Viewing station. If NI send successfully establishes an association to a remote Application Entity, it transfers each image of the study or series one after another via the open association. If the C-Store Response from the remote Application contains a status other than Success, the association is aborted. After a configurable time period, the transfer of the folder is started again. If the Retry fails several times, the foldername will be logged on a history queue with status Failed.

The DICOM targets are configured at configuration time.

2.1.2.1.2 Proposed Presentation Contexts

The Siemens MagicView will propose Presentation Contexts as shown in the following tables.

Table 1: Send SCU Presentation Contexts of MagicView 300

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
CR Image Storage	1.2.840.10008.5.1.4.1.1.1	DICOM Implicit VR Little Endian Transfer Syntax,	1.2.840.10008.1.2	SCU	None
		DICOM Explicit VR Big Endian Transfer Syntax,	1.2.840.10008.1.2.2		
		DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1		
		JPEG Baseline (Process 1) Lossy ¹	1.2.840.10008.1.2.4.50		
		JPEG Extended (Process 2 und 4) Lossy ²	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2.4.70		
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	DICOM Implicit VR Little Endian Transfer Syntax,	1.2.840.10008.1.2	SCU	None
		DICOM Explicit VR Big Endian Transfer Syntax,	1.2.840.10008.1.2.2		
		DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1		
		JPEG Extended (Process 2 und 4) Lossy ²	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2.4.70		

MR Image Storage	1.2.840.10008.5.1.4.1.1.4	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Extended (Process 2 und 4) Lossy ² JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCU	None
Ultrasound Image Storage Retired	1.2.840.10008.5.1.4.1.1.6	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy ¹ JPEG Extended (Process 2 und 4) Lossy ² JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCU	None
Ultrasound Multi-frame Image Storage Retired	1.2.840.10008.5.1.4.1.1.3	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy ¹ JPEG Extended (Process 2 und 4) Lossy ² JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCU	None

SC Image Storage	1.2.840.10008.5.1.4.1.1.7	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy ¹ JPEG Extended (Process 2 und 4) Lossy ² JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCU	None
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy ¹ JPEG Extended (Process 2 und 4) Lossy ² JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCU	None
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy ¹ JPEG Extended (Process 2 und 4) Lossy ² JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCU	None

Nuclear Medicine Image Storage	1.2.840.10008.5 1.4.1.1.20	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy ¹ JPEG Extended (Process 2 und 4) Lossy ² JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCU	None
Ultrasound Image Storage	1.2.840.10008.5. 1.4.1.1.6.1	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy ¹ JPEG Extended (Process 2 und 4) Lossy ² JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCU	None
Ultrasound Multi-frame Image Storage	1.2.840.10008.5. 1.4.1.1.3.1	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy ¹ JPEG Extended (Process 2 und 4) Lossy ² JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCU	None

Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1. 128	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy ¹ JPEG Extended (Process 2 und 4) Lossy ² JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCU	None
Radio Therapy Image Storage	1.2.840.10008.5.1.4.1.1. 481.1	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy ¹ JPEG Extended (Process 2 und 4) Lossy ² JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCU	None
Digital X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1. 1.1	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy ¹ JPEG Extended (Process 2 und 4) Lossy ² JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCU	None

Digital Mammography X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.2	DICOM Implicit VR Little Endian Transfer Syntax,	1.2.840.10008.1.2	SCU	None
		DICOM Explicit VR Big Endian Transfer Syntax,	1.2.840.10008.1.2.2		
		DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1		
		JPEG Baseline (Process 1) Lossy ¹	1.2.840.10008.1.2.4.50		
		JPEG Extended (Process 2 und 4) Lossy ²	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2.4.70		
Digital Intra-Oral X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.3	DICOM Implicit VR Little Endian Transfer Syntax,	1.2.840.10008.1.2	SCU	None
		DICOM Explicit VR Big Endian Transfer Syntax,	1.2.840.10008.1.2.2		
		DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1		
		JPEG Baseline (Process 1) Lossy ¹	1.2.840.10008.1.2.4.50		
		JPEG Extended (Process 2 und 4) Lossy ²	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical (Process 14) ³	1.2.840.10008.1.2.4.70		

1. If Lossy JPEG is selected at Send Dialog of the Application (8 bit images)

2. If Lossy JPEG is selected at Send Dialog of the Application

3. If Lossless JPEG is selected at Send Dialog of the Application

The default proposed transfer syntax is DICOM Implicit VR Little Endian Transfer Syntax.

2.1.2.1.3 SOP Specific Conformance Statement

The DICOM images sent by the Siemens MagicView 300 conform to the DICOM IOD definitions (Standard extended IODs).

2.1.2.2 Real-World Activity - Query the Image Database of a Remote Node

2.1.2.2.1 Associated Real-World Activity - Query the Image Database of a Remote Node

The associated Real-World activity is a C-Find request initiated by the user of the Viewing station. The user specifies some attributes, the remote Application should use to query the database. If the query user successfully establishes an association to the remote Application Entity, it will send one C-Find request (according to the query model) and will then return the results to the Application of the MagicView 300.

2.1.2.2.2 Proposed Presentation Contexts

The Siemens MagicView 300 will propose Presentation Contexts as shown in the following tables.

Table 2: Query SCU Presentation Contexts of MagicView 300

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	DICOM Implicit VR Little Endian Transfer Syntax DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCU	None
Patient Study Only Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.3.1	DICOM Implicit VR Little Endian Transfer Syntax DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCU	None
Study Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.2.1	DICOM Implicit VR Little Endian Transfer Syntax DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCU	None

The default proposed transfer syntax is DICOM Implicit VR Little Endian Transfer Syntax. The default SOP Class UID is Patient Root Query/Retrieve Information Model.

2.1.2.2.3 *SOP Specific Conformance Statement*

NI query user uses hierarchical queries with retrieve level patient or study.

NI query user checks for the following status codes in the Query/Retrieve provider's response to the C-Find request:

- o SUCCESS (0000): Matching is complete
- o PENDING (FF00): Matches are continuing
- o PENDING (FF01): Matches are continuing, no optional key support
- o REFUSED (A700): Out of Resources
- o CANCEL (FE00)

NI query user queries the following attributes:

Table 3: Supported attributes at Patient Level

Description	Tag
Patient's Name	(0010,0010)
Patient ID	(0010,0020)
Patient's Birth Date	(0010,0030)

Table 4: Supported attributes at Study Level

Description	Tag
Study Date	(0008,0020)
Study Time	(0008,0030)
Accession Number	(0008,0050)
Referring Physician's Name	(0008,0090)
Study Description	(0008,1030)
Body Part Examined	(0018,0015)
Study Instance UID	(0020,000D)
Number of Study Related Images	(0020,1208)
Storage Media File Set ID	(0088,0130)

Table 5: Supported Attributes at Series level:

Description	Tag
Modality	(0008,0060)
Series Description	(0008,103E)
Requested Procedure ID	(0040,1001)

The Tag (0088,0130) is used with SIEMENS MagicStore to display Folder Status: "INSTORE", "NEARLINE" and "OFFLINE". The Tag (0018,0015) is used with SIEMENS MagicStore to display Organ Names. It is possible to switch off the use of this Tag.

The Requested Procedure ID is not encoded in the Request Attributes Sequence.



On Study Level the Patient Name contains always a value.

The Maximum of Query Responses is configured to 20 entries, to limit the Query Time. A message gives information, that more entries are available, but not displayed because of the Query criteria. The Maximum value can be changed by Configuration up to 100.

2.1.2.3 Real-World Activity - Retrieve Image Objects from a Remote Node

2.1.2.3.1 Associated Real-World Activity - Retrieve Image Objects from a Remote Node

The associated Real-World activity is a C-Move request initiated by the user of the Viewing Station. The user selects one study from a list generated as a result of the previous C-Find operation. If the user successfully establishes an association to the remote Application Entity, it will cause the calling application via a C-Move request to transfer the images to the local Application Entity. The transfer of the images will be done by a subsequent C-Store and will return the results of the store operation to the calling application.

2.1.2.3.2 Proposed Presentation Contexts

The Siemens MagicView 300 will propose Presentation Contexts as shown in the following tables.

Table 6: C-Move SCU Presentation Contexts of MagicView 300

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Patient Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.1.2	DICOM Implicit VR Little Endian Transfer Syntax DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCU	None
Patient Study Only Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.3.2	DICOM Implicit VR Little Endian Transfer Syntax DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCU	None
Study Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.2.2	DICOM Implicit VR Little Endian Transfer Syntax DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCU	None

The default proposed transfer syntax is DICOM Implicit VR Little Endian Transfer Syntax.

2.1.2.3.3 SOP Specific Conformance Statement

The MagicView 300 Query/Retrieve SCU checks for the following status codes in the provider's response to a C-Move request:

- o SUCCESS (0000): Matching is complete
- o WARNING (B000): One or more Failures occurred
- o PENDING (FF00): Matches are continuing
- o CANCEL (FE00)

2.1.2.4 Real-World Activity - Query Worklist of a Remote Node

2.1.2.4.1 Associated Real-World Activity - Query Worklist of a Remote Node

The associated Real-World activity is a C-Find request initiated by the user of the Viewing Station. The user specifies some attributes the remote Application should use to query its worklist database. If NI worklist successfully establishes an association to the remote Application Entity, it will send the C-Find request and will then return the results to the application of the MagicView 300.

2.1.2.4.2 Proposed Presentation Contexts

The Siemens MagicView 300 will propose Presentation Contexts as shown in the following table.

Table 7: Basic Worklist SCU Presentation Contexts of MagicView 300

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Modality Worklist Information Model - FIND	1.2.840.10008.5.1.4.31	DICOM Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2	SCU	None
		DICOM Explicit VR Big Endian Transfer Syntax,	1.2.840.10008.1.2.2		
		DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1		

The default proposed transfer syntax is DICOM Implicit VR Little Endian Transfer Syntax.

2.1.2.4.3 SOP Specific Conformance Statement

The following DICOM Tags are sent to the Worklist Provider by the MagicView 300:

R = Required, O = Optional

Table 8: Supported search key attributes

Description	Tag	Type
Accession Number	(0008,0050)	O
Modality	(0008,0060)	R
Referring Physician's Name	(0008,0090)	R
Patient's Name	(0010,0010)	R
Patient's Birth Date	(0010,0030)	O
Patient ID	(0010,0020)	R
Patient's Sex	(0010,0040)	O
Study Instance UID	(0020,000D)	O
Scheduled Station AE Title	(0040,0001)	R
Scheduled Procedure Step Start Date	(0040,0002)	R
Scheduled Procedure Step Start Time	(0040,0003)	R
Scheduled Performing Physician's Name	(0040,0006)	R

Description	Tag	Type
Scheduled Procedure Step ID	(0040,0009)	O
Scheduled Procedure Step Sequence	(0040,0100)	R
Requested Procedure ID	(0040,1001)	O

The following attributes are passed to the worklist provider as part of a sequence: Scheduled Performing Physician's Name, Scheduled Station AE Title, Modality, Requested Procedure ID, Scheduled Procedure Step Start Date, Scheduled Procedure Step Start Time, Scheduled Procedure Step ID.

The following DICOM Tags are read from the Worklist Provider's response message:

R = Required, O = Optional

Table 9: Supported return key attributes

Description	Tag	Type
Accession Number	(0008,0050)	O
Modality	(0008,0060)	R
Referring Physician's Name	(0008,0090)	R
Series Description	(0008,103E)	O
Study Description	(0008,1030)	O
Patient's Name	(0010,0010)	R
Patient's Birth Date	(0010,0030)	O
Patient ID	(0010,0020)	R
Patient's Sex	(0010,0040)	O
Study Instance UID	(0020,000D)	O
Series Instance UID	(0020,000E)	O
Study ID	(0020,0010)	O
Series Number	(0020,0011)	O
Study Comments	(0032,4000)	O
Scheduled Station AE Title	(0040,0001)	R

Description	Tag	Type
Scheduled Procedure Step Start Date	(0040,0002)	R
Scheduled Procedure Step Start Time	(0040,0003)	R
Scheduled Performing Physician's Name	(0040,0006)	R
Scheduled Procedure Step ID	(0040,0009)	O
Scheduled Procedure Step Sequence	(0040,0100)	R
Requested Procedure ID	(0040,1001)	O

The following attributes are expected to be part of a sequence: Scheduled Performing Physician's Name, Scheduled Station AE Title, Modality, Scheduled Procedure Step Start Date, Scheduled Procedure Step Start Time, Scheduled Procedure Step ID, Study ID, Study Description.

The MagicView 300 Basic Worklist SCU checks for the following status codes in the provider's response to the C-Find request:

- o SUCCESS (0000): Matching is complete

- o PENDING (FF00): Matches are continuing
- o PENDING (FF01): Matches are continuing, no optional key support
- o CANCEL (FE00)

2.1.3 Association Acceptance Policy

The Siemens MagicView 300 accepts a new association for

- o DIMSE-C-Echo
- o DIMSE-C-Store
- o DIMSE-C-Find
- o DIMSE-C-Move

service operation.

2.1.3.1 Real-World Activity - Receive Echo

2.1.3.1.1 Associated Real-World Activity - respond to echo request

The associated Real-World activity is a C-Echo response by NI receive and NI query provider.

2.1.3.1.2 Proposed Presentation Contexts

The Siemens MagicView will accept Presentation Contexts as shown in the following table.

Table 10: Echo SCP Presentation Contexts of MagicView 300

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

2.1.3.1.3 SOP Specific Conformance to the Verification SOP Class

The DICOM MagicView provides standard conformance to the DICOM Verification Service Class.

2.1.3.2 Real-World Activity - Receive Image Objects from a Remote Node

2.1.3.2.1 Associated Real-World Activity -Receive Image Objects from a Remote Node

The associated Real-World activity is a C-Store request received by NI receive. After accepting an association from a remote DICOM AE, the NI receive thread receives the images via the open association.

After the association is closed by the sender, NI receive initiates the transfer of the images into the MagicView's database. If the transfer fails, NI returns an error status.

2.1.3.2.2 Proposed Presentation Contexts

The Siemens MagicViews will accept Presentation Contexts as shown in the following tables.

Table 11: Receive SCP Presentation Contexts of MagicView 300

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
CR Image Storage	1.2.840.10008.5.1.4.1.1.1	DICOM Implicit VR Little Endian Transfer Syntax,	1.2.840.10008.1.2	SCP	None
		DICOM Explicit VR Big Endian Transfer Syntax,	1.2.840.10008.1.2.2		
		DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1		
		JPEG Baseline (Process 1) Lossy	1.2.840.10008.1.2.4.50		
		JPEG Extended (Process 2 und 4) Lossy	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.70		
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	DICOM Implicit VR Little Endian Transfer Syntax,	1.2.840.10008.1.2	SCP	None
		DICOM Explicit VR Big Endian Transfer Syntax,	1.2.840.10008.1.2.2		
		DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1		
		JPEG Extended (Process 2 und 4) Lossy	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.70		
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	DICOM Implicit VR Little Endian Transfer Syntax,	1.2.840.10008.1.2	SCP	None
		DICOM Explicit VR Big Endian Transfer Syntax,	1.2.840.10008.1.2.2		
		DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1		
		JPEG Extended (Process 2 und 4) Lossy	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.70		

Ultrasound Image Storage Retired	1.2.840.10008.5.1.4.1.1.6	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy JPEG Extended (Process 2 und 4) Lossy JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCP	None
Ultrasound Multi-frame Image Storage Retired	1.2.840.10008.5.1.4.1.1.3	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy JPEG Extended (Process 2 und 4) Lossy JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCP	None
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy JPEG Extended (Process 2 und 4) Lossy JPEG Lossless, Non-Hierarchical (Process 14) RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.4.5	SCP	None

Ultrasound Multiframe Image Storage	1.2.840.10008.5. 1.4.1.1.3.1	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy JPEG Extended (Process 2 und 4) Lossy JPEG Lossless, Non- Hierarchical (Process 14) RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.4.5	SCP	None
SC Image Storage	1.2.840.10008.5. 1.4.1.1.7	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy JPEG Extended (Process 2 und 4) Lossy JPEG Lossless, Non- Hierarchical (Process 14)	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCP	None
X-Ray Angiograph- ic Image Storage	1.2.840.10008.5 1.4.1.1.12.1	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy JPEG Extended (Process 2 und 4) Lossy JPEG Lossless, Non- Hierarchical (Process 14)	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCP	None

X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5 1.4.1.1. 12.2	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy JPEG Extended (Process 2 und 4) Lossy JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCP	None
Nuclear Medicine Image Storage	1.2.840.10008.5 1.4.1.1. 20	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy JPEG Extended (Process 2 und 4) Lossy JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCP	None
Positron Emission Tomography Image Storage	1.2.840.10008.5. 1.4.1.1. 128	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy JPEG Extended (Process 2 und 4) Lossy JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCP	None

Radio Therapy Image Storage	1.2.840.10008.5.1.4.1.1. 481.1	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy JPEG Extended (Process 2 und 4) Lossy JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCP	None
Digital X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1. 1.1	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy JPEG Extended (Process 2 und 4) Lossy JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCP	None
Digital Mammography X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1. 1.2	DICOM Implicit VR Little Endian Transfer Syntax, DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax JPEG Baseline (Process 1) Lossy JPEG Extended (Process 2 und 4) Lossy JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.70	SCP	None

Digital Intra-Oral X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.3	DICOM Implicit VR Little Endian Transfer Syntax,	1.2.840.10008.1.2	SCP	None
		DICOM Explicit VR Big Endian Transfer Syntax,	1.2.840.10008.1.2.2		
		DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.1		
		JPEG Baseline (Process 1) Lossy	1.2.840.10008.1.2.4.50		
		JPEG Extended (Process 2 und 4) Lossy	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.70		

2.1.3.2.3 SOP Specific Conformance Statement

2.1.3.3 Real World Activity - Receive Query Request from a Remote Node

2.1.3.3.1 Associated Real World Activity - Respond to Find Request

The associated Real-World activity is a C-Find request received by the NI query provider. After accepting an association from a remote DICOM AE the NI query provider receives the query requests via the open association and queries the database. For each match a result message is sent to the requesting remote node.

2.1.3.3.2 Accepted Presentation Contexts

The Siemens MagicViews will accept Presentation Contexts as shown in the following tables.

Table 12: Query SCP Presentation Contexts of MagicView 300

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	DICOM Implicit VR Little Endian Transfer Syntax DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCP	None
Patient Study Only Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.3.1	DICOM Implicit VR Little Endian Transfer Syntax DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCP	None
Study Root Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.2.1	DICOM Implicit VR Little Endian Transfer Syntax DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCP	None

2.1.3.3.3 *SOP Specific Conformance Statement*

- o Relational queries are not supported.
- o The query matching is case insensitive.
- o The DICOM MagicView 300 Query Provider returns one of the following status codes:
 - Success (0000): Matching is complete
 - Pending (FF00): Matches are continuing
 - Failed (A900): Invalid Parameters

- Refused (A700): Out of Resources
- Cancel (FE00)

2.1.3.3.3.1 Patient Root C-Find SOP Class Specific Conformance Statement

R = Required, U = Unique, O = Optional

Table 13: Supported Patient Level Attributes

Description	Tag	Type
Patient's Name	(0010,0010)	R
PatientID	(0010,0020)	O
Patient's Birth Date	(0010,0030)	O
Patient's Sex	(0010,0040)	O

Table 14: Supported Study Level Attributes

Description	Tag	Type
Study Date	(0008,0020)	R
Study Time	(0008,0030)	R
Accession Number	(0008,0050)	R
Referring Physician's Name	(0008,0090)	O
Study Description	(0008,1030)	O
Study ID	(0020,0010)	R
Study Instance UID	(0020,000D)	U
Number of Study related Images	(0020,1208)	O

Table 15: Supported Series Level Attributes

Description	Tag	Type
Modality	(0008,0060)	R
Series Description	(0008,103E)	O
Body Part Examined	(0018,0015)	O
Series Instance UID	(0020,000E)	U
Series Number	(0020,0011)	R
Requested Procedure ID	(0040,1001)	O
Number of Series Related Images	(0020,1209)	O
Storage Media File Set ID	(0088,0130)	O

2.1.3.3.3.2 Study Root C-Find SOP Class Specific Conformance Statement

Table 16: Supported Study Level attributes

Description	Tag	Type
Study Date	(0008,0020)	R
Study Time	(0008,0030)	R
Accession Number	(0008,0050)	R

Description	Tag	Type
Referring Physician's Name	(0008,0090)	O
Study Description	(0008,1030)	O
Patient's Name	(0010,0010)	R
Patient's Birth Date	(0010,0030)	O
Patient ID	(0010,0020)	O
Patient's Sex	(0010,0040)	O
Study Instance UID	(0020,000D)	U
Study ID	(0020,0010)	R
Number of Study related Images	(0020,1208)	O

- o The same Series level attributes as in the Patient Root C-Find SOP Class are supported.
- o The Requested Procedure ID is not expected to be part of a sequence.

2.1.3.3.3.3 Patient/Study Only C-Find SOP Class Specific Conformance Statement

- o The same Patient level attributes as in the Patient Root C-Find SOP Class are supported.
- o The same Study level attributes as in the Patient Root C-Find SOP Class are supported.

2.1.3.4 Real-World Activity - Receive Transfer Request from a Remote Node

2.1.3.4.1 Associated Real-World Activity - Initiate Image Transfer

The associated Real-World activity is a C-Move request received by the NI query provider. After accepting an association from a remote DICOM AE, the NI query provider receives the move request via the open association and queries the database. The requested images are sent to the requested remote node.

2.1.3.4.2 Accepted Presentation Contexts

The Siemens MagicView 300 will accept Presentation Contexts as shown in the following table.

Table 17: Retrieve SCP Presentation Contexts of MagicView 300

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Patient Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.1.2	DICOM Implicit VR Little Endian Transfer Syntax DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCP	None
Patient Study Only Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.4.1.2.3.2	DICOM Implicit VR Little Endian Transfer Syntax DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCP	None

Study Root Query/Retrieve Information Model - MOVE	1.2.840.10008.5.1.	DICOM Implicit VR Little	1.2.840.10008.1.2	SCP	None
	4.1.1.2.2.2	Endian Transfer Syntax			
		DICOM Explicit VR Big Endian Transfer Syntax, DICOM Explicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2.2 1.2.840.10008.1.2.1		

2.1.3.4.3 *SOP Specific Conformance Statement*

The NI query provider sends one of the following status codes to the Query/Retrieve SCU in response to a C-Move request:

- o SUCCESS (0000): Matching is complete
- o PENDING (FF00): Matches are continuing
- o FAILED (A900): Invalid parameters
- o FAILED (C001): Unable to process
- o REFUSED (A801): Destination unknown
- o CANCEL (FE00)

2.1.3.4.3.1 *SOP Specific Conformance Statement for SOP Class C-Store*

The NI query provider initiates C-Store sub-operations using the Presentation Contexts listed in 2.1.3.2.2.

2.1.4 *Transfer Syntax Selection*

The Siemens MagicView 300 currently supports the Implicit Little Endian, Explicit Big Endian, Explicit Little Endian, JPEG Baseline(Process 1) Lossy, JPEG Extended (Process 2 und 4) Lossy, JPEG Lossless and RLE Lossless(only for SCP) Transfersyntaxes (detailed description see presentation context tables).

For Storage Service Class Provider, the Siemens MagicView 300 has following syntax priority Order:



RLE Lossless, JPEG Baseline(Process 1) Lossy, JPEG Extended (Process 2 und 4) Lossy, JPEG Lossless, Non-Hierarchical (Process 14), Implicit Little Endian, Explicit Big Endian, Explicit Little Endian.

The transfer syntax priority order for the Query/Retrieve Provider is: Implicit VR Little Endian, Explicit VR Little Endian and Explicit VR Big Endian.

On Verification SOP Class: Implicit Little Endian, Explicit Big Endian, Explicit Little Endian.

2.1.5 File Meta Information for FSR,FSC

The Siemens MagicView 300 stores in the FileSetID the ID "MAGIC VIEW 300".

Impl. Version Name is: SHS_MV300_VA30A.

2.1.5.1 Real World Activity

Interchange Option with Directory Information - FSR

2.1.5.1.1 Media Storage Application Profile

The supported Storage Application Profile im MagicView 300 FSR is General Purpose CD-R Image Interchange Profile or configurable the US Application Profile Image Display Single/Multiframe with Augmentation wich stores retired US formats.

2.1.5.1.1.1 General purpose Profile

STD-GEN-CD

IOD	SOP Class UID	Transfer Syntax	Role
Basic Directory	1.2.840.10008.1.3.10	1.2.840.10008.1.2.1	FSR
CR Image Storage	1.2.840.10008.5.1.4.1.1.1	1.2.840.10008.1.2.1	FSR
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	1.2.840.10008.1.2.1	FSR
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	1.2.840.10008.1.2.1	FSR
US Image Storage retired	1.2.840.10008.5.1.4.1.1.6	1.2.840.10008.1.2.1	FSR
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	1.2.840.10008.1.2.1	FSR
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	1.2.840.10008.1.2.1	FSR
XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1	1.2.840.10008.1.2.1	FSR

IOD	SOP Class UID	Transfer Syntax	Role
RF Image Storage	1.2.840.10008.5.1.4.1.1.12.2	1.2.840.10008.1.2.1	FSR
NM Image Storage	1.2.840.10008.5.1.4.1.1.20	1.2.840.10008.1.2.1	FSR
US Multiframe Image Storage retired	1.2.840.10008.5.1.4.1.1.3	1.2.840.10008.1.2.1	FSR
US Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1	1.2.840.10008.1.2.1	FSR
PET Image Storage	1.2.840.10008.5.1.4.1.1.128	1.2.840.10008.1.2.1	FSR
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1	1.2.840.10008.1.2.1	FSR
Digital X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.1	1.2.840.10008.1.2.1	FSR
Digital Mammography X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.2	1.2.840.10008.1.2.1	FSR
Digital Intra-Oral X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.3	1.2.840.10008.1.2.1	FSR

2.1.5.1.1.2 US Application Profile

STD-US-ID-MF-CDR

IOD	SOP Class UID	Transfer Syntax	Role
Basic Directory	1.2.840.10008.1.3.10	1.2.840.10008.1.2.1	FSR
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.5	FSR

IOD	SOP Class UID	Transfer Syntax	Role
US Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1	1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.5	FSR

For FSR all from PS 3.11 defined Media and Photometric Interpretations are supported.

2.1.5.1.1.3 Augmentation

AUG-US-ID-MF-CDR

The Augmentation adds the Retired US formats to the Standard US Application profile:-

IOD	SOP Class UID	Transfer Syntax	Role
US Image Storage retired	1.2.840.10008.5.1.4.1.1.6	1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.5	FSR
US Multiframe Image Storage retired	1.2.840.10008.5.1.4.1.1.3	1.2.840.10008.1.2.1 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.5	FSR

2.1.5.2 Real World Activity - Interchange Option with Directory Information - FSC

2.1.5.2.1 Media Storage Application Profile

The only supported Profile in MagicView 300 FSC is General Purpose CD-R-Image Interchange Profile or configurable the US Application Profile Image Display Single/Multiframe.

2.1.5.2.1.1 General purpose Profile

STD-GEN-CD

IOD	SOP Class UID	Transfer Syntax	Role
Basic Directory	1.2.840.10008.1.3.10	1.2.840.10008.1.2.1	FSC
CR Image Storage	1.2.840.10008.5.1.4.1.1.1	1.2.840.10008.1.2.1	FSC
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	1.2.840.10008.1.2.1	FSC
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	1.2.840.10008.1.2.1	FSC
US Image Storage retired	1.2.840.10008.5.1.4.1.1.6	1.2.840.10008.1.2.1	FSC
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	1.2.840.10008.1.2.1	FSC
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	1.2.840.10008.1.2.1	FSC
XA Image Storage	1.2.840.10008.5.1.4.1.1.12.1	1.2.840.10008.1.2.1	FSC
RF Image Storage	1.2.840.10008.5.1.4.1.1.12.2	1.2.840.10008.1.2.1	FSC
NM Image Storage	1.2.840.10008.5.1.4.1.1.20	1.2.840.10008.1.2.1	FSC
US Multiframe Image Storage retired	1.2.840.10008.5.1.4.1.1.3	1.2.840.10008.1.2.1	FSC
US Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1	1.2.840.10008.1.2.1	FSC
PET Image Storage	1.2.840.10008.5.1.4.1.1.128	1.2.840.10008.1.2.1	FSC
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1	1.2.840.10008.1.2.1	FSC
Digital X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.1	1.2.840.10008.1.2.1	FSC
Digital Mammography X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.2	1.2.840.10008.1.2.1	FSC

IOD	SOP Class UID	Transfer Syntax	Role
Digital Intra-Oral Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.3	1.2.840.10008.1.2.1	FSC

The Application stores the physical image at one write, multi session is not supported.

2.1.5.2.1.2 US Application Profile

STD-US-ID-MF

IOD	SOP Class UID	Transfer Syntax	Role
Basic Directory	1.2.840.10008.1.3.10	1.2.840.10008.1.2.1	FSC
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	1.2.840.10008.1.2.1	FSC
US Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1	1.2.840.10008.1.2.1	FSC

The Application stores the physical image at one write, multi session is not supported.

For FSC as Media only CDR is supported,all Photometric Interpretations are supported.

2.1.5.2.1.3 Augmentation

AUG-US-ID-MF-CDR

The Augmentation adds the Retired US formats to the Standard US Application profile:-

IOD	SOP Class UID	Transfer Syntax	Role
US Image Storage retired	1.2.840.10008.5.1.4.1.1.6	1.2.840.10008.1.2.1	FSC



IOD	SOP Class UID	Transfer Syntax	Role
US Multiframe Image Storage retired	1.2.840.10008.5.1.4.1.1.3	1.2.840.10008.1.2.1	FSC

3 Communication Profiles

3.1 Supported Communication Stacks

Siemens MagicView 300 provides DICOM TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard.

3.1.1 TCP/IP Stack

Siemens MagicView 300 uses the TCP/IP stack from the Windows 98/NT system upon which it executes.

3.1.1.1 Physical Media Support

Siemens MagicView 300 is independent of the physical medium over which TCP/IP executes.

4 Extensions/Privatizations/ Specializations

4.1 Standard Extended/ Specialized/Private SOPs

None.

4.2 Private Transfer Syntaxes

None.

5 Configuration

5.1 *AE Title / Presentation Address Mapping*

The Siemens MagicView 300 maps Application Entity Titles to host name and port number via an internal configuration method. The IP address for the host name is determined using standard system calls.

For each DICOM MagicView 300 **default** unique Application Entity Titles are assigned using the following mechanism:

Each Application Entity Title starts with "MV300_" and has added the Serial Number, eg. "MV300_0032" for MagicView 300.

The AE Titles can be changed with the configuration, the Port No. for the Storage SCP and the Query/Retrieve SCP is 104.

5.2 *Configurable Parameters*

- o The Application Entity Titles, host names and port numbers.
- o PDU size is set to 16384
- o time-out for accepting/rejecting an association request: 300 sec
- o time-out for responding to an association open/close request: 300 sec
- o time-out for accepting a message over the network: 300 sec
 - All this Timeout values can be changed via Configuration
- o Number of max. accepted Query Matches

6 Support of Extended Character Sets

The Siemens DICOM application supports the ISO 8859 Latin 1 (ISO-IR 100) character set.

Appendix: Requirements for Viewing of DICOM Images

Scope

This section of the MagicView 300 Conformance Statement document the required DICOM Tags for the Viewing application.

Requirements for Display and Simple Evaluation

- o Tags (0028,1050),(0028,1051) Window Center and Width and Tags (0028,1052),(0028,1053) Rescale Slope and Intersept must have values, which allow the image to be displayed on another station.
- o Following Pixel Representations are supported by the Viewer:

Attribute Name	DICOM Tag	16-bit unsigned	16-bit signed	15-bit	14-bit	13-bit	12-bit	10-bit	8-bit	8-bit
Bits allocated	(0028, 0100)	16	16	16	16	16	16	16	16	8
Bits stored	(0028, 0101)	16	16	15	14	13	12	10	8	8
High bit	(0028, 0102)	15	15	14	13	14	11	9	7	7
Pixel Representation	(0028,0103)	0	1	0	0	0	0	0	0	0

Note: If storing changed images, all 16-bit images are stored as 12 bit.

- o Following Photometric Interpretations are supported by the Viewer:

Photometric Interpretation (0028,0004)	Planar Configuration (0028,0006)	Support Read	Support Store
RGB	0	Y	Y

Photometric Interpretation (0028,0004)	Planar Configuration (0028,0006)	Support Read	Support Store
RGB	1	Y	N
MONOCHROME1	n.a.	Y	Y
MONOCHROME2	n.a.	Y	Y
PALETTE COLOR	n.a.	Y	N
YBR_FULL	1	Y	N
YBR_FULL_422	0	Y	N
YBR_PARTIAL_422	0	Y	N

All color images other than Default (1. Line) are converted to Default at storage time.

Maximum Image Size: 10000 Rows and 10000 Columns. Bigger images cannot be loaded to Viewer.

Maximum No. of Frames for Multiframe: 1000.

These are the requirements for Display and Simple Evaluations of the Viewing station. The Storage of images do not follow the current restrictions.

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Siemens Health Services GmbH & Co. KG
Henkestrasse 127
D-91052 Erlangen