DICOM® 3
Conformance Statement **

Applicable to MIM 6.5-MIM6.6 and MIMviewer 3.5-MIMviewer 3.6 software versions

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1 Revision History

Issue Date:	Prepared by:	Description of Change:
5/05/2003	P. Simmelink	Initial Release
4/19/2004	P. Simmelink	Update for new rev of DICOM
8/15/2005	D. Watson	Update for new rev of DICOM
7/26/2006	D. Watson	Update for new rev of DICOM
3/15/2007	M. Cain	Update for new rev of DICOM
5/08/2008	D. Watson	Update for new rev of DICOM
11/05/2010	C. Vincent	Changed company name, added SOP classes, misc. fixes to bring in line with current standard.
11/23/2010	L. Hanigan	Modified to use correct logos.
12/01/2010	C. Vincent	Added conformance for Plan to SOP Classes as an SCU.
6/29/2011	L. Hanigan	Changed Introduction to add MIMviewer import/export capabilities. (import: RT Struct, Dose, Plan, and Reg – export: of secondary captures)
10/14/2013	L. Hanigan	Modified for address change
12/19/2013	P.Jacobs	Added Raw Data Storage SOP Class UID 1.2.840.10008.5.1.4.1.1.66 to both tables in section 7.1. Mention in section 7.1.2.14 that Explicit Transfer syntax is not supported for the following modalities: RT Dose Storage, RT Structure Set Storage, and RT Plan Storage.
02/24/2015	L. Hanigan	Add versioning to correspond to applicable MIM and MIMviewer versions.
04/17/2015	D. Watson	Revised in accordance with new DICOM standard for Conformance Statements. Added Image-Level query as SCP and C-GET as SCU.
05/18/2016	L. Hanigan	Updated versioning to correspond to applicable MIM and MIMviewer versions. Removed the JSON reference in Section 8

2 Copyright Statement

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3 Disclaimer

The MIM Software Inc. MIM and MIMviewer software is in compliance with the ACR-NEMA DICOM 3 standard (version 2014b); however, due to the inherent nature of DICOM, the user must perform acceptance testing to verify that MIM and MIMviewer DICOM software meets the requirements for a given configuration. The acceptance testing must include all representative datasets (images) intended for transfer, all types of transfers desired for a type of dataset, and clinical evaluation of each representative dataset on the receiving end after each desired type of transfer.

4 Conformance Statement Overview

MIM and MIMviewer support multiple types of DICOM networking and on-disk media storage. As a Client (SCU), the software can store, query, retrieve, and print to other DICOM entities. As a Server (SCP), they can accept and process Store, Query, and Retrieve requests.

The software can store many diverse types of DICOM media on-disk, including CT, PET, MR, Nuclear Medicine, X-Ray, Structured Reports, Encapsulated Documents (including PDF), and a variety of types of DICOM RT data.

The following table lists the default configuration and which of the SOP classes may be used as SCU and SCP. Additional Transfer SOP classes can be configured as SCP.

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
Transfer		
Verification	Yes	Yes
AmbulatoryECGWaveformStorage	Yes	Yes
ArterialPulseWaveformStorage	Yes	Yes
AudioSRStorageTrialRetired	Yes	Yes
AutorefractionMeasurementsStorage	Yes	Yes
BasicStructuredDisplayStorage	Yes	Yes
BasicTextSRStorage	Yes	Yes
BasicVoiceAudioWaveformStorage	Yes	Yes
BlendingSoftcopyPresentationStateStorageSOPClass	Yes	Yes
BreastTomosynthesisImageStorage	Yes	Yes
CTImageStorage	Yes	Yes
CardiacElectrophysiologyWaveformStorage	Yes	Yes
ChestCADSRStorage	Yes	Yes
ColonCADSRStorage	Yes	Yes
ColorPaletteStorage	Yes	Yes
ColorSoftcopyPresentationStateStorageSOPClass	Yes	Yes
ComprehensiveSRStorage	Yes	Yes
ComprehensiveSRStorageTrialRetired	Yes	Yes
ComputedRadiographyImageStorage	Yes	Yes
DICOSCTImageStorage	Yes	Yes
DICOSDigitalXRayImageStorageForPresentation	Yes	Yes
DICOSDigitalXRayImageStorageForProcessing	Yes	Yes
DICOSThreatDetectionReportStorage	Yes	Yes
DeformableSpatialRegistrationStorage	Yes	Yes
DetailSRStorageTrialRetired	Yes	Yes

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
DigitalIntraOralXRayImageStorageForPresentation	Yes	Yes
DigitalIntraOralXRayImageStorageForProcessing	Yes	Yes
DigitalMammographyXRayImageStorageForPresentation	Yes	Yes
DigitalMammographyXRayImageStorageForProcessing	Yes	Yes
DigitalXRayImageStorageForPresentation	Yes	Yes
DigitalXRayImageStorageForProcessing	Yes	Yes
EddyCurrentImageStorage	Yes	Yes
EddyCurrentMultiFrameImageStorage	Yes	Yes
EncapsulatedCDAStorage	Yes	Yes
EncapsulatedPDFStorage	Yes	Yes
EnhancedCTImageStorage	Yes	Yes
EnhancedMRColorImageStorage	Yes	Yes
EnhancedMRImageStorage	Yes	Yes
EnhancedPETImageStorage	Yes	Yes
EnhancedSRStorage	Yes	Yes
EnhancedUSVolumeStorage	Yes	Yes
EnhancedXAImageStorage	Yes	Yes
EnhancedXRFImageStorage	Yes	Yes
GeneralAudioWaveformStorage	Yes	Yes
GeneralECGWaveformStorage	Yes	Yes
GenericImplantTemplateStorage	Yes	Yes
GrayscaleSoftcopyPresentationStateStorageSOPClass	Yes	Yes
HangingProtocolStorage	Yes	Yes
HardcopyColorImageStorageSOPClassRetired	Yes	Yes
HardcopyGrayscaleImageStorageSOPClassRetired	Yes	Yes
HemodynamicWaveformStorage	Yes	Yes
ImplantAssemblyTemplateStorage	Yes	Yes
ImplantTemplateGroupStorage	Yes	Yes
ImplantationPlanSRStorage	Yes	Yes
IntraocularLensCalculationsStorage	Yes	Yes
IntravascularOpticalCoherenceTomographyImageStorageForPresentation	Yes	Yes
IntravascularOpticalCoherenceTomographyImageStorageForProcessing	Yes	Yes
KeratometryMeasurementsStorage	Yes	Yes
KeyObjectSelectionDocumentStorage	Yes	Yes
LensometryMeasurementsStorage	Yes	Yes
MRImageStorage	Yes	Yes
MRSpectroscopyStorage	Yes	Yes
MacularGridThicknessAndVolumeReportStorage	Yes	Yes
MammographyCADSRStorage	Yes	Yes
MediaStorageDirectoryStorage	Yes	Yes

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
MultiFrameGrayscaleByteSecondaryCaptureImageStorage	Yes	Yes
MultiFrameGrayscaleWordSecondaryCaptureImageStorage	Yes	Yes
MultiFrameSingleBitSecondaryCaptureImageStorage	Yes	Yes
MultiFrameTrueColorSecondaryCaptureImageStorage	Yes	Yes
NuclearMedicineImageStorage	Yes	Yes
NuclearMedicineImageStorageRetired	Yes	Yes
OphthalmicAxialMeasurementsStorage	Yes	Yes
OphthalmicPhotography16BitImageStorage	Yes	Yes
OphthalmicPhotography8BitImageStorage	Yes	Yes
OphthalmicTomographyImageStorage	Yes	Yes
OphthalmicVisualFieldStaticPerimetryMeasurementsStorage	Yes	Yes
PositronEmissionTomographyImageStorage	Yes	Yes
ProcedureLogStorage	Yes	Yes
PseudoColorSoftcopyPresentationStateStorageSOPClass	Yes	Yes
RTBeamsDeliveryInstructionStorage	Yes	Yes
RTBeamsDeliveryInstructionStorageTrialRetired	Yes	Yes
RTBeamsTreatmentRecordStorage	Yes	Yes
RTBrachyTreatmentRecordStorage	Yes	Yes
RTDoseStorage	Yes	Yes
RTImageStorage	Yes	Yes
RTIonBeamsTreatmentRecordStorage	Yes	Yes
RTIonPlanStorage	Yes	Yes
RTPlanStorage	Yes	Yes
RTStructureSetStorage	Yes	Yes
RTTreatmentSummaryRecordStorage	Yes	Yes
RawDataStorage	Yes	Yes
RealWorldValueMappingStorage	Yes	Yes
RespiratoryWaveformStorage	Yes	Yes
SecondaryCaptureImageStorage	Yes	Yes
SegmentationStorage	Yes	Yes
SiemensCSANonImageStorage	Yes	Yes
SpatialFiducialsStorage	Yes	Yes
SpatialRegistrationStorage	Yes	Yes
SpectaclePrescriptionReportStorage	Yes	Yes
StandaloneCurveStorageRetired	Yes	Yes
StandaloneModalityLUTStorageRetired	Yes	Yes
StandaloneOverlayStorageRetired	Yes	Yes
StandalonePETCurveStorageRetired	Yes	Yes
StandaloneVOILUTStorageRetired	Yes	Yes
StereometricRelationshipStorage	Yes	Yes

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
StorageServiceClass	Yes	Yes
StoredPrintStorageSOPClassRetired	Yes	Yes
SubjectiveRefractionMeasurementsStorage	Yes	Yes
SurfaceSegmentationStorage	Yes	Yes
TextSRStorageTrialRetired	Yes	Yes
ToshibaUSPrivateDataStorage	Yes	Yes
TwelveLeadECGWaveformStorage	Yes	Yes
UltrasoundImageStorage	Yes	Yes
UltrasoundImageStorageRetired	Yes	Yes
UltrasoundMultiFrameImageStorage	Yes	Yes
UltrasoundMultiFrameImageStorageRetired	Yes	Yes
VLEndoscopicImageStorage	Yes	Yes
VLImageStorageTrialRetired	Yes	Yes
VLMicroscopicImageStorage	Yes	Yes
VLMultiFrameImageStorageTrialRetired	Yes	Yes
VLPhotographicImageStorage	Yes	Yes
VLSlideCoordinatesMicroscopicImageStorage	Yes	Yes
VLWholeSlideMicroscopyImageStorage	Yes	Yes
VideoEndoscopicImageStorage	Yes	Yes
VideoMicroscopicImageStorage	Yes	Yes
VideoPhotographicImageStorage	Yes	Yes
VisualAcuityMeasurementsStorage	Yes	Yes
WaveformStorageTrialRetired	Yes	Yes
XAXRFGrayscaleSoftcopyPresentationStateStorage	Yes	Yes
XRay3DAngiographicImageStorage	Yes	Yes
XRay3DCraniofacialImageStorage	Yes	Yes
XRayAngiographicBiPlaneImageStorageRetired	Yes	Yes
XRayAngiographicImageStorage	Yes	Yes
XRayRadiationDoseSRStorage	Yes	Yes
XRayRadiofluoroscopicImageStorage	Yes	Yes
Query/Retrieve		
Verification	Yes	Yes
Patient Root Query/Retrieve – FIND	No	Yes
Patient Root Query/Retrieve – MOVE	No	Yes
Patient Root Query/Retrieve – GET	No	Yes
Study Root Query/Retrieve – FIND	Yes	Yes
Study Root Query/Retrieve – MOVE	Yes	Yes
Study Root Query/Retrieve – GET	Yes	Yes
MITRA Report Management	Yes	No
Printing		

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
Verification	Yes	No
Basic Grayscale Print Management	Yes	No
Basic Color Print Management	Yes	No
Basic Film Session	Yes	No
Basic Film Box	Yes	No
Basic Grayscale Image Box	Yes	No
Basic Color Image Box	Yes	No
Print Job	Yes	No
Printer	Yes	No

5 Table of Contents

6 Introduction

The MIM and MIMviewer software applications are used for the registration, fusion and display of medical images from multi-modalities. They also both use the file system as storage for the DICOM image files.

MIM and MIMviewer support the import of CT, MR, PT, NM, CR, US, and Secondary Capture images as well as RT Structure Sets, Dose, Plan, and Registration objects.

MIM and MIMviewer support the creation of Secondary Capture images but only MIM is capable of creating CT, MR, PT, NM, CR, and US images as well as RT Structure Sets, Dose, Plan, and Registration objects.

DICOM Server and Device configuration can be done through the MIM or MIMviewer application. The MIM DICOM Store SCP can be installed / uninstalled and started/stopped as well as additional DICOM devices can be entered and configured in order to communicate with MIM.

MIM and MIMviewer also support DICOM Printing as an SCU, with support for both Grayscale and Color printing.

MIM and MIMviewer support DICOM Query/Retrieve as an SCU, and MIM as an SCP.

6.1 Audience

This document is written for the people that need to understand how MIM or MIMviewer will integrate into their healthcare facility. This includes both those responsible for overall imaging network policy and architecture, as well as integrators who need to have a detailed understanding of the DICOM features of the product. This document contains some basic DICOM definitions so that any reader may understand how this product implements DICOM features. However, integrators are expected to fully understand all the DICOM terminology, how the tables in this document relate to the product's functionality, and how that functionality integrates with other devices that support compatible DICOM features.

6.2 Remarks

The scope of this DICOM Conformance Statement is to facilitate integration between MIM (and MIMviewer) and other DICOM products. The Conformance Statement should be read and understood in conjunction with the DICOM Standard. DICOM by itself does not guarantee interoperability. The Conformance Statement does, however, facilitate a

first-level comparison for interoperability between different applications supporting compatible DICOM functionality. This Conformance Statement is not supposed to replace validation with other DICOM equipment to ensure proper exchange of intended information. In fact, the user should be aware of the following important issues:

• The comparison of different Conformance Statements is just the first step towards assessing interconnectivity and interoperability between the product and other DICOM conformant equipment.

• Test procedures should be defined and executed to validate the required level of interoperability with specific compatible DICOM equipment, as established by the healthcare facility.

MIM Software has participated in an industry-wide testing program sponsored by Integrating the Healthcare Enterprise (IHE). The IHE Integration Statement for MIM, together with the IHE Technical Framework, may facilitate the process of validation testing.

6.3 Terms and Definitions

Informal definitions are provided for the following terms used in this Conformance Statement. The DICOM Standard is the authoritative source for formal definitions of these terms.

Abstract Syntax: the information agreed to be exchanged between applications, generally equivalent to a Service/Object Pair (SOP) Class. Examples: Verification SOP Class, Modality Worklist Information Model Find SOP Class, Computed Radiography Image Storage SOP Class.

Application Entity (AE): an end point of a DICOM information exchange, including the DICOM network or media interface software; i.e., the software that sends or receives DICOM information objects or messages. A single device may have multiple Application Entities.

Application Entity Title: the externally known name of an Application Entity, used to identify a DICOM application to other DICOM applications on the network.

Application Context: the specification of the type of communication used between Application Entities. Example: DICOM network protocol

Association: a network communication channel set up between Application Entities.

Attribute: a unit of information in an object definition; a data element identified by a tag. The information may be a complex data structure (Sequence), itself composed of lower level data elements. Examples: Patient ID (0010,0020), Accession Number (0008,0050), Photometric Interpretation (0028,0004), Procedure Code Sequence (0008,1032).

Information Object Definition (IOD): the specified set of Attributes that comprise a type of data object; does not represent a specific instance of the data object, but rather a class of similar data objects that have the same properties. The Attributes may be specified as Mandatory (Type 1), Required but possibly unknown (Type 2), or Optional (Type 3), and there may be conditions associated with the use of an Attribute (Types 1C and 2C). Examples: MR Image IOD, CT Image IOD, Print Job IOD.

Joint Photographic Experts Group (JPEG): a set of standardized image compression techniques, available for use by DICOM applications.

Media Application Profile: the specification of DICOM information objects and encoding exchanged on removable media (e.g., CDs)

Module: a set of Attributes within an Information Object Definition that are logically related to each other. Example: Patient Module includes Patient Name, Patient ID, Patient Birth Date, and Patient Sex.

Negotiation: first phase of Association establishment that allows Application Entities to agree on the types of data to be exchanged and how that data will be encoded.

Presentation Context: the set of DICOM network services used over an Association, as negotiated between Application Entities; includes Abstract Syntaxes and Transfer Syntaxes.

Protocol Data Unit (PDU): a packet (piece) of a DICOM message sent across the network. Devices must specify the maximum size packet they can receive for DICOM messages.

Security Profile: a set of mechanisms, such as encryption, user authentication, or digital signatures, used by an Application Entity to ensure confidentiality, integrity, and/or availability of exchanged DICOM data.

Service Class Provider (SCP): role of an Application Entity that provides a DICOM network service; typically, a server that performs operations requested by another Application Entity (Service Class User). Examples: Picture Archiving and Communication System (image storage SCP, and image query/retrieve SCP), Radiology Information System (modality worklist SCP).

Service Class User (SCU): role of an Application Entity that uses a DICOM network service; typically, a client. Examples: imaging modality (image storage SCU, and modality worklist SCU), imaging workstation (image query/retrieve SCU)

Service/Object Pair (SOP) Class: the specification of the network or media transfer (service) of a particular type of data (object); the fundamental unit of DICOM interoperability specification. Examples: Ultrasound Image Storage Service, Basic Grayscale Print Management.

Service/Object Pair (SOP) Instance: an information object; a specific occurrence of information exchanged in a SOP Class. Examples: a specific x-ray image.

Tag: a 32-bit identifier for a data element, represented as a pair of four digit hexadecimal numbers, the "group" and the "element". If the "group" number is odd, the tag is for a private (manufacturer-specific) data element. Examples: (0010,0020) [Patient ID], (07FE,0010) [Pixel Data], (0019,0210) [private data element]

Transfer Syntax: the encoding used for exchange of DICOM information objects and messages. Examples: JPEG compressed (images), little endian explicit value representation.

Unique Identifier (UID): a globally unique "dotted decimal" string that identifies a specific object or a class of objects; an ISO-8824 Object Identifier. Examples: Study Instance UID, SOP Class UID, SOP Instance UID.

Value Representation (VR): the format type of an individual DICOM data element, such as text, an integer, a person's name, or a code, DICOM information objects can be transmitted with either explicit identification of the type of each data element (Explicit VR), or without explicit identification (Implicit VR); with Implicit VR, the receiving application must use a DICOM data dictionary to look up the format of each data element.

6.4 Basics of DICOM Communications

This section describes terminology used in this Conformance Statement for the non-specialist. The key terms used in the Conformance Statement are highlighted in below. This section is not a substitute for training about DICOM, and it makes many simplifications about the meanings of DICOM terms.

Two *Application Entities* (devices) that want to communicate with each other over a network using DICOM protocol must first agree on several things during an initial network "handshake". One of the two devices must initiate an *Association* (a connection to the other device), and ask if specific services, information, and encoding can be supported by the other device (*Negotiation*).

DICOM specifies a number of network services and types of information objects, each of which is called an *Abstract Syntax* for the Negotiation. DICOM also specifies a variety of methods for encoding data, denoted *Transfer Syntaxes*. The Negotiation allows the Initiating Application Entity to propose combinations of Abstract Syntax and Transfer Syntax to be used on the Association; these combinations are called *Presentation Contexts*. The receiving Application Entity accepts the Presentation Contexts it supports.

For each Presentation Context, the Association Negotiation also allows the devices to agree on *Roles* - which one is the *Service Class User* (SCU – client) and which is the *Service Class Provider* (SCP – server). Normally the device initiating the connection is the SCU, i.e., the client system calls the server, but not always.

The Association Negotiation finally enables exchange of maximum network packet (PDU) size, security information, and network service options (called *Extended Negotiation* information).

The Application Entities, having negotiated the Association parameters, may now commence exchanging data. Common data exchanges include queries for worklists and lists of stored images, transfer of image objects and analyses (structured reports), and sending images to film printers. Each exchangeable unit of data is formatted by the sender in accordance with the appropriate *Information Object Definition*, and sent using the negotiated Transfer Syntax. There is a Default Transfer Syntax that all systems must accept, but it may not be the most efficient for some use cases. Each transfer is explicitly acknowledged by the receiver with a *Response Status* indicating success, failure, or that query or retrieve operations are still in process.

Two Application Entities may also communicate with each other by exchanging media (such as a CD-R). Since there is no Association Negotiation possible, they both use a *Media Application Profile* that specifies "pre-negotiated" exchange media format, Abstract Syntax, and Transfer Syntax.

6.5 Abbreviations

AE	Application Entity
AET	Application Entity Title
CD-R	Compact Disk Recordable
CSE	Clinical Support Engineer
CR	Computed Radiography
CT	Computed Tomography
DHCP	Dynamic Host Configuration Protocol
DICOM	Digital Imaging and Communications in Medicine
DN	Distinguished Name (LDAP)
DNS	Domain Name System
DX	Digital X-ray

IHE	Integrating the Healthcare Enterprise
IOD	Information Object Definition
IPv4	Internet Protocol version 4
IPv6	Internet Protocol version 6
ISO	International Organization for Standards
JPEG	Joint Photographic Experts Group
LDAP	Lightweight Directory Access Protocol
LDIF	LDAP Data Interchange Format
LUT	Look-up Table
MG	Mammography (X-ray)
MR	Magnetic Resonance Imaging
MTU	Maximum Transmission Unit (IP)
NM	Nuclear Medicine
OP	Ophthalmic Photography
OSI	Open Systems Interconnection
PACS	Picture Archiving and Communication System
PET	Positron Emission Tomography
PDU	Protocol Data Unit
RT	Radiotherapy
SC	Secondary Capture
SCP	Service Class Provider
SCU	Service Class User
SOP	Service-Object Pair
SR	Structured Reporting
TCP/IP	Transmission Control Protocol/Internet Protocol
UL	Upper Layer
US	Ultrasound
VR	Value Representation
XA	X-ray Angiography

6.6 References

User Guides for MIM and MIMviewer are available upon request.

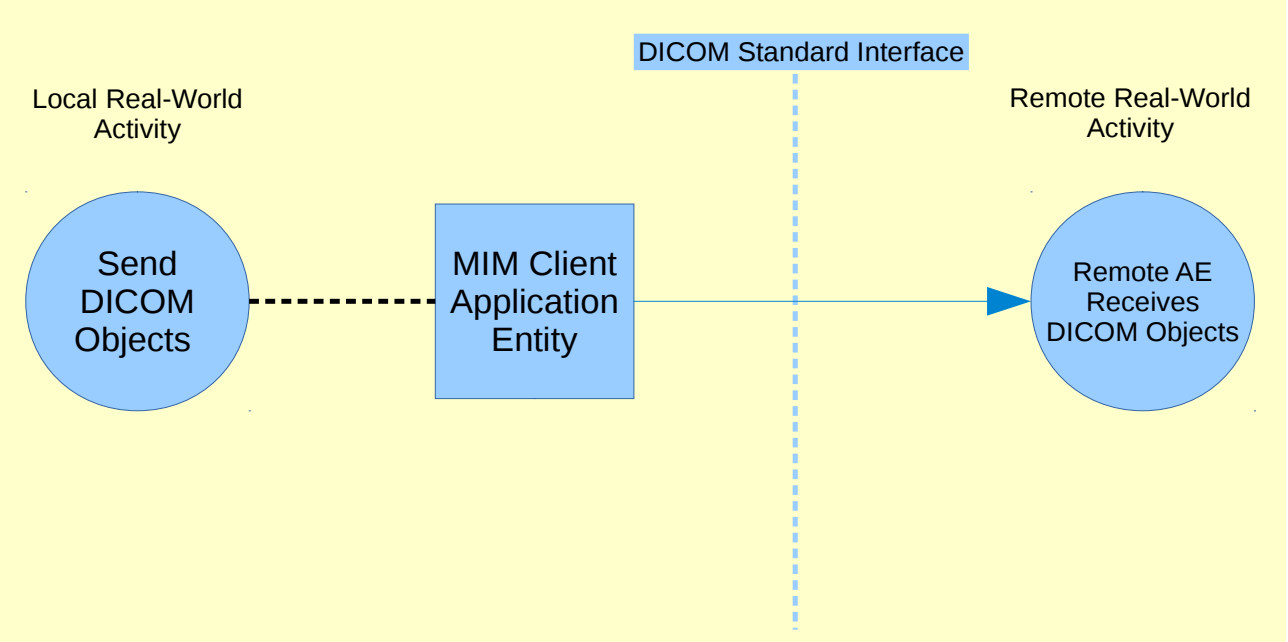
The NEMA PS3 Digital Imaging and Communications in Medicine (DICOM) Standard is available free at http://medical.nema.org/.

7 Networking

7.1 Implementation Model

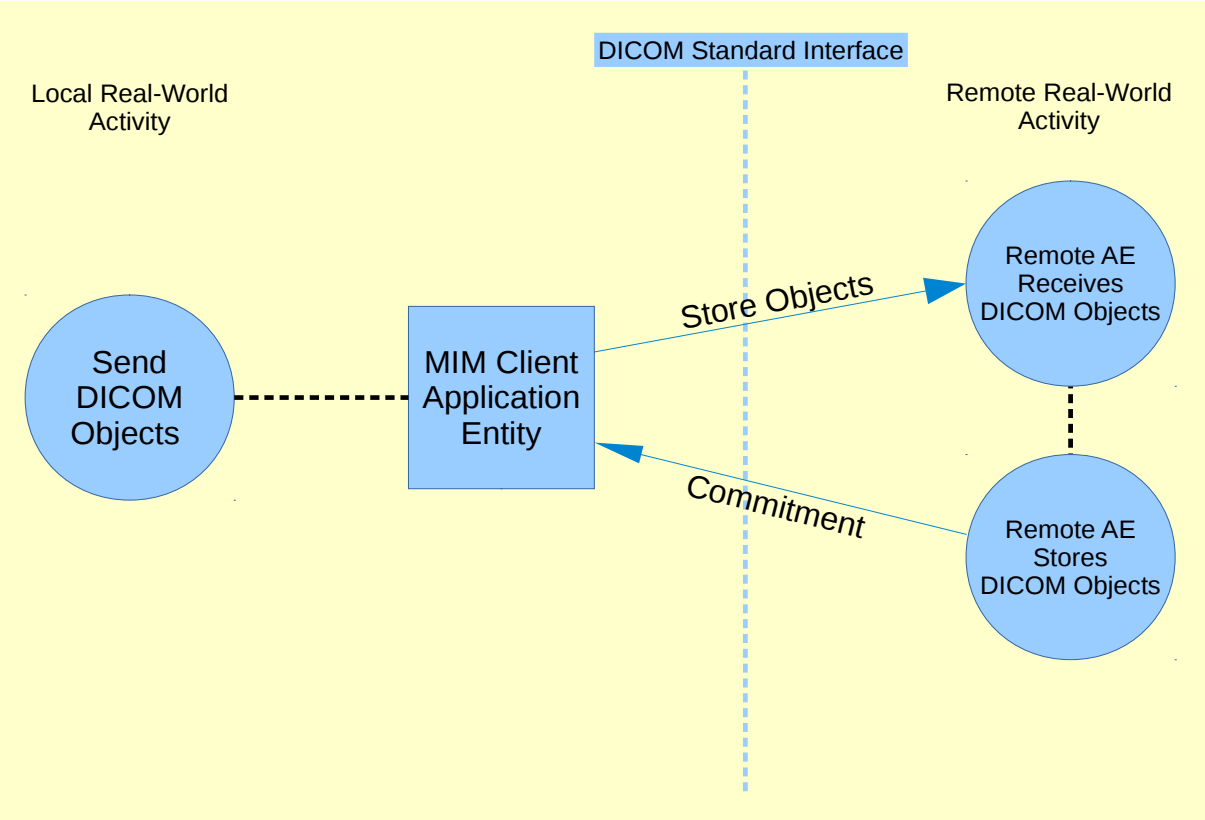
7.1.1 Application Data Flow

7.1.1.1 Application Data Flow – Store (SCU)



The MIM Client AE or MIM Assistant AE sends DICOM objects to a remote AE. This activity is initiated either by user action in the MIM Client application or by an automated process in the MIM Assistant service.

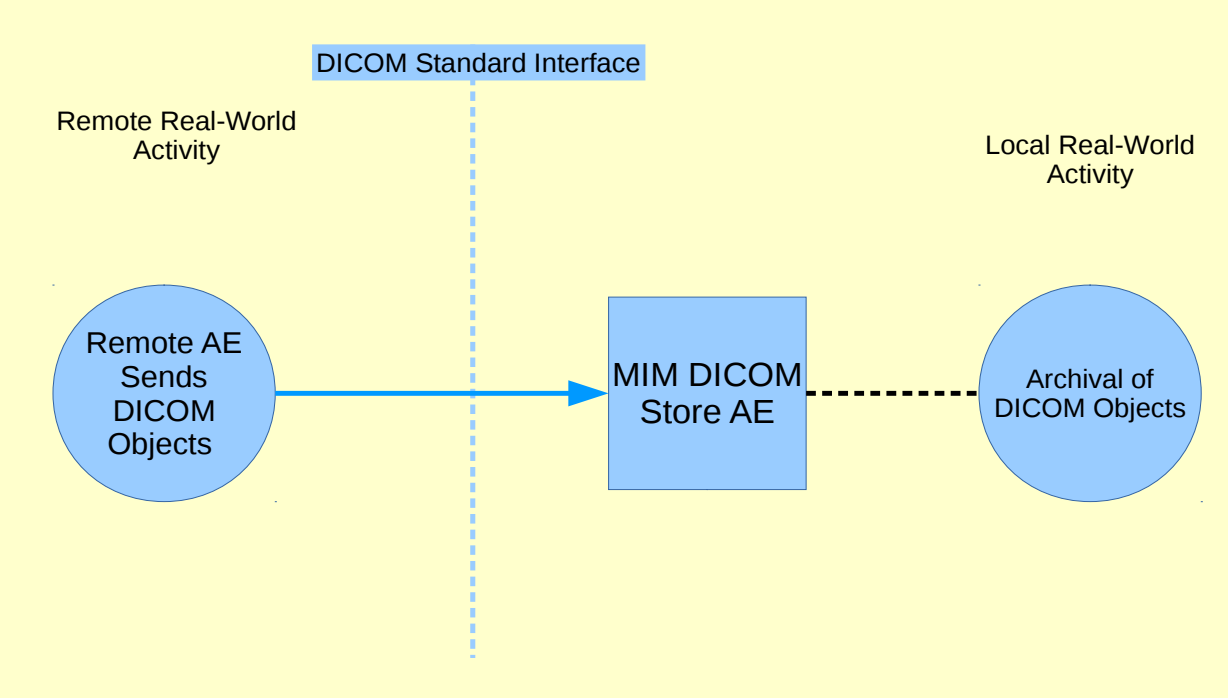
7.1.1.2 Application Data Flow – Store with Commit (SCU)



The MIM Client AE or MIM Assistant AE sends DICOM objects to a remote AE that is configured to use Storage Commitment. This activity is initiated either by user action in the MIM Client application or by an automated process in the MIM Assistant service.

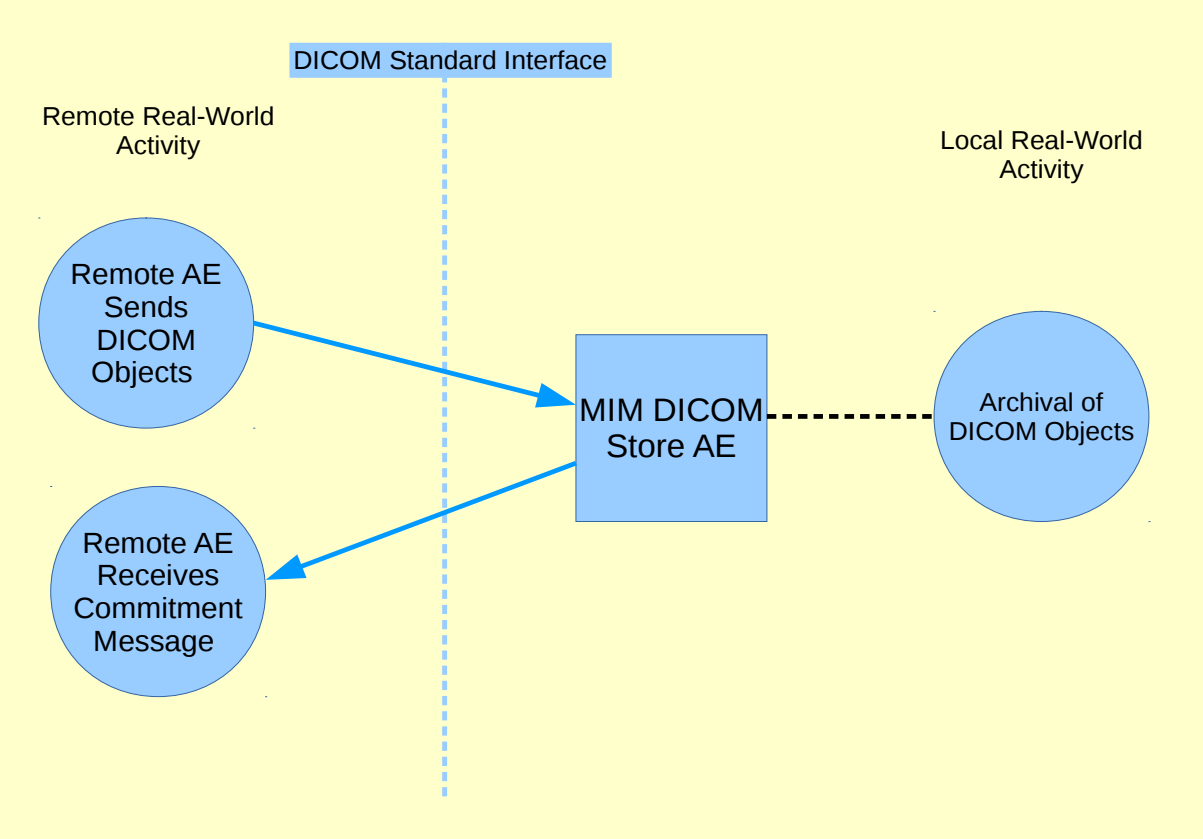
Once the remote AE receives and permanently stores the DICOM objects, it sends a commitment message back to the MIM AE.

7.1.1.3 Application Data Flow – Store (SCP)



A remote AE sends DICOM objects to the MIM DICOM Store AE. When the MIM DICOM Store AE receives them, they are stored to the location that is configured based on the AE title that the MIM AE receives them on.

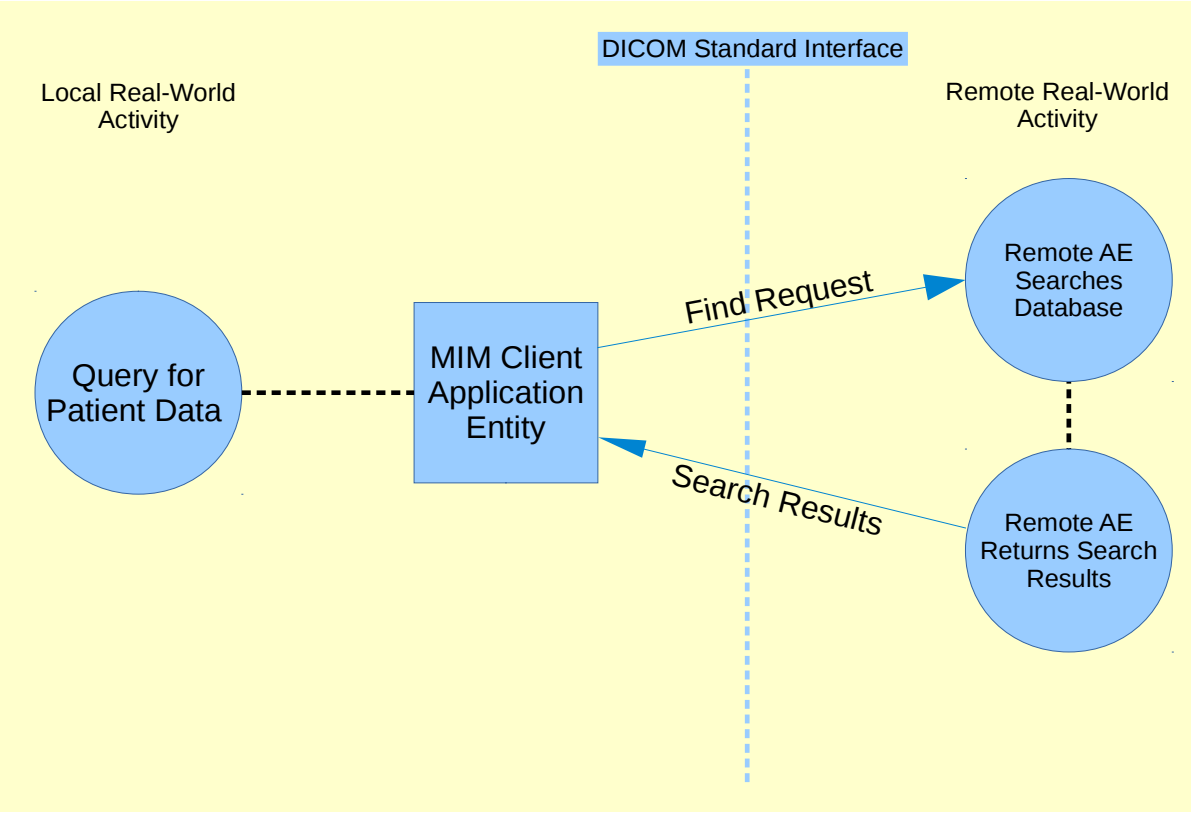
7.1.1.4 Application Data Flow – Store with Commit (SCP)



A remote AE sends DICOM objects to the MIM DICOM Store AE and requests Storage Commitment. When the MIM DICOM Store AE receives them, they are stored to the location that is configured based on the AE title that the MIM AE receives them on. Once they have been archived, the MIM DICOM Store AE send the remote AE the Storage Commitment message.

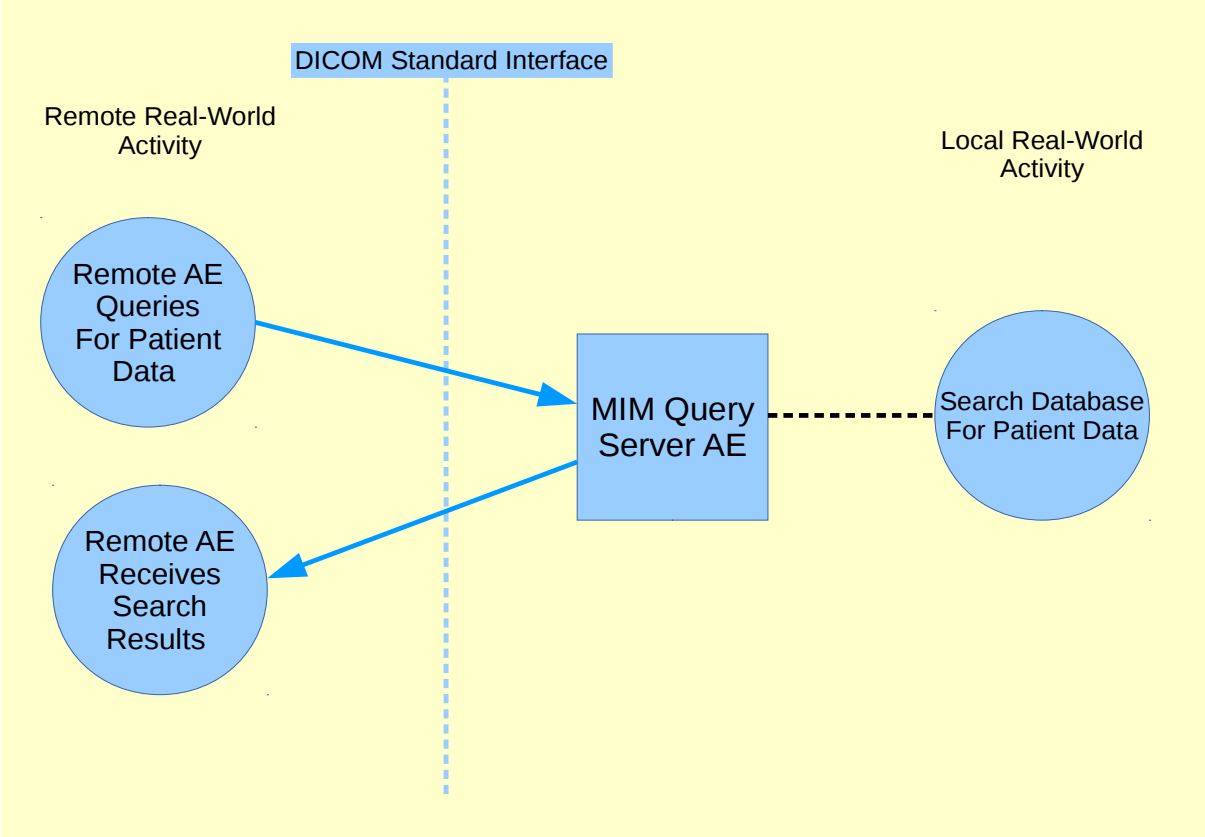
By default the MIM DICOM Store AE does not support storage commitment, this must be enabled deliberately.

7.1.1.5 Application Data Flow – Query with C-FIND (SCU)



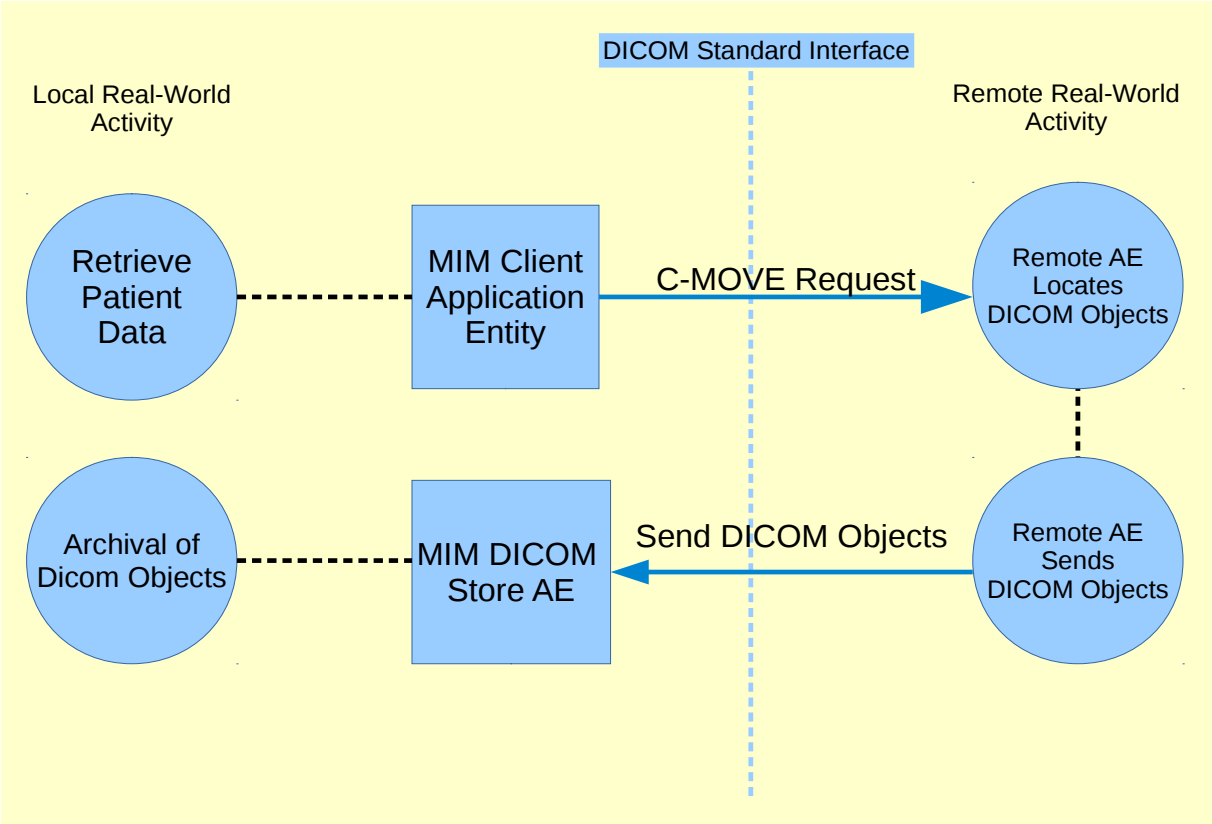
The MIM Client AE or MIM Assistant AE queries a remote AE for patient data. This activity is initiated either by user action in the MIM Client application or by an automated process in the MIM Assistant service. The remote AE searches its database and returns the search results to the MIM AE. These results are then either shown on the screen or used to perform some further processing, generally resulting in either additional C-FIND commands (to narrow the search results) or C-MOVE or C-GET to retrieve the data.

7.1.1.6 Application Data Flow – Query with C-FIND (SCP)



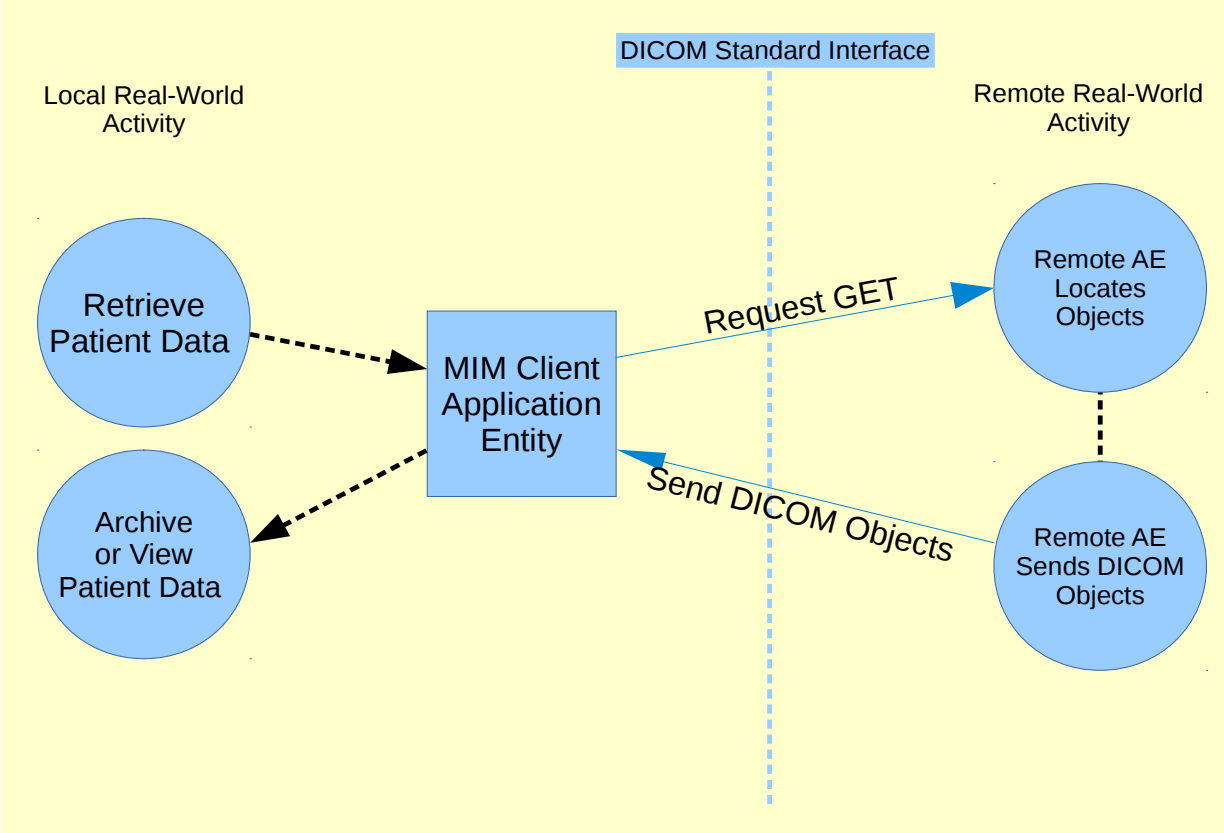
A remote AE queries the MIM Query Server AE for patient data. The MIM Query Server AE searches its database and returns the search results to the remote AE.

7.1.1.7 Application Data Flow – Retrieve with C-MOVE (SCU)



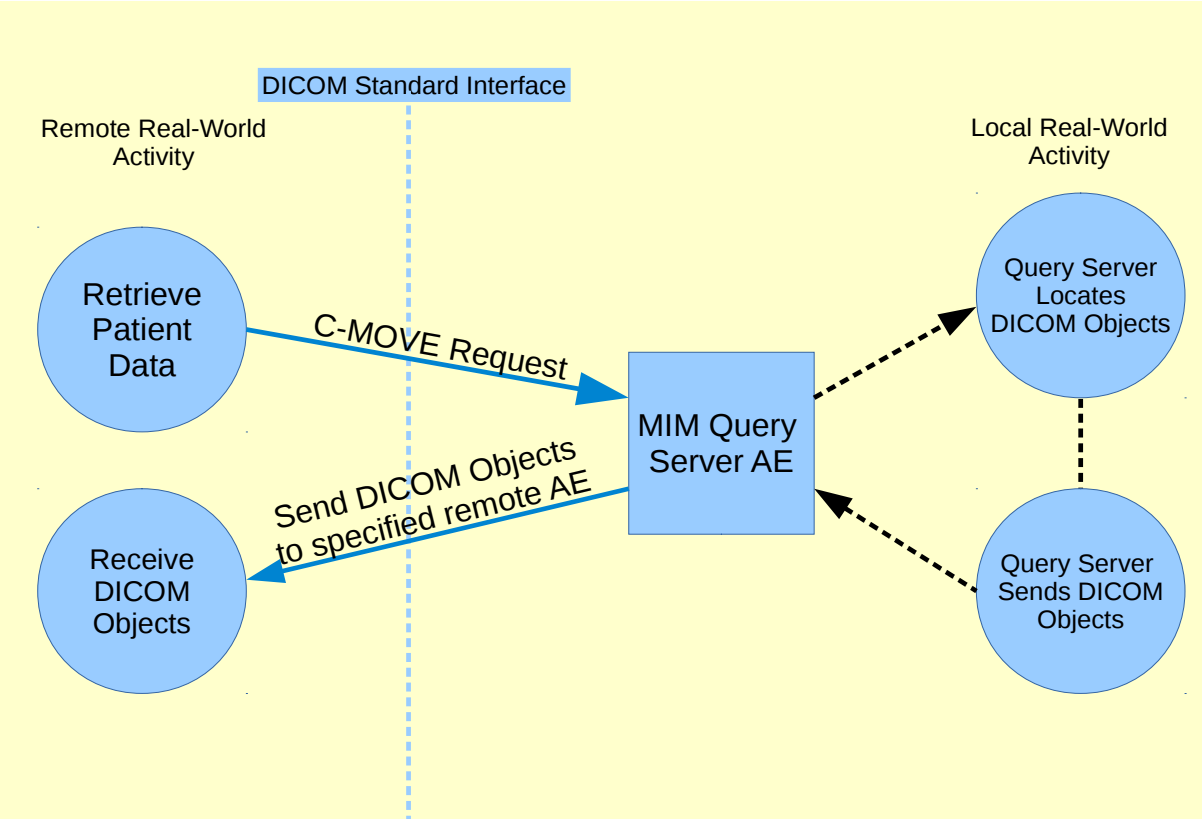
After performing a C-FIND operation, the either the user (using the MIM Client Application) or an automated process (in the MIM Assistant) initiates a retrieval operation. The MIM AE sends a C-MOVE request for the data in question, along with the AE title or the DICOM Store AE it is being retrieved to. The remote AE locates the objects in question, and then initiates a new association to the MIM DICOM Store AE either on the requesting machine or a different machine. The DICOM objects are then sent via C-STORE to the MIM DICOM Store AE, which archives them to make them available for further processing.

7.1.1.8 Application Data Flow – Query and Retrieve with C-GET (SCU)



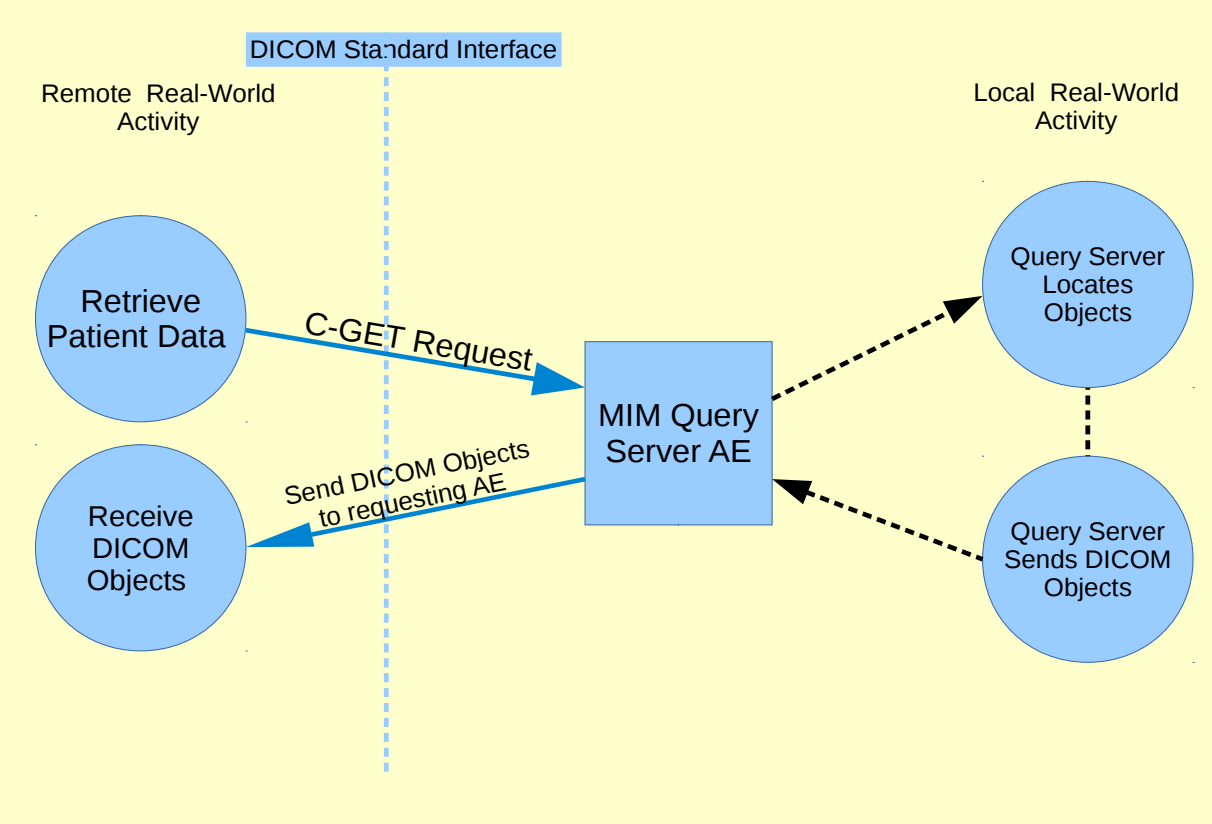
After performing a C-FIND operation, the either the user (using the MIM Client Application) or an automated process (in the MIM Assistant) initiates a retrieval operation. The MIM AE sends a C-GET request for the data in question. The remote AE locates the objects in question, and then sends the requested objects on the same association. The DICOM objects are then shown on screen or archived to make them available for further processing.

7.1.1.9 Application Data Flow – Query and Retrieve with C-MOVE (SCP)



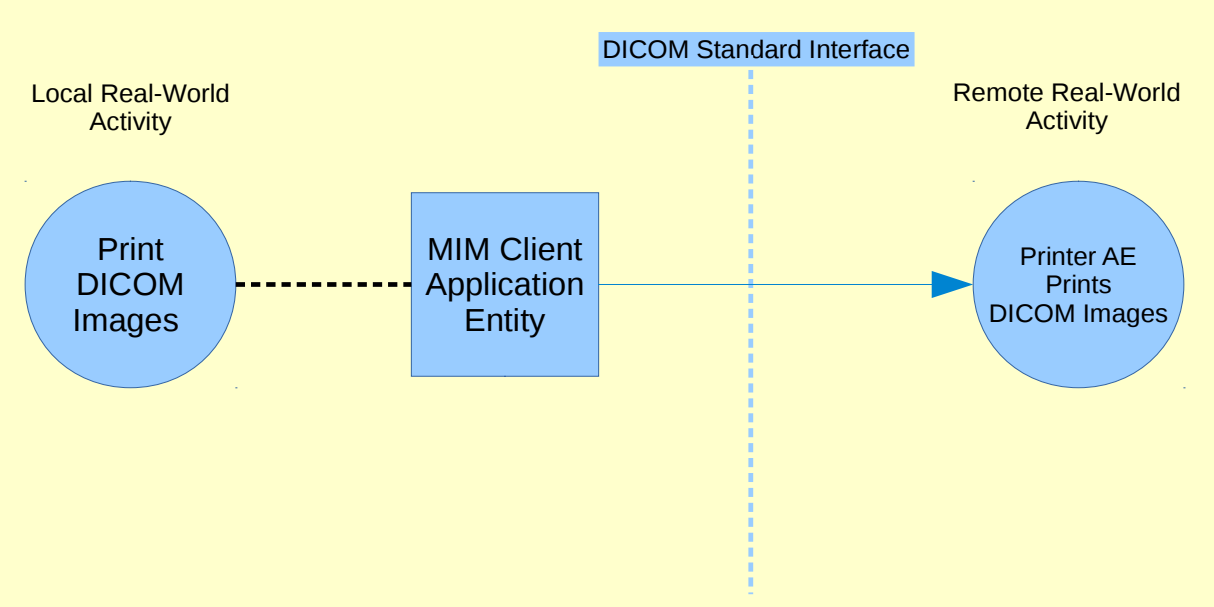
A remote AE initiates a retrieval operation for a specified set of DICOM objects, using a C-MOVE request specifying which remote AE the data should be sent to. The MIM Query Server AE locates the objects in question, and then initiates a new association to the specified remote AE either on the requesting machine or a different machine. The DICOM objects are then sent via C-STORE to the remote AE, which archives them or processes them in some other fashion.

7.1.1.10 Application Data Flow – Query and Retrieve with C-GET (SCP)



A remote AE initiates a retrieval operation for a specified set of DICOM objects, using a C-GET request. The MIM Query Server AE locates the objects in question. The DICOM objects are then sent via C-STORE to the remote AE, which archives them or processes them in some other fashion.

7.1.1.11 Application Data Flow – Print (SCU)



A user initiates a DICOM Print operation in the MIM Client Application. The MIM AE creates a print job on the Printer AE and instructs it to print the specified DICOM images.

7.1.2 Functional Definitions of AEs

MIM is made of several components which run independently of each other, each of which has their own configurations.

7.1.2.1 MIM Client AE

The MIM (or MIMviewer) Desktop client application acts as Storage SCU (supporting Storage Commit), Query/Retrieve SCU (supporting C-FIND, C-MOVE, and C-GET), and Print SCU.

7.1.2.2 MIM Assistant AE

The MIM Assistant can perform automatic background processing. Functionally its DICOM networking components are the same as the MIM Desktop application. It can perform Storage and Query/Retrieve as an SCU, and react to and process data received by the DICOM Store service.

7.1.2.3 MIM DICOM Store Service AE

The DICOM Store service acts as a Storage SCP, and supports Storage Commit.

7.1.2.4 MIM DICOM Query/Retrieve Service AE

The DICOM Query/Retrieve service acts as a Query/Retrieve SCP (supporting C-FIND, C-MOVE, and C-GET) and Storage SCU (performing the MOVE operation initiated by a C-MOVE).

> ***Please Note:*** *as MIM has separate services (and thus Application Entities) for Query/Retrieve and Storage SCP, these must run on separate ports, and have their own AE Titles.*

7.1.3 Sequencing of Real-World Activities

A sequence for use of all the MIM software systems might consist of these steps:

1. Remote AE stores images to MIM DICOM Store AE.
2. MIM Assistant queries remote Query/Retrieve AE for prior images for that patient.
3. MIM Assistant AE requests C-MOVE or C-GET of additional images.
4. Remote Query/Retrieve AE sends images to MIM AE or MIM DICOM Store AE.
5. User views/processes images.
6. User prints DICOM images to remote Printer AE.
7. User creates Secondary Captures, Structured Reports, Encapsulated PDFs, or RT DICOM Objects.
8. User sends the created objects to a remote Storage AE, requesting Storage Commitment to ensure the data has been archived.
9. Another user on receiving remote AE sees the images that have been sent, and initiates Query/Retrieve operation back to the MIM Query/Retrieve AE to request additional images.
10. Remote AE initiates Retrieve operation, and MIM Query/Retrieve AE sends the additional images to the requesting remote AE.

7.2 AE Specifications

This section is a set of specifications for each of the Application Entities in the MIM software.

7.2.1 MIM Client AE / MIM Assistant AE

7.2.1.1 SOP Classes

The MIM client application supports the following SOP classes for **Storage as an SCU**:

Table 1

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
AmbulatoryECGWaveformStorage	1.2.840.10008.5.1.4.1.1.9.1.3
ArterialPulseWaveformStorage	1.2.840.10008.5.1.4.1.1.9.5.1
AudioSRStorageTrialRetired	1.2.840.10008.5.1.4.1.1.88.2
AutorefractionMeasurementsStorage	1.2.840.10008.5.1.4.1.1.78.2
BasicStructuredDisplayStorage	1.2.840.10008.5.1.4.1.1.131
BasicTextSRStorage	1.2.840.10008.5.1.4.1.1.88.11
BasicVoiceAudioWaveformStorage	1.2.840.10008.5.1.4.1.1.9.4.1
BlendingSoftcopyPresentationStateStorageSOPClass	1.2.840.10008.5.1.4.1.1.11.4
BreastTomosynthesisImageStorage	1.2.840.10008.5.1.4.1.1.13.1.3
CTImageStorage	1.2.840.10008.5.1.4.1.1.2
CardiacElectrophysiologyWaveformStorage	1.2.840.10008.5.1.4.1.1.9.3.1
ChestCADSRStorage	1.2.840.10008.5.1.4.1.1.88.65
ColonCADSRStorage	1.2.840.10008.5.1.4.1.1.88.69
ColorPaletteStorage	1.2.840.10008.5.1.4.39.1
ColorSoftcopyPresentationStateStorageSOPClass	1.2.840.10008.5.1.4.1.1.11.2
ComprehensiveSRStorage	1.2.840.10008.5.1.4.1.1.88.33
ComprehensiveSRStorageTrialRetired	1.2.840.10008.5.1.4.1.1.88.4
ComputedRadiographyImageStorage	1.2.840.10008.5.1.4.1.1.1
DICOSCTImageStorage	1.2.840.10008.5.1.4.1.1.501.1
DICOSDigitalXRayImageStorageForPresentation	1.2.840.10008.5.1.4.1.1.501.2.1
DICOSDigitalXRayImageStorageForProcessing	1.2.840.10008.5.1.4.1.1.501.2.2
DICOSThreatDetectionReportStorage	1.2.840.10008.5.1.4.1.1.501.3
DeformableSpatialRegistrationStorage	1.2.840.10008.5.1.4.1.1.66.3
DetailSRStorageTrialRetired	1.2.840.10008.5.1.4.1.1.88.3
DigitalIntraOralXRayImageStorageForPresentation	1.2.840.10008.5.1.4.1.1.1.3
DigitalIntraOralXRayImageStorageForProcessing	1.2.840.10008.5.1.4.1.1.1.3.1
DigitalMammographyXRayImageStorageForPresentation	1.2.840.10008.5.1.4.1.1.1.2
DigitalMammographyXRayImageStorageForProcessing	1.2.840.10008.5.1.4.1.1.1.2.1

SOP Class Name	SOP Class UID
DigitalXRayImageStorageForPresentation	1.2.840.10008.5.1.4.1.1.1.1
DigitalXRayImageStorageForProcessing	1.2.840.10008.5.1.4.1.1.1.1.1
EddyCurrentImageStorage	1.2.840.10008.5.1.4.1.1.601.1
EddyCurrentMultiFrameImageStorage	1.2.840.10008.5.1.4.1.1.601.2
EncapsulatedCDAStorage	1.2.840.10008.5.1.4.1.1.104.2
EncapsulatedPDFStorage	1.2.840.10008.5.1.4.1.1.104.1
EnhancedCTImageStorage	1.2.840.10008.5.1.4.1.1.2.1
EnhancedMRColorImageStorage	1.2.840.10008.5.1.4.1.1.4.3
EnhancedMRImageStorage	1.2.840.10008.5.1.4.1.1.4.1
EnhancedPETImageStorage	1.2.840.10008.5.1.4.1.1.130
EnhancedSRStorage	1.2.840.10008.5.1.4.1.1.88.22
EnhancedUSVolumeStorage	1.2.840.10008.5.1.4.1.1.6.2
EnhancedXAImageStorage	1.2.840.10008.5.1.4.1.1.12.1.1
EnhancedXRFImageStorage	1.2.840.10008.5.1.4.1.1.12.2.1
GeneralAudioWaveformStorage	1.2.840.10008.5.1.4.1.1.9.4.2
GeneralECGWaveformStorage	1.2.840.10008.5.1.4.1.1.9.1.2
GenericImplantTemplateStorage	1.2.840.10008.5.1.4.43.1
GrayscaleSoftcopyPresentationStateStorageSOPClass	1.2.840.10008.5.1.4.1.1.11.1
HangingProtocolStorage	1.2.840.10008.5.1.4.38.1
HardcopyColorImageStorageSOPClassRetired	1.2.840.10008.5.1.1.30
HardcopyGrayscaleImageStorageSOPClassRetired	1.2.840.10008.5.1.1.29
HemodynamicWaveformStorage	1.2.840.10008.5.1.4.1.1.9.2.1
ImplantAssemblyTemplateStorage	1.2.840.10008.5.1.4.44.1
ImplantTemplateGroupStorage	1.2.840.10008.5.1.4.45.1
ImplantationPlanSRStorage	1.2.840.10008.5.1.4.1.1.88.70
IntraocularLensCalculationsStorage	1.2.840.10008.5.1.4.1.1.78.8
IntravascularOpticalCoherenceTomographyImageStorageForPresentation	1.2.840.10008.5.1.4.1.1.14.1
IntravascularOpticalCoherenceTomographyImageStorageForProcessing	1.2.840.10008.5.1.4.1.1.14.2
KeratometryMeasurementsStorage	1.2.840.10008.5.1.4.1.1.78.3
KeyObjectSelectionDocumentStorage	1.2.840.10008.5.1.4.1.1.88.59
LensometryMeasurementsStorage	1.2.840.10008.5.1.4.1.1.78.1
MRImageStorage	1.2.840.10008.5.1.4.1.1.4
MRSpectroscopyStorage	1.2.840.10008.5.1.4.1.1.4.2
MacularGridThicknessAndVolumeReportStorage	1.2.840.10008.5.1.4.1.1.79.1
MammographyCADSRStorage	1.2.840.10008.5.1.4.1.1.88.50
MediaStorageDirectoryStorage	1.2.840.10008.1.3.10
MultiFrameGrayscaleByteSecondaryCaptureImageStorage	1.2.840.10008.5.1.4.1.1.7.2
MultiFrameGrayscaleWordSecondaryCaptureImageStorage	1.2.840.10008.5.1.4.1.1.7.3
MultiFrameSingleBitSecondaryCaptureImageStorage	1.2.840.10008.5.1.4.1.1.7.1
MultiFrameTrueColorSecondaryCaptureImageStorage	1.2.840.10008.5.1.4.1.1.7.4
NuclearMedicineImageStorage	1.2.840.10008.5.1.4.1.1.20
NuclearMedicineImageStorageRetired	1.2.840.10008.5.1.4.1.1.5

SOP Class Name	SOP Class UID
OphthalmicAxialMeasurementsStorage	1.2.840.10008.5.1.4.1.1.78.7
OphthalmicPhotography16BitImageStorage	1.2.840.10008.5.1.4.1.1.77.1.5.2
OphthalmicPhotography8BitImageStorage	1.2.840.10008.5.1.4.1.1.77.1.5.1
OphthalmicTomographyImageStorage	1.2.840.10008.5.1.4.1.1.77.1.5.4
OphthalmicVisualFieldStaticPerimetryMeasurementsStorage	1.2.840.10008.5.1.4.1.1.80.1
PositronEmissionTomographyImageStorage	1.2.840.10008.5.1.4.1.1.128
ProcedureLogStorage	1.2.840.10008.5.1.4.1.1.88.40
PseudoColorSoftcopyPresentationStateStorageSOPClass	1.2.840.10008.5.1.4.1.1.11.3
RTBeamsDeliveryInstructionStorage	1.2.840.10008.5.1.4.34.7
RTBeamsDeliveryInstructionStorageTrialRetired	1.2.840.10008.5.1.4.34.1
RTBeamsTreatmentRecordStorage	1.2.840.10008.5.1.4.1.1.481.4
RTBrachyTreatmentRecordStorage	1.2.840.10008.5.1.4.1.1.481.6
RTDoseStorage	1.2.840.10008.5.1.4.1.1.481.2
RTImageStorage	1.2.840.10008.5.1.4.1.1.481.1
RTIonBeamsTreatmentRecordStorage	1.2.840.10008.5.1.4.1.1.481.9
RTIonPlanStorage	1.2.840.10008.5.1.4.1.1.481.8
RTPlanStorage	1.2.840.10008.5.1.4.1.1.481.5
RTStructureSetStorage	1.2.840.10008.5.1.4.1.1.481.3
RTTreatmentSummaryRecordStorage	1.2.840.10008.5.1.4.1.1.481.7
RawDataStorage	1.2.840.10008.5.1.4.1.1.66
RealWorldValueMappingStorage	1.2.840.10008.5.1.4.1.1.67
RespiratoryWaveformStorage	1.2.840.10008.5.1.4.1.1.9.6.1
SecondaryCaptureImageStorage	1.2.840.10008.5.1.4.1.1.7
SegmentationStorage	1.2.840.10008.5.1.4.1.1.66.4
SiemensCSANonImageStorage	1.3.12.2.1107.5.9.1
SpatialFiducialsStorage	1.2.840.10008.5.1.4.1.1.66.2
SpatialRegistrationStorage	1.2.840.10008.5.1.4.1.1.66.1
SpectaclePrescriptionReportStorage	1.2.840.10008.5.1.4.1.1.78.6
StandaloneCurveStorageRetired	1.2.840.10008.5.1.4.1.1.9
StandaloneModalityLUTStorageRetired	1.2.840.10008.5.1.4.1.1.10
StandaloneOverlayStorageRetired	1.2.840.10008.5.1.4.1.1.8
StandalonePETCurveStorageRetired	1.2.840.10008.5.1.4.1.1.129
StandaloneVOILUTStorageRetired	1.2.840.10008.5.1.4.1.1.11
StereometricRelationshipStorage	1.2.840.10008.5.1.4.1.1.77.1.5.3
StorageServiceClass	1.2.840.10008.4.2
StoredPrintStorageSOPClassRetired	1.2.840.10008.5.1.1.27
SubjectiveRefractionMeasurementsStorage	1.2.840.10008.5.1.4.1.1.78.4
SurfaceSegmentationStorage	1.2.840.10008.5.1.4.1.1.66.5
TextSRStorageTrialRetired	1.2.840.10008.5.1.4.1.1.88.1
ToshibaUSPrivateDataStorage	1.2.392.200036.9116.7.8.1.1.1
TwelveLeadECGWaveformStorage	1.2.840.10008.5.1.4.1.1.9.1.1
UltrasoundImageStorage	1.2.840.10008.5.1.4.1.1.6.1

SOP Class Name	SOP Class UID
UltrasoundImageStorageRetired	1.2.840.10008.5.1.4.1.1.6
UltrasoundMultiFrameImageStorage	1.2.840.10008.5.1.4.1.1.3.1
UltrasoundMultiFrameImageStorageRetired	1.2.840.10008.5.1.4.1.1.3
VLEndoscopicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.1
VLImageStorageTrialRetired	1.2.840.10008.5.1.4.1.1.77.1
VLMicroscopicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.2
VLMultiFrameImageStorageTrialRetired	1.2.840.10008.5.1.4.1.1.77.2
VLPhotographicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.4
VLSlideCoordinatesMicroscopicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.3
VLWholeSlideMicroscopyImageStorage	1.2.840.10008.5.1.4.1.1.77.1.6
VideoEndoscopicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.1.1
VideoMicroscopicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.2.1
VideoPhotographicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.4.1
VisualAcuityMeasurementsStorage	1.2.840.10008.5.1.4.1.1.78.5
WaveformStorageTrialRetired	1.2.840.10008.5.1.4.1.1.9.1
XAXRFGrayscaleSoftcopyPresentationStateStorage	1.2.840.10008.5.1.4.1.1.11.5
XRay3DAngiographicImageStorage	1.2.840.10008.5.1.4.1.1.13.1.1
XRay3DCraniofacialImageStorage	1.2.840.10008.5.1.4.1.1.13.1.2
XRayAngiographicBiPlaneImageStorageRetired	1.2.840.10008.5.1.4.1.1.12.3
XRayAngiographicImageStorage	1.2.840.10008.5.1.4.1.1.12.1
XRayRadiationDoseSRStorage	1.2.840.10008.5.1.4.1.1.88.67
XRayRadiofluoroscopicImageStorage	1.2.840.10008.5.1.4.1.1.12.2

The MIM Client Application AE and MIM Assistant AE support these SOP classes for **Query/Retrieve as SCU**:

Table 2

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
StudyRootQueryRetrieveInformationModelFIND	1.2.840.10008.5.1.4.1.2.2.1
StudyRootQueryRetrieveInformationModelMOVE	1.2.840.10008.5.1.4.1.2.2.2
StudyRootQueryRetrieveInformationModelGET	1.2.840.10008.5.1.4.1.2.2.3

The MIM Client Application AE supports these SOP classes for **Printing as SCU**:

Table 3

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
BasicGrayscalePrintManagement	1.2.840.10008.5.1.1.9
BasicColorPrintManagement	1.2.840.10008.5.1.1.18
BasicFilmSession	1.2.840.10008.5.1.1.1
BasicFilmBox	1.2.840.10008.5.1.1.2
BasicGrayscaleImageBox	1.2.840.10008.5.1.1.4
BasicColorImageBox	1.2.840.10008.5.1.1.4.1
PrintJob	1.2.840.10008.5.1.1.14
Printer	1.2.840.10008.5.1.1.16

7.2.1.2 Association Policies

7.2.1.2.1 General

The DICOM standard Application Context 1.2.840.10008.3.1.1.1 is used for all associations.

7.2.1.2.2 Number of Associations

The AE may create any number to associations to different AEs, but will limit itself to only one connection at a time to a particular AE for a given purpose.

7.2.1.2.3 Asynchronous Nature

Asynchronous mode of operation is not supported. All operations will be performed synchronously.

7.2.1.2.4 Implementation Identifying Information

Implementation UID:	1.2.826.0.1.3680043.2.419.1
Implementation Version:	MIM <major>.<minor>.<release>.<build>

7.2.1.2.5 Association Initiation Policies

7.2.1.2.5.1 Activity: Storage

7.2.1.2.5.1.1 Description and Sequencing of Activity

For each series to be sent, a single attempt will be made to send to selected remote AE. If a Temporary Congestion message is received, the AE will wait 10 seconds and attempt to reconnect. Otherwise, the user will be shown that the association could not be made, along with the specific error message and status code. The user will be given the option to retry the transmission.

7.2.1.2.5.1.2 Proposed Presentation Contexts

MIM will propose Presentation Contexts only for the SOP Class of the instance that is to be transferred. For that SOP Class, MIM will propose multiple Presentation Contexts, one for each of the supported Transfer Syntaxes, and an additional Presentation Context with all of the supported Transfer Syntaxes, in order to determine which Transfer Syntaxes the remote SCP supports, and which it prefers.

MIM will propose both Explicit and Implicit VR Little Endian transfer syntax for all transfers except those involving RT DICOM objects. Due to the storage limitations of

Explicit VR Little Endian, RT DICOM will always be transferred with only Implicit VR Little Endian transfer syntax.

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
See Table 7.2.1.1.1	See Table 7.2.1.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

7.2.1.2.5.1.3 Extended Negotiation

No extended negotiation is performed.

7.2.1.2.5.1.4 SOP Specific Conformance for SOP Classes

MIM Client AE and MIM Assistant AE provide standard conformance to the Storage Service Class.

7.2.1.2.5.1.5 Response Status

MIM will display a warning/error to the user if any response other than Success (0000) is received.

7.2.1.2.5.2 Activity: Query/Retrieve

7.2.1.2.5.2.1 Description and Sequencing of Activity

In performing a query/retrieve, the user will first perform a search against the remote AE using a series of C-FIND operations. MIM always starts at Study Level and then does a Series Level and optionally Image Level query. Once the search results have been displayed to user, a C-MOVE or C-GET operation may be performed, using a new association.

7.2.1.2.5.2.2 Proposed Presentation Contexts

MIM proposes both Explicit and Implicit Little VR Endian presentation contexts for the SOP classes it requests, and will accept whichever the remote AE prefers.

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
See Table 7.2.1.1.2	See Table 7.2.1.1.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

7.2.1.2.5.2.3 Extended Negotiation

No extended negotiation is performed.

7.2.1.2.5.2.4 SOP Specific Conformance for SOP Classes

MIM Client AE and MIM Assistant AE provide standard conformance to the Query/Retrieve Service Classes.

7.2.1.2.5.2.5 Response Status

MIM will display a warning/error to the user if any response other than Success (0x0000) or Pending (0xFF00) is received.

7.2.1.2.5.3 Activity: Printing

7.2.1.2.5.3.1 Description and Sequencing of Activity

When printing, the user will select images to be printed. The MIM AE will then open association with the remote printer AE. A Verification action will be performed to confirm the printer is available. Then a series of N-CREATE operations for film sessions and film boxes will be performed, then N-ACTION to print the job.

7.2.1.2.5.3.2 Proposed Presentation Contexts

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
Name	**UID**	**Name List**	**UID List**		
See Table 7.2.1.1.3	See Table 7.2.1.1.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

7.2.1.2.5.3.3 Extended Negotiation

No extended negotiation is performed.

7.2.1.2.5.3.4 SOP Specific Conformance for SOP Classes

MIM Client AE provides standard conformance to the Print and Verification Service Classes.

7.2.1.2.5.3.5 Response Status

MIM will display a warning/error to the user if any response other than Success (0000) is received.

7.2.1.2.6 Association Acceptance Policy

The MIM and MIM Assistant AEs do not accept associations except for Storage Commitment responses.

7.2.2 MIM DICOM Store Server AE

7.2.2.1 SOP Classes

The MIM DICOM Store Server AE supports these SOP classes for **Storage as SCP**:

Table 4

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
AmbulatoryECGWaveformStorage	1.2.840.10008.5.1.4.1.1.9.1.3
ArterialPulseWaveformStorage	1.2.840.10008.5.1.4.1.1.9.5.1
AudioSRStorageTrialRetired	1.2.840.10008.5.1.4.1.1.88.2
AutorefractionMeasurementsStorage	1.2.840.10008.5.1.4.1.1.78.2
BasicStructuredDisplayStorage	1.2.840.10008.5.1.4.1.1.131
BasicTextSRStorage	1.2.840.10008.5.1.4.1.1.88.11
BasicVoiceAudioWaveformStorage	1.2.840.10008.5.1.4.1.1.9.4.1
BlendingSoftcopyPresentationStateStorageSOPClass	1.2.840.10008.5.1.4.1.1.11.4
BreastTomosynthesisImageStorage	1.2.840.10008.5.1.4.1.1.13.1.3
CTImageStorage	1.2.840.10008.5.1.4.1.1.2
CardiacElectrophysiologyWaveformStorage	1.2.840.10008.5.1.4.1.1.9.3.1
ChestCADSRStorage	1.2.840.10008.5.1.4.1.1.88.65
ColonCADSRStorage	1.2.840.10008.5.1.4.1.1.88.69
ColorPaletteStorage	1.2.840.10008.5.1.4.39.1
ColorSoftcopyPresentationStateStorageSOPClass	1.2.840.10008.5.1.4.1.1.11.2
ComprehensiveSRStorage	1.2.840.10008.5.1.4.1.1.88.33
ComprehensiveSRStorageTrialRetired	1.2.840.10008.5.1.4.1.1.88.4
ComputedRadiographyImageStorage	1.2.840.10008.5.1.4.1.1.1
DICOSCTImageStorage	1.2.840.10008.5.1.4.1.1.501.1
DICOSDigitalXRayImageStorageForPresentation	1.2.840.10008.5.1.4.1.1.501.2.1
DICOSDigitalXRayImageStorageForProcessing	1.2.840.10008.5.1.4.1.1.501.2.2
DICOSThreatDetectionReportStorage	1.2.840.10008.5.1.4.1.1.501.3
DeformableSpatialRegistrationStorage	1.2.840.10008.5.1.4.1.1.66.3
DetailSRStorageTrialRetired	1.2.840.10008.5.1.4.1.1.88.3
DigitalIntraOralXRayImageStorageForPresentation	1.2.840.10008.5.1.4.1.1.1.3
DigitalIntraOralXRayImageStorageForProcessing	1.2.840.10008.5.1.4.1.1.1.3.1
DigitalMammographyXRayImageStorageForPresentation	1.2.840.10008.5.1.4.1.1.1.2
DigitalMammographyXRayImageStorageForProcessing	1.2.840.10008.5.1.4.1.1.1.2.1
DigitalXRayImageStorageForPresentation	1.2.840.10008.5.1.4.1.1.1.1
DigitalXRayImageStorageForProcessing	1.2.840.10008.5.1.4.1.1.1.1.1
EddyCurrentImageStorage	1.2.840.10008.5.1.4.1.1.601.1
EddyCurrentMultiFrameImageStorage	1.2.840.10008.5.1.4.1.1.601.2
EncapsulatedCDAStorage	1.2.840.10008.5.1.4.1.1.104.2
EncapsulatedPDFStorage	1.2.840.10008.5.1.4.1.1.104.1

SOP Class Name	SOP Class UID
EnhancedCTImageStorage	1.2.840.10008.5.1.4.1.1.2.1
EnhancedMRColorImageStorage	1.2.840.10008.5.1.4.1.1.4.3
EnhancedMRImageStorage	1.2.840.10008.5.1.4.1.1.4.1
EnhancedPETImageStorage	1.2.840.10008.5.1.4.1.1.130
EnhancedSRStorage	1.2.840.10008.5.1.4.1.1.88.22
EnhancedUSVolumeStorage	1.2.840.10008.5.1.4.1.1.6.2
EnhancedXAImageStorage	1.2.840.10008.5.1.4.1.1.12.1.1
EnhancedXRFImageStorage	1.2.840.10008.5.1.4.1.1.12.2.1
GeneralAudioWaveformStorage	1.2.840.10008.5.1.4.1.1.9.4.2
GeneralECGWaveformStorage	1.2.840.10008.5.1.4.1.1.9.1.2
GenericImplantTemplateStorage	1.2.840.10008.5.1.4.43.1
GrayscaleSoftcopyPresentationStateStorageSOPClass	1.2.840.10008.5.1.4.1.1.11.1
HangingProtocolStorage	1.2.840.10008.5.1.4.38.1
HardcopyColorImageStorageSOPClassRetired	1.2.840.10008.5.1.1.30
HardcopyGrayscaleImageStorageSOPClassRetired	1.2.840.10008.5.1.1.29
HemodynamicWaveformStorage	1.2.840.10008.5.1.4.1.1.9.2.1
ImplantAssemblyTemplateStorage	1.2.840.10008.5.1.4.44.1
ImplantTemplateGroupStorage	1.2.840.10008.5.1.4.45.1
ImplantationPlanSRStorage	1.2.840.10008.5.1.4.1.1.88.70
IntraocularLensCalculationsStorage	1.2.840.10008.5.1.4.1.1.78.8
IntravascularOpticalCoherenceTomographyImageStorageForPresentation	1.2.840.10008.5.1.4.1.1.14.1
IntravascularOpticalCoherenceTomographyImageStorageForProcessing	1.2.840.10008.5.1.4.1.1.14.2
KeratometryMeasurementsStorage	1.2.840.10008.5.1.4.1.1.78.3
KeyObjectSelectionDocumentStorage	1.2.840.10008.5.1.4.1.1.88.59
LensometryMeasurementsStorage	1.2.840.10008.5.1.4.1.1.78.1
MRImageStorage	1.2.840.10008.5.1.4.1.1.4
MRSpectroscopyStorage	1.2.840.10008.5.1.4.1.1.4.2
MacularGridThicknessAndVolumeReportStorage	1.2.840.10008.5.1.4.1.1.79.1
MammographyCADSRStorage	1.2.840.10008.5.1.4.1.1.88.50
MediaStorageDirectoryStorage	1.2.840.10008.1.3.10
MultiFrameGrayscaleByteSecondaryCaptureImageStorage	1.2.840.10008.5.1.4.1.1.7.2
MultiFrameGrayscaleWordSecondaryCaptureImageStorage	1.2.840.10008.5.1.4.1.1.7.3
MultiFrameSingleBitSecondaryCaptureImageStorage	1.2.840.10008.5.1.4.1.1.7.1
MultiFrameTrueColorSecondaryCaptureImageStorage	1.2.840.10008.5.1.4.1.1.7.4
NuclearMedicineImageStorage	1.2.840.10008.5.1.4.1.1.20
NuclearMedicineImageStorageRetired	1.2.840.10008.5.1.4.1.1.5
OphthalmicAxialMeasurementsStorage	1.2.840.10008.5.1.4.1.1.78.7
OphthalmicPhotography16BitImageStorage	1.2.840.10008.5.1.4.1.1.77.1.5.2
OphthalmicPhotography8BitImageStorage	1.2.840.10008.5.1.4.1.1.77.1.5.1
OphthalmicTomographyImageStorage	1.2.840.10008.5.1.4.1.1.77.1.5.4
OphthalmicVisualFieldStaticPerimetryMeasurementsStorage	1.2.840.10008.5.1.4.1.1.80.1
PositronEmissionTomographyImageStorage	1.2.840.10008.5.1.4.1.1.128

SOP Class Name	SOP Class UID
ProcedureLogStorage	1.2.840.10008.5.1.4.1.1.88.40
PseudoColorSoftcopyPresentationStateStorageSOPClass	1.2.840.10008.5.1.4.1.1.11.3
RTBeamsDeliveryInstructionStorage	1.2.840.10008.5.1.4.34.7
RTBeamsDeliveryInstructionStorageTrialRetired	1.2.840.10008.5.1.4.34.1
RTBeamsTreatmentRecordStorage	1.2.840.10008.5.1.4.1.1.481.4
RTBrachyTreatmentRecordStorage	1.2.840.10008.5.1.4.1.1.481.6
RTDoseStorage	1.2.840.10008.5.1.4.1.1.481.2
RTImageStorage	1.2.840.10008.5.1.4.1.1.481.1
RTIonBeamsTreatmentRecordStorage	1.2.840.10008.5.1.4.1.1.481.9
RTIonPlanStorage	1.2.840.10008.5.1.4.1.1.481.8
RTPlanStorage	1.2.840.10008.5.1.4.1.1.481.5
RTStructureSetStorage	1.2.840.10008.5.1.4.1.1.481.3
RTTreatmentSummaryRecordStorage	1.2.840.10008.5.1.4.1.1.481.7
RawDataStorage	1.2.840.10008.5.1.4.1.1.66
RealWorldValueMappingStorage	1.2.840.10008.5.1.4.1.1.67
RespiratoryWaveformStorage	1.2.840.10008.5.1.4.1.1.9.6.1
SecondaryCaptureImageStorage	1.2.840.10008.5.1.4.1.1.7
SegmentationStorage	1.2.840.10008.5.1.4.1.1.66.4
SiemensCSANonImageStorage	1.3.12.2.1107.5.9.1
SpatialFiducialsStorage	1.2.840.10008.5.1.4.1.1.66.2
SpatialRegistrationStorage	1.2.840.10008.5.1.4.1.1.66.1
SpectaclePrescriptionReportStorage	1.2.840.10008.5.1.4.1.1.78.6
StandaloneCurveStorageRetired	1.2.840.10008.5.1.4.1.1.9
StandaloneModalityLUTStorageRetired	1.2.840.10008.5.1.4.1.1.10
StandaloneOverlayStorageRetired	1.2.840.10008.5.1.4.1.1.8
StandalonePETCurveStorageRetired	1.2.840.10008.5.1.4.1.1.129
StandaloneVOILUTStorageRetired	1.2.840.10008.5.1.4.1.1.11
StereometricRelationshipStorage	1.2.840.10008.5.1.4.1.1.77.1.5.3
StorageServiceClass	1.2.840.10008.4.2
StoredPrintStorageSOPClassRetired	1.2.840.10008.5.1.1.27
SubjectiveRefractionMeasurementsStorage	1.2.840.10008.5.1.4.1.1.78.4
SurfaceSegmentationStorage	1.2.840.10008.5.1.4.1.1.66.5
TextSRStorageTrialRetired	1.2.840.10008.5.1.4.1.1.88.1
ToshibaUSPrivateDataStorage	1.2.392.200036.9116.7.8.1.1.1
TwelveLeadECGWaveformStorage	1.2.840.10008.5.1.4.1.1.9.1.1
UltrasoundImageStorage	1.2.840.10008.5.1.4.1.1.6.1
UltrasoundImageStorageRetired	1.2.840.10008.5.1.4.1.1.6
UltrasoundMultiFrameImageStorage	1.2.840.10008.5.1.4.1.1.3.1
UltrasoundMultiFrameImageStorageRetired	1.2.840.10008.5.1.4.1.1.3
VLEndoscopicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.1
VLImageStorageTrialRetired	1.2.840.10008.5.1.4.1.1.77.1
VLMicroscopicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.2

SOP Class Name	SOP Class UID
VLMultiFrameImageStorageTrialRetired	1.2.840.10008.5.1.4.1.1.77.2
VLPhotographicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.4
VLSlideCoordinatesMicroscopicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.3
VLWholeSlideMicroscopyImageStorage	1.2.840.10008.5.1.4.1.1.77.1.6
VideoEndoscopicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.1.1
VideoMicroscopicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.2.1
VideoPhotographicImageStorage	1.2.840.10008.5.1.4.1.1.77.1.4.1
VisualAcuityMeasurementsStorage	1.2.840.10008.5.1.4.1.1.78.5
WaveformStorageTrialRetired	1.2.840.10008.5.1.4.1.1.9.1
XAXRFGrayscaleSoftcopyPresentationStateStorage	1.2.840.10008.5.1.4.1.1.11.5
XRay3DAngiographicImageStorage	1.2.840.10008.5.1.4.1.1.13.1.1
XRay3DCraniofacialImageStorage	1.2.840.10008.5.1.4.1.1.13.1.2
XRayAngiographicBiPlaneImageStorageRetired	1.2.840.10008.5.1.4.1.1.12.3
XRayAngiographicImageStorage	1.2.840.10008.5.1.4.1.1.12.1
XRayRadiationDoseSRStorage	1.2.840.10008.5.1.4.1.1.88.67
XRayRadiofluoroscopicImageStorage	1.2.840.10008.5.1.4.1.1.12.2

7.2.2.2 Association Policies

7.2.2.2.1 General

The DICOM standard Application Context 1.2.840.10008.3.1.1.1 is used for all associations.

7.2.2.2.2 Number of Associations

By default the AE will accept up to 8 simultaneous associations. This number can be configured through the software. Any association attempts past that will result in a REJECTED-TRANSIENT message.

7.2.2.2.3 Asynchronous Nature

Asynchronous mode of operation is not supported. All operations will be performed synchronously.

7.2.2.2.4 Implementation Identifying Information

Implementation UID:	1.2.826.0.1.3680043.2.419.1
Implementation Version:	MIM <major>.<minor>.<release>.<build>

7.2.2.2.5 Association Initiation Policy

7.2.2.2.5.1 Activity: Storage

7.2.2.2.5.1.1 Description and Sequencing of Activity

The DICOM Server AE does not initiate associations except in the case of sending Storage Commitment responses, and only does this as the result of a Storage action.

7.2.2.2.6 Association Acceptance Policy

7.2.2.2.6.1 Description and Sequencing of Activity

The MIM DICOM Store Server AE listens for incoming associations, by default on port 4008. Its default AE title is AE_MIM, but by default it is also a promiscuous receiver, so all incoming associations are accepted as long as they meet the Presentation Context restrictions listed below.

Once an association is made, the AE accepts C-STORE requests for SOP Instances. When the association is closed, the SOP Instances will be store in the MIM archive, as configured.

7.2.2.2.6.1.1 Accepted Presentation Contexts

By default the DICOM Server AE will accept all presentation context that match the list in the table below. Transfer Syntaxes may be limited via configuration, to remove transfer syntaxes that may cause problems.

For RT DICOM Objects, the AE will not accept Explicit VR Little Endian transfer syntax due to compatibility concerns with the length of certain fields, in accordance to the recommendations of IHE-RO.

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
Name	**UID**	**Name List**	**UID List**		
See Table 7.2.2.1.1	See Table 7.2.2.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG Baseline (Process 1)	1.2.840.10008.1.4.50		
		JPEG Extended (Process 2 & 4)	1.2.840.10008.1.4.51		
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.4.90		
		JPEG 2000 Image Compression (Lossless or Lossy)	1.2.840.10008.1.4.91		
		JPEG Lossless Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57		
		JPEG LS Lossless	1.2.840.10008.1.2.4.80		
		JPEG Lossless	1.2.840.10008.1.2.4.70		
		Deflated Explicit VR Little Endian	1.2.840.10008.1.2.1.99		

Presentation Context Table					
		RLE Lossless	1.2.840.10008.1.2.5		
		JPEG LS Lossy Near-Lossless	1.2.840.10008.1.2.4.81		

7.2.2.2.6.1.2 Extended Negotiation

No extended negotiation is performed.

7.2.2.2.6.1.3 SOP Specific Conformance for SOP Classes

The MIM DICOM Store Server AE provides standard conformance to the Storage and Verifications Service Classes.

7.2.2.2.6.1.4 Response Status

If an abnormal condition occurs, the AE will return a status of 0x0110 (Processing Failure), along with the error condition. Otherwise the AE will return a status of 0x0000 (Success).

7.2.3 MIM DICOM Query/Retrieve Server AE

7.2.3.1 SOP Classes

The MIM DICOM Query/Retrieve Server AE supports these SOP classes as a **SCP**:

Table 5

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
PatientRootQueryRetrieveInformationModelFIND	1.2.840.10008.5.1.4.1.2.1.1
PatientRootQueryRetrieveInformationModelMOVE	1.2.840.10008.5.1.4.1.2.1.2
PatientRootQueryRetrieveInformationModelGET	1.2.840.10008.5.1.4.1.2.1.3
StudyRootQueryRetrieveInformationModelFIND	1.2.840.10008.5.1.4.1.2.2.1
StudyRootQueryRetrieveInformationModelMOVE	1.2.840.10008.5.1.4.1.2.2.2
StudyRootQueryRetrieveInformationModelGET	1.2.840.10008.5.1.4.1.2.2.3

7.2.3.2 Association Policies

7.2.3.2.1 General

The DICOM standard Application Context 1.2.840.10008.3.1.1.1 is used for all associations.

7.2.3.2.2 Number of Associations

By default the AE will accept up to 100 simultaneous associations. This number can be configured through the software. Any association attempts past that will result in a rejection message.

7.2.3.2.3 Asynchronous Nature

Asynchronous mode of operation is not supported. All operations will be performed synchronously.

7.2.3.2.4 Implementation Identifying Information

Implementation UID:	1.2.826.0.1.3680043.2.419.1
Implementation Version:	MIM <major>.<minor>.<release>.<build>

7.2.3.2.5 Association Initiation Policy

7.2.3.2.5.1 Activity: Storage

7.2.3.2.5.1.1 Description and Sequencing of Activity

The MIM DICOM Query/Retrieve Server AE initiates a Storage operation in response to a C-MOVE operation. A single association will be made for each C-MOVE, and all the requested SOP Instances will be sent on that association.

7.2.3.2.5.1.2 Proposed Presentation Contexts

MIM will propose Presentation Contexts only for the SOP Class of the instance that is to be transferred. For that SOP Class, MIM will propose multiple Presentation Contexts, one for each of the supported Transfer Syntaxes, and an additional Presentation Context with all of the supported Transfer Syntaxes, in order to determine which Transfer Syntaxes the remote SCP supports, and which it prefers.

MIM will propose both Explicit and Implicit VR Little Endian transfer syntax for all transfers except those involving RT DICOM objects. Due to the storage limitations of Explicit VR Little Endian, RT DICOM will always be transferred with only Implicit VR Little Endian transfer syntax.

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
Name	**UID**	**Name List**	**UID List**		
See Table 7.2.1.1.1	See Table 7.2.1.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

7.2.3.2.5.1.3 Extended Negotiation

No extended negotiation is performed.

7.2.3.2.5.1.4 SOP Specific Conformance for SOP Classes

The MIM DICOM Query/Retrieve Server AE provides standard conformance to the Storage Service Class.

7.2.3.2.5.1.5 Response Status

The MIM DICOM Query/Retrieve Server AE will log a warning/error if any response other than Success (0000) is received.

7.2.3.2.6 Association Acceptance Policy

7.2.3.2.6.1 Description and Sequencing of Activity

The MIM DICOM Query/Retrieve Server AE listens for incoming associations, by default on port 8177. Its default AE title is MIMDCMQUERY. It is not promiscuous receiver. Associations will only be accepted from AE's whose AE Title is configured specifically to

allow them to connect.

Once an association is made, the AE accepts C-FIND, C-MOVE, and C-GET requests. When a C-FIND request is made, the AE will search the MIM database and return the matching results in a series of C-FIND responses. Each response aside from the last will have a status of 0xFF00 (Pending), and the final will have a status of 0x0000 (Success).

For C-MOVE requests, the AE will accept the request and initiate a new association to perform the C-STORE operation to the desired AE title.

For C-GET requests, the AE will perform C-STORE operations on the same association.

7.2.3.2.6.1.1 Accepted Presentation Contexts

The MIM DICOM Query/Retrieve AE will accept all presentation contexts that match the list in the table below.

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
Name	**UID**	**Name List**	**UID List**		
See Table 7.2.3.1.1	See Table 7.2.3.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

7.2.3.2.6.1.2 Extended Negotiation

No extended negotiation is performed.

7.2.3.2.6.1.3 SOP Specific Conformance for SOP Classes

The MIM Query/Retrieve Server AE provides standard conformance to all non-retired Query/Retrieve SOP classes.

7.2.3.2.6.1.4 Dataset Specific Conformance for Patient Root QR and Study Root QR Information Models

The MIM DICOM Query/Retrieve AE supports querying by a particular set of fields, and will return results for an additional set of fields. It supports the following Character Sets for querying, as specified by the Specific Character Set (0008,0005) tag. Attributes at a higher level may be requested when querying at a more specific level, e.g. you may request a Patient level attribute on a Series level query. For a list of characters sets supported, see Table 9.1.

This table lists the fields that maybe queried on, and requested for retrieval, at each Query/Retrieve level.

Attribute Name	Tag Number	Type of Matching	Comment
Q/R Patient Level (Patient Root)			
Patient ID	0010,0020	Single Value, Universal, Wildcard	
Patient Name	0010,0010	Single Value, Universal, Wildcard	
Patient Birth Date	0010,0030		Optional Attribute, Not used in Matching.
Patient Sex	0010,0040		Optional Attribute, Not used in Matching.
Q/R Study Level (Patient Root or Study Root)			
Study Instance UID	0020,000D	Single Value	
Study ID	0020,0010	Single Value	
Study Date	0008,0020	Single Value, Universal, Range	
Study Time	0008,0030	Single Value, Universal, Range	
Accession Number	0008,0050	Single Value, Universal	
Study Description	0008,1030		Optional Attribute, Not used in Matching.
Q/R Series level (Patient Root or Study Root)			
Series Instance UID	0008,0060	Single Value	
Modality	0008,0060	Single Value, Universal	
Series Number	0020,0011	Single Value, Universal	
Series Description	0008,103E		Optional Attribute, Not used in Matching.
Number of Series Related Instances	0020,1209		Optional Attribute, Not used in Matching.
Series Time	0008,0031		Optional Attribute, Not used in Matching.
Q/R Image Level (Patient Root or Study Root)			
SOP Instance UID	0008,0018	Single Value, Universal	
Instance Number	0002,0013		Optional Attribute, Not used in Matching.

7.2.3.2.6.1.5 Response Status

If an abnormal condition occurs, the AE will return a status of 0x0110 (Processing Failure), along with the error condition. Otherwise the AE will return a status of 0x0000 (Success).

7.3 Network Interfaces

7.3.1 Physical Network Interface

MIM supports any number of physical network interfaces. A Gigabit Ethernet (1000baseT) interface is recommended, but MIM will function on a slower link.

7.3.2 Additional Protocols

As MIM runs on a host operating system of either Windows or Mac OS X, other protocols such as DNS, DHCP, etc. may be used on the system.

7.3.3 IPv4 and IPv6

MIM supports TCP over IPv4 or IPv6.

8 Configuration

MIM's configurations are stored in formatted text-based configuration files. The vast majority of these can be configured through the software. Please consult the MIM User Guide for further information.

8.1 AE Title/Presentation Address Mapping

By default, MIM's DICOM C-STORE AE_TITLE (for both SCU and SCP) is AE_MIM. By default, the MIM's DICOM C-STORE AE_TITLE (for both SCU and SCP) is AE_MIM. The C-STORE service by default listens on port 4008. MIM DICOM server is open for anonymous connections.

By default, the MIM DICOM Q/R Server's AE title is MIMDCMQUERY. It listens on port 8177. It is not open for anonymous connections. MIM DICOM server is open for anonymous connections.

8.2 Configurable Parameters

A timer called the Association Request / Reject / Release Timer (ARTIM) is used for making sure that DICOM Associations do not stay in an indeterminate state for longer than a user specified amount of time. This can happen when the physical connection is disrupted, or there has been a problem with a local or remote application. When the ARTIM timer expires, this indicates that an association is no longer valid and the association is automatically terminated. The maximum length of the data units used by two DICOM Application Entities to communicate, called the Maximum Process Data Unit (PDU) size, can also be specified. The default value is 16 Kbytes in size, and can range from 4 - 128 Kbytes. You should refer to the DICOM Conformance Statements of other devices with which MIM will be communicating to determine the optimum Maximum PDU Size.

There are a number of other timeouts that can be configured for sending or receiving.

9 Support of Extended Character Sets

MIM supports the following character sets:

Table 6

Character Set Name	Character Set Value
US-ASCII	*(blank)*
ISO-8859-1	ISO_IR 100
ISO-8859-2	ISO_IR 101
ISO-8859-3	ISO_IR 109
ISO-8859-4	ISO_IR 110
ISO-8859-5	ISO_IR 144
ISO-8859-6	ISO_IR 127
ISO-8859-7	ISO_IR 126
ISO-8859-8	ISO_IR 138
ISO-8859-9	ISO_IR 148
JIS_X0201	ISO_IR 13
TIS-620	ISO_IR 166
US-ASCII	ISO 2022 IR 6
ISO-8859-1	ISO 2022 IR 100
ISO-8859-2	ISO 2022 IR 101
ISO-8859-3	ISO 2022 IR 109
ISO-8859-4	ISO 2022 IR 110
ISO-8859-5	ISO 2022 IR 144
ISO-8859-6	ISO 2022 IR 127
ISO-8859-7	ISO 2022 IR 126
ISO-8859-8	ISO 2022 IR 138
ISO-8859-9	ISO 2022 IR 148
JIS_X0201	ISO 2022 IR 13
TIS-620	ISO 2022 IR 166
JIS0208	ISO 2022 IR 87
JIS0212	ISO 2022 IR 159
cp949	ISO 2022 IR 149
UTF-8	ISO_IR 192
GB18030	GB18030

10 Standard Extended / Specialized / Private SOP Classes

No Specialized or Private SOP classes are supported.

10.1 Private Transfer Syntaxes

No Private Transfer Syntaxes are supported.