



DICOM Conformance Statement

Software Version 6.2

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Project/Product Identification

Project/Product Identification: Synapse Cardiovascular 6.2.000

1 Conformance Statement Overview

This document is a DICOM Conformance Statement for the Synapse Cardiovascular (Synapse CV) Server.

The Synapse CV server implements capabilities in the following broad areas:

Store images and related structured report data from modalities

Respond to query / retrieve requests

Respond to Modality Worklist requests

Request and respond to requests for Storage Commitment.

Send exam data for remote archival, and retrieve archived data.

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3 Introduction

3.1 Audience

This document is written for the people that need to understand how Synapse Cardiovascular will integrate into the 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. Integrators are expected have knowledge adequate to fully understand the DICOM terminology, how the information in this document relates to the product’s functionality, and how that functionality integrates with other devices that support compatible DICOM features.

3.2 Remarks

4 Networking

4.1 Implementation Model

Synapse CV is a single application entity that will receive images and/or structured reports sent by SCUs and will be responsible for storing the images and/or structured reports. It will also respond to query/retrieve and storage commitment commands.

4.1.1 Application Data Flow



4.2.5 Application Entity Overview

- Synapse CV Store SCU –sends SOP Instances to a remote AE.
- Synapse CV DICOM Server – receives storage transaction from remote AEs and responds to requests for Storage Commitment. The server may run multiple instances of this service, each running on a discrete TCP port.
- Synapse CV Archiver –sends SOP Instances to a remote storage SCP for external archival. It also initiates C-MOVE transactions from the archive when a user initiates loading of an archived exam.
- Synapse CV Modality Worklist Server – responds to queries for Modality Worklist. The database from which responses are generated is populated from HL7 orders received by the Synapse CV server.
- Synapse CV Query/Retrieve SCP – Processes query and retrieve requests.

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4.1.2 Functional Definition of Application Entities

4.1.2.1 Synapse CV Store SCU Application Entity

This service monitors a directory on the server. For each supported DICOM SOP Instance found in that directory, this AE initiates an association with a remote SCP, sends the SOP instances using a C-STORE-RQ message, and releases the association. The service runs with a dedicated configuration to send to one remote AE. For each remote AE that is to be the destination of storage services, a distinct instance of this service will be configured and running.

4.1.2.2 Synapse CV DICOM Server Application Entity

This service receives SOP instances from any number of remote AEs. Association requests are accepted and the service supports the storage service class for a number of relevant SOP classes. As data arrives, selected attributes are used to modify the internal database containing patient, study, series, and instance related information. The service also supports Storage Commitment by responding to requests. Storage commitment support is enabled through product configuration.

4.1.2.3 Synapse CV Archiver Application Entity

This service can be configured to send SOP instances that meet a variety of configurable criteria to a remote SCP. To accomplish this, the service initiates association requests and acts as an SCU for storage services. Separate archive tasks can be configured for data with different criteria. The initiation of this activity typically occurs on a scheduled or periodic basis that is also configurable. The service can also optionally be configured to remove data from its internal storage that has been successfully stored to an external archive. In the event that a Synapse CV user requests to load data that has been archived, this service will initiate retrieval of the archived data while the user waits for the exam to load. To accomplish this, the service initiates an association with the same remote AE that the required SOP instances were archived to, and initiates retrieval of the needed SOP instances by requesting a C-MOVE at the study level.

4.1.2.4 Synapse CV Modality Worklist Server Application Entity

This service responds to Modality Worklist queries, returning records from an internal database that is populated with data received through an HL7 order management message processor. Synapse CV creates its own Study UID for each ordered study, so modalities using this interface to create a study entity will be able to create SOP instances that can be matched by Synapse CV (when received) with the ordered study.

4.1.2.5 Synapse CV Query/Retrieve SCP Application Entity

This service performs 2 related functions:

Responds to queries, returning records from an internal database that is populated with data about exams stored by the server.

Responds to C-MOVE commands by initiating storage of requested SOP Instances to a remote AE.

4.1.3 Sequencing of Real World Activity

Not applicable.

4.2 Application Entity Specifications

4.2.1 Synapse Cardiovascular Store SCU Application Entity

4.2.1.1 SOP Classes

This Application Entity provides Standard Conformance to the following DICOM SOP Classes:

SOP CLASSES FOR STORE SCU APPLICATION ENTITY

SOP Class Name	SOP Class UID	SCU	SCP
Verification	1.2.840.10008.1.1	Yes	No
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	Yes	No
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	Yes	No
NM Image Storage	1.2.840.10008.5.1.4.1.1.20	Yes	No
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Yes	No
US Multi Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Yes	No
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	Yes	No
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Yes	No
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	Yes	No
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2	Yes	No
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008.5.1.4.1.1.12.3	Yes	No
Basic Text SR	1.2.840.10008.5.1.4.1.1.88.11	Yes	No
Enhanced SR	1.2.840.10008.5.1.4.1.1.88.22	Yes	No
Comprehensive SR	1.2.840.10008.5.1.4.1.1.88.33	Yes	No
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Yes	No
Storage Commitment – Push Model	1.2.840.10008.1.20.1	Yes	No

4.2.1.2 Association Policies

4.2.1.2.1 General

The DICOM standard Application context is supported.

DICOM APPLICATION CONTEXT

Application Context Name	1.2.840.10008.3.1.1.1
--------------------------	-----------------------

4.2.1.2.2 Number of Associations

The Store SCU supports one association at a time. Since multiple instances of this service may be configured to run, each instance may establish an association at the same time as other instances.

4.2.1.2.3 Asynchronous Nature

Asynchronous transactions are not supported.

4.2.1.2.4 Implementation Identifying Information

DICOM IMPLEMENTATION CLASS AND VERSION FOR STORE SCU

Implementation Class UID	1.2.840.1015.1.27.1.2
Implementation Version Name	PSSCU 4.8.010

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4.2.1.3 Association Initiation Policy

The Store SCU initiates an association with a remote AE when a DICOM file is found in the directory that it is configured to monitor.

4.2.1.3.1 Activity 1 - SOP Instance to be Sent

4.2.1.3.1.1 4.2.1.3.1.1 Description and Sequencing of Activities

N/A

4.2.1.3.1.2 4.2.1.3.1.2 Proposed Presentation Contexts

Only one Presentation Context will be proposed in any association initiated by the Store SCU. For the proposed Presentation Context, only one Transfer Syntax will be proposed, corresponding to the existing transfer syntax of the dataset to be sent. All possible combinations of Abstract Syntax and Transfer Syntax are represented below.

PROPOSED PRESENTATION CONTEXTS FOR STORE SCU

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	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	1.2.840.10008.1.2.4.50		
		JPEG Extended	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.57		
		JPEG Lossless, Non-Hierarchical, First Order Prediction	1.2.840.10008.1.2.4.91		
		JPEG 2000 Image Compression	1.2.840.10008.1.2.5		
		RLE Lossless			
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	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	1.2.840.10008.1.2.4.50		
		JPEG Extended	1.2.840.10008.1.2.4.51		

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2.4.57 1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.4.91 1.2.840.10008.1.2.5		
NM Image Storage	1.2.840.10008.5.1.4.1.1.20	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.57 1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.4.91 1.2.840.10008.1.2.5	SCU	None
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.57 1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.4.91 1.2.840.10008.1.2.5	SCU	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
US Multi Image Storage	1.2.840.10008.5.1.4.1 .1.3.1	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	1.2.840.10008.1.2.4.50		
		JPEG Extended	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.57		
		JPEG Lossless, Non-Hierarchical, First Order Prediction	1.2.840.10008.1.2.4.91		
		JPEG 2000 Image Compression	1.2.840.10008.1.2.5		
		RLE Lossless			
SC Image Storage	1.2.840.10008.5.1.4.1 .1.7	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	1.2.840.10008.1.2.4.50		
		JPEG Extended	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.57		
		JPEG Lossless, Non-Hierarchical, First Order Prediction	1.2.840.10008.1.2.4.91		
		JPEG 2000 Image Compression	1.2.840.10008.1.2.5		
		RLE Lossless			
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1 .1.7.4	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	1.2.840.10008.1.2.4.50		
		JPEG Extended	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.57		

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Lossless, Non-Hierarchical, First Order- Prediction JPEG 2000 Image - Compression RLE Lossless	1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.4.91 1.2.840.10008.1.2.5		
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.57 1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.4.91 1.2.840.10008.1.2.5	SCU	None
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.57 1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.4.91 1.2.840.10008.1.2.5	SCU	None
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Basic Bi-Plane Image Storage		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
		JPEG Baseline	1.2.840.10008.1.2.4.50		
		JPEG Extended	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.57		
		JPEG Lossless, Non-Hierarchical, First Order Prediction	1.2.840.10008.1.2.4.70		
		JPEG Lossless, Non-Hierarchical, First Order Prediction	1.2.840.10008.1.2.4.91		
		JPEG 2000 Image Compression	1.2.840.10008.1.2.5		
		RLE Lossless			
Basic Text SR	1.2.840.10008.5.1.4.1.1.88.11	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
Enhanced SR	1.2.840.10008.5.1.4.1.1.88.22	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
Comprehensive SR	1.2.840.10008.5.1.4.1.1.88.33	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	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	1.2.840.10008.1.2.4.50		
		JPEG Extended	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.57		
		JPEG Lossless, Non-Hierarchical, First Order Prediction	1.2.840.10008.1.2.4.70		
		JPEG Lossless, Non-Hierarchical, First Order Prediction	1.2.840.10008.1.2.4.91		
		JPEG 2000 Image Compression	1.2.840.10008.1.2.5		
RLE Lossless					
Storage Commitment –	1.2.840.10008.1.20.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Push Model					

Extended Negotiation is not supported.

4.2.1.3.1.3 Specific Conformance for SOP Class(es)

The Store SCU has a configurable timeout in which the C-STORE-RSP message is expected to be returned. The default value is 300 seconds. Upon this timeout expiring, the Store SCU aborts the open association.

4.2.1.4 Association Acceptance Policy

The Store SCU does not accept associations. No local port is configured for the service.

4.2.2 Synapse Cardiovascular DICOM Server Application Entity

4.2.2.1 SOP Classes

This Application Entity provides Standard Conformance to the following DICOM SOP Classes:

SOP CLASSES FOR DICOM SERVER APPLICATION ENTITY

SOP Class Name	SOP Class UID	SCU	SCP
Verification	1.2.840.10008.1.1	No	Yes
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	No	Yes
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	No	Yes
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	No	Yes
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	No	Yes
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	No	Yes
US Multi Image Storage	1.2.840.10008.5.1.4.1.1.3.1	No	Yes
US Image Storage (retired)	1.2.840.10008.5.1.4.1.1.6	No	Yes
US Multi Image Storage (retired)	1.2.840.10008.5.1.4.1.1.3	No	Yes
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	No	Yes
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Yes	Yes
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	No	Yes
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2	No	Yes
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008.5.1.4.1.1.12.3	No	Yes
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	No	Yes
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	No	Yes
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2	No	Yes
VL Slide-Coordinates Microscopic	1.2.840.10008.5.1.4.1.1.77.1.3	No	Yes

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SOP Class Name	SOP Class UID	SCU	SCP
Image Storage			
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	No	Yes
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128	No	Yes
Digital X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.1	No	Yes
Digital Mammography X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.2	No	Yes
Digital Intra-oral X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.3	No	Yes
Philips 3D Ultrasound (private SOP Class)	1.3.46.670589.2.5.1.1	No	Yes
Basic Text SR Storage	1.2.840.10008.5.1.4.1.1.88.11	No	Yes
Enhanced SR Storage	1.2.840.10008.5.1.4.1.1.88.22	No	Yes
Comprehensive SR Storage	1.2.840.10008.5.1.4.1.1.88.33	No	Yes
Storage Commitment – Push Model	1.2.840.10008.1.20.1	No	Yes

4.2.2.2 Association Policies

4.2.2.2.1 General

The DICOM standard Application context is supported.

DICOM APPLICATION CONTEXT

Application Context Name	1.2.840.10008.3.1.1.1
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4.2.2.2.2 Number of Associations

The DICOM Server AE supports up to 25 simultaneous associations. Association requests in excess of the limit are not rejected, but are queued to wait for association resources to be released. A server accepting more than 25 associations can be deployed by enabling multiple instances of the DICOM Server AE.

4.2.2.2.3 Asynchronous Nature

Asynchronous transactions are not supported.

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4.2.2.2.4 Implementation Identifying Information

DICOM IMPLEMENTATION CLASS AND VERSION FOR DICOM SERVER

Implementation Class UID	1.2.840.1015.1.27.1.2
Implementation Version Name	PROSOLV2

4.2.2.3 Association Initiation Policy

The DICOM Server AE does not initiate association requests.

4.2.2.4 Association Acceptance Policy

Subject to the limitation on the number of simultaneous associations, the DICOM Server AE accepts any association request for which at least one proposed Presentation Context is supported. The DICOM Server does not check the calling or called AE titles as a criterion for association acceptance.

4.2.2.4.1 Activity - SOP Instance Sent From A Peer AE

4.2.2.4.1.1 Description and Sequencing of Activities

N/A

4.2.2.4.1.2 Accepted Presentation Contexts

ACCEPTABLE PRESENTATION CONTEXTS FOR DICOM SERVER

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	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	1.2.840.10008.1.2.4.5		
		JPEG Extended	0		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.5		
		JPEG Lossless, Non-Hierarchical,	1		
		First-Order Prediction	1.2.840.10008.1.2.4.5		
		JPEG 2000 Image	7		
		Compression	1.2.840.10008.1.2.4.7		
RLE Lossless	0				
			1.2.840.10008.1.2.4.9		

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
			1 1.2.840.10008.1.2.5		
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.5 0 1.2.840.10008.1.2.4.5 1 1.2.840.10008.1.2.4.5 7 1.2.840.10008.1.2.4.7 0 1.2.840.10008.1.2.4.9 1 1.2.840.10008.1.2.5	SCP	None
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.5 0 1.2.840.10008.1.2.4.5 1 1.2.840.10008.1.2.4.5 7 1.2.840.10008.1.2.4.7 0 1.2.840.10008.1.2.4.9 1	SCP	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
			1.2.840.10008.1.2.5		
Nuclear Medicine Image Storage	1.2.840.10008.5. 1.4.1.1.20	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	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	1.2.840.10008.1.2.4.5		
		JPEG Extended	0		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.5		
		JPEG Lossless, Non-Hierarchical,	1		
		First-Order Prediction	1.2.840.10008.1.2.4.5		
		JPEG 2000 Image	7		
		Compression	1.2.840.10008.1.2.4.7		
RLE Lossless	0				
			1.2.840.10008.1.2.4.9		
			1		
			1.2.840.10008.1.2.5		
US Image Storage	1.2.840.10008.5. 1.4.1.1.6.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	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	1.2.840.10008.1.2.4.5		
		JPEG Extended	0		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.5		
		JPEG Lossless, Non-Hierarchical,	1		
		First-Order Prediction	1.2.840.10008.1.2.4.5		
		JPEG 2000 Image	7		
		Compression	1.2.840.10008.1.2.4.7		
RLE Lossless	0				
			1.2.840.10008.1.2.4.9		
			1		
			1.2.840.10008.1.2.5		

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
US Multi Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	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	1.2.840.10008.1.2.4.5		
		JPEG Extended	0		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.5		
		JPEG Lossless, Non-Hierarchical,	1		
		First-Order Prediction	1.2.840.10008.1.2.4.5		
		JPEG 2000 Image	7		
		Compression	1.2.840.10008.1.2.4.7		
RLE Lossless	0				
			1.2.840.10008.1.2.4.9		
			1		
			1.2.840.10008.1.2.5		
US Image Storage (retired)	1.2.840.10008.5.1.4.1.1.6	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	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	1.2.840.10008.1.2.4.5		
		JPEG Extended	0		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.5		
		JPEG Lossless, Non-Hierarchical,	1		
		First-Order Prediction	1.2.840.10008.1.2.4.5		
		JPEG 2000 Image	7		
		Compression	1.2.840.10008.1.2.4.7		
RLE Lossless	0				
			1.2.840.10008.1.2.4.9		
			1		
			1.2.840.10008.1.2.5		

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
US Multi Image Storage (retired)	1.2.840.10008.5.1.4.1.1.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	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	1.2.840.10008.1.2.4.5		
		JPEG Extended	0		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.5		
		JPEG Lossless, Non-Hierarchical,	1		
		First-Order Prediction	1.2.840.10008.1.2.4.5		
		JPEG 2000 Image	7		
		Compression	1.2.840.10008.1.2.4.7		
RLE Lossless	0				
			1.2.840.10008.1.2.4.9		
			1		
			1.2.840.10008.1.2.5		
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	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	1.2.840.10008.1.2.4.5		
		JPEG Extended	0		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.5		
		JPEG Lossless, Non-Hierarchical,	1		
		First-Order Prediction	1.2.840.10008.1.2.4.5		
		JPEG 2000 Image	7		
		Compression	1.2.840.10008.1.2.4.7		
RLE Lossless	0				
			1.2.840.10008.1.2.4.9		
			1		
			1.2.840.10008.1.2.5		

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	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	1.2.840.10008.1.2.4.50		
		JPEG Extended	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.57		
		JPEG Lossless, Non-Hierarchical, First Order- Prediction	1.2.840.10008.1.2.4.70		
		JPEG 2000 Image - Compression	1.2.840.10008.1.2.4.91		
		RLE Lossless	1.2.840.10008.1.2.5		
		X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1		
Explicit VR Little Endian	1.2.840.10008.1.2.1				
Explicit VR Big Endian	1.2.840.10008.1.2.2				
JPEG Baseline	1.2.840.10008.1.2.4.50				
JPEG Extended	1.2.840.10008.1.2.4.51				
JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.57				
JPEG Lossless, Non-Hierarchical, First-Order Prediction	1.2.840.10008.1.2.4.70				
JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91				
RLE Lossless	1.2.840.10008.1.2.5				
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2			Implicit VR Little Endian	1.2.840.10008.1.2
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		Explicit VR Big Endian	1.2.840.10008.1.2.2		

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
		JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2.4.5 0 1.2.840.10008.1.2.4.5 1 1.2.840.10008.1.2.4.5 7 1.2.840.10008.1.2.4.7 0 1.2.840.10008.1.2.4.9 1 1.2.840.10008.1.2.5		
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008.5. 1.4.1.1.12.3	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.5 0 1.2.840.10008.1.2.4.5 1 1.2.840.10008.1.2.4.5 7 1.2.840.10008.1.2.4.7 0 1.2.840.10008.1.2.4.9 1 1.2.840.10008.1.2.5	SCP	None
Encapsulated PDF Storage	1.2.840.10008.5. 1.4.1.1.104.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.5	SCP	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
		JPEG Extended	0		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.5 1		
		JPEG Lossless, Non-Hierarchical,			
		First-Order Prediction	1.2.840.10008.1.2.4.5 7		
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.7 0		
		RLE Lossless			
			1.2.840.10008.1.2.4.9 1		
			1.2.840.10008.1.2.5		
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	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	1.2.840.10008.1.2.4.5 0		
		JPEG Extended			
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.5 1		
		JPEG Lossless, Non-Hierarchical,			
		First-Order Prediction	1.2.840.10008.1.2.4.5 7		
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.7 0		
		RLE Lossless			
			1.2.840.10008.1.2.4.9 1		
			1.2.840.10008.1.2.5		
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	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	1.2.840.10008.1.2.4.5 0		
		JPEG Extended			

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.5 1		
		JPEG Lossless, Non-Hierarchical, First-Order Prediction	1.2.840.10008.1.2.4.5 7		
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.7 0		
		RLE Lossless	1.2.840.10008.1.2.4.9 1		
			1.2.840.10008.1.2.5		
VL Slide-Coordinates Microscopic Image Storage	1.2.840.10008.5. 1.4.1.1.77.1.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2.2		
		Explicit VR Big Endian	1.2.840.10008.1.2.4.5 0		
		JPEG Baseline	1.2.840.10008.1.2.4.5 1		
		JPEG Extended	1.2.840.10008.1.2.4.5 7		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.5 0		
		JPEG Lossless, Non-Hierarchical, First-Order Prediction	1.2.840.10008.1.2.4.5 7		
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.7 0		
		RLE Lossless	1.2.840.10008.1.2.4.9 1		
			1.2.840.10008.1.2.5		
VL Photographic Image Storage	1.2.840.10008.5. 1.4.1.1.77.1.4	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2.2		
		Explicit VR Big Endian	1.2.840.10008.1.2.4.5 0		
		JPEG Baseline	1.2.840.10008.1.2.4.5 1		
		JPEG Extended	1.2.840.10008.1.2.4.5 7		
		JPEG Lossless, Non-	1.2.840.10008.1.2.4.5		

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
		Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction JPEG 2000 Image Compression RLE Lossless	1 1.2.840.10008.1.2.4.5 7 1.2.840.10008.1.2.4.7 0 1.2.840.10008.1.2.4.9 1 1.2.840.10008.1.2.5		
Positron Emission Tomography Image Storage	1.2.840.10008.5. 1.4.1.1.128	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.5 0 1.2.840.10008.1.2.4.5 1 1.2.840.10008.1.2.4.5 7 1.2.840.10008.1.2.4.7 0 1.2.840.10008.1.2.4.9 1 1.2.840.10008.1.2.5	SCP	None
Digital X-Ray Image Storage – For Presentation	1.2.840.10008.5. 1.4.1.1.1.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.5 0 1.2.840.10008.1.2.4.5 1	SCP	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
		JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2.4.57 1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.4.91 1.2.840.10008.1.2.5		
Digital Mammography X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.2	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.57 1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.4.91 1.2.840.10008.1.2.5	SCP	None
Digital Intra-oral X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.3	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51	SCP	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
		Hierarchical, First-Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2.4.5 7 1.2.840.10008.1.2.4.7 0 1.2.840.10008.1.2.4.9 1 1.2.840.10008.1.2.5		
Philips 3D Ultrasound (private SOP Class)	1.3.46.670589.2. 5.1.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction JPEG 2000 Image Compression RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.4.5 0 1.2.840.10008.1.2.4.5 1 1.2.840.10008.1.2.4.5 7 1.2.840.10008.1.2.4.7 0 1.2.840.10008.1.2.4.9 1 1.2.840.10008.1.2.5	SCP	None
Basic Text SR Storage	1.2.840.10008.5. 1.4.1.1.88.11	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Enhanced SR Storage	1.2.840.10008.5. 1.4.1.1.88.22	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Comprehensive SR Storage	1.2.840.10008.5. 1.4.1.1.88.33	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

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4.2.2.4.1.3 SOP Specific Conformance for SOP Class(es)

This section includes the SOP specific behavior, i.e. error codes, error and exception handling, time-outs, etc. The information shall be as described in the SOP specific Conformance Statement section of PS 3.4 (or relevant private SOP definition).

The behavior of an Application Entity shall be summarized as shown. Standard as well as the manufacturer specific status codes and their corresponding behavior shall be specified.

STORAGE C-STORE RESPONSE STATUS

Service Status	Further Meaning	Error Code	Reason
Success	Success	0000	The SOP Instance did not cause any abnormal condition.
Error	Specify	C000	Error condition, SOP Instance was not stored.

4.2.2.4.2 Activity – Storage Commitment Request Received

4.2.2.4.2.1 Description and Sequencing of Activities

The DICOM Server AE will respond to a request for safekeeping of images / SR documents (N-ACTION-REQUEST) sent by a requesting SCU.

4.2.2.4.2.2 Accepted Presentation Contexts

**ACCEPTABLE PRESENTATION CONTEXTS FOR DICOM SERVER
AND STORAGE COMMITMENT ACTIVITY**

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name	UID		
Storage Commitment – Push Model	1.2.840.10008.1.20.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

4.2.2.4.2.3 SOP Specific Conformance

This AE will send an N-ACTION-RESPONSE in response to the storage commitment request. On the same association that was used to receive N-ACTION-REQUEST, this AE will send N-EVENT-REPORT containing a Referenced sequence of all SOP instances that were committed for storage. Any SOP instances not found in the server database will be returned as part of Failed sequence of the N-EVENT-REPORT. The failure reason for failed SOP instances will be set to 0x0112 (“No such object instance” as defined in PS3.7). The DICOM Server AE will wait for N-EVENT-RESPONSE from SCU for at most 200 seconds by default or as configured by the user during run-time. Files committed for storage will not be deleted unless deleted by the user explicitly. In case the SCU releases the association before receiving the N-EVENT-REPORT, the DICOM Server AE will initiate an association with the requesting peer as an SCP, and release this association upon completion of transmittal of N-EVENT-REPORT and N-EVENT-RESPONSE.

4.2.3 Synapse Cardiovascular Archiver Application Entity

4.2.3.1 SOP Classes

This Application Entity provides Standard Conformance to the following DICOM SOP Classes:

SOP CLASSES FOR ARCHIVER APPLICATION ENTITY

SOP Class Name	SOP Class UID	SCU	SCP
Verification	1.2.840.10008.1.1	Yes	No
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	Yes	No
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	Yes	No
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	Yes	No
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	Yes	No
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Yes	No
US Multi Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Yes	No
US Image Storage (retired)	1.2.840.10008.5.1.4.1.1.6	Yes	No
US Multi Image Storage (retired)	1.2.840.10008.5.1.4.1.1.3	Yes	No
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	Yes	No

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Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Yes	No
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	Yes	No
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2	Yes	No
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008.5.1.4.1.1.12.3	Yes	No
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Yes	No
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	Yes	No
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2	Yes	No
VL Slide-Coordinates Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3	Yes	No
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	Yes	No
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128	Yes	No
Digital X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.1	Yes	No
Digital Mammography X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.2	Yes	No
Digital Intra-oral X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.3	Yes	No
Philips 3D Ultrasound (private SOP Class)	1.3.46.670589.2.5.1.1	Yes	No
Enhanced SR Storage	1.2.840.10008.5.1.4.1.1.88.22	Yes	No
Comprehensive SR Storage	1.2.840.10008.5.1.4.1.1.88.33	Yes	No
Study Root Query/Retrieve Information Model – FIND	1.2.840.10008.5.1.4.1.2.2.1	Yes	No
Study Root Query/Retrieve Information Model – MOVE	1.2.840.10008.5.1.4.1.2.2.2	Yes	No

4.2.3.2 Association Policies

4.2.3.2.1 General

The DICOM standard Application context is supported.

DICOM APPLICATION CONTEXT

Application Context Name	1.2.840.10008.3.1.1.1
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4.2.3.2.2 Number of Associations

The Archiver AE supports 1 association at a time. If multiple Archiver instances (jobs) are configured to run, they will run serially so that multiple associations will not occur.

4.2.3.2.3 Asynchronous Nature

Asynchronous transactions are not supported.

4.2.3.2.4 Implementation Identifying Information

DICOM IMPLEMENTATION CLASS AND VERSION FOR ARCHIVER

Implementation Class UID	1.2.840.1015.1.27.1.2
Implementation Version Name	QSCP 1.00.000

4.2.3.3 Association Initiation Policy

4.2.3.3.1 Activity - SOP Instances To Be Archived

4.2.3.3.1.1 Description and Sequencing of Activities

The Archiver AE will archive SOP Instances in two situations:

1. Scheduled initiation of study archiving by a configured archive job.
2. Manual initiation of study archiving. This is initiated manually by an administrative user.

The behavior of the Archiver AE in both of these cases is identical. When studies are identified for archival, an association is negotiated to support the storage of the relevant SOP instances.

4.2.3.3.1.2 Proposed Presentation Contexts

**PROPOSED PRESENTATION CONTEXTS
FOR ARCHIVER AE AND SOP INSTANCE ARCHIVE ACTIVITY**

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Implicit VR Little Endian	1.2.840.10008.1.2.2		
		Explicit VR Big Endian	1.2.840.10008.1.2.5		
		RLE Lossless	1.2.840.10008.1.2.4.50		
		JPEG Baseline	1.2.840.10008.1.2.4.51		
		JPEG Extended	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2.4.51		
		JPEG Lossless, Non-Hierarchical,	1.2.840.10008.1.2.4.51		
			1.2.840.10008.1.2.4.51		

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		First-Order Prediction JPEG 2000 Image Compression	.4.57 1.2.840.10008.1.2 .4.70		
		JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
CT Image Storage	1.2.840.10008.5 .1.4.1.1.2	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None
		Implicit VR Little Endian	1.2.840.10008.1.2 1.2.840.10008.1.2 .2		
		Explicit VR Big Endian RLE Lossless	1.2.840.10008.1.2 .5		
		JPEG Baseline	1.2.840.10008.1.2		
		JPEG Extended	1.2.840.10008.1.2		
		JPEG Lossless, Non- Hierarchical	.4.50		
		JPEG Lossless, Non- Hierarchical,	1.2.840.10008.1.2 .4.51		
		First-Order Prediction JPEG 2000 Image Compression	1.2.840.10008.1.2 .4.57		
		JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91		
			1.2.840.10008.1.2 .4.90		
MR Image Storage	1.2.840.10008.5 .1.4.1.1.4	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None
		Implicit VR Little Endian	1.2.840.10008.1.2 1.2.840.10008.1.2 .2		
		Explicit VR Big Endian RLE Lossless	1.2.840.10008.1.2 .5		
		JPEG Baseline	1.2.840.10008.1.2		
		JPEG Extended	1.2.840.10008.1.2		
		JPEG Lossless, Non- Hierarchical	.4.50		
		JPEG Lossless, Non- Hierarchical,	1.2.840.10008.1.2 .4.51		
		First-Order Prediction JPEG 2000 Image Compression	1.2.840.10008.1.2 .4.57		
			1.2.840.10008.1.2		

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		JPEG 2000 Image Compression, (Lossless Only)	.4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
Nuclear Medicine Image Storage	1.2.840.10008.5 .1.4.1.1.20	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
US Image Storage	1.2.840.10008.5 .1.4.1.1.6.1	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression,	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2	SCU	None

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		(Lossless Only)	.4.91 1.2.840.10008.1.2 .4.90		
US Multi Image Storage	1.2.840.10008.5 .1.4.1.1.3.1	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
US Image Storage (retired)	1.2.840.10008.5 .1.4.1.1.6	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2	SCU	None

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			.4.90		
US Multi Image Storage (retired)	1.2.840.10008.5.1.4.1.1.3	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.5 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.57 1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.4.91 1.2.840.10008.1.2.4.90	SCU	None
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2.1 1.2.840.10008.1.2.2 1.2.840.10008.1.2.5 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.51 1.2.840.10008.1.2.4.57 1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.4.91 1.2.840.10008.1.2.4.90	SCU	None

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Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First Order- Prediction JPEG 2000 Image - Compression RLE Lossless	1.2.840.10008.1.2 1.2.840.10008.1.2 .1 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .5	SCU	None
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2	Explicit VR Little Endian Implicit VR Little	1.2.840.10008.1.2 .1 1.2.840.10008.1.2	SCU	None

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		Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008.5 .1.4.1.1.12.3	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
Encapsulated PDF Storage	1.2.840.10008.5 .1.4.1.1.104.1	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 .2 1.2.840.10008.1.2	SCU	None

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		RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
VL Endoscopic Image Storage	1.2.840.10008.5 .1.4.1.1.77.1.1	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
VL Microscopic Image Storage	1.2.840.10008.5 .1.4.1.1.77.1.2	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5	SCU	None

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		JPEG Extended JPEG Lossless, Non- Hierarchical	1.2.840.10008.1.2 .4.50		
		JPEG Lossless, Non- Hierarchical,	1.2.840.10008.1.2 .4.51		
		First-Order Prediction	1.2.840.10008.1.2 .4.57		
		JPEG 2000 Image Compression	1.2.840.10008.1.2 .4.70		
		JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .4.91		
			1.2.840.10008.1.2 .4.90		
VL Slide- Coordinates Microscopic Image Storage	1.2.840.10008.5 .1.4.1.1.77.1.3	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None
		Implicit VR Little Endian	1.2.840.10008.1.2 .2		
		Explicit VR Big Endian RLE Lossless	1.2.840.10008.1.2 .5		
		JPEG Baseline	1.2.840.10008.1.2 .4.50		
		JPEG Extended	1.2.840.10008.1.2 .4.51		
		JPEG Lossless, Non- Hierarchical	1.2.840.10008.1.2 .4.57		
		JPEG Lossless, Non- Hierarchical,	1.2.840.10008.1.2 .4.70		
		First-Order Prediction	1.2.840.10008.1.2 .4.91		
		JPEG 2000 Image Compression	1.2.840.10008.1.2 .4.90		
		JPEG 2000 Image Compression, (Lossless Only)			
VL Photographic Image Storage	1.2.840.10008.5 .1.4.1.1.77.1.4	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None
		Implicit VR Little Endian	1.2.840.10008.1.2 .2		
		Explicit VR Big Endian RLE Lossless	1.2.840.10008.1.2 .5		
		JPEG Baseline	1.2.840.10008.1.2 .4.50		
		JPEG Extended			
		JPEG Lossless, Non- Hierarchical			

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		JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
Positron Emission Tomography Image Storage	1.2.840.10008.5 .1.4.1.1.128	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
Digital X-Ray Image Storage – For Presentation	1.2.840.10008.5 .1.4.1.1.1.1	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non-	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51	SCU	None

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		Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
Digital Mammography X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.2	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
Digital Intra-oral X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.3	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57	SCU	None

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		Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
Philips 3D Ultrasound (private SOP Class)	1.3.46.670589.2 .5.1.1	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
Basic Text SR Storage	1.2.840.10008.5 .1.4.1.1.88.11	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None
Enhanced SR Storage	1.2.840.10008.5 .1.4.1.1.88.22	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None
Comprehensive SR Storage	1.2.840.10008.5 .1.4.1.1.88.33	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None

4.2.3.3.1.3 4.2.3.3.1.3 SOP Specific Conformance for SOP Class(es)

If any SOP Instance for the study fails to be stored successfully by the SCP, the exam on Synapse Cardiovascular will not be marked archived, and a retry will occur at a later time.

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STORAGE C_STORE RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	The SCP has successfully stored the SOP Instance. If all SOP Instances in a study have been stored with status success then the exam is internally flagged as archived, and any configured archiver task for deleting archived studies is enabled for that study.
*	*	Any other status code.	The SOP Instance is assumed to have not been successfully received, and the study cannot be flagged as archived until all SOP Instances of the study are subsequently stored with Success status.

4.2.3.3.2 Activity - Exam To Be Retrieved

4.2.3.3.2.1 Description and Sequencing of Activities

The Archiver AE will retrieve SOP instances previously archived when a Synapse Cardiovascular client user requests loading of an exam that no longer resides on the Synapse Cardiovascular server (due to having been archived and deleted locally).

4.2.3.3.2.2 Proposed Presentation Contexts

Although a large set of Presentation Contexts is proposed in the Association negotiation, only the Presentation Context encapsulating the Study Root Query/Retrieve Information Model – MOVE Abstract Syntax is utilized to retrieve studies.

**PROPOSED PRESENTATION CONTEXTS FOR
ARCHIVER AE AND STUDY RETRIEVAL ACTIVITY**

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Implicit VR Little Endian	1.2.840.10008.1.2.2		
		Explicit VR Big Endian	1.2.840.10008.1.2.5		
		RLE Lossless	1.2.840.10008.1.2.4.50		
		JPEG Baseline	1.2.840.10008.1.2		
		JPEG Extended	1.2.840.10008.1.2		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2		
JPEG Lossless, Non-	1.2.840.10008.1.2				

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	.4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2	SCU	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	.4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
Nuclear Medicine Image Storage	1.2.840.10008. 5.1.4.1.1.20	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
US Image Storage	1.2.840.10008. 5.1.4.1.1.6.1	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2	SCU	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	.5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
US Multi Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
US Image Storage (retired)	1.2.840.10008.5.1.4.1.1.6	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2	SCU	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	.2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
US Multi Image Storage (retired)	1.2.840.10008.5.1.4.1.1.3	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
SC Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		Implicit VR Little Endian	1.2.840.10008.1.2		
		Explicit VR Big Endian	1.2.840.10008.1.2		
		RLE Lossless	.2		
		JPEG Baseline	1.2.840.10008.1.2		
		JPEG Extended	.5		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2		
		JPEG Lossless, Non-Hierarchical,	.4.50		
		First-Order Prediction	1.2.840.10008.1.2		
		JPEG 2000 Image Compression	.4.51		
		JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2		
			.4.57		
			1.2.840.10008.1.2		
			.4.70		
			1.2.840.10008.1.2		
			.4.91		
			1.2.840.10008.1.2		
			.4.90		
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2		
		Explicit VR Big Endian	.1		
		JPEG Baseline	1.2.840.10008.1.2		
		JPEG Extended	.2		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2		
		JPEG Lossless, Non-Hierarchical, First Order- Prediction	.4.50		
		JPEG 2000 Image - Compression	1.2.840.10008.1.2		
		RLE Lossless	.4.51		
			1.2.840.10008.1.2		
			.4.57		
			1.2.840.10008.1.2		
			.4.70		
			1.2.840.10008.1.2		
			.4.91		
			1.2.840.10008.1.2		
			.5		
X-Ray Angiographic	1.2.840.10008.	Explicit VR Little	1.2.840.10008.1.2	SCU	None
			.1		

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Image Storage	5.1.4.1.1.12.1	Endian	1.2.840.10008.1.2		
		Implicit VR Little Endian	1.2.840.10008.1.2		
		Explicit VR Big Endian	1.2.840.10008.1.2		
		RLE Lossless	.5		
		JPEG Baseline	1.2.840.10008.1.2		
		JPEG Extended	.4.50		
		JPEG Lossless, Non-Hierarchical	1.2.840.10008.1.2		
		JPEG Lossless, Non-Hierarchical,	.4.51		
		First-Order Prediction	1.2.840.10008.1.2		
		JPEG 2000 Image Compression	.4.57		
		JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2		
			.4.70		
			1.2.840.10008.1.2		
	.4.91				
	1.2.840.10008.1.2				
	.4.90				
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2	Explicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Implicit VR Little Endian	.1		
		Explicit VR Big Endian	1.2.840.10008.1.2		
		RLE Lossless	1.2.840.10008.1.2		
		JPEG Baseline	.2		
		JPEG Extended	1.2.840.10008.1.2		
		JPEG Lossless, Non-Hierarchical	.5		
		JPEG Lossless, Non-Hierarchical,	1.2.840.10008.1.2		
		First-Order Prediction	.4.50		
		JPEG 2000 Image Compression	1.2.840.10008.1.2		
		JPEG 2000 Image Compression, (Lossless Only)	.4.51		
			1.2.840.10008.1.2		
			.4.57		
	1.2.840.10008.1.2				
	.4.70				
	1.2.840.10008.1.2				
	.4.91				
	1.2.840.10008.1.2				
	.4.90				

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008. 5.1.4.1.1.12.3	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None
		Implicit VR Little Endian	1.2.840.10008.1.2 .2		
		Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical	1.2.840.10008.1.2 .5		
		JPEG Lossless, Non- Hierarchical,	1.2.840.10008.1.2 .4.50		
		JPEG Lossless, Non- Hierarchical,	1.2.840.10008.1.2 .4.51		
		First-Order Prediction JPEG 2000 Image Compression	1.2.840.10008.1.2 .4.57		
		JPEG 2000 Image Compression,	1.2.840.10008.1.2 .4.70		
		(Lossless Only)	1.2.840.10008.1.2 .4.91		
			1.2.840.10008.1.2 .4.90		
Encapsulated PDF Storage	1.2.840.10008. 5.1.4.1.1.104.1	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None
		Implicit VR Little Endian	1.2.840.10008.1.2 .2		
		Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical	1.2.840.10008.1.2 .5		
		JPEG Lossless, Non- Hierarchical	1.2.840.10008.1.2 .4.50		
		JPEG Lossless, Non- Hierarchical,	1.2.840.10008.1.2 .4.51		
		First-Order Prediction JPEG 2000 Image Compression	1.2.840.10008.1.2 .4.57		
		JPEG 2000 Image Compression,	1.2.840.10008.1.2 .4.70		
		(Lossless Only)	1.2.840.10008.1.2 .4.91		
			1.2.840.10008.1.2 .4.90		

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
			.4.90		
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91	SCU	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
			.4.91 1.2.840.10008.1.2 .4.90		
VL Slide-Coordinates Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2	SCU	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		Compression, (Lossless Only)	.4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
Positron Emission Tomography Image Storage	1.2.840.10008. 5.1.4.1.1.128	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
Digital X-Ray Image Storage – For Presentation	1.2.840.10008. 5.1.4.1.1.1.1	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2	SCU	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		JPEG 2000 Image Compression	.4.57 1.2.840.10008.1.2		
		JPEG 2000 Image Compression, (Lossless Only)	.4.70 1.2.840.10008.1.2		
			.4.91 1.2.840.10008.1.2		
			.4.90		
Digital Mammography X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.2	Explicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Implicit VR Little Endian	.1 1.2.840.10008.1.2		
		Explicit VR Big Endian	1.2.840.10008.1.2		
		RLE Lossless	.2 1.2.840.10008.1.2		
		JPEG Baseline	.5 1.2.840.10008.1.2		
		JPEG Extended	.4.50 1.2.840.10008.1.2		
		JPEG Lossless, Non-Hierarchical	.4.51 1.2.840.10008.1.2		
		JPEG Lossless, Non-Hierarchical,	1.2.840.10008.1.2		
		First-Order Prediction	.4.57 1.2.840.10008.1.2		
		JPEG 2000 Image Compression	.4.70 1.2.840.10008.1.2		
		JPEG 2000 Image Compression, (Lossless Only)	.4.91 1.2.840.10008.1.2		
			.4.90		
Digital Intra-oral X-Ray Image Storage – For Presentation	1.2.840.10008.5.1.4.1.1.1.3	Explicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Implicit VR Little Endian	.1 1.2.840.10008.1.2		
		Explicit VR Big Endian	1.2.840.10008.1.2		
		RLE Lossless	.2 1.2.840.10008.1.2		
		JPEG Baseline	.5 1.2.840.10008.1.2		
		JPEG Extended	.4.50 1.2.840.10008.1.2		
		JPEG Lossless, Non-Hierarchical	.4.51 1.2.840.10008.1.2		
		JPEG Lossless, Non-	1.2.840.10008.1.2		

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
		Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	.4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90		
Philips 3D Ultrasound (private SOP Class)	1.3.46.670589. 2.5.1.1	Explicit VR Little Endian Implicit VR Little Endian Explicit VR Big Endian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non- Hierarchical JPEG Lossless, Non- Hierarchical, First-Order Prediction JPEG 2000 Image Compression JPEG 2000 Image Compression, (Lossless Only)	1.2.840.10008.1.2 .1 1.2.840.10008.1.2 1.2.840.10008.1.2 .2 1.2.840.10008.1.2 .5 1.2.840.10008.1.2 .4.50 1.2.840.10008.1.2 .4.51 1.2.840.10008.1.2 .4.57 1.2.840.10008.1.2 .4.70 1.2.840.10008.1.2 .4.91 1.2.840.10008.1.2 .4.90	SCU	None
Basic Text SR Storage	1.2.840.10008. 5.1.4.1.1.88.11	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None
Enhanced SR Storage	1.2.840.10008. 5.1.4.1.1.88.22	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None
Comprehensive SR	1.2.840.10008. 5.1.4.1.1.88.33	Explicit VR Little Endian	1.2.840.10008.1.2 .1	SCU	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Storage					
Study Root Query/Retrieve Information Model – FIND	1.2.840.10008.5.1.4.1.2.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
Study Root Query/Retrieve Information Model – MOVE	1.2.840.10008.5.1.4.1.2.2.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

4.2.3.4 Association Acceptance Policy

The Archiver does not accept association requests.

4.2.4 Synapse Cardiovascular Modality Worklist Application Entity

4.2.4.1 SOP Classes

This Application Entity provides Standard Conformance to the following DICOM SOP Classes:

SOP CLASSES FOR MODALITY WORKLIST APPLICATION ENTITY

SOP Class Name	SOP Class UID	SCU	SCP
Verification	1.2.840.10008.1.1	No	Yes
Modality Worklist Information Model – Find	1.2.840.10008.5.1.4.31	No	Yes

4.2.4.2 Association Policies

4.2.4.2.1 General

The DICOM standard Application context is supported.

DICOM APPLICATION CONTEXT

Application Context Name	1.2.840.10008.3.1.1.1
--------------------------	-----------------------

4.2.4.2.2 Number of Associations

The Modality Worklist AE does not support multiple simultaneous associations.

4.2.4.2.3 Asynchronous Nature

Asynchronous transactions are not supported.

4.2.4.2.4 Implementation Identifying Information

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DICOM IMPLEMENTATION CLASS AND VERSION FOR MODALITY WORKLIST AE

Implementation Class UID	1.2.840.1015.1.27.1.2
Implementation Version Name	QSCP 1.00.000

4.2.4.3 Association Initiation Policy

The Store SCU does not initiate association requests.

4.2.4.4 Association Acceptance Policy

Subject to the limitation on the number of simultaneous associations, the Modality Worklist AE accepts any association request for which at least one proposed Presentation Context is supported. If acceptable AE Titles have not been configured for the service, the Modality Worklist AE does not check the calling or called AE titles as a criterion for association acceptance. If a list of one or more acceptable AE Titles has been configured, an association request only from one of the configured calling AE Titles will be accepted.

Note that in the current implementation, a range of Abstract Syntaxes utilizing the storage service class will be accepted at association negotiation, if proposed. However, these Abstract Syntaxes are not applicable to the functionality of the Modality Worklist AE, and if a subsequent message is received for any of these Abstract Syntaxes, an error will be returned to the SCU. For this reason, the table of Acceptable Presentation Contexts below does not include those Abstract Syntaxes.

4.2.4.4.1 Activity – Verification Command Received

4.2.4.4.1.1 Description and Sequencing of Activities – Verification Activity

A Modality sends a C-ECHO command to verify connectivity.

4.2.4.4.1.2 Accepted Presentation Contexts – Modality Verification Activity

ACCEPTABLE PRESENTATION CONTEXTS FOR MODALITY WORKLIST AE AND VERIFICATION ACTIVITY

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

4.2.4.4.1.3 SOP Specific Conformance for Verification SOP Class

N/A

4.2.4.4.2 Activity – Modality Worklist Query Received

4.2.4.4.2.1 Description and Sequencing of Activities – Modality Worklist Activity

The Modality Worklist AE responds to queries with worklist records representing ordered studies known to the Synapse Cardiovascular system. Information about ordered studies is accumulated from HL7 ORM message(s). For each order received, Synapse Cardiovascular assigns a new, locally generated Study Instance UID to the study, regardless of any information contained in the order message. This Study Instance UID is provided as part of the response to Modality Worklist queries.

4.2.4.4.2.2 Accepted Presentation Contexts – Modality Worklist Activity

**ACCEPTABLE PRESENTATION CONTEXTS FOR
MODALITY WORKLIST AE AND MODALITY WORKLIST QUERY RECEIVED ACTIVITY**

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	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCP	None

4.2.4.4.2.3 SOP Specific Conformance for Modality Worklist SOP Class

For each C-FIND request received, this AE returns records including all matching and return attributes for the requested query level and higher.

This AE supports only the matching keys identified in the following table.

MODALITY WORKLIST MATCHING KEYS SUPPORTED

Description/Module	Tag	Remark
Scheduled Procedure Step		
>Scheduled Station AE Title	(0040,0001)	
>Scheduled Procedure Step Start Date	(0040,0002)	
>Scheduled Procedure Step Start Time	(0040,0003)	
Patient		
Patient Name	(0010,0010)	
Patient ID	(0010,0020)	

This AE always returns all of the attributes listed in the following table.

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MODALITY WORKLIST RETURN KEYS SUPPORTED

Description/Module	Tag	Remark
Scheduled Procedure Step		
>Scheduled Station AE Title	(0040,0001)	
>Scheduled Procedure Step Start Date	(0040,0002)	
>Scheduled Procedure Step Start Time	(0040,0003)	
>Modality	(0008,0060)	The returned value of this attribute is typically the modality corresponding to the Scheduled Station AE Title, as configured in the system.
>Scheduled Performing Physician's Name	(0040,0006)	
>Scheduled Procedure Step Description	(0040,0007)	
>Scheduled Procedure Step ID	(0040,0009)	
Requested Procedure		
Requested Procedure ID	(0040,1001)	
Requested Procedure Description	(0032,1060)	
Reason for the Requested Procedure	(0040,1002)	
Patient		
Patient's Name	(0010,0010)	
Patient ID	(0010,0020)	
Patient's Birth Date	(0010,0030)	
Patient's Sex	(0010,0040)	
Patient Medical		
Additional Patient History	(0010,21B0)	
Patient Demographic Patient Study		
Patient's Age	(0010,1010)	
Visit Admission Imaging Service Request General Study		
Referring Physician's Name	(0008,0090)	
Study		
Study Instance UID	(0020,000D)	
Accession Number	(0008,0050)	

This AE returns C-FIND response statuses as specified below.

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MODALITY WORKLIST C-FIND RESPONSE STATUS REASONS

Service Status	Further Meaning	Error Code	Reasons
Success	Matching is complete	0000	The response status code and meaning are logged in the job log file.
Failure	Unable to process	C001	This status is returned due to internal errors within this AE, such as a processing failure response on a query of the database. The response status code and meaning are logged.
Pending	Matching is continuing	FF00	The status is returned with each matching response. A message is logged for each pending response.

4.2.5 Synapse Cardiovascular Query/Retrieve SCP Application Entity

4.2.5.1 SOP Classes

This Application Entity provides Standard Conformance to the following DICOM SOP Classes:

SOP CLASSES FOR QUERY/RETRIEVE APPLICATION ENTITY

SOP Class Name	SOP Class UID	SCU	SCP
Verification	1.2.840.10008.1.1	Yes	Yes
Patient Root Query/Retrieve Information Model – FIND	1.2.840.10008.5.1.4.1.2.1.1	No	Yes
Patient Root Query/Retrieve Information Model – MOVE	1.2.840.10008.5.1.4.1.2.1.2	No	Yes
Patient Root Query/Retrieve Information Model – GET	1.2.840.10008.5.1.4.1.2.1.3	No	Yes
Study Root Query/Retrieve Information Model – FIND	1.2.840.10008.5.1.4.1.2.2.1	No	Yes
Study Root Query/Retrieve Information Model – MOVE	1.2.840.10008.5.1.4.1.2.2.2	No	Yes
Study Root Query/Retrieve Information Model – GET	1.2.840.10008.5.1.4.1.2.2.3	No	Yes
Patient/Study Only Query/Retrieve Information Model - FIND (Retired)	1.2.840.10008.5.1.4.1.2.3.1	No	Yes
Patient/Study Only Query/Retrieve Information Model – MOVE (Retired)	1.2.840.10008.5.1.4.1.2.3.2	No	Yes
Patient/Study Only Query/Retrieve Information Model - GET (Retired)	1.2.840.10008.5.1.4.1.2.3.3	No	Yes
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	Yes	No
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	Yes	No
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	Yes	No
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Yes	No

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Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Yes	No
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Yes	No
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Yes	No
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	Yes	No
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	Yes	No
X-Ray Angiographic Bi-Plane Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.12.3	Yes	No
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	Yes	No
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	Yes	No
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	Yes	No
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Yes	No

4.2.5.2 Association Policies

4.2.5.2.1 General

The DICOM standard Application context is supported.

DICOM APPLICATION CONTEXT

Application Context Name	1.2.840.10008.3.1.1.1
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4.2.5.2.2 Number of Associations

4.2.5.2.2 DICOM Q/R Association Acceptance

The application supports multiple SCP tasks, and for each port it supports isolated SCP configurations. Each such task operates as one single SCP. Each such SCP can handle a configurable number of simultaneous DICOM Q/R associations. Configurations affecting this behavior are listed below

Configuration	Default	Description
Max allowed connection	20	Maximum number of simultaneous DICOM associations that can be handled by the software. Default value is 20. Using a value beyond this is not recommended as this can degrade performance. Once the SCP is already catering to maximum configured simultaneous number of service requests, every new association request shall be responded with an A-ABORT with code as 'Reason not specified'

4.2.5.2.3 Asynchronous Nature

Asynchronous transactions are not supported.

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4.2.5.2.4 Implementation Identifying Information

DICOM IMPLEMENTATION CLASS AND VERSION FOR QUERY/RETRIEVE AE

Implementation Class UID	1.2.840.1015.1.27.1.2
Implementation Version Name	QSCP 1.00.000

4.2.5.3 Association Initiation Policy

4.2.5.3.1 Activity – Send Images Requested by an External Peer AE

4.2.5.3.1.1 Description and Sequencing of Activity

The Query Retrieve initiates association requests in order to fulfill C-MOVE requests by an external peer AE.

Note that the Archive AE implements its own Storage SCU functionality and this does not replicate the behavior of the Store SCU AE described elsewhere in this document.

4.2.5.3.1.2 Proposed Presentation Contexts

Although only a small number of Presentations will typically be used to perform this activity for any particular study, all of the Presentation Contexts listed in the following table are proposed.

PROPOSED PRESENTATION CONTEXTS BY THE QUERY/RETRIEVE AE

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Verification	1.2.840.10008.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
Verification	1.2.840.10008.1.1	Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
Verification	1.2.840.10008.1.1	RLE Lossless	1.2.840.10008.1.2.5	SCU	None
Verification	1.2.840.10008.1.1	JPEG Baseline	1.2.840.10008.1.2.4.50	SCU	None
Verification	1.2.840.10008.1.1	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SCU	None
Verification	1.2.840.10008.1.1	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SCU	None
Verification	1.2.840.10008.1.1	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SCU	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		RoI	Ext.
Verification	1.2.840.10008.1.1	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SC U	None
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	JPEG Baseline	1.2.840.10008.1.2.4	SC	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		RoI	Ext.
	2		50	U	
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SC U	None
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SC U	None
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		Rol	Ext.
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SC U	None
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		RoI	Ext.
Storage					
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SC U	None
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SC U	None
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
Ultrasound Multi-frame Image	1.2.840.10008.5.1.4.1.1.3	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		RoI	Ext.
Storage (Retired)					
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SC U	None
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		RoI	Ext.
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SC U	None
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
X-Ray Angiographic Bi-Plane Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.12.3	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None
X-Ray Angiographic Bi-Plane Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.12.3	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
X-Ray Angiographic Bi-Plane Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.12.3	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
X-Ray Angiographic Bi-Plane Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.12.3	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
X-Ray Angiographic Bi-Plane Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.12.3	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None
X-Ray Angiographic Bi-Plane Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.12.3	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None
X-Ray Angiographic Bi-Plane Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.12.3	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
X-Ray Angiographic Bi-Plane Image	1.2.840.10008.5.1.4.1.1.12.3	JPEG Lossless, Non-Hierarchical, First-Order	1.2.840.10008.1.2.4.70	SC U	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		RoI	Ext.
Storage (Retired)		Prediction (Process 14 [Selection Value 1])			
X-Ray Angiographic Bi-Plane Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.12.3	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SC U	None
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		RoI	Ext.
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SC U	None
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
Nuclear Medicine	1.2.840.10008.5.1.4.1.1.	JPEG Lossless,	1.2.840.10008.1.2.4.	SC	None

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Presentation Context Table					
Abstract Syntax		Transfer Syntax		RoI	Ext.
Image Storage (Retired)	5	Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	70	U	
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SC U	None
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Implicit VR Little Endian	1.2.840.10008.1.2	SC U	None
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Explicit VR Big Endian	1.2.840.10008.1.2.2	SC U	None
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	RLE Lossless	1.2.840.10008.1.2.5	SC U	None
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	JPEG Baseline	1.2.840.10008.1.2.4.50	SC U	None
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	JPEG Extended (Process 2 & 4)	1.2.840.10008.1.2.4.51	SC U	None
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	JPEG Lossless, Non-Hierarchical (Process 14)	1.2.840.10008.1.2.4.57	SC U	None
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SC U	None
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SC U	None

4.2.5.3.1.3 4.2.5.3.1.3 SOP Specific Conformance for Image Storage by Query/Retrieve AE

STORAGE C-STORE RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	The SCP has successfully stored the SOP Instance. If all SOP Instances in a send job have status success then a Success status is returned to the C-MOVE SCU that requested the storage activity.

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*	*	Any other status code.	The SCP did not successfully store the SOP Instance. An error code is returned to the C-MOVE SCU that requested the storage activity.
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4.2.5.4 Association Acceptance Policy

Subject to the limitation on the number of simultaneous associations, the Query/Retrieve AE accepts any association request for which at least one proposed Presentation Context is supported. If acceptable AE Titles have not been configured for the service, the Query/Retrieve AE does not check the calling or called AE titles as a criterion for association acceptance. If a list of one or more acceptable AE Titles has been configured, an association request only from one of the configured calling AE Titles will be accepted.

Note that in the current implementation, a range of Abstract Syntaxes utilizing the storage service class will be accepted at association negotiation, if proposed. However, these Abstract Syntaxes are not applicable to the functionality of the Query/Retrieve AE, and if a subsequent message is received for any of these Abstract Syntaxes, an error will be returned to the SCU. For this reason, the table of Acceptable Presentation Contexts below does not include those Abstract Syntaxes.

4.2.5.4.1 Activity – Verification Command Received

4.2.5.4.1.1 Description and Sequencing of Activities – Verification Activity

A remote AE sends a C-ECHO message to verify connectivity with this AE.

4.2.5.4.1.2 Accepted Presentation Contexts – Modality Verification Activity

**ACCEPTABLE PRESENTATION CONTEXTS FOR
QUERY/RETRIEVE AE AND VERIFICATION ACTIVITY**

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

4.2.5.4.1.3 SOP Specific Conformance for Verification SOP Class

N/A

4.2.5.4.2 Activity – Query Received

4.2.5.4.2.1 Description and Sequencing of Activities – Query Activity

The Query/Retrieve AE receives a C-FIND request from a remote AETitle. It reads the value for 'C-FIND Patient/Study level MAX records' configured by administrator for the QR task. This configuration indicates Max number of records returned as part of a Patient level or Study level C-FIND query. Default value is 100. Q/R AE queries the database and if the matching results are more than the configured value, then the AE sends back a C-FIND response message with the value A700 in the 0000,0900 (Status) tag with description in 0000,0902 as 'Results exceed configured maximum number of responses'. Calling AE may then close the association or start a new query. If the results do not exceed the configured number of records, then AE responds to queries with records representing studies managed by the Synapse Cardiovascular system.

4.2.5.4.2.2 Accepted Presentation Contexts – Query Activity

**ACCEPTABLE PRESENTATION CONTEXTS FOR
QUERY/RETRIEVE AE AND QUERY RECEIVED ACTIVITY**

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Patient Root Query/Retrieve Information Model – FIND	1.2.840.10008.5.1.4.1.2.1.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCP	None
Study Root	1.2.840.10008.5.1.4.	Implicit VR Little	1.2.840.10008.1.2	SCP	None

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Query/Retrieve Information Model – FIND	1.2.2.1	Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2.2 1.2.840.10008.1.2.1		
Patient/Study Only Query/Retrieve Information Model - FIND (Retired)	1.2.840.10008.5.1.4. 1.2.3.1	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2.2 1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCP	None

4.2.5.4.2.3 SOP Specific Conformance for Query/Retrieve C-FIND

For each C-FIND request received, this AE returns records including all matching and return attributes for the requested query level and higher.

This AE supports only the matching keys identified in the following table.

QUERY/RETRIEVE MATCHING KEYS SUPPORTED

Description/Module	Tag	Remark
Patient Level		
Patient Name	(0010,0010)	
Patient ID	(0010,0020)	
Study Level		
Study Instance UID	(0020,000D)	Multiple Study Instance UIDs supported
Study ID	(0020,0010)	
Study Date	(0008,0020)	Study Date Attribute does not support wild card and non numerical characters
Study Time	(0008,0030)	Study Time Attribute does not support wild card and non numerical characters
Modalities in Study	(0008,0061)	Used for matching only in the case that Modality (0008,0060) is not present in the C-FIND request. If Modalities in Study is used, only the first value is matched in the case where multiple values are received in the C-FIND request.

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Accession Number	(0008,0050)	
Series Level		
Series Instance UID	(0020,000E)	Multiple Series Instance UIDs supported
Modality	(0008,0060)	
Series Number	(0020,0011)	Series Number Attribute does not support wild card characters
Image Level		
SOP Instance UID	(0008,0018)	Multiple SOP Instance UIDs supported
Instance Number	(0020,0013)	Instance Number Attribute does not support wild card characters

In addition to returning matching key values identified above, this AE supports additional return key attributes listed in the following table.

QUERY/RETRIEVE RETURN KEYS SUPPORTED

Description/Module	Tag	Remark
Patient Level		
Patient's Birth Date	(0010,0030)	
Patient's Sex	(0010,0040)	
Study Level		
Referring Physician's Name	(0008,0090)	
Study Description	(0008,1030)	
Patient's Age	(0008,1010)	
Patient's Size	(0008,1020)	
Patient's Weight	(0008,1030)	
Series Description	(0008,103E)	
Number of Frames	(0028,0008)	

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This AE returns C-FIND response statuses as specified below.

QUERY/RETRIEVE C-FIND RESPONSE STATUS REASONS

Service Status	Further Meaning	Error Code	Reasons
Success	Matching is complete	0000	The query has completed without errors.
Failure	Unable to process	C001	This status indicates internal errors such as a processing failure response on a query of the database. Information about the error is logged.
	Missing request attribute	C002	This status indicates that a required attribute is missing from the C-FIND request and processing cannot be completed.
	Too many matches	A700	This status indicates that a C-FIND PATIENT LEVEL or PATIENT ROOT STUDY LEVEL query resulted in number of responses exceeding the configuration " C-FIND Patient/Study level MAX records " for the Q/R Task. Description in DICOM Tag(0000,0902)shall be added in response with a string " Results exceed configured maximum number of responses"
A701		This status indicates that a C-FIND SERIES LEVEL or IMAGE LEVEL query resulted in number of responses exceeding the configuration " C-FIND Series/Image level/C-MOVE MAX records ". Description in DICOM Tag(0000,0902)shall be added in response with a string " Results exceed configured maximum number of responses"	
Canceled	Matching terminated due to cancel request	FE00	This status is returned if a Cancel Request is received from the SCU during the processing of a C-FIND request. The response status code and meaning are logged in the job log file.
Pending	Matching is continuing	FF00	The status is returned with each matching response. A message is logged for each pending response.

If series number is part of the DICOM query and it is received as an invalid value (as per the standard), then the application treats it as a query that's equivalent to containing wild card for series number. The results will be equivalent to the results that would be returned to SCU in the case of empty or wildcard values mentioned in the same tag during query.

4.2.5.4.3 Activity – C-MOVE Command Received

4.2.5.4.3.1 Description and Sequencing of Activities – C-MOVE Request Received

A remote AE sends a C-MOVE message, typically but not always following a query using C-FIND.

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4.2.5.4.3.2 Accepted Presentation Contexts – C-MOVE

**ACCEPTABLE PRESENTATION CONTEXTS FOR
QUERY/RETRIEVE AE AND QUERY RECEIVED ACTIVITY**

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	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	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	1.2.840.10008.5.1.4.1.2.2.2	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2.1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCP	None
Patient/Study Only Query/Retrieve Information Model – MOVE (Retired)	1.2.840.10008.5.1.4.1.2.3.2	Implicit VR Little Endian Explicit VR Little Endian Explicit VR Big Endian	1.2.840.10008.1.2.1.2.840.10008.1.2.2 1.2.840.10008.1.2.1	SCP	None

4.2.5.4.3.3 SOP Specific Conformance for Query/Retrieve C-MOVE

For each C-MOVE request received, this AE initiates a separate association and performs the requested storage operations.

This AE returns C-MOVE response values as follows:

QUERY/RETRIEVE C-MOVE RESPONSE STATUS REASONS

Service Status	Further Meaning	Error Code	Reasons
Success	<i>Matching is complete</i>	0000	<i>The query has completed without errors.</i>
Failure	<i>Refused: Out of Resources – Unable to calculate number</i>	A701	<i>This status indicates that AE encountered errors and processing cannot be completed.</i> <i>This status might also occur when a C-MOVE request resulted in number of responses exceeding the configuration</i>

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	<i>of matches</i>		“ C-FIND Series/Image level/C-MOVE MAX records ”. If this is the case then, description in DICOM Tag(0000,0902)shall be added in response with a string ” Results exceed configured maximum number of responses”
	<i>Refused: Out of Resources – Unable to perform sub-operations</i>	A702	<i>This status indicates that AE encountered errors while processing the request and further processing cannot be completed.</i>
	<i>Refused: Move Destination unknown</i>	A801	<i>This status indicates that the Move Destination, required for processing C-Store request, is not known.</i>
	<i>Missing request attribute</i>	A900	<i>This status indicates that a required attribute is missing from the C-MOVE request and processing cannot be completed.</i>
	<i>Unable to process</i>	C00C	<i>This status indicates internal errors such as a processing failure response on a query of the database. Information about the error is logged.</i>
<i>Cancelled</i>	<i>Matching terminated due to cancel request</i>	FE00	<i>This status is returned if a Cancel Request is received from the SCU during the processing of a C-MOVE request. The response status code and meaning are logged in the job log file.</i>
<i>Pending</i>	<i>Matching is continuing</i>	FF00	<i>The status is returned with after each attempted storage command, including the counts of successful, failed, and pending instances to be stored.</i>

4.2.5.5 Deviations from DICOM Standard

Following are the deviations from DICOM Standard

Deviations

Information Model	Attribute	Tag	Remark
Study Level			
<i>Patient Root</i>	<i>Study Instance UID Accession Number</i>	<i>(0020,000D) (0008,0050)</i>	<i>Unique attributes for Patient Level will not be returned in the C-FIND SCP Response (Patient ID)</i>
<i>Study Root</i>	<i>Study Instance UID Accession Number</i>	<i>(0020,000D) (0008,0050)</i>	<i>Patient Name will be returned in the C-FIND SCP Response even if it is not requested.</i>

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			<i>Request will be processed even if the Patient Level required attributes are not requested in the query.</i>
Series Level			
Patient Root	Series Instance UID Series Number	(0020,000E) (0020,0011)	<i>Unique attributes for Patient Level and Study Level will not be returned in the C-FIND SCP Response (Patient ID and Study Instance UID)</i>
Study Root	Series Instance UID Series Number	(0020,000E) (0020,0011)	<i>Unique attributes for Study Level will not be returned in the C-FIND SCP Response (Study Instance UID)</i>
Image Level			
Patient Root	SOP Instance UID	(0008,0018)	<i>Unique attributes for Patient, Study and Series Levels will not be returned in the C-FIND SCP Response (Patient ID, Study Instance UID and Series Instance UID)</i>
Study Root	SOP Instance UID	(0008,0018)	<i>Unique attributes for Study and Series Levels will not be returned in the C-FIND SCP Response (Study Instance UID and Series Instance UID)</i>

4.3 Network Interfaces

4.3.1 Physical Network Interface

Synapse Cardiovascular supports any network interface that implements the TCP transport layer protocol. TCP services are expected to be provided by the operating system.

4.3.2 Additional Protocols

N/A

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4.3.3 IPv4 and IPv6 Support

Synapse Cardiovascular currently supports only IPv4. IPv6 support is expected in a future version.

4.4 Configuration

4.4.1 AE Title/Presentation Address Mapping

4.4.1.1 Local AE Titles.

AE TITLE CONFIGURATION TABLE

Application Entity	Default AE Title	Default TCP/IP Port
Store SCU	SYNAPSECVSCU	N/A
DICOM Server	SYNAPSECV	104
Q/R SCP	SYNAPSECV_QRSCP	1024
Modality Worklist Server	SYNAPSECVMWL	112
Archiver	None	N/A

4.4.1.2 Remote AE Title/Presentation Address Mapping

4.4.1.2.1 Remote Storage SCP for Synapse CV Store SCU

Configuration of storage SCP AEs is done for use by the Synapse Cardiovascular Store SCU AE. Each instance of the Store SCU AE communicates with exactly one remote AE, and all connection parameters are explicitly configured for that remote AE in the configuration information of the individual SCU instance. For this reason, no mapping is performed between AE Title and presentation addresses.

4.4.1.2.2 Remote Storage SCP for Synapse CV DICOM Server

Since the DICOM Server does not communicate with a remote SCP, no address mapping capability is relevant.

4.4.1.2.3 Remote Storage SCP for Synapse CV Query/Retrieve SCP

The Query/Retrieve SCP requires a list of potential storage service class providers that will be supported for SOP Instance storage upon request by a Q/R SCU peer AE. Configuration of this list is performed in the configuration of individual Query/Retrieve tasks. A GUI is provided to configure a collection of "Destination Store SCPs", including AE Title, Port, and IP Address or a host name resolvable to an IP address. When the SCP receives a C-MOVE request, the retrieve AE in the request is found in the configured list and the remaining connection parameters are extracted for that peer AE.

4.4.1.2.4 Remote SCP for Synapse CV Archiver

The Archiver accesses configuration information for 3 types of actors in its workflow, including a Storage SCP, Storage SCU, and Query/Retrieve SCP. A facility for configuring a set of these nodes is accessed through the GUI provided in the Synapse CV Service Manager to set up archive jobs. Peer AE entities are configured, each including a Name to be used in the GUI, IP Address, AE Title, Port, and Service Type (role of the actor). After the list of nodes is established, when selecting among the configured Peer AEs, the specific archive job configuration provides the ability to select each node by Name. In this way, when the job runs it can access the remaining configuration information for that peer AE to execute its required communications.

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4.4.2 Parameters

CONFIGURATION PARAMETERS TABLE

Parameter	Configurable (Yes/No)	Default Value
General Parameters		
Maximum number of allowed simultaneous DICOM associations/TCP connections	Yes	20
Time-out waiting for acceptance or rejection Response to an Association Open Request. (Application Level timeout) for DICOM Storage SCP	Yes	200 sec.
General DIMSE level time-out values) for DICOM Storage SCP	Yes	200 sec.
Time-out waiting for response to TCP/IP connect request.) for DICOM Storage SCP (Low-level timeout)	Yes	200 sec.
Time-out waiting for acceptance or rejection Response to an Association Open Request. (Application Level timeout) for DICOM Query Retrieve SCP	Yes	300 sec.
General DIMSE level time-out values) for DICOM Query Retrieve SCP	Yes	300 sec.
Time-out waiting for response to TCP/IP connect request.) for DICOM Query Retrieve SCP (Low-level timeout)	Yes	300 sec.
Acceptable CALLING AE Titles for DICOM QR	Yes (List)	Empty list
Acceptable DESTINATION AE Titles for DICOM QR	Yes (List)	Empty list
Maximum number of records that shall be returned in a PATIENT/STUDY level C-FIND	Yes	100
Maximum number of records that shall be returned in a SERIES/IMAGE level C-FIND	Yes	3000
Maximum number of images that shall be returned in a C-MOVE	Yes	Same configuration as above
Enable Storage Commitment (DICOM STORAGE SCU)	Yes	False
Storage Commitment Port (DICOM STORAGE SCU)	Yes	104
Enable Storage Commitment (DICOM STORAGE SCP)	Yes	Disabled
AE Specific Parameters		
Maximum PDU size the AE can receive	Yes	DICOM Server: 163,840 bytes All others: 163,84 bytes
Maximum PDU size the AE can send	No	Max PDU Size

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Parameter	Configurable (Yes/No)	Default Value
General Parameters		
		Negotiated by Peer AE

5 Media Interchange

The Synapse Cardiovascular Server does not support media interchange.

6 Support of Character Sets

This version of Synapse Cardiovascular Server supports the default character repertoire only.

7 Security

7.1 Security Profiles

Security profiles as defined in DICOM PS 3.15 are not supported by the Synapse Cardiovascular Server.

7.2 Association Level Security

The Synapse Cardiovascular Query Retrieve SCP Application Entity may optionally be configured to accept association requests only from known AE Titles. If not list of acceptable AE Titles is configured, the service will accept and process requests from any SCU.

7.3 Application Level Security

Access to the Synapse Cardiovascular Server desktop is controlled by operating system level user access control.

8 Annexes

N/A