



## DICOM Conformance Statement

### Software Version 6.1

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## Project/Product Identification

**Project/Product Identification:** Synapse Cardiovascular 6.1.000

## 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.

## 2 Table of Contents

|   |          |
|---|----------|
| <b>PROJECT/PRODUCT IDENTIFICATION .....</b>                         | <b>3</b> |
| <b>1 CONFORMANCE STATEMENT OVERVIEW .....</b>                       | <b>3</b> |
| <b>2 TABLE OF CONTENTS .....</b>                                    | <b>3</b> |
| <b>3 INTRODUCTION.....</b>  | <b>5</b> |
| 3.1 AUDIENCE .....  | 5        |
| 3.2 REMARKS.....  | 5        |
| <b>4 NETWORKING .....</b>   | <b>5</b> |
| 4.1 IMPLEMENTATION MODEL.....                                       | 5        |
| 4.1.1 Application Data Flow.....                                    | 6        |
| 4.1.2 Functional Definition of Application Entities .....           | 7        |
| 4.1.2.1 Synapse CV Store SCU Application Entity .....               | 7        |
| 4.1.2.2 Synapse CV DICOM Server Application Entity .....            | 7        |
| 4.1.2.3 Synapse CV Archiver Application Entity .....                | 7        |
| 4.1.2.4 Synapse CV Modality Worklist Server Application Entity..... | 7        |
| 4.1.2.5 Synapse CV Query/Retrieve SCP Application Entity.....       | 7        |
| 4.1.3 Sequencing of Real World Activity .....                       | 7        |
| 4.2 APPLICATION ENTITY SPECIFICATIONS.....                          | 7        |
| 4.2.1 Synapse Cardiovascular Store SCU Application Entity .....     | 7        |
| 4.2.1.1 SOP Classes .....   | 7        |
| 4.2.1.2 Association Policies .....                                  | 8        |
| 4.2.1.2.1 General.....  | 8        |
| 4.2.1.2.2 Number of Associations .....                              | 8        |
| 4.2.1.2.3 Asynchronous Nature .....                                 | 8        |
| 4.2.1.2.4 Implementation Identifying Information .....              | 8        |
| 4.2.1.3 Association Initiation Policy.....                          | 9        |
| 4.2.1.3.1 Activity 1 - SOP Instance to be Sent .....                | 9        |

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|           |  |    |
|-----------|--|----|
| 4.2.1.4   | Association Acceptance Policy .....                                | 14 |
| 4.2.2     | Synapse Cardiovascular DICOM Server Application Entity .....       | 14 |
| 4.2.2.1   | SOP Classes.....   | 14 |
| 4.2.2.2   | Association Policies .....   | 15 |
| 4.2.2.2.1 | General.....   | 15 |
| 4.2.2.2.2 | Number of Associations .....                                       | 15 |
| 4.2.2.2.3 | Asynchronous Nature .....  | 15 |
| 4.2.2.2.4 | Implementation Identifying Information .....                       | 16 |
| 4.2.2.3   | Association Initiation Policy.....                                 | 16 |
| 4.2.2.4   | Association Acceptance Policy .....                                | 16 |
| 4.2.2.4.1 | Activity - SOP Instance Sent From A Peer AE .....                  | 16 |
| 4.2.2.4.2 | Activity – Storage Commitment Request Received .....               | 28 |
| 4.2.3     | Synapse Cardiovascular Archiver Application Entity .....           | 29 |
| 4.2.3.1   | SOP Classes.....   | 29 |
| 4.2.3.2   | Association Policies .....   | 30 |
| 4.2.3.2.1 | General.....   | 30 |
| 4.2.3.2.2 | Number of Associations .....                                       | 31 |
| 4.2.3.2.3 | Asynchronous Nature .....  | 31 |
| 4.2.3.2.4 | Implementation Identifying Information .....                       | 31 |
| 4.2.3.3   | Association Initiation Policy.....                                 | 31 |
| 4.2.3.3.1 | Activity - SOP Instances To Be Archived .....                      | 31 |
| 4.2.3.3.2 | Activity - Exam To Be Retrieved.....                               | 43 |
| 4.2.3.4   | Association Acceptance Policy .....                                | 56 |
| 4.2.4     | Synapse Cardiovascular Modality Worklist Application Entity .....  | 56 |
| 4.2.4.1   | SOP Classes.....   | 56 |
| 4.2.4.2   | Association Policies .....   | 56 |
| 4.2.4.2.1 | General.....   | 56 |
| 4.2.4.2.2 | Number of Associations .....                                       | 56 |
| 4.2.4.2.3 | Asynchronous Nature .....  | 56 |
| 4.2.4.2.4 | Implementation Identifying Information.....                        | 56 |
| 4.2.4.3   | Association Initiation Policy.....                                 | 57 |
| 4.2.4.4   | Association Acceptance Policy .....                                | 57 |
| 4.2.4.4.1 | Activity – Verification Command Received .....                     | 57 |
| 4.2.4.4.2 | Activity – Modality Worklist Query Received.....                   | 58 |
| 4.2.5     | Synapse Cardiovascular Query/Retrieve SCP Application Entity ..... | 60 |
| 4.2.5.1   | SOP Classes.....   | 60 |
| 4.2.5.2   | Association Policies .....   | 61 |
| 4.2.5.2.1 | General.....   | 61 |
| 4.2.5.2.2 | Number of Associations .....                                       | 61 |
| 4.2.5.2.2 | DICOM Q/R Association Acceptance.....                              | 61 |
| 4.2.5.2.3 | Asynchronous Nature .....  | 61 |
| 4.2.5.2.4 | Implementation Identifying Information .....                       | 62 |
| 4.2.5.3   | Association Initiation Policy.....                                 | 62 |
| 4.2.5.3.1 | Activity – Send Images Requested by an External Peer AE.....       | 62 |
| 4.2.5.4   | Association Acceptance Policy .....                                | 72 |
| 4.2.5.4.1 | Activity – Verification Command Received .....                     | 72 |
| 4.2.5.4.2 | Activity – Query Received .....                                    | 73 |
| 4.2.5.4.3 | Activity – C-MOVE Command Received.....                            | 76 |
| 4.3       | NETWORK INTERFACES.....  | 79 |
| 4.3.1     | Physical Network Interface .....                                   | 79 |

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|           |   |           |
|-----------|---|-----------|
| 4.3.2     | Additional Protocols.....                                 | 80        |
| 4.3.3     | IPv4 and IPv6 Support .....                               | 80        |
| 4.4       | CONFIGURATION.....  | 80        |
| 4.4.1     | AE Title/Presentation Address Mapping .....               | 80        |
| 4.4.1.1   | Local AE Titles. ....                                     | 80        |
| 4.4.1.2   | Remote AE Title/Presentation Address Mapping.....         | 80        |
| 4.4.1.2.1 | Remote Storage SCP for Synapse CV Store SCU .....         | 80        |
| 4.4.1.2.2 | Remote Storage SCP for Synapse CV DICOM Server.....       | 80        |
| 4.4.1.2.3 | Remote Storage SCP for Synapse CV Query/Retrieve SCP..... | 80        |
| 4.4.1.2.4 | Remote SCP for Synapse CV Archiver.....                   | 80        |
| 4.4.2     | Parameters .....  | 82        |
| 5         | <b>MEDIA INTERCHANGE .....</b>                            | <b>83</b> |
| 6         | <b>SUPPORT OF CHARACTER SETS .....</b>                    | <b>83</b> |
| 7         | <b>SECURITY .....</b>                                     | <b>83</b> |
| 7.1       | SECURITY PROFILES.....                                    | 83        |
| 7.2       | ASSOCIATION LEVEL SECURITY .....                          | 83        |
| 7.3       | APPLICATION LEVEL SECURITY.....                           | 83        |
| 8         | <b>ANNEXES.....</b>                                       | <b>83</b> |

### **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.

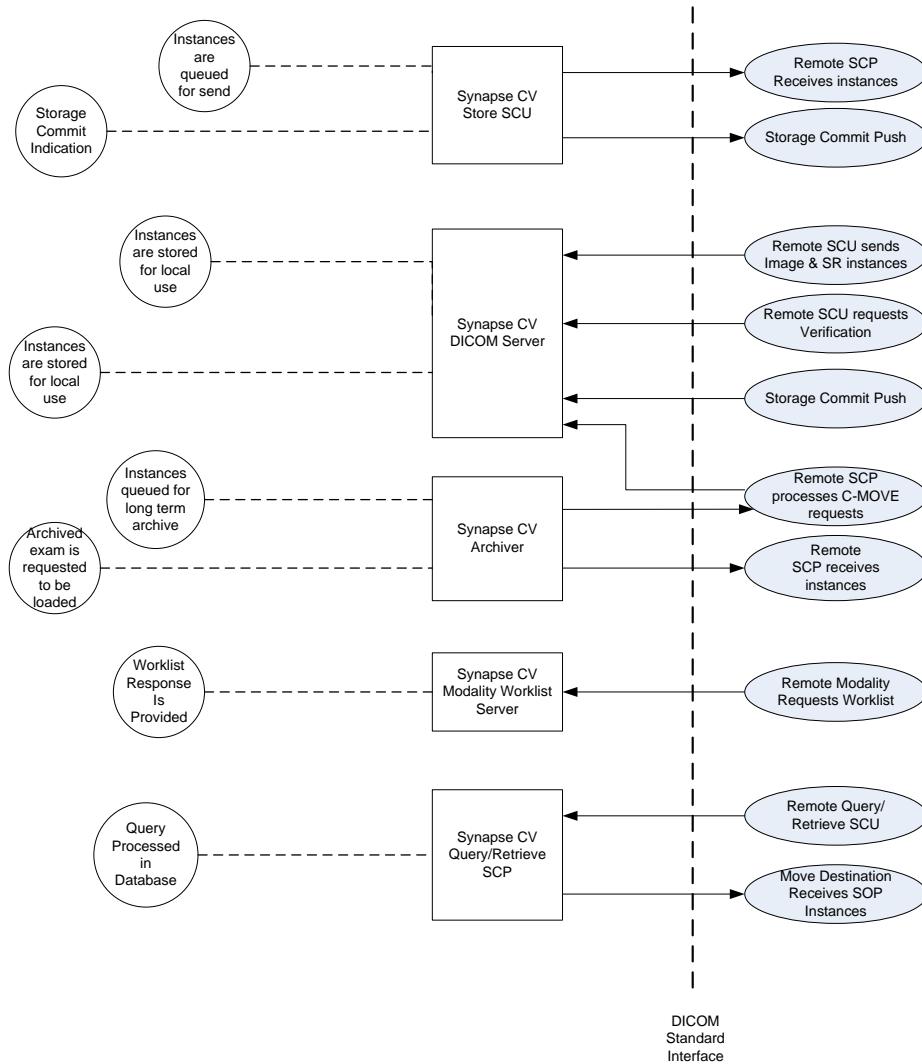
#### **3.2 Remarks**

### **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 |
|--------------------------|-----------------------|

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Implementation Version Name

PSSCU 4.8.010

**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 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<br>Explicit VR Little Endian<br>Explicit VR Big Endian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical, First Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCU  | None                 |
| MR Image Storage           | 1.2.840.10008.5.1.4.1 .1.4 | Implicit VR Little Endian<br>Explicit VR Little Endian<br>Explicit VR Big Endian<br>JPEG Baseline   | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50  | SCU  | None                 |

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| Presentation Context Table |                              |   |  |      |                      |
|----------------------------|------------------------------|---|--|------|----------------------|
| Abstract Syntax            |                              | Transfer Syntax   |  | Role | Extended Negotiation |
| Name                       | UID                          | Name List   | UID List   |      |                      |
|                            |                              | JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical, First Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless  | 1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5  |      |                      |
| NM Image Storage           | 1.2.840.10008.5.1.4.1 .1.20  | Implicit VR Little Endian<br>Explicit VR Little Endian<br>Explicit VR Big Endian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical, First Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>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<br>Explicit VR Little Endian<br>Explicit VR Big Endian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical, First Order Prediction<br>JPEG 2000 Image Compression                 | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>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   |      |                      |
|  |                              | RLE Lossless  |  |      |                      |
| US Multi Image Storage                                 | 1.2.840.10008.5.1.4.1 .1.3.1 | Implicit VR Little Endian<br>Explicit VR Little Endian<br>Explicit VR Big Endian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical, First Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCU  | None                 |
| SC Image Storage                                       | 1.2.840.10008.5.1.4.1 .1.7   | Implicit VR Little Endian<br>Explicit VR Little Endian<br>Explicit VR Big Endian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical, First Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCU  | None                 |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1 .1.7.4 | Implicit VR Little Endian<br>Explicit VR Little Endian<br>Explicit VR Big Endian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-   | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51  | SCU  | None                 |

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| Presentation Context Table            |                               |  |  |      |                      |
|---------------------------------------|-------------------------------|--|--|------|----------------------|
| Abstract Syntax                       |                               | Transfer Syntax  |  | Role | Extended Negotiation |
| Name                                  | UID                           | Name List  | UID List   |      |                      |
|                                       |                               | Hierarchical<br>JPEG Lossless, Non-Hierarchical, First Order- Prediction<br>JPEG 2000 Image - Compression<br>RLE Lossless  | 1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>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 LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical, First Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>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 LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical, First Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>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   |      |                      |
| X-Ray Angiographic Bi-Plane Image Storage | 1.2.840.10008.5.1.4.1 .1.12.3  | Implicit VR Little Endian<br>Explicit VR Little Endian<br>Explicit VR Big Endian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical, First Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCU  | None                 |
| 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<br>Explicit VR Little Endian<br>Explicit VR Big Endian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical, First Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>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          |      |                      |
| Storage Commitment – Push Model | 1.2.840.10008.1.20.1 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCU  | None                 |

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 |

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| SOP Class Name   | SOP Class UID                  | SCU | SCP |
|--|--------------------------------|-----|-----|
| VL Microscopic Image Storage                               | 1.2.840.10008.5.1.4.1.1.77.1.2 | No  | Yes |
| VL Slide-Coordinates Microscopic Image Storage             | 1.2.840.10008.5.1.4.1.1.77.1.3 | No  | Yes |
| 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 |
|--------------------------|-----------------------|

##### 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 LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian  | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2   | SCP  | None                 |
| Computed Radiography Image Storage | 1.2.840.10008.5.1.4.1.1.1 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70 | SCP  | None                 |

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| Presentation Context Table |                               |  |  |      |                      |
|----------------------------|-------------------------------|--|--|------|----------------------|
| Abstract Syntax            |                               | Transfer Syntax  |  | Role | Extended Negotiation |
| Name                       | UID                           | Name   | UID  |      |                      |
|                            |                               |  | 1.2.840.10008.1.2.4.9<br>1<br>1.2.840.10008.1.2.5  |      |                      |
| CT Image Storage           | 1.2.840.10008.5.<br>1.4.1.1.2 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.5<br>0<br>1.2.840.10008.1.2.4.5<br>1<br>1.2.840.10008.1.2.4.5<br>7<br>1.2.840.10008.1.2.4.7<br>0<br>1.2.840.10008.1.2.4.9<br>1<br>1.2.840.10008.1.2.5 | SCP  | None                 |
| MR Image Storage           | 1.2.840.10008.5.<br>1.4.1.1.4 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.5<br>0<br>1.2.840.10008.1.2.4.5<br>1<br>1.2.840.10008.1.2.4.5<br>7<br>1.2.840.10008.1.2.4.7<br>0<br>1.2.840.10008.1.2.4.9                             | SCP  | None                 |

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| Presentation Context Table     |                             |  |  |      |                      |
|--------------------------------|-----------------------------|--|--|------|----------------------|
| Abstract Syntax                |                             | Transfer Syntax  |  | Role | Extended Negotiation |
| Name                           | UID                         | Name   | UID  |      |                      |
|                                |                             |  | 1<br>1.2.840.10008.1.2.5   |      |                      |
| Nuclear Medicine Image Storage | 1.2.840.10008.5.1.4.1.1.20  | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |
| US Image Storage               | 1.2.840.10008.5.1.4.1.1.6.1 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.9                         | SCP  | None                 |

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| Presentation Context Table |                                 |  |  |      |                      |
|----------------------------|---------------------------------|--|--|------|----------------------|
| Abstract Syntax            |                                 | Transfer Syntax  |  | Role | Extended Negotiation |
| Name                       | UID                             | Name   | UID  |      |                      |
|                            |                                 |  | 1<br>1.2.840.10008.1.2.5   |      |                      |
| US Multi Image Storage     | 1.2.840.10008.5.<br>1.4.1.1.3.1 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.5<br>0<br>1.2.840.10008.1.2.4.5<br>1<br>1.2.840.10008.1.2.4.5<br>7<br>1.2.840.10008.1.2.4.7<br>0<br>1.2.840.10008.1.2.4.9<br>1<br>1.2.840.10008.1.2.5 | SCP  | None                 |
| US Image Storage (retired) | 1.2.840.10008.5.<br>1.4.1.1.6   | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.5<br>0<br>1.2.840.10008.1.2.4.5<br>1<br>1.2.840.10008.1.2.4.5<br>7<br>1.2.840.10008.1.2.4.7<br>0<br>1.2.840.10008.1.2.4.9                             | SCP  | None                 |

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Presentation Context Table

| Abstract Syntax                  |                           | Transfer Syntax  |  | Role | Extended Negotiation |
|----------------------------------|---------------------------|--|--|------|----------------------|
| Name                             | UID                       | Name   | UID  |      |                      |
|                                  |                           |  | 1<br>1.2.840.10008.1.2.5   |      |                      |
| US Multi Image Storage (retired) | 1.2.840.10008.5.1.4.1.1.3 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |
| SC Image Storage                 | 1.2.840.10008.5.1.4.1.1.7 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.9                         | SCP  | None                 |

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| Presentation Context Table                             |                              |   |  |      |                      |
|--|------------------------------|---|--|------|----------------------|
| Abstract Syntax  |                              | Transfer Syntax   |  | Role | Extended Negotiation |
| Name   | UID                          | Name  | UID  |      |                      |
|  |                              |   | 1<br>1.2.840.10008.1.2.5   |      |                      |
| Multi-frame True Color Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7.4  | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical, First Order- Prediction<br>JPEG 2000 Image - Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |
| X-Ray Angiographic Image Storage                       | 1.2.840.10008.5.1.4.1.1.12.1 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |

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| Presentation Context Table                |                              |   |  |      |                      |
|---|------------------------------|---|--|------|----------------------|
| Abstract Syntax                           |                              | Transfer Syntax   |  | Role | Extended Negotiation |
| Name                                      | UID                          | Name  | UID  |      |                      |
| X-Ray Radiofluoscopic Image Storage       | 1.2.840.10008.5.1.4.1.1.12.2 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |
| X-Ray Angiographic Bi-Plane Image Storage | 1.2.840.10008.5.1.4.1.1.12.3 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |

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| Presentation Context Table  |                                |  |  |      |                      |
|-----------------------------|--------------------------------|--|--|------|----------------------|
| Abstract Syntax             |                                | Transfer Syntax  |  | Role | Extended Negotiation |
| Name                        | UID                            | Name   | UID  |      |                      |
| Encapsulated PDF Storage    | 1.2.840.10008.5.1.4.1.1.104.1  | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |
| VL Endoscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.1 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |

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| Presentation Context Table                     |                                |   |  |      |                      |
|--|--------------------------------|---|--|------|----------------------|
| Abstract Syntax                                |                                | Transfer Syntax   |  | Role | Extended Negotiation |
| Name   | UID                            | Name  | UID  |      |                      |
| VL Microscopic Image Storage                   | 1.2.840.10008.5.1.4.1.1.77.1.2 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |
| VL Slide-Coordinates Microscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.3 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |

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| Presentation Context Table                 |                                |   |  |      |                      |
|--|--------------------------------|---|--|------|----------------------|
| Abstract Syntax                            |                                | Transfer Syntax   |  | Role | Extended Negotiation |
| Name                                       | UID                            | Name  | UID  |      |                      |
| VL Photographic Image Storage              | 1.2.840.10008.5.1.4.1.1.77.1.4 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |
| Positron Emission Tomography Image Storage | 1.2.840.10008.5.1.4.1.1.128    | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |

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| Presentation Context Table                                 |                             |   |  |      |                      |
|--|-----------------------------|---|--|------|----------------------|
| Abstract Syntax  |                             | Transfer Syntax   |  | Role | Extended Negotiation |
| Name   | UID                         | Name  | UID  |      |                      |
| Digital X-Ray Image Storage – For Presentation             | 1.2.840.10008.5.1.4.1.1.1.1 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |
| Digital Mammography X-Ray Image Storage – For Presentation | 1.2.840.10008.5.1.4.1.1.1.2 | Implicit VR LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image Compression<br>RLE Lossless | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.1<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>1.2.840.10008.1.2.5 | SCP  | None                 |

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| Presentation Context Table                                |                             |                                  |                        |      |                      |
|---|-----------------------------|----------------------------------|------------------------|------|----------------------|
| Abstract Syntax   |                             | Transfer Syntax                  |                        | Role | Extended Negotiation |
| Name  | UID                         | Name                             | UID                    |      |                      |
| Digital Intra-oral X-Ray Image Storage – For Presentation | 1.2.840.10008.5.1.4.1.1.1.3 | Implicit VR LittleEndian         | 1.2.840.10008.1.2      | SCP  | None                 |
|   |                             | Explicit VR LittleEndian         | 1.2.840.10008.1.2.1    |      |                      |
|   |                             | Explicit VR BigEndian            | 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  | 1.2.840.10008.1.2.4.51 |      |                      |
|   |                             | JPEG Lossless, Non-Hierarchical, | 1.2.840.10008.1.2.4.51 |      |                      |
|   |                             | First-Order Prediction           | 1.2.840.10008.1.2.4.51 |      |                      |
|   |                             | JPEG 2000 Image                  | 1.2.840.10008.1.2.4.70 |      |                      |
|   |                             | Compression                      | 1.2.840.10008.1.2.4.70 |      |                      |
| Philips 3D Ultrasound (private SOP Class)                 | 1.3.46.670589.2.5.1.1       | RLE Lossless                     | 1.2.840.10008.1.2.5    | SCP  | None                 |
|   |                             | Implicit VR LittleEndian         | 1.2.840.10008.1.2      |      |                      |
|   |                             | Explicit VR LittleEndian         | 1.2.840.10008.1.2.1    |      |                      |
|   |                             | Explicit VR BigEndian            | 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  | 1.2.840.10008.1.2.4.51 |      |                      |
|   |                             | JPEG Lossless, Non-Hierarchical, | 1.2.840.10008.1.2.4.51 |      |                      |
|   |                             | First-Order Prediction           | 1.2.840.10008.1.2.4.51 |      |                      |
|   |                             | JPEG 2000 Image                  | 1.2.840.10008.1.2.4.70 |      |                      |
|   |                             | Compression                      | 1.2.840.10008.1.2.4.70 |      |                      |
|   |                             | RLE Lossless                     | 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               |      |                      |
| Basic Text SR Storage      | 1.2.840.10008.5.1.4.1.1.88.11 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCP  | None                 |
| Enhanced SR Storage        | 1.2.840.10008.5.1.4.1.1.88.22 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCP  | None                 |
| Comprehensive SR Storage   | 1.2.840.10008.5.1.4.1.1.88.33 | Implicit VR LittleEndian | 1.2.840.10008.1.2 | SCP  | None                 |

#### 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 LittleEndian | 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  |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 30 of 83

|  |                                |     |    |
|--|--------------------------------|-----|----|
| 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 |
| 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 LittleEndian<br>Implicit VR LittleEndian<br>Explicit VR BigEndian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non- | 1.2.840.10008.1.2 .1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2 .2<br>1.2.840.10008.1.2 .5<br>1.2.840.10008.1.2 .4.50<br>1.2.840.10008.1.2 | SCU  | None                 |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 32 of 83

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

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 33 of 83

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

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 34 of 83

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

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 35 of 83

|   |                               |  |  |     |      |
|---|-------------------------------|--|--|-----|------|
|   |                               | (Lossless Only)  | .4.91<br>1.2.840.10008.1.2<br>.4.90  |     |      |
| US Multi<br>Image<br>Storage<br>(retired) | 1.2.840.10008.5<br>.1.4.1.1.3 | Explicit VR Little<br>Endian<br><br>Implicit VR Little<br>Endian<br><br>Explicit VR BigEndian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-<br>Hierarchical<br><br>JPEG Lossless, Non-<br>Hierarchical,<br><br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only) | 1.2.840.10008.1.2<br>.1<br><br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br><br>1.2.840.10008.1.2<br>.5<br><br>1.2.840.10008.1.2<br>.4.50<br><br>1.2.840.10008.1.2<br>.4.51<br><br>1.2.840.10008.1.2<br>.4.57<br><br>1.2.840.10008.1.2<br>.4.70<br><br>1.2.840.10008.1.2<br>.4.91<br><br>1.2.840.10008.1.2<br>.4.90 | SCU | None |
| SC Image<br>Storage                       | 1.2.840.10008.5<br>.1.4.1.1.7 | Explicit VR Little<br>Endian<br><br>Implicit VR Little<br>Endian<br><br>Explicit VR BigEndian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-<br>Hierarchical<br><br>JPEG Lossless, Non-<br>Hierarchical,<br><br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only) | 1.2.840.10008.1.2<br>.1<br><br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br><br>1.2.840.10008.1.2<br>.5<br><br>1.2.840.10008.1.2<br>.4.50<br><br>1.2.840.10008.1.2<br>.4.51<br><br>1.2.840.10008.1.2<br>.4.57<br><br>1.2.840.10008.1.2<br>.4.70<br><br>1.2.840.10008.1.2<br>.4.91<br><br>1.2.840.10008.1.2          | SCU | None |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 36 of 83

|   |                                  |  |  |     |      |
|---|----------------------------------|--|--|-----|------|
|   |                                  |  | .4.90  |     |      |
| Multi-frame<br>True Color<br>Secondary<br>Capture<br>Image<br>Storage | 1.2.840.10008.5<br>.1.4.1.1.7.4  | Implicit VR Little<br>Endian<br><br>Explicit VR Little<br>Endian<br><br>Explicit VR BigEndian<br><br>JPEG Baseline<br><br>JPEG Extended<br><br>JPEG Lossless, Non-<br>Hierarchical<br><br>JPEG Lossless, Non-<br>Hierarchical, First<br>Order- Prediction<br><br>JPEG 2000 Image -<br>Compression<br><br>RLE Lossless                            | 1.2.840.10008.1.2<br><br>1.2.840.10008.1.2<br>.1<br><br>1.2.840.10008.1.2<br>.2<br><br>1.2.840.10008.1.2<br>.4.50<br><br>1.2.840.10008.1.2<br>.4.51<br><br>1.2.840.10008.1.2<br>.4.57<br><br>1.2.840.10008.1.2<br>.4.70<br><br>1.2.840.10008.1.2<br>.4.91<br><br>1.2.840.10008.1.2<br>.5   | SCU | None |
| X-Ray<br>Angiographic<br>Image<br>Storage                             | 1.2.840.10008.5<br>.1.4.1.1.12.1 | Explicit VR Little<br>Endian<br><br>Implicit VR Little<br>Endian<br><br>Explicit VR BigEndian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-<br>Hierarchical<br>JPEG Lossless, Non-<br>Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only) | 1.2.840.10008.1.2<br>.1<br><br>1.2.840.10008.1.2<br><br>1.2.840.10008.1.2<br>.2<br><br>1.2.840.10008.1.2<br>.5<br><br>1.2.840.10008.1.2<br>.4.50<br><br>1.2.840.10008.1.2<br>.4.51<br><br>1.2.840.10008.1.2<br>.4.57<br><br>1.2.840.10008.1.2<br>.4.57<br><br>1.2.840.10008.1.2<br>.4.70<br><br>1.2.840.10008.1.2<br>.4.91<br><br>1.2.840.10008.1.2<br>.4.90 | SCU | None |
| X-Ray<br>Radiofluorosc  | 1.2.840.10008.5<br>.1.4.1.1.12.2 | Explicit VR Little<br>Endian   | 1.2.840.10008.1.2<br>.1  | SCU | None |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 37 of 83

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

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 38 of 83

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

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 39 of 83

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

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 40 of 83

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

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 41 of 83

|  |                                 |   |  |     |      |
|--|---------------------------------|---|--|-----|------|
|  |                                 | JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only)  | .4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.4.90  |     |      |
| Digital Mammography X-Ray Image Storage – For Presentation | 1.2.840.10008.5<br>.1.4.1.1.1.2 | Explicit VR Little<br>Endian<br><br>Implicit VR Little<br>Endian<br><br>Explicit VR Big Endian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only) | 1.2.840.10008.1.2<br>.1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2<br>.4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.4.90 | SCU | None |
| Digital Intra-oral X-Ray Image Storage – For Presentation  | 1.2.840.10008.5<br>.1.4.1.1.1.3 | Explicit VR Little<br>Endian<br><br>Implicit VR Little<br>Endian<br><br>Explicit VR Big Endian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only) | 1.2.840.10008.1.2<br>.1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2<br>.4.51<br>1.2.840.10008.1.2  | SCU | None |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 42 of 83

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

### 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                   | <p>The SCP has successfully stored the SOP Instance.</p> <p>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.</p> |
| *              | *               | 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 LittleEndian   | 1.2.840.10008.1.2  | SCU  | None                 |
| Computed Radiography Image Storage | 1.2.840.10008.5.1.4.1.1.1 | Explicit VR LittleEndian<br>Implicit VR LittleEndian<br>Explicit VR BigEndian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical | 1.2.840.10008.1.2.1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.5<br>1.2.840.10008.1.2.4.50 | SCU  | None                 |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 44 of 83

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

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| Presentation Context Table     |                             |   |  |      |                      |
|--------------------------------|-----------------------------|---|--|------|----------------------|
| Abstract Syntax                |                             | Transfer Syntax   |  | Role | Extended Negotiation |
| Name                           | UID                         | Name List   | UID List   |      |                      |
|                                |                             | JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image Compression<br>JPEG 2000 Image Compression, (Lossless Only)  | 1.2.840.10008.1.2<br>.450<br>1.2.840.10008.1.2<br>.451<br>1.2.840.10008.1.2<br>.457<br>1.2.840.10008.1.2<br>.470<br>1.2.840.10008.1.2<br>.491<br>1.2.840.10008.1.2<br>.490   |      |                      |
| Nuclear Medicine Image Storage | 1.2.840.10008.5.1.4.1.1.20  | Explicit VR LittleEndian<br>Implicit VR LittleEndian<br>Explicit VR BigEndian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image Compression<br>JPEG 2000 Image Compression, (Lossless Only) | 1.2.840.10008.1.2<br>.1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.450<br>1.2.840.10008.1.2<br>.451<br>1.2.840.10008.1.2<br>.457<br>1.2.840.10008.1.2<br>.470<br>1.2.840.10008.1.2<br>.491<br>1.2.840.10008.1.2<br>.490 | SCU  | None                 |
| US Image Storage               | 1.2.840.10008.5.1.4.1.1.6.1 | Explicit VR LittleEndian<br>Implicit VR LittleEndian<br>Explicit VR BigEndian   | 1.2.840.10008.1.2<br>.1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2  | SCU  | None                 |

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**Synapse Cardiovascular DICOM  
Conformance Statement**

**DOC-0036762-A**

Page 46 of 83

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

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 47 of 83

| Presentation Context Table       |                           |   |  |      |                      |
|----------------------------------|---------------------------|---|--|------|----------------------|
| Abstract Syntax                  |                           | Transfer Syntax   |  | Role | Extended Negotiation |
| Name                             | UID                       | Name List   | UID List   |      |                      |
|                                  |                           | Endian<br>Explicit VR Big Endian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only)   | 1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2<br>.4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.4.90   |      |                      |
| US Multi Image Storage (retired) | 1.2.840.10008.5.1.4.1.1.3 | Explicit VR Little<br>Endian<br>Implicit VR Little<br>Endian<br>Explicit VR Big Endian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only) | 1.2.840.10008.1.2<br>.1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2<br>.4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.4.90 | SCU  | None                 |
| SC Image                         | 1.2.840.10008.            | Explicit VR Little  | 1.2.840.10008.1.2<br>.1  | SCU  | None                 |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 48 of 83

| Presentation Context Table  |                                 |   |   |      |                      |
|---|---------------------------------|---|---|------|----------------------|
| Abstract Syntax   |                                 | Transfer Syntax   |   | Role | Extended Negotiation |
| Name  | UID                             | Name List   | UID List  |      |                      |
| Storage   | 5.1.4.1.1.7                     | Endian<br>Implicit VR Little<br>Endian<br>Explicit VR Big Endian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only) | 1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2<br>.4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.4.90 |      |                      |
| Multi-frame<br>True Color<br>Secondary<br>Capture<br>Image<br>Storage | 1.2.840.10008.<br>5.1.4.1.1.7.4 | Implicit VR Little<br>Endian<br>Explicit VR Little<br>Endian<br>Explicit VR Big Endian<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical, First<br>Order- Prediction<br>JPEG 2000 Image -<br>Compression<br>RLE Lossless                              | 1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.1<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2<br>.4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.5    | SCU  | None                 |
| X-Ray   | 1.2.840.10008.                  | Explicit VR Little  | 1.2.840.10008.1.2<br>.1   | SCU  | None                 |

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| Presentation Context Table          |                                  |   |  |      |                      |
|-------------------------------------|----------------------------------|---|--|------|----------------------|
| Abstract Syntax                     |                                  | Transfer Syntax   |  | Role | Extended Negotiation |
| Name                                | UID                              | Name List   | UID List   |      |                      |
| Angiographic Image Storage          | 5.1.4.1.1.12.1                   | Endian<br>Implicit VR Little<br>Endian<br>Explicit VR Big Endian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only)                       | 1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2<br>.4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.4.90                            |      |                      |
| X-Ray Radiofluoscopic Image Storage | 1.2.840.10008.<br>5.1.4.1.1.12.2 | Explicit VR Little<br>Endian<br>Implicit VR Little<br>Endian<br>Explicit VR Big Endian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-Hierarchical<br>JPEG Lossless, Non-Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only) | 1.2.840.10008.1.2<br>.1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2<br>.4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.4.90 | SCU  | None                 |

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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 LittleEndian<br>Implicit VR LittleEndian<br>Explicit VR BigEndian 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<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.5<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>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 LittleEndian<br>Implicit VR LittleEndian<br>Explicit VR BigEndian 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<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.5<br>1.2.840.10008.1.2.4.50<br>1.2.840.10008.1.2.4.51<br>1.2.840.10008.1.2.4.57<br>1.2.840.10008.1.2.4.70<br>1.2.840.10008.1.2.4.91<br>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   |      |                      |
|                                       |  |  | .4.90  |      |                      |
| VL<br>Endoscopic<br>Image<br>Storage  | 1.2.840.10008.<br>5.1.4.1.1.77.1.<br>1 | Explicit VR Little<br>Endian<br><br>Implicit VR Little<br>Endian<br><br>Explicit VR BigEndian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-<br>Hierarchical<br>JPEG Lossless, Non-<br>Hierarchical,<br><br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only) | 1.2.840.10008.1.2<br>.1<br><br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br><br>1.2.840.10008.1.2<br>.450<br><br>1.2.840.10008.1.2<br>.451<br><br>1.2.840.10008.1.2<br>.457<br><br>1.2.840.10008.1.2<br>.470<br><br>1.2.840.10008.1.2<br>.491<br><br>1.2.840.10008.1.2<br>.490 | SCU  | None                 |
| VL<br>Microscopic<br>Image<br>Storage | 1.2.840.10008.<br>5.1.4.1.1.77.1.<br>2 | Explicit VR Little<br>Endian<br><br>Implicit VR Little<br>Endian<br><br>Explicit VR BigEndian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-<br>Hierarchical<br>JPEG Lossless, Non-<br>Hierarchical,<br><br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only) | 1.2.840.10008.1.2<br>.1<br><br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br><br>1.2.840.10008.1.2<br>.450<br><br>1.2.840.10008.1.2<br>.451<br><br>1.2.840.10008.1.2<br>.457<br><br>1.2.840.10008.1.2<br>.470<br><br>1.2.840.10008.1.2  | SCU  | None                 |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 52 of 83

| Presentation Context Table                     |                                |   |  |      |                      |
|--|--------------------------------|---|--|------|----------------------|
| Abstract Syntax                                |                                | Transfer Syntax   |  | Role | Extended Negotiation |
| Name   | UID                            | Name List   | UID List   |      |                      |
|  |                                |   | .4.91<br>1.2.840.10008.1.2<br>.4.90  |      |                      |
| VL Slide-Coordinates Microscopic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.3 | Explicit VR LittleEndian<br>Implicit VR LittleEndian<br>Explicit VR BigEndian 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<br>.1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2<br>.4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.4.90 | SCU  | None                 |
| VL Photographic Image Storage                  | 1.2.840.10008.5.1.4.1.1.77.1.4 | Explicit VR LittleEndian<br>Implicit VR LittleEndian<br>Explicit VR BigEndian 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<br>.1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2<br>.4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2  | SCU  | None                 |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 53 of 83

| Presentation Context Table                     |                             |   |  |      |                      |
|--|-----------------------------|---|--|------|----------------------|
| Abstract Syntax                                |                             | Transfer Syntax   |  | Role | Extended Negotiation |
| Name   | UID                         | Name List   | UID List   |      |                      |
|  |                             | Compression,<br>(Lossless Only)   | .4.70<br>1.2.840.10008.1.2<br>.4.91<br><br>1.2.840.10008.1.2<br>.4.90  |      |                      |
| Positron Emission Tomography Image Storage     | 1.2.840.10008.5.1.4.1.1.128 | Explicit VR Little<br>Endian<br><br>Implicit VR Little<br>Endian<br><br>Explicit VR Big Endian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-<br>Hierarchical<br>JPEG Lossless, Non-<br>Hierarchical,<br><br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only) | 1.2.840.10008.1.2<br>.1<br><br>1.2.840.10008.1.2<br><br>1.2.840.10008.1.2<br>.2<br><br>1.2.840.10008.1.2<br>.5<br><br>1.2.840.10008.1.2<br>.4.50<br><br>1.2.840.10008.1.2<br>.4.51<br><br>1.2.840.10008.1.2<br>.4.57<br><br>1.2.840.10008.1.2<br>.4.70<br><br>1.2.840.10008.1.2<br>.4.91<br><br>1.2.840.10008.1.2<br>.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<br>Endian<br><br>Implicit VR Little<br>Endian<br><br>Explicit VR Big Endian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-<br>Hierarchical<br>JPEG Lossless, Non-<br>Hierarchical,<br><br>First-Order Prediction   | 1.2.840.10008.1.2<br>.1<br><br>1.2.840.10008.1.2<br><br>1.2.840.10008.1.2<br>.2<br><br>1.2.840.10008.1.2<br>.5<br><br>1.2.840.10008.1.2<br>.4.50<br><br>1.2.840.10008.1.2<br>.4.51<br><br>1.2.840.10008.1.2  | SCU  | None                 |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 54 of 83

| Presentation Context Table                                 |                             |   |  |      |                      |
|--|-----------------------------|---|--|------|----------------------|
| Abstract Syntax  |                             | Transfer Syntax   |  | Role | Extended Negotiation |
| Name   | UID                         | Name List   | UID List   |      |                      |
|  |                             | JPEG 2000 Image Compression<br>JPEG 2000 Image Compression,<br>(Lossless Only)  | .4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.4.90  |      |                      |
| Digital Mammography X-Ray Image Storage – For Presentation | 1.2.840.10008.5.1.4.1.1.1.2 | Explicit VR LittleEndian<br>Implicit VR LittleEndian<br>Explicit VR BigEndian 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<br>.1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2<br>.4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.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 LittleEndian<br>Implicit VR LittleEndian<br>Explicit VR BigEndian RLE Lossless JPEG Baseline JPEG Extended JPEG Lossless, Non-Hierarchical JPEG Lossless, Non-  | 1.2.840.10008.1.2<br>.1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2  | SCU  | None                 |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 55 of 83

| Presentation Context Table                |                               |   |  |      |                      |
|---|-------------------------------|---|--|------|----------------------|
| Abstract Syntax                           |                               | Transfer Syntax   |  | Role | Extended Negotiation |
| Name                                      | UID                           | Name List   | UID List   |      |                      |
|   |                               | Hierarchical,<br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only)   | .4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.4.90  |      |                      |
| Philips 3D Ultrasound (private SOP Class) | 1.3.46.670589.2.5.1.1         | Explicit VR Little<br>Endian<br><br>Implicit VR Little<br>Endian<br><br>Explicit VR Big Endian<br>RLE Lossless<br>JPEG Baseline<br>JPEG Extended<br>JPEG Lossless, Non-<br>Hierarchical<br>JPEG Lossless, Non-<br>Hierarchical,<br><br>First-Order Prediction<br>JPEG 2000 Image<br>Compression<br>JPEG 2000 Image<br>Compression,<br>(Lossless Only) | 1.2.840.10008.1.2<br>.1<br>1.2.840.10008.1.2<br>1.2.840.10008.1.2<br>.2<br>1.2.840.10008.1.2<br>.5<br>1.2.840.10008.1.2<br>.4.50<br>1.2.840.10008.1.2<br>.4.51<br>1.2.840.10008.1.2<br>.4.57<br>1.2.840.10008.1.2<br>.4.70<br>1.2.840.10008.1.2<br>.4.91<br>1.2.840.10008.1.2<br>.4.90 | SCU  | None                 |
| Basic Text SR Storage                     | 1.2.840.10008.5.1.4.1.1.88.11 | Explicit VR Little<br>Endian  | 1.2.840.10008.1.2<br>.1  | SCU  | None                 |
| Enhanced SR Storage                       | 1.2.840.10008.5.1.4.1.1.88.22 | Explicit VR Little<br>Endian  | 1.2.840.10008.1.2<br>.1  | SCU  | None                 |
| Comprehensive SR                          | 1.2.840.10008.5.1.4.1.1.88.33 | Explicit VR Little<br>Endian  | 1.2.840.10008.1.2<br>.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 LittleEndian | 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 LittleEndian | 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<br>Endian<br><br>Explicit VR Little<br>Endian<br><br>Explicit VR BigEndian | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.2<br>1.2.840.10008.1.2.1 | SCP  | None                 |

**4.2.4.4.1.3 SOP Specific Conformance for Verification SOP Class**

N/A

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**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<br>Explicit VR Little Endian<br>Explicit VR Big Endian | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.2<br>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 |
|--------------------------------------|-------------|--------|
| <b>Scheduled Procedure Step</b>      |             |        |
| >Scheduled Station AE Title          | (0040,0001) |        |
| >Scheduled Procedure Step Start Date | (0040,0002) |        |
| >Scheduled Procedure Step Start Time | (0040,0003) |        |
| <b>Patient</b>                       |             |        |
| 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   |
|--|-------------|--|
| <b>Scheduled Procedure Step</b>        |             |  |
| >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) |  |
| <b>Requested Procedure</b>             |             |  |
| Requested Procedure ID                 | (0040,1001) |  |
| Requested Procedure Description        | (0032,1060) |  |
| Reason for the Requested Procedure     | (0040,1002) |  |
| <b>Patient</b>                         |             |  |
| Patient's Name                         | (0010,0010) |  |
| Patient ID                             | (0010,0020) |  |
| Patient's Birth Date                   | (0010,0030) |  |
| Patient's Sex                          | (0010,0040) |  |
| <b>Patient Medical</b>                 |             |  |
| Additional Patient History             | (0010,21B0) |  |
| <b>Patient Demographic</b>             |             |  |
| <b>Patient Study</b>                   |             |  |
| Patient's Age                          | (0010,1010) |  |
| <b>Visit Admission</b>                 |             |  |
| <b>Imaging Service Request</b>         |             |  |
| <b>General Study</b>                   |             |  |
| Referring Physician's Name             | (0008,0090) |  |
| <b>Study</b>                           |             |  |
| 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 |
|--------------------------|-----------------------|

##### 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 LittleEndian   | 1.2.840.10008.1.2.1    | SCU  | None      |
| Verification               | 1.2.840.10008.1.1 | Implicit VR LittleEndian   | 1.2.840.10008.1.2      | SCU  | None      |
| Verification               | 1.2.840.10008.1.1 | Explicit VR BigEndian  | 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  |                        | Role | 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 LittleEndian   | 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 LittleEndian   | 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 BigEndian  | 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 LittleEndian   | 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 LittleEndian   | 1.2.840.10008.1.2      | SC U | None |
| CT Image Storage                   | 1.2.840.10008.5.1.4.1.1.2 | Explicit VR BigEndian  | 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 |

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| Presentation Context Table |                           |  |                        |      |      |
|----------------------------|---------------------------|--|------------------------|------|------|
| Abstract Syntax            |                           | Transfer Syntax  |                        | Role | Ext. |
| CT Image Storage           | 1.2.840.10008.5.1.4.1.1.2 | JPEG Baseline  | 1.2.840.10008.1.2.4.50 | SC U | None |
| 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 LittleEndian   | 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 LittleEndian   | 1.2.840.10008.1.2      | SC U | None |
| MR Image Storage           | 1.2.840.10008.5.1.4.1.1.4 | Explicit VR BigEndian  | 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    | 1.2.840.10008.5.1.4.1.1.7 | Explicit VR LittleEndian   | 1.2.840.10008.1.2.1    | SC U | None |

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| Presentation Context Table           |                             |  |                        |      |      |
|--------------------------------------|-----------------------------|--|------------------------|------|------|
| Abstract Syntax                      |                             | Transfer Syntax  |                        | Rol  | Ext. |
| Storage                              |                             |  |                        |      |      |
| Secondary Capture Image Storage      | 1.2.840.10008.5.1.4.1.1.7   | Implicit VR LittleEndian   | 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 BigEndian  | 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 LittleEndian   | 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 LittleEndian   | 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 BigEndian  | 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-                    | 1.2.840.10008.5.1.4.1.1.    | JPEG Baseline  | 1.2.840.10008.1.2.4.   | SC   | None |

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| Presentation Context Table           |                             |  |                        |      |      |
|--------------------------------------|-----------------------------|--|------------------------|------|------|
| Abstract Syntax                      |                             | Transfer Syntax  |                        | Role | Ext. |
| frame Image Storage                  | 3.1                         |  | 50                     | U    |      |
| 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 LittleEndian   | 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 LittleEndian   | 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 BigEndian  | 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-                    | 1.2.840.10008.5.1.4.1.1.    | Explicit VR Little   | 1.2.840.10008.1.2.1    | SC   | None |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 67 of 83

| Presentation Context Table                     |                           |  |                        |      |      |
|--|---------------------------|--|------------------------|------|------|
| Abstract Syntax                                |                           | Transfer Syntax  |                        | Role | Ext. |
| frame Image Storage (Retired)                  | 3                         | Endian   |                        | U    |      |
| Ultrasound Multi-frame Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.3 | Implicit VR LittleEndian   | 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 BigEndian  | 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 LittleEndian   | 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 LittleEndian   | 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 BigEndian  | 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  |                        | Role | 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 LittleEndian   | 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 LittleEndian   | 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 BigEndian  | 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  |                            | Rol  | 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.<br>12.3 | JPEG 2000 Image Compression  | 1.2.840.10008.1.2.4.<br>91 | SC U | None |
| X-Ray Angiographic Image Storage                    | 1.2.840.10008.5.1.4.1.1.<br>12.1 | Explicit VR LittleEndian   | 1.2.840.10008.1.2.1        | SC U | None |
| X-Ray Angiographic Image Storage                    | 1.2.840.10008.5.1.4.1.1.<br>12.1 | Implicit VR LittleEndian   | 1.2.840.10008.1.2          | SC U | None |
| X-Ray Angiographic Image Storage                    | 1.2.840.10008.5.1.4.1.1.<br>12.1 | Explicit VR BigEndian  | 1.2.840.10008.1.2.2        | SC U | None |
| X-Ray Angiographic Image Storage                    | 1.2.840.10008.5.1.4.1.1.<br>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.<br>12.1 | JPEG Baseline  | 1.2.840.10008.1.2.4.<br>50 | SC U | None |
| X-Ray Angiographic Image Storage                    | 1.2.840.10008.5.1.4.1.1.<br>12.1 | JPEG Extended (Process 2 & 4)  | 1.2.840.10008.1.2.4.<br>51 | SC U | None |
| X-Ray Angiographic Image Storage                    | 1.2.840.10008.5.1.4.1.1.<br>12.1 | JPEG Lossless, Non-Hierarchical (Process 14)   | 1.2.840.10008.1.2.4.<br>57 | SC U | None |
| X-Ray Angiographic Image Storage                    | 1.2.840.10008.5.1.4.1.1.<br>12.1 | JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1]) | 1.2.840.10008.1.2.4.<br>70 | SC U | None |
| X-Ray Angiographic Image Storage                    | 1.2.840.10008.5.1.4.1.1.<br>12.1 | JPEG 2000 Image Compression  | 1.2.840.10008.1.2.4.<br>91 | SC U | None |
| Nuclear Medicine Image Storage                      | 1.2.840.10008.5.1.4.1.1.<br>20   | Explicit VR LittleEndian   | 1.2.840.10008.1.2.1        | SC U | None |
| Nuclear Medicine Image Storage                      | 1.2.840.10008.5.1.4.1.1.<br>20   | Implicit VR LittleEndian   | 1.2.840.10008.1.2          | SC U | None |

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Presentation Context Table

| Abstract Syntax                          |                            | Transfer Syntax  |                        | Role | 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 |

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| Presentation Context Table               |                               |  |                        |      |      |
|--|-------------------------------|--|------------------------|------|------|
| Abstract Syntax                          |                               | Transfer Syntax  |                        | Role | Ext. |
| Nuclear Medicine Image Storage (Retired) | 1.2.840.10008.5.1.4.1.1.5     | 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 (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 LittleEndian   | 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 LittleEndian   | 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 BigEndian  | 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 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 |

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|   |   |                        |   |
|---|---|------------------------|---|
|   |   |                        | requested the storage activity.   |
| * | * | 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. |

#### 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<br>Endian<br><br>Explicit VR Little<br>Endian<br><br>Explicit VR Big Endian | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.2<br>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<br>Query/Retrieval Information Model – FIND | 1.2.840.10008.5.1.4.<br>1.2.1.1 | Implicit VR Little<br>Endian<br><br>Explicit VR Little<br>Endian<br><br>Explicit VR Big<br>Endian | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.<br>2<br>1.2.840.10008.1.2.<br>1 | SCP  | None                 |

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|  |                                 |   |   |     |      |
|--|---------------------------------|---|---|-----|------|
| Study Root Query/Retrieve Information Model – FIND                   | 1.2.840.10008.5.1.4.<br>1.2.2.1 | Implicit VR Little<br>Endian<br>Explicit VR Little<br>Endian<br>Explicit VR Big<br>Endian | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.<br>2<br>1.2.840.10008.1.2.<br>1 | SCP | None |
| Patient/Study Only Query/Retrieve Information Model - FIND (Retired) | 1.2.840.10008.5.1.4.<br>1.2.3.1 | Implicit VR Little<br>Endian<br>Explicit VR Little<br>Endian<br>Explicit VR Big<br>Endian | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.<br>2<br>1.2.840.10008.1.2.<br>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   |
|----------------------|-------------|--|
| <b>Patient Level</b> |             |  |
| Patient Name         | (0010,0010) |  |
| Patient ID           | (0010,0020) |  |
| <b>Study Level</b>   |             |  |
| 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 |

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## Synapse Cardiovascular DICOM Conformance Statement

DOC-0036762-A

Page 75 of 83

|                     |             |   |
|---------------------|-------------|---|
|                     |             | the C-FIND request.   |
| Accession Number    | (0008,0050) |   |
| <b>Series Level</b> |             |   |
| 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   |
| <b>Image Level</b>  |             |   |
| 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 |
|----------------------------|-------------|--------|
| <b>Patient Level</b>       |             |        |
| Patient's Birth Date       | (0010,0030) |        |
| Patient's Sex              | (0010,0040) |        |
| <b>Study Level</b>         |             |        |
| 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.



## 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 LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.2<br>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 LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.2<br>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 LittleEndian<br>Explicit VR LittleEndian<br>Explicit VR BigEndian | 1.2.840.10008.1.2<br>1.2.840.10008.1.2.2<br>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        | Matching is complete                  | 0000       | The query has completed without errors.  |
| Failure        | Refused: Out of Resources – Unable to | A701       | <i>This status indicates that AE encountered errors and processing cannot be completed.</i><br><i>This status might also occur when a C-MOVE request</i> |

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|           |   |      |  |
|-----------|---|------|--|
|           | <i>calculate number of matches</i>                                  |      | resulted in number of responses exceeding the configuration "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>  |
| Cancelled | <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>  |
| Pending   | <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   |
|--------------------|--|----------------------------|--|
| <b>Study Level</b> |  |                            |  |
| Patient Root       | Study Instance UID<br>Accession Number | (0020,000D)<br>(0008,0050) | Unique attributes for Patient Level will not be returned in the C-FIND SCP Response (Patient ID) |
| Study Root         | Study Instance UID<br>Accession Number | (0020,000D)<br>(0008,0050) | Patient Name will be returned in the C-FIND SCP Response even if                                 |

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|                            |                                      |                            |  |
|----------------------------|--------------------------------------|----------------------------|--|
|                            |                                      |                            | <i>it is not requested.<br/>Request will be processed even if the Patient Level required attributes are not requested in the query.</i>                                |
| <b><i>Series Level</i></b> |                                      |                            |  |
| Patient Root               | Series Instance UID<br>Series Number | (0020,000E)<br>(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<br>Series Number | (0020,000E)<br>(0020,0011) | <i>Unique attributes for Study Level will not be returned in the C-FIND SCP Response (Study Instance UID)</i>  |
| <b><i>Image Level</i></b>  |                                      |                            |  |
| 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.

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#### 4.3.2 Additional Protocols

N/A

#### 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

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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<br>(Yes/No) | Default Value   |
|--|--------------------------|---|
| <b>General Parameters</b>  |                          |   |
| 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  |
| <b>AE Specific Parameters</b>  |                          |   |
| Maximum PDU size the AE can receive  | Yes                      | DICOM Server:<br>163,840 bytes<br>All others:<br>163,84 bytes |

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| Parameter                        | Configurable<br>(Yes/No) | Default Value                            |
|----------------------------------|--------------------------|--|
| <b>General Parameters</b>        |                          |  |
| Maximum PDU size the AE can send | No                       | Max PDU Size<br>Negotiated by Peer<br>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 no 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