imageSPECTRUM

# DICOM

# CONFORMANCE STATEMENT

***RAPID REVIEW** with **OCT IMPORTER***

**For use with Version 4.1.3.4190**


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# 1. OVERVIEW

Rapid Review is a DICOM Storage SCP and SCU sub-component of the Client, in Canon's Client and Server Image Management system. This Storage SCP is an option to imageSPECTRUM Review and is enabled via the user interface. When enabled, the Client application is referred to as "imageSPECTRUM Rapid Review".

imageSPECTRUM Rapid Review implements necessary DICOM® compliant services to provide the following;

- Interface directly with DICOM Modalities (e.g., Eye Q Capture application, Retinal Imaging Control Software) and provide temporary storage for patient study data and images.

- Forward studies to a DICOM Storage SCP

**NOTE**: This DICOM Conformance Statement only discusses the Client's Storage SCP and SCU sub-component and its adherence to the DICOM standard. Functionality not associated to storage is discussed specifically in the imageSPECTRUM Review DICOM Conformance Statement.

® DICOM is the registered trademark of the National Electrical Manufacturers Association for its standards publications relating to digital communications of medical information.

## 1.1 Supported SOP Classes

**Table 1-1 Supported SOP Classes**

| SOP Classes | User of Service (SCU) | Provider of Service (SCP) |
|---|---|---|
| **Transfer** | | |
| Ophthalmic Photography 8 Bit Image Storage | Yes | Yes |
| Visible Light Photographic Image Storage | Yes | Yes |
| Secondary Capture | Yes | Yes |
| **Verification** | | |
| Verification | No | Yes |
| **Print Management** | | |
| Structured Reporting | No | No |

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# 5. INTRODUCTION

## 5.1 Audience

The imageSPECTRUM Rapid Review DICOM Conformance Statement is intended for:

- Software Designers implementing DICOM interfaces
- System Integrators
- Marketing Staff
- Customers

Readers of this DICOM Conformance Statement are assumed to be familiar with the DICOM Standard.

## 5.2 Remarks

The DICOM Conformance Statement follows the contents and structure requirements of DICOM PS3.2.

## 5.3 Definitions, Terms, and Abbreviations

| | |
|---|---|
| **AE** | Application Entity |
| **CMS** | Canon Medical Systems |
| **DICOM** | Digital Imaging and Communication in Medicine |
| **IOD** | Information Object Definition |
| **NEMA** | National Electrical Manufacturers Association |
| **OP** | Ophthalmic Photography |
| **PDU** | Protocol Data Unit |
| **Q/R** | Query and Retrieve |
| **SCP** | Service Class Provider |
| **SCU** | Service Class User |
| **SOP** | Service Object Pair |
| **TCP/IP** | Transmission Control Protocol/Internet Protocol |

| | |
|---|---|
| **UID** | Unique Identifier |
| **UML** | Unified Modeling Language |
| **VR** | Value Representation |

## 5.4 References

DICOM Standard — The Digital Imaging and Communications in Medicine (DICOM) standard (NEMA PS 3.X): National Electrical Manufacturers Association (NEMA) Publication Sales 1300 N. 17th Street, Suite 1847 Rosslyn, VA 22209, United States of America

# 6. NETWORKING

## 6.1 Implementation Model

### 6.1.1 Application Data Flow

When configured, imageSPECTRUM Rapid Review will provide a Store-n-Forward service to any DICOM modality sending images to it. Images received may be viewed directly from the local cache using all the viewing tools available to imageSPECTRUM Review. This functionality precludes images having to be sent to a server and then retrieving them. See Figure 1.

imageSPECTRUM Rapid Review AE is responsible for supporting the following DICOM services as an SCP:

- Verification (C-ECHO)
- Storage (C-STORE)

imageSPECTRUM Rapid Review AE is responsible for supporting the following DICOM services as an SCU:

- Storage (C-STORE)

The division of imageSPECTRUM Rapid Review into a separate DICOM Application Entity represents an arbitrary partitioning of functionality. For the purpose of this document they are organized in this manner so as to detail their independent logical functionality.

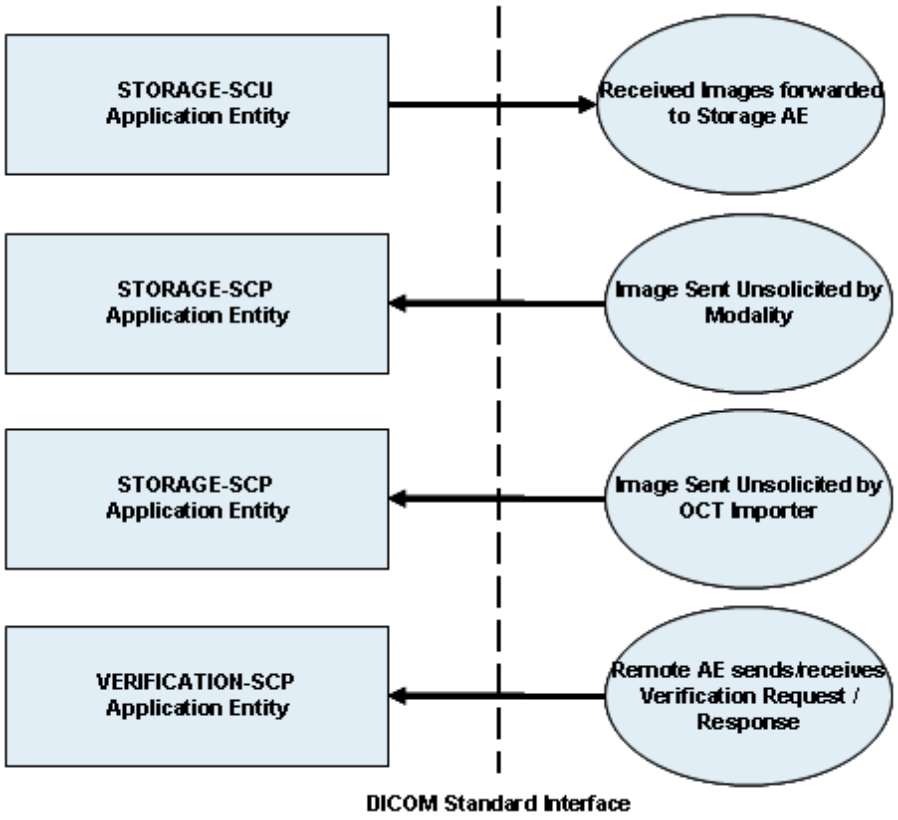


**Figure 1 imageSPECTRUM Rapid Review Data Flow Diagram**

There can be only one AE Title.

### 6.1.2 Functional Definition of Application Entities

#### 6.1.2.1 Functional Definition of STORAGE SCU Application Entity

imageSPECTRUM Rapid Review AE will utilize the STORAGE SCU component to transfer received images and study related data to the configured Storage SCP (e.g., imageSPECTRUM Server) for storage management.

#### 6.1.2.2 Functional Definition of STORAGE SCP Application Entity

The modality will transfer DICOM images to imageSPECTRUM Rapid Review for temporary storage and viewing.

#### 6.1.2.3 Functional Definition of VERIFICATION SCP Application Entity

Registered AE Titles (e.g., modalities) will transmit a C-ECHO message and imageSPECTRUM Rapid Review will respond.

### 6.1.3 Sequencing of Real World Activities

The following diagram is a UML sequence diagram depicting an overview of the interactions of various AE's:

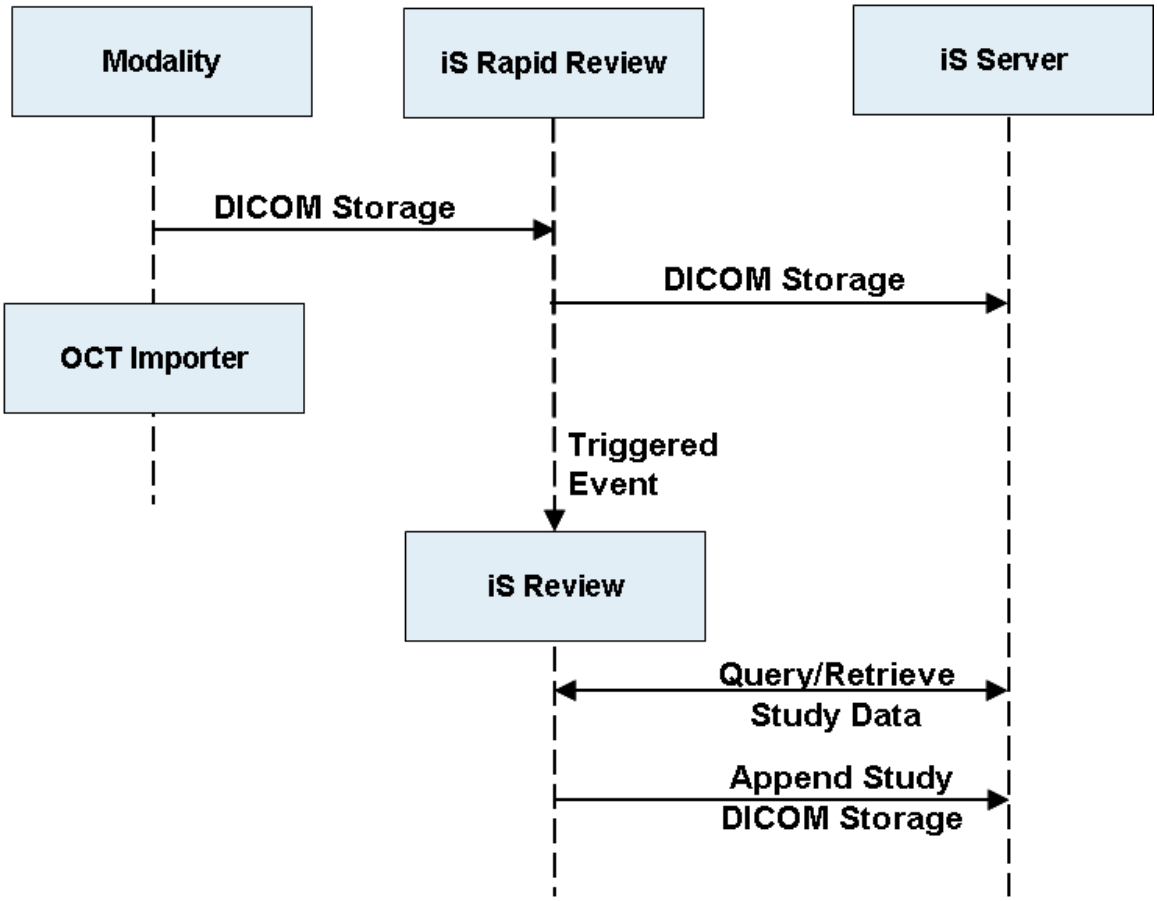


**Figure 2 imageSPECTRUM Rapid Review UML Sequence Diagram**

The imageSPECTRUM Rapid Review will act as a broker for DICOM modalities and DICOM review workstations. This entails data transfer functions. See Figure 2.

## 6.2 Application Entity Specifications:

### 6.2.1 STORAGE SCP

#### 6.2.1.1 Service Object Pair (SOP) Classes

The STORAGE SCP AE provides conformance to the following DICOM V3.0 SOP Classes.

**Table 6-1 SOP Classes**

| SOP Class Name | SOP Class UID | SCU | SCP |
|---|---|---|---|
| Ophthalmic Photography 8 bit Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.1 | No | Yes |
| Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7 | No | Yes |
| Visible Light Photographic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.4 | No | Yes |

These are the default SOP Classes supported. By altering the configuration it is possible to support fewer SOP Classes.

### 6.2.1.2 Association Policies

#### 6.2.1.2.1 General

The DICOM Standard Application Context shall be specified as detailed in Table 6-2.

**Table 6-2 DICOM Application Context**

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

#### 6.2.1.2.2 Number of Associations

The STORAGE SCP accepts a single association establishment request for storage. The STORAGE SCP has been verified as accepting only a single association. See Table 6-3 and Table 6-4.

**Table 6-3 Number of Associations as an Association Initiator**

| | |
|---|---|
| Maximum number of simultaneous associations | 0 |

**Table 6-4 Number of Associations as an Association Acceptor**

| | |
|---|---|
| Maximum number of simultaneous associations | 1 |

#### 6.2.1.2.3 Asynchronous Nature

Not Supported.

#### 6.2.1.2.4 Implementation Identifying Information

Table 6-5 contains implementation identifying information for imageSPECTRUM Rapid Review.

**Table 6-5 DICOM Implementation Class and Version**

| Implementation Class UID | a.b.c.xxxxxxx.yyy.zz |
|---|---|
| Implementation Version Name | 1.2.828.0.1.3680043.2.60.0.1 |

#### 6.2.1.3 Association Initiation Policy

The STORAGE SCP does not initiate associations.

#### 6.2.1.4 Association Acceptance Policy

##### 6.2.1.4.1 Activity: Receive Images and Associated Data for Storage

##### 6.2.1.4.2 Description and Sequencing of Activities

As instances are received they are copied to the local file system and raise an event to signal imageSPECTRUM Review that data is ready.

The STORAGE SCP implements the following sequence of activities (see Figure 3):

1. The Modality AE opens an association with the STORAGE SCP.
2. The Modality AE sends a C-STORE Request to the STORAGE SCP.
3. The STORAGE SCP stores the data, raises an event and returns a C-STORE Response.
4. The Modality AE closes the association.
5. In this illustration there is one request⇆response per opened association. However, the Open Association(1) and Close Association(4) are controlled by the Modality AE. The number of storage requests per open association is also controlled by the Modality AE.

The Modality AE controls the sequence of storage requests. For example, a Modality AE is requesting to store 30 images. The Modality AE can open an association, transmit requests for 30 images to be stored and then close the association. On the other hand, the Modality AE can open an association, request a single image store, and close the association, going through this cycle until all 30 images are stored. The time required to completely store the 30 image study would differ based on which control sequence is followed.

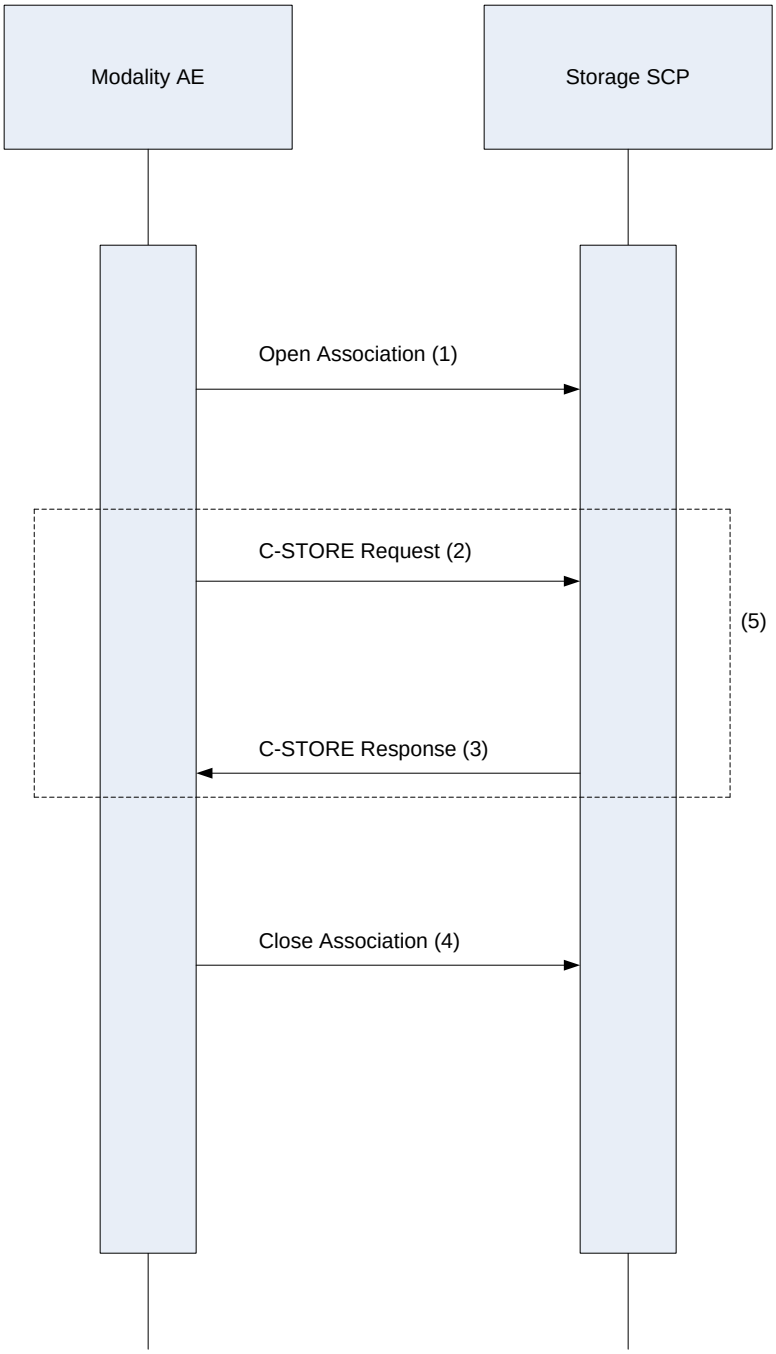


**Figure 3 STORAGE SCP Sequence Diagram**

#### 6.2.1.4.3 Accepted Presentation Contexts

imageSPECTRUM Rapid Review's STORAGE SCP is capable of accepting the Presentation Contexts shown in Table 6-6.

**Table 6-6 Proposed Presentation Context: STORAGE SCP**

| Presentation Context Table | | | | |
|---|---|---|---|---|
| Abstract Syntax | | Transfer Syntax | Role | Extended Negotiation |
| Name | UID | | | |
| Ophthalmic Photography 8 bit Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.1 | Table 6-7 | SCP | None |
| Visible Light Photographic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.4 | Table 6-7 | SCP | None |
| Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7 | Table 6-7 | SCP | None |

**Table 6-7 Presentation Context Transfer Syntax for Storage SOP Classes**

| Transfer Syntax Table | |
|---|---|
| Name | UID |
| Implicit Little Endian (default) | 1.2.840.10008.1.2 |
| Explicit Little Endian | 1.2.840.10008.1.2.1 |
| Baseline JPEG | 1.2.840.10008.1.2.4.50 |
| Lossless, Non-hierarchical, First-order | 1.2.840.10008.1.2.4.70 |

#### 6.2.1.4.4 SOP Specific Conformance for Storage SOP Classes

All images received by imageSPECTRUM Rapid Review are locally stored and persist in a local data-store. Images are not removed until they are transferred to the designated storage server.

The STORAGE SCP provides DICOM conformance to the Storage Service Class. The behavior of imageSPECTRUM Rapid Review's STORAGE SCP is summarized in Table 6-8.

**Table 6-8 Command Response Status Handling Behavior: STORAGE SCP**

| Status | Further Meaning | Error Code | Further Information |
|---|---|---|---|
| Success | Process complete. | 0000 | Message was received successfully. |
| Warning | One or more errors. | B000 | Return response. |
| Failure | Out of Resources. | A700 | Return response and continue. |
| | Unable to process. Database not operational | C000 | Return response and continue. |

The behavior of imageSPECTRUM Rapid Review's STORAGE SCP during communication failure is summarized in Table 6-9.

**Table 6-9 Command Communication Failure Behavior: STORAGE SCP**

| Exception | Behavior |
|---|---|
| Timeout | The reason is logged. |
| Abort | The command is marked as failed.<br>The reason is logged. |

### 6.2.2 STORAGE SCU

#### 6.2.2.1 Service Object Pair (SOP) Classes

The STORAGE SCU AE provides conformance to the following DICOM V3.0 SOP Classes.

**Table 6-10 SOP Classes**

| SOP Class Name | SOP Class UID | SCU | SCP |
|---|---|---|---|
| Ophthalmic Photography 8 bit Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.1 | Yes | No |
| Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7 | Yes | No |

| SOP Class Name | SOP Class UID | SCU | SCP |
|---|---|---|---|
| Visible Light Photographic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.4 | Yes | No |

These are the default SOP Classes supported. By altering the configuration file it is possible to support fewer SOP Classes

#### 6.2.2.2 Association Policies

##### 6.2.2.2.1 General

The DICOM Application Context shall be specified as detailed in Table 6-11.

**Table 6-11 DICOM Application Context**

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

##### 6.2.2.2.2 Number of Associations

The STORAGE SCU initiates up to 1 simultaneous association establishment requests for Storage. See Table 6-12 and Table 6-13.

**Table 6-12 Number of Associations as an Association Initiator**

| | |
|---|---|
| Maximum number of simultaneous associations | 1 |

**Table 6-13 Number of Associations as an Association Acceptor**

| | |
|---|---|
| Maximum number of simultaneous associations | 0 |

##### 6.2.2.2.3 Asynchronous Nature

Not Supported.

##### 6.2.2.2.4 Implementation Identifying Information

Table 6-14 contains implementation identifying information for imageSPECTRUM Rapid Review.

**Table 6-14 DICOM Implementation Class and Version**

| Implementation Class UID | a.b.c.xxxxxxx.yyy.zz |
|---|---|
| Implementation Version Name | 1.2.828.0.1.3680043.2.60.0.1 |

#### 6.2.2.3 Association Initiation Policy

##### 6.2.2.3.1 Activity: Send Images

##### 6.2.2.3.2 Description and Sequencing of Activities

This component generates requests to move study information and images to a designated storage server (e.g., imageSPECTRUM Server).

imageSPECTRUM Review functionality will trigger the imageSPECTRUM Rapid Review STORAGE SCU to transfer the specified images after opening a new association to the designated storage server. The STORAGE SCU will be responsible for closing the association with the storage server.

STORAGE SCU implements the following sequence of activities:

1. The STORAGE SCU opens an association with a DICOM storage server.
2. The STORAGE SCU sends a C-STORE request to the DICOM storage server.
3. Storage server returns a C-STORE response.
4. The STORAGE SCU closes the association.
5. In Figure 4 there is one request⇆response per opened association.

Performance for the storage SCU will be measured on request⇆response time versus total time for study storage.

The C-STORE sequence is illustrated in Figure 4.

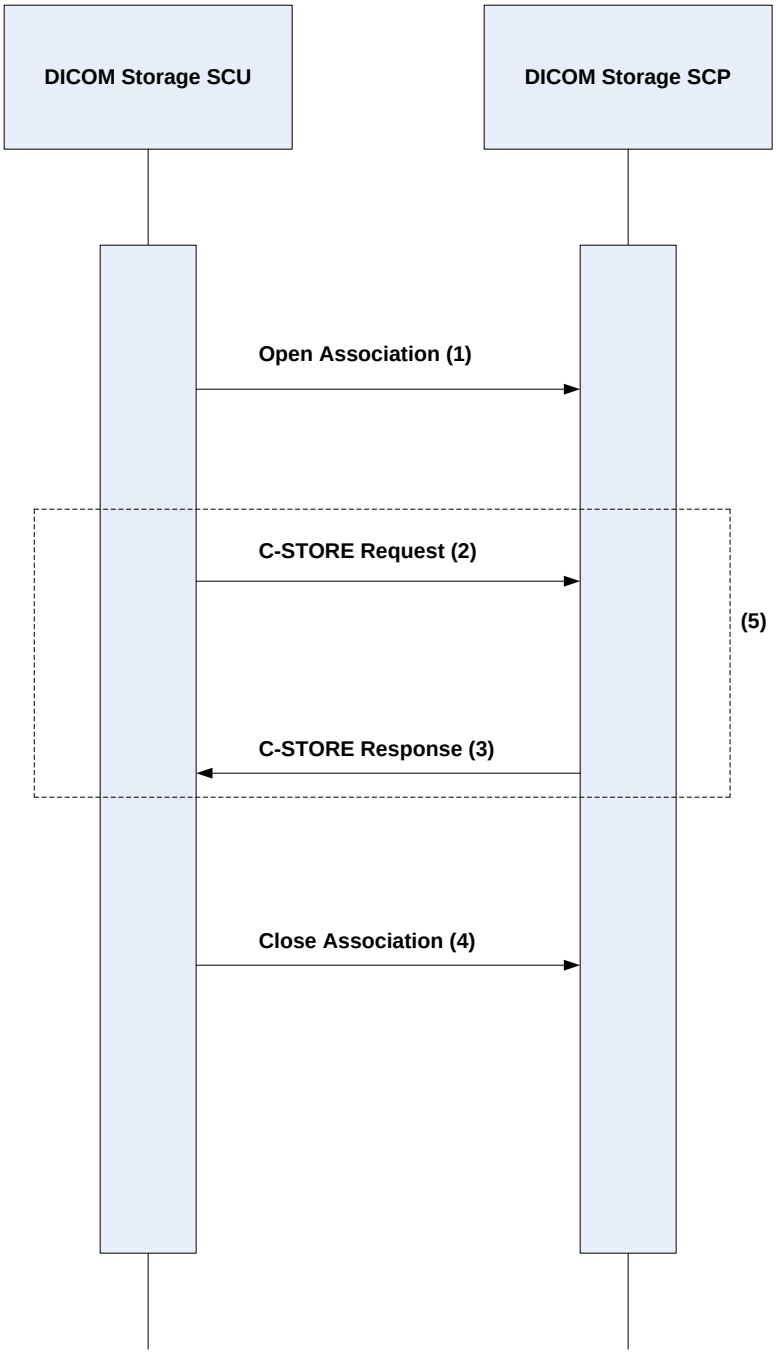


**Figure 4 Storage SCU C-STORE Sequence Diagram**

#### 6.2.2.3.3 Proposed Presentation Contexts

imageSPECTRUM Rapid Review's STORAGE SCU is capable of proposing the Presentation Contexts shown in Table 6-15.

**Table 6-15 Proposed Presentation Context: STORAGE SCU**

| Presentation Context Table | | | | |
|---|---|---|---|---|
| Abstract Syntax | | Transfer Syntax | Role | Extended Negotiation |
| Name | UID | | | |
| Ophthalmic Photography 8 bit Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.5.1 | Table 6-7 | SCU | None |
| Visible Light Photographic Image Storage | 1.2.840.10008.5.1.4.1.1.77.1.4 | Table 6-7 | SCU | None |
| Secondary Capture Image Storage | 1.2.840.10008.5.1.4.1.1.7 | Table 6-7 | SCU | None |

#### 6.2.2.3.4 SOP Specific Conformance for Image and Storage SOP Classes

If the status of storage response (C-STORE-RSP) is Success, the process of transferring images continues until all images have been sent. In the event that the storage response is Failure, an appropriate response is logged.

Individual image data elements are not discarded or modified.

The behavior of imageSPECTRUM Rapid Review's STORAGE SCP is summarized in Table 6-16.

**Table 6-16 Command Response Status Handling Behavior: STORAGE SCP**

| Status | Further Meaning | Error Code | Further Information |
|---|---|---|---|
| Success | Process complete. | 0000 | Message was received successfully. |
| Warning | One or more errors. | B000 | Return response. |
| Failure | Out of Resources. | A700 | Return response and continue. |
| | Unable to process. | C000 | Return response and continue. |

The behavior of imageSPECTRUM Rapid Review's STORAGE SCP during communication failure is summarized in Table 6-17.

**Table 6-17 Command Communication Failure Behavior: STORAGE SCU**

| Exception | Behavior |
|---|---|
| Timeout | The reason is logged. |
| Abort | The command is marked as failed. The reason is logged. |

#### 6.2.2.4 Association Acceptance Policy

The STORAGE SCU does not accept associations.

### 6.2.3 VERIFICATION SCP

#### 6.2.3.1 Service Object Pair (SOP) Classes

The VERIFICATION SCP AE provide conformance to the following DICOM V3.0 SOP Classes.

**Table 6-18 SOP Classes**

| SOP Class Name | SOP Class UID | SCU | SCP |
|---|---|---|---|
| Verification | 1.2.840.10008.1.1 | No | Yes |

#### 6.2.3.2 Association Policies

##### 6.2.3.2.1 General

The DICOM Application Context shall be specified as detailed in Table 6-19.

**Table 6-19 DICOM Application Context**

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

##### 6.2.3.2.2 Number of Associations

VERIFICATION SCP accepts up to 1 simultaneous association establishment requests. See Table 6-20 and Table 6-21.

**Table 6-20 Number of Associations as an Association Initiator**

| | |
|---|---|
| Maximum number of simultaneous associations | 0 |

**Table 6-21 Number of Associations as an Association Acceptor**

| | |
|---|---|
| Maximum number of simultaneous associations | 1 |

#### 6.2.3.2.3 Asynchronous Nature

Not Supported.

#### 6.2.3.2.4 Implementation Identifying Information

Table 6-22 contains implementation identifying information for imageSPECTRUM Rapid Review.

**Table 6-22 DICOM Implementation Class and Version**

| Implementation Class UID | a.b.c.xxxxxxx.yyy.zz |
|---|---|
| Implementation Version Name | 1.2.828.0.1.3680043.2.60.0.1 |

### 6.2.3.3 Association Initiation Policy

The VERIFICATION SCP does not initiate associations.

### 6.2.3.4 Association Acceptance Policy

#### 6.2.3.4.1 Activity: Receive Verification Request

#### 6.2.3.4.2 Description and Sequencing of Activities

This application component responds to C-ECHO requests. A remote AE sends an echo request to verify that imageSPECTRUM Rapid Review is awake and listening. The Verification SCP responds with success status as long as the request can be parsed.

#### 6.2.3.4.3 Accepted Presentation Contexts

imageSPECTRUM Rapid Review's VERIFICATION SCP is capable of accepting the Presentation Contexts shown in Table 6-23.

**Table 6-23 Proposed Presentation Context: VERIFICATION SCP**

| Presentation Context Table | | | | | |
|---|---|---|---|---|---|
| Abstract Context | | Transfer Context | | Role | Extended Negotiation |
| Name | UID | Name List | UID List | | |
| Verification SOP Class | 1.2.840.10008.1.1 | Implicit VR Little Endian<br><br>Explicit VR Little Endian | 1.2.840.10008.1.2<br><br>1.2.840.10008.1.2.1 | SCP | None |

#### 6.2.3.4.4 SOP Specific Conformance for Verification SOP Class

DICOM conformance to the Verification Service Class as an SCP is provided.

## 6.3 Network Interfaces

imageSPECTRUM Rapid Review provides DICOM V3.0 TCP/IP network communication support as stated in DICOM Standard Part 8. imageSPECTRUM Rapid Review inherits its TCP/IP stack from the OS upon which it executes.

### 6.3.1 Physical Network Interface

imageSPECTRUM Rapid Review utilizes the available network hardware using the installed OS interfaces.

#### 6.3.1.1 IPv4 and IPv6 Support

imageSPECTRUM Review only supports IPv4 connections.

### 6.3.2 Additional Protocols

No additional protocols are used.

## 6.4 Configuration

### 6.4.1 AE Title/Presentation Address Mapping

#### 6.4.1.1 Local AE Titles

The local Calling AE Title is present as a value in the application configuration file. At this time, setting the IP Address to 127.0.0.1 *is not supported*.

The local AE Title is presented in Table 6-24.

**Table 6-24 AE Title Configuration Table**

| Application Entity | Default AE Title | Default TCP/IP Port |
|---|---|---|
| imageSPECTRUM Rapid Review | RAPIDREVIEW | 50120 |

#### 6.4.1.2 Remote AE Title/Presentation Address Mapping

Configuration of remote calling AEs and port numbers are present as values in the application configuration file. If imageSPECTRUM Server and the registered modalities' control applications are to be on the same computer, then the port value associated with the Registered Modalities AE Information MUST be different from the port value associated with the Server AE Information.

**WARNING:** Setting the IP Address to 127.0.0.1 is NOT supported.

##### 6.4.1.2.1 Configuration File Elements

The configuration file is titled Configuration.xml. Configuration elements are detailed in Table 6-25.

**Table 6-25 Configuration Elements**

| XML element | Example value | Explanation |
|---|---|---|
| <NewDataSet xmlns="…"> | <NewDataSet xmlns="http://CMS.Com.PS"> | Set during the development process, designates the xml namespace. |
| <Configuration> | | Grouping element like a heading in a document. No value associated with this element other than sub elements and their values. |

| XML element | Example value | Explanation |
|---|---|---|
| **Client Storage SCP AE Information** | | |
| <AETitle> | RAPIDREVIEW | Client Storage SCP AE Title. Can be modified via Review System Administration . |
| <MaxPDUSize> | 16384 | Maximum size of the Protocol Data Unit. |
| <RootPath> | C:\PROSERVER\ | Parent folder for DICOM related processing. |
| <LogLevel> | 3 | Logging Level scale of 1 to 5, with 1 being the least logging and 5 being the most logging. |
| <LogDirPath> | Log\ | Appended to the <RootPath> value to designate the folder containing the log file. |
| <SerializedDicomPath> | xmlDicom\ | Appended to the <RootPath> value to designate the folder containing the serialized DICOM files. |
| <MaxLogDiskSpace> | 1000000000 | Log file size in bytes. |
| <LogFlag> | True | Allow/disallow logging. |
| <ServiceClassSupport> | Grouping element. No value other than sub elements and their value. | |
| <Port> | 50120 | Port associated with this service class. |

| XML element | Example value | Explanation |
|---|---|---|
| <ARTim> | 60 | Association State Machine Timeout interval in ms. |
| <LogLevel> | 3 | Logging Level scale of 1 to 5, with 1 being the least logging and 5 being the most logging. |
| <MaxQueueAssociations> | 5 | Maximum number of concurrent associations accepted. |
| <Enabled> | true | Ready or Idle state. |
| <ServiceClass> | Grouping element. No value other than sub elements and their value. | |
| <ServiceClassName> | Verification SOP Class | Enumerated value representing a Service Object Pair class type. |
| <LogLevel> | 3 | Logging Level scale of 1 to 5, with 1 being the least logging and 5 being the most logging. |
| <LogFlag> | True | Allow/disallow logging. |
| **Proxy and Multiple NIC Information** | | |
| <ProxyInfo> | Grouping element. No value other than sub elements and their value. This section is reserved for future development. | |
| <ProxyEnable> | False | Proxy server enabled. |

| XML element | Example value | Explanation |
|---|---|---|
| <NodeInfo> | Grouping element. No value other than sub elements and their value. This section is reserved for future development. | |
| <IPAddress> | 192.168.1.3 | Proxy node IP Address. |
| <PortNumber> | 1234 | Proxy node port number |
| <NICInfo> | Grouping element. No value other than sub elements and their value. This section is reserved for future development. | |
| <AdapterID> | 0 | Network Interface Card Adapter ID. |
| **Registered Modality AE Information** | | |
| <CallingAEInfo> | Grouping element. No value other than sub elements and their value. | |
| <EntityTitle> | CAMERA | The AE Title of the registered modality. |
| <HostName><br><IPAddress> | CLIENT1 | The host name of the registered modality or it's IP Address. When part of the <CallingAETitle> grouping these elements will be the same for the imageSPECTRUM product classification. |
| <VerificationInterval> | 600 | Verification response timeout in ms. |

| XML element | Example value | Explanation |
|---|---|---|
| <Accept> | True | Utilize the server if true, otherwise save the settings but do not associate. |
| <ServiceClassInfo> | Grouping element. No value other than sub elements and their value. | |
| <Port> | 5104 | Port associated with this service class. |
| <ARTim> | 10000 | Association State Machine Timeout interval in ms. |
| <LogLevel> | 3 | Logging Level scale of 1 to 5, with 1 being the least logging and 5 being the most logging. |
| <LogFlag> | True | Allow/disallow logging. |
| **Modality Worklist Related Information[1]** | | |
| <HL7Configuration> | Grouping element. No value other than sub elements and their value. | |
| <HL7IncomingPort> | 123 | HL 7 port |
| <HL7Filter> | | Grouping element. No value other than sub elements and their value. |
|  | Grouping element. No value other than sub elements and their value. | |
| <SegmentValue> | OBR | HL 7 segment identifier. |

[1] Not supported at this time, information presented is for reference purposes only.

| XML element | Example value | Explanation |
|---|---|---|
| <Fields> | | Grouping element. No value other than sub elements and their value. |
| <Field> | Grouping element. No value other than sub elements and their value. | |
| <FieldIndex> | 30 | Segment field index. |
| <SearchStrings> | Grouping element. No value other than sub elements and their value. | |
| <SearchString> | Unknown | Matching string. |
| <BodyPartPosition> | | Grouping element. No value other than sub elements and their value. |
|  | OBR | The  element of the <BodyPartPosition> grouping represents the segment of the Body Part position HL 7 message. |
| <Field> | 4 | Field number. |
| <ComponentIndex> | 3 | Component index. |

### 6.4.2 Parameters

Parameters related to acquisition and general operation are configurable via the application configuration file.

Table 6-26 shows only those configuration parameters relevant to DICOM communication.

**Table 6-26 Configuration Parameters Table**

| Parameter | Configurable (Y/N) | Default Value |
|---|---|---|
| **General Parameters** | | |
| Time-out waiting for acceptance or rejection Response to an Association Open Request. (Application Level timeout) | No | 120 seconds |
| General DIMSE level time-out values. | No | 120 seconds |
| Time-out waiting for response to TCP/IP connect request. (Low-level timeout) | OS system value | |
| Time-out waiting for acceptance of a TCP/IP message over the network. (Low-level timeout) | OS system value | |
| Time-out for waiting for data between TCP/IP packets. (Low-level timeout) | No | 120 seconds |
| Any changes to default TCP/IP settings, such as configurable stack parameters. | No | N/A |
| **AE Specific Parameters** | | |
| Size constraint in maximum object size. | Only limited by available memory. | |
| Maximum PDU size the AE can receive. | Yes | 16k |
| Maximum PDU size the AE can send. | Yes | 16k |
| AE specific DIMSE level time-out values. | Not configurable by AE. | |
| Number of simultaneous Associations by Service and/or SOP Class. | No | 1 |
| <SOP Class support><br>(e.g., Multi-frame vs. single frame vs. SC support, when configurable) | Yes | Default SOP Class support – see Table 1-1. All SOP classes are accepted if configured. |

| Parameter | Configurable (Y/N) | Default Value |
|---|---|---|
| <Transfer Syntax support><br>(e.g., JPEG, Explicit VR, when configurable) | For each presentation context:<br>Selects a transfer syntax from those offered as in configuration.<br>Accepts any presentation context (whatever the SOP class) if there is a suitable transfer syntax. | |

# 7. MEDIA INTERCHANGE

Media interchange is not supported at this time.

# 8. SUPPORT OF CHARACTER SETS

imageSPECTRUM Rapid Review uses the Latin 1 (ISO_IR 100) character set exclusively.

# 9. SECURITY

## 9.1 Security Profiles

imageSPECTRUM Rapid Review does not support any specific security measures.

## 9.2 Association Level Security

imageSPECTRUM Rapid Review is used within a secure environment which includes a firewall designed so that imageSPECTRUM Rapid Review only has network access to approved external hosts and services. Approved external hosts are entered into imageSPECTRUM Rapid Review configuration file.

## 9.3 Application Level Security

imageSPECTRUM Rapid Review runs as a Windows service. Access to its configuration file is facilitated through the imageSPECTRUM Review System Administration page. imageSPECTRUM Review utilizes user passwords intended to limit access to approved operators only. Password administration conforms to the following rules:

- Passwords consists of at least 6 characters and a maximum of 30 characters.

- At least one character of the password must be a letter.
- At least one character of the password must be a number.
- The password must be changed every 90 days.
- For new password selection, the last 5 passwords are ineligible as the new password.
- Roles of type Reviewer and Administrator are utilized to limit access to the imageSPECTRUM Review System Administration page.

# 10. ANNEXES

## 10.1 IOD Contents

### 10.1.1 Storage SCP AE Element Use

imageSPECTRUM Rapid Review does not use any elements of Composite SOP Instances received by the STORAGE SCP.

### 10.1.2 Usage of Attributes from received IODs

imageSPECTRUM Rapid Review does not depend on specific attribute fields in order to perform its intended function correctly.

### 10.1.3 Attribute Mapping

imageSPECTRUM Rapid Review does not utilize attribute mapping.

### 10.1.4 Coerced/Modified fields

No fields are coerced or modified.

## 10.2 Data Dictionary of Private Attributes

imageSPECTRUM Rapid Review does not utilize any private attributes.

## 10.3 Coded Terminology and Templates

The imageSPECTRUM Rapid Review is not using any Codes (SNOMED) or Controlled Terminology, such as the use of the DICOM Content Mapping Resource (DCMR).

### 10.3.1 Template Specifications

Templates are not used by imageSPECTRUM Rapid Review.

### 10.3.2 Private Code definitions

No private codes are used by imageSPECTRUM Rapid Review.

## 10.4 Grayscale Image Consistency

The DICOM Grayscale Standard Display Function is not supported by imageSPECTRUM Rapid Review.

## 10.5 Standard Extended/Specialized/Private SOP Classes

There is no Standard Extended SOP Class, Specialized SOP Class, or Private SOP Class used by imageSPECTRUM Rapid Review.

## 10.6 Private Transfer Syntaxes

No private Transfer Syntaxes are used by imageSPECTRUM Rapid Review.