SonicDICOM Cloud Connector

DICOM Conformance Statement

2019/02/28

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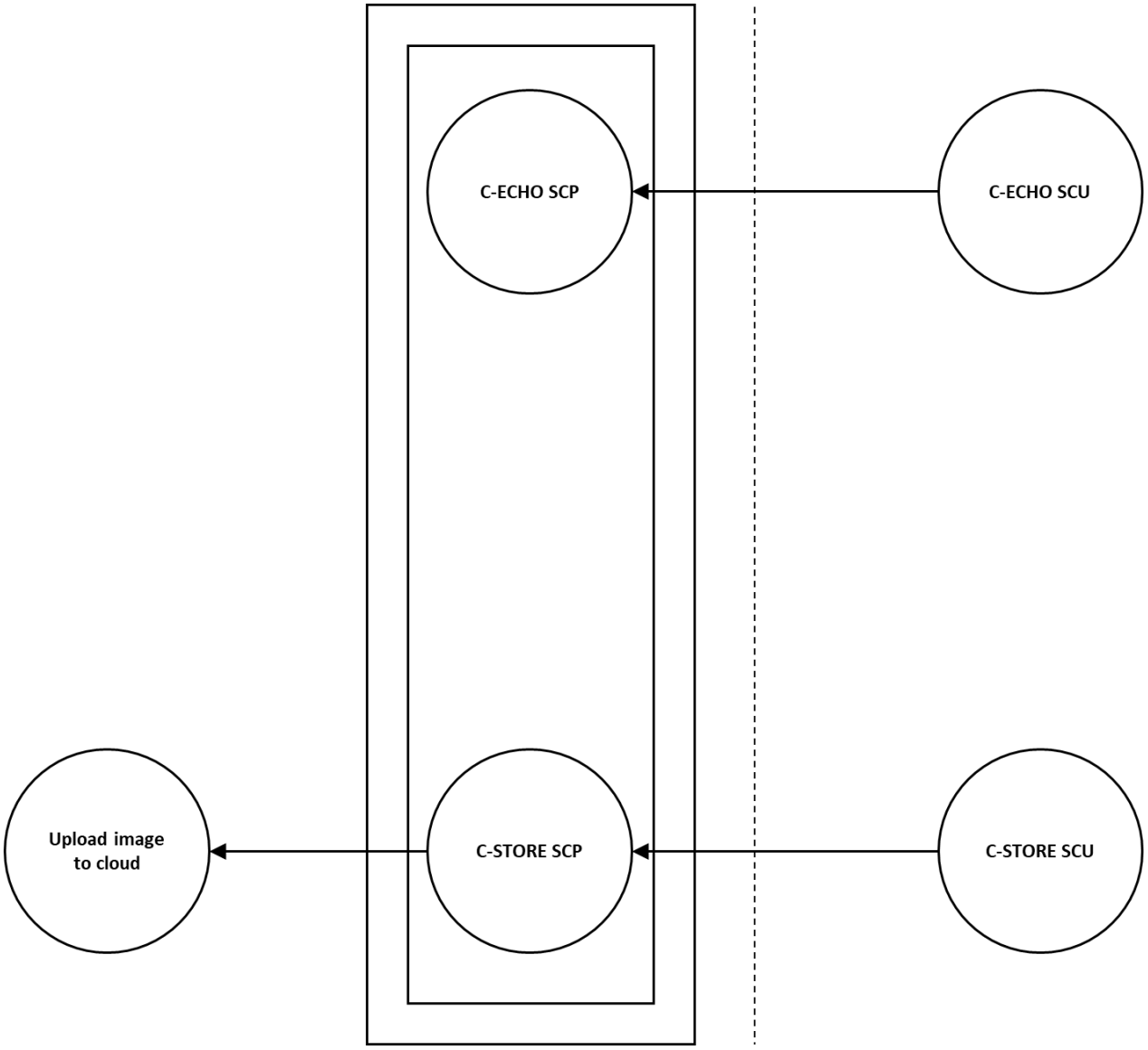
This document is a DICOM Conformance Statement of SonicDICOM Cloud Connector, stating consistency with conformance to the DICOM standard.

Revision History

Revision	Date	Description
1.0	2019/02/28	Initial Version

1. Implementation Model

1.1 Flow of Application Data



1.2 AE function definitions

The following functions are supported.

- Verification of existence (Verification class SCP).
- Saving images under request from remote host (Storage class SCP).

1.3 Sequencing Control of Real-world Activities

N/A

2. AE Specification

Conforms to the following DICOM SOP classes as an SCP.	
SOP Class UID	SOP Class Name
[Verification]	
1.2.840.10008.1.1	Verification
[Storage]	
1.2.840.10008.5.1.4.1.1.1	Computed Radiography Image Storage
1.2.840.10008.5.1.4.1.1.1.1	Digital X-Ray Image Storage –For Presentation
1.2.840.10008.5.1.4.1.1.1.1.1	Digital X-Ray Image Storage –For Processing
1.2.840.10008.5.1.4.1.1.1.2	Digital Mammography X-Ray Image Storage –For Presentation
1.2.840.10008.5.1.4.1.1.1.2.1	Digital Mammography X-Ray Image Storage - For Processing
1.2.840.10008.5.1.4.1.1.2	CT Image Storage
1.2.840.10008.5.1.4.1.1.3	Ultrasound Multiframe Image Storage (Retired)
1.2.840.10008.5.1.4.1.1.3.1	Ultrasound Multi frame Image Storage
1.2.840.10008.5.1.4.1.1.4	MR Image Storage
1.2.840.10008.5.1.4.1.1.4.1	Enhanced MR Image Storage
1.2.840.10008.5.1.4.1.1.4.2	MR Spectroscopy Storage
1.2.840.10008.5.1.4.1.1.4.3	Enhanced MR Color Image Storage
1.2.840.10008.5.1.4.1.1.5	Nuclear Medicine Image Storage (Retired)
1.2.840.10008.5.1.4.1.1.6	Ultrasound Image Storage (Retired)
1.2.840.10008.5.1.4.1.1.6.1	Ultrasound Image Storage
1.2.840.10008.5.1.4.1.1.7	Secondary Capture Image Storage
1.2.840.10008.5.1.4.1.1.12.1	X-Ray Angiographic Image Storage
1.2.840.10008.5.1.4.1.1.12.2	X-Ray Radiofluoroscopic Image Storage
1.2.840.10008.5.1.4.1.1.12.3	X-Ray Angiographic Bi-Plane Image Storage
1.2.840.10008.5.1.4.1.1.20	Nuclear Medicine Image Storage
1.2.840.10008.5.1.4.1.1.77.1	VL Image Storage (Retired)
1.2.840.10008.5.1.4.1.1.77.1.1	VL Endoscopic Image Storage
1.2.840.10008.5.1.4.1.1.77.1.2	VL Microscopic Image Storage
1.2.840.10008.5.1.4.1.1.77.1.3	VL Slide-Coordinates Microscopic Image Storage
1.2.840.10008.5.1.4.1.1.77.1.4	VL Photographic Image Storage
1.2.840.10008.5.1.4.1.1.77.2	VL Multiframe Image Storage (Retired)
1.2.840.10008.5.1.4.1.1.128	Positron Emission Tomography Image Storage

1.2.840.10008.5.1.4.1.1.481.1	RT Image Storage

2.1 Association Establishment Policies

2.1.1 Overview

The proposed Application Context Name is "1.2.840.1008.3.1.1.1".

The proposed maximum PDU size is 16 KB.

2.1.2 Number of Associations

A single association is established at the same time for each provider.

Note that while only one association is established at the same time for a singular AE, associations may be established for sub-operations unrestricted to this.

2.1.3 Asynchronicity

Asynchronous operations are not supported.

2.1.4 Implementation Identification Information

Product name	Implementation Class UID	Implementation Version
SDCC	1.2.392.100224.1.2002.100.5	SDCC 1.1

2.2 Association Initiation Policies

N/A

2.2.1 Real-World Activities

N/A

2.3 Association Acceptance Policies

Association accepted for the following activities.

- When requested for DICOM communication Verification from a remote system.
- When an image is transferred from a remote system.
- When there is a retrieval and image request from a remote system.

2.3.1 Real-World Activity: Verification

2.3.1.1 Related Real-World Activities

C-ECHO response performed in response to confirmation from remote system.

2.3.1.2 Proposed Presentation Context

Presentation Context Table				
Abstract Syntax		Transfer Syntax		Role
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP

2.3.1.2.1 SOP Specific Conformance (Verification Class)

Standard conformance is provided to Verification in DICOM communication.

2.3.2 Real-World Activity: Image Reception

2.3.2.1 Related Real-World Activities

If an image exists after image transfer is completed according to an image transfer request from a remote system, the image is saved on a local disk, and registered in the database.

2.3.2.2 Proposed Presentation Context

Presentation Context Table			
Abstract Syntax		Transfer Syntax	Role
1.2.840.10008.5.1.4.1.1.1	Computed Radiography Image Storage	*3.1.3.2.2.1	SCP
1.2.840.10008.5.1.4.1.1.1.1	Digital X-Ray Image Storage – For Presentation		
1.2.840.10008.5.1.4.1.1.1.1.1	Digital X-Ray Image Storage – For Processing		
1.2.840.10008.5.1.4.1.1.1.2	Digital Mammography X-Ray Image Storage –For Presentation		
1.2.840.10008.5.1.4.1.1.1.2.1	Digital Mammography X-Ray Image Storage - For Processing		
1.2.840.10008.5.1.4.1.1.1.3	Digital Intra - oral X-Ray Image Storage - For Presentation		
1.2.840.10008.5.1.4.1.1.1.3.1	Digital Intra - oral X-Ray Image Storage - For Processing		
1.2.840.10008.5.1.4.1.1.2	CT Image Storage		
1.2.840.10008.5.1.4.1.1.3	Ultrasound Multiframe Image Storage (Retired)		
1.2.840.10008.5.1.4.1.1.3.1	Ultrasound Multi frame Image Storage		

1.2.840.10008.5.1.4.1.1.4	MR Image Storage		
1.2.840.10008.5.1.4.1.1.4.1	Enhanced MR Image Storage		
1.2.840.10008.5.1.4.1.1.4.2	MR Spectroscopy Storage		
1.2.840.10008.5.1.4.1.1.4.3	Enhanced MR Color Storage		
1.2.840.10008.5.1.4.1.1.5	Nuclear Medicine Image Storage (Retired)		
1.2.840.10008.5.1.4.1.1.6	Ultrasound Image Storage (Retired)		
1.2.840.10008.5.1.4.1.1.6.1	Ultrasound Image Storage		
1.2.840.10008.5.1.4.1.1.7	Secondary Capture Image Storage		
1.2.840.10008.5.1.4.1.1.12.1	X-Ray Angiographic Image Storage		
1.2.840.10008.5.1.4.1.1.12.2	X-Ray Radiofluoroscopic Image Storage		
1.2.840.10008.5.1.4.1.1.12.3	X-Ray Angiographic Bi-Plane Image Storage		
1.2.840.10008.5.1.4.1.1.20	Nuclear Medicine Image Storage		
1.2.840.10008.5.1.4.1.1.77.1	VL Image Storage (Retired)		
1.2.840.10008.5.1.4.1.1.77.1.1	VL Endoscopic Image Storage		
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1.2.840.10008.5.1.4.1.1.77.1.3	VL Slide-Coordinates Microscopic Image Storage		
1.2.840.10008.5.1.4.1.1.77.1.4	VL Photographic Image Storage		
1.2.840.10008.5.1.4.1.1.77.2	VL Multiframe Image Storage (Retired)		
1.2.840.10008.5.1.4.1.1.128	Positron Emission Tomography Image Storage		
1.2.840.10008.5.1.4.1.1.481.1	RT Image Storage		

2.3.2.2.1 Transfer Syntax

Transfer Syntax	
1.2.840.10008.1.2	Implicit VR Little Endian
1.2.840.10008.1.2.1	Explicit VR Little Endian
1.2.840.10008.1.2.2	Explicit VR Big Endian
1.2.840.10008.1.2.4.50	JPEG Baseline(1)
1.2.840.10008.1.2.4.51	JPEG Extended(2, 4)
1.2.840.10008.1.2.4.70	JPEG Lossless
1.2.840.10008.1.2.4.90	JPEG 2000 Image Compression (Lossless Only)
1.2.840.10008.1.2.4.91	JPEG 2000 Image Compression
1.2.840.10008.1.2.5	RLE Lossless

2.3.2.2.2 SOP Specific Conformance (Storage Class)

Basically no data element is forcibly rounded or omitted in reception.

If the transferred image has the same UID as that of an SOP instance that has been already registered, the transferred image is overwrite-saved.

3. Communication Profile

3.1 Supported communication stack

TCP/IP network communication support defined in Part 8 of DICOM Standard is provided.

3.2 TCP/IP stack

Depending on TCP/IP stack supported by operating system.

3.2.1 Physical medium support

Depending on physical medium supported by operating system.

4. Extensions / Specializations / Privatizations

N/A

5. Configuration

Its own AE title can be configured. A remote application entity name can be associated with presentation address.

5.1 AE Title / Presentation Address Mapping

The application entity name can be associated with the presentation address using <AE title><IP address><Port number> format.

5.2 Configurable parameters

The following parameters can be configured.

- Local/Remote AE title
- Remote IP address
- Local/Remote TCP/IP Port

6. Support Of Extended Character Sets

- ISO_IR_6 ASCII
- ISO_IR_100 Latin Alphabet No. 1 Unextended
- ISO_IR_101 Latin Alphabet No. 2 Unextended
- ISO_IR_109 Latin Alphabet No. 3 Unextended
- ISO_IR_110 Latin Alphabet No. 4 Unextended
- ISO_IR_144 Cyrillic Unextended
- ISO_IR_127 Arabic Unextended
- ISO_IR_126 Greek Unextended
- ISO_IR_138 Hebrew Unextended
- ISO_IR_148 Latin Alphabet No. 5 (Turkish) Unextended
- ISO_IR_13 JIS X 0201 Katakana Unextended
- ISO_IR_87 JIS X 0202 Kanji Unextended
- ISO_IR_166 TIS 620-2533 (Thai) Unextended
- ISO_IR_192 Unicode in UTF-8
- ISO_2022_IR_6 ASCII
- ISO_2022_IR_100 Latin Alphabet No. 1 Extended
- ISO_2022_IR_101 Latin Alphabet No. 2 Extended
- ISO_2022_IR_109 Latin Alphabet No. 3 Extended
- ISO_2022_IR_110 Latin Alphabet No. 4 Extended
- ISO_2022_IR_144 Cyrillic Extended
- ISO_2022_IR_127 Arabic Extended
- ISO_2022_IR_126 Greek Extended
- ISO_2022_IR_138 Hebrew Extended
- ISO_2022_IR_148 Latin Alphabet No. 5 (Turkish) Extended
- ISO_2022_IR_13 JIS X 0201 Katakana Extended
- ISO_2022_IR_166 TIS 620-2533 (Thai) Extended
- ISO_2022_IR_87 JIS X 0208 (Kanji) Extended
- ISO_2022_IR_159 JIS X 0212 (Kanji) Extended
- ISO_2022_IR_149 KS X 1001 (Hangul and Hanja) Extended
- GB18030 Chinese (Simplified) Extended