Conformance Statement

DreamFird Server

for Distributed DICOM Server

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A Introduction

A.1 Implementation Model

Archive Server provides for storage and query/retrieval of images. It runs on Unix systems as a background process that accepts association requests from external applications. For each association request, Archive Server *forks* a copy of itself so that the copy communicates exclusively with the requesting application. Archive Server will initiate a DICOM association in response to a move request from an external application.

DICOM Echo provides for C-ECHO SCU which is used to verify network without initiating any actual work.
DCM Modify Object and DCM Modify Compress provide for modification from non-compressed images to DICOM JPEG Lossless and Lossy compressed images.

DCM Send Study provides for C-STORE SCU which enables to send images to external applications.

DiAccess provides for configuration and access control of Archive Server, for management of stored images and for transmission of images. DiAccess is coded with PHP to control Apache Web Server, to access MySQL Database and to launch UNIX based applications mentioned above. Archive Server, Apache Web Server and MySQL Database run as daemon processes.

A.1.1 Application Data Flow Diagram

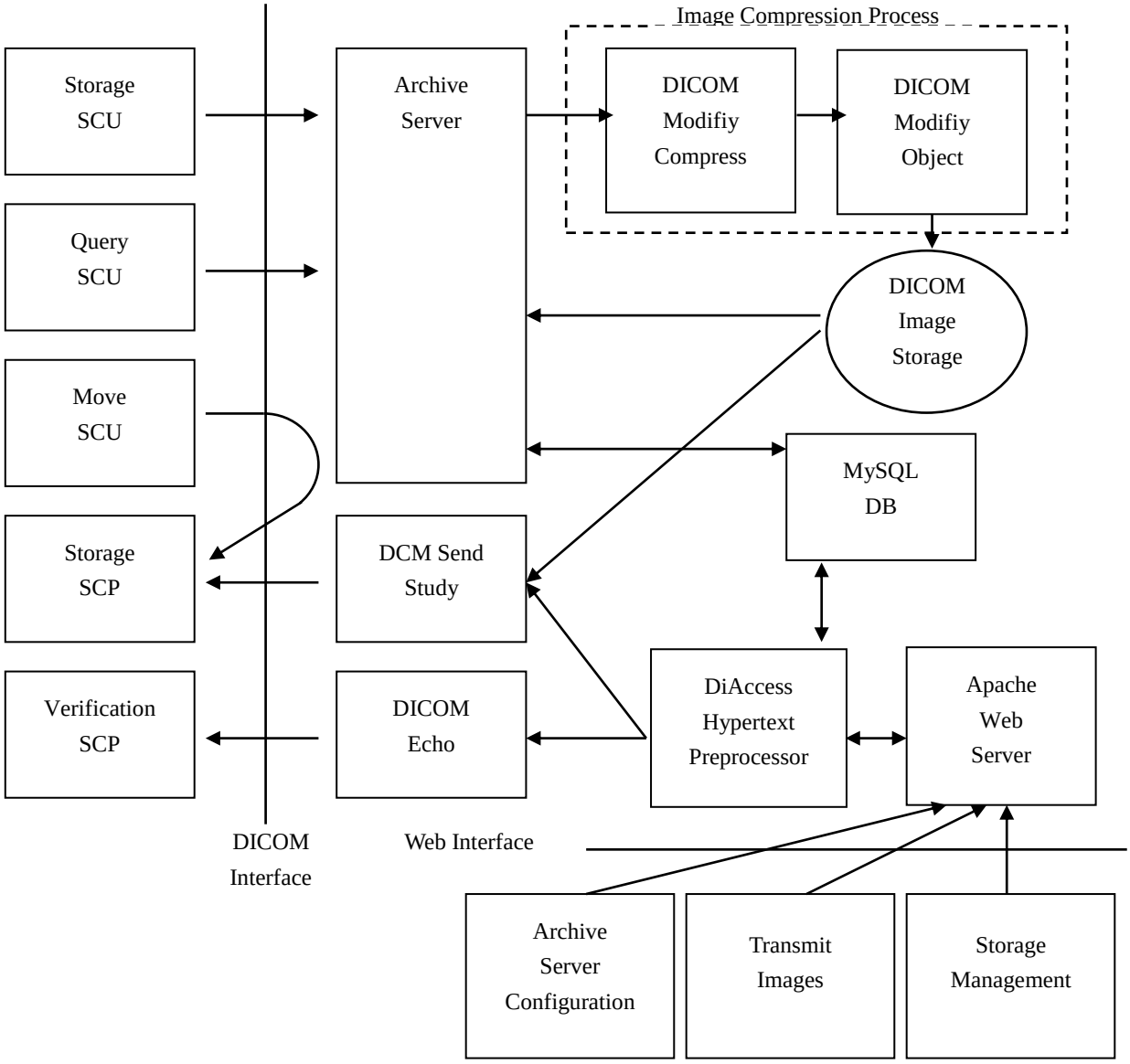

FIGURE 1. Implementation Model

A.1.2 Functional Definition of Application Entities

Archive Server waits for another application to connect at the TCP/IP port number specified when the application is initiated. When another application makes a DICOM association request, Archive Server uses a control database and logic to verify the request:

1. Archive Server uses a control table to verify that the Called Application Title used in the association request is defined on the node (Unix host-name or NetInfo Manager host-name) upon which Archive Server is running.

2. Archive Server uses a control table to lookup the application defined by the Calling Application Title in the association request. Archive Server verifies that the node from which the call originated matches the value stored in the control table.

3. Archive Server verifies that the calling application has access rights for the SOP classes proposed (write access for storage, read access for query retrieve).

A.1.3 Sequencing of Real-World Activities

Archive Server has no way of knowing when it has a complete study or what constitutes a complete study. If it receives an image query while also receiving storage requests, the query response may not include all of the images that are in the study.

A.2 AE Specifications

Archive Server may be invoked multiple times on a single machine and the instances may operate simultaneously. In addition, each time Archive Server receives an association request, it forks a copy of itself. Each invocation and each forked copy of Archive Server represent the same Application Entity.

A.2.1 Applications - Specification

DICOM Echo provides Standard Conformance to the following DICOM 3.0 SOP Classes as an SCU:

TABLE 1.1 SOP Classes Supported by DICOM Echo as an SCU

SOP Class Name	SOP Class UID
Verification SOP Class	1.2.840.10008.1.1

Archive Server and DCM Send Study provide Standard Conformance to the following DICOM 3.0 SOP Classes as an SCU:

TABLE 1.2 SOP Classes Supported by Archive Server and DCM Send Study as an SCU

SOP Class Name	SOP Class UID
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1
CT Image Storage	1.2.840.10008.5.1.4.1.1.2
Ultrasound Multi-Frame Image Storage	1.2.840.10008.5.1.4.1.1.3
MR Image Storage	1.2.840.10008.5.1.4.1.1.4
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128
RT Does Storage	1.2.840.10008.5.1.4.1.1.481.2
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1
RT Plan Storage	1.2.840.10008.5.1.4.1.1.481.5
RT Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3
RT Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.4
RT Brachy Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.6
RT Treatment Summary Record Storage	1.2.840.10008.5.1.4.1.1.481.7
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Stand-alone Curve Storage	1.2.840.10008.5.1.4.1.1.9
Stand-alone Overlay Storage	1.2.840.10008.5.1.4.1.1.8
Stand-alone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11
Stand-alone PET Curve Storage	1.2.840.10008.5.1.4.1.1.129
Stored Print Storage	1.2.840.10008.5.1.4.1.1.27
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1

Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1
X-Ray Radiofluoroscoping Image Storage	1.2.840.10008.5.1.4.1.1.12.2
Digital X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.1
Digital X-Ray Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.1.1
Digital Mammography Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.2
Digital Mammography Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.2.1
Digital Intro-oral X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.3
Digital Intra-oral X-Ray Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.3.1
VL Endoscoping Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1
VL Microscoping Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2
VL Slide-Coordinates Microscoping Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4

Archive Server provides Standard Conformance to the following DICOM 3.0 SOP Classes as an SCP:

TABLE 2. SOP Classes Supported by Archive Server as an SCP

SOP Class Name	**SOP Class UID**
Verification SOP Class	1.2.840.10008.1.1
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1
CT Image Storage	1.2.840.10008.5.1.4.1.1.2
Ultrasound Multi-Frame Image Storage	1.2.840.10008.5.1.4.1.1.3
MR Image Storage	1.2.840.10008.5.1.4.1.1.4
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128
RT Does Storage	1.2.840.10008.5.1.4.1.1.481.2
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1
RT Plan Storage	1.2.840.10008.5.1.4.1.1.481.5
RT Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3
RT Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.4
RT Brachy Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.6
RT Treatment Summary Record Storage	1.2.840.10008.5.1.4.1.1.481.7
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Stand-alone Curve Storage	1.2.840.10008.5.1.4.1.1.9
Stand-alone Overlay Storage	1.2.840.10008.5.1.4.1.1.8
Stand-alone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11
Stand-alone PET Curve Storage	1.2.840.10008.5.1.4.1.1.129
Stored Print Storage	1.2.840.10008.5.1.4.1.1.27
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1
X-Ray Radiofluoroscoping Image Storage	1.2.840.10008.5.1.4.1.1.12.2
Digital X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.1
Digital X-Ray Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.1.1
Digital Mammography Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.2
Digital Mammography Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.2.1
Digital Intro-oral X-Ray Image Storage - For Presentation	1.2.840.10008.5.1.4.1.1.1.3
Digital Intra-oral X-Ray Image Storage - For Processing	1.2.840.10008.5.1.4.1.1.1.3.1
VL Endoscoping Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1
VL Microscoping Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2
VL Slide-Coordinates Microscoping Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4
Patient Root Query/Retrieve Info Model - FIND	1.2.840.10008.5.1.4.1.2.1.1
Patient Root Query/Retrieve Info Model - MOVE	1.2.840.10008.5.1.4.1.2.1.2
Study Root Query/Retrieve Info Model - FIND	1.2.840.10008.5.1.4.1.2.2.1
Study Root Query/Retrieve Info Model - MOVE	1.2.840.10008.5.1.4.1.2.2.2
Patient Study Only Query/Retrieve Info Model - FIND	1.2.840.10008.5.1.4.1.2.3.1
Patient Study Only Query/Retrieve Info Model - MOVE	1.2.840.10008.5.1.4.1.2.3.2

A.2.1.1 Association Establishment Policies

A.2.1.1.1 General

Archive server will attempt to initiate associations in response to C-MOVE requests from other Application Entities.
Archive server will only initiate associations in response to valid C-MOVE requests for images that are known to the server (stored in its database).
DCM Send Study and DICOM Echo will initiate associations with external applications that are known to by its database.
The maximum PDU size which can be transmitted by Archive Server is fixed at 16KB. The default maximum PDU size which can be received by Archive Server is configurable with a default value of 16KB and a maximum value of 32KB.

A.2.1.1.2 Number of Associations

The number of simultaneous associations which will be accepted by Archive Server are limited only by the kernel parameters of the underlying TCP/IP implementation. Archive Server will spawn a new process for each association request that it receives. Therefore, Archive Server can have multiple simultaneous connections, and there is no inherent limitation on the total number of simultaneous associations which Archive Server can maintain.
Archive Server does limit each external Application Entity to no more than two simultaneous associations.
DCM Send Study and DICOM Echo does not limit the number of associations for each external Application Entity.

A.2.1.1.3 Asynchronous Nature

Archive Server and DCM Send Study do not support asynchronous operations and will not perform asynchronous window negotiation.

A.2.1.1.4 Implementation Identifying Information

Archive server will provide an implementation class UID which is 1.2.392.200139.100
Archive server will provide an implementation version name of JBOX_____

A.2.1.2 Association Initiation Policy

Archive Server attempts to initiate one association in response to each C-MOVE command it receives from an external node. Archive Server attempts a single type of association request.
DICOM Echo attempts to initiate a DICOM C-ECHO association with an external node. DICOM Echo attempts a single type of association request.
DCM Send Study attempts to initiate a DICOM C-STORE association with an external node. DCM Send Study attempts a single type of association request.

A.2.1.2.1 Real-World Activity

A.2.1.2.1.1 Associated Real-World Activity - Move Request from an External Node

The associated Real-World activity is a C-MOVE request from an external application. If an application successfully establishes an association with Archive Server and makes a valid C-MOVE request that identifies one or more images known by Archive Server, Archive Server will initiate an association with the destination specified in the C-MOVE request.

A.2.1.2.1.2 Associated Real-Word Activity - Send Images to External Node

The associated Real-World activity is a C-STORE request to an external application. If DCM Send Study successfully establishes an association with the external application, DCM Send Study sends images using the CSTORE command.

A.2.1.2.1.3 Associated Real-Word Activity - Verification to External Node

The associated Real-World activity is a C-ECHO request to an external application. If DICOM Echo successfully establishes an association with the external application, DICOM Echo sends the C-ECHO command.

A.2.1.2.1.4 Proposed Presentation Contexts

In response to a C-MOVE request, Archive Server builds a complete list of images to be moved. The list includes the SOP class of each image to be moved. Archive Server extracts the unique SOP classes from the image lists and proposes a set of presentation contexts that includes one presentation context for each unique SOP class identified

in the image list. Thus, the association request may have a single presentation context or multiple presentation contexts. Each presentation context contains the abstract syntax that identifies one image class as found in the image list. DCM Send Study works same roles as Archive Server to send a C-STORE request.

TABLE 3.1 Proposed Presentation Contexts for Archive Server and DCM Send Study

		Presentation Context Table			
Abstract Syntax	Transfer Syntax			Role	Extended Negotiation
Name	UID	Name List	UID List		
See note	See note	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
See note	See note	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
See note	See note	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
See note	See note	DICOM JPEG Baseline Process 1	1.2.840.10008.1.2.4.50	SCU	None
See note	See note	DICOM JPEG Extended Process 2 and 4	1.2.840.10008.1.2.4.51	SCU	None
See note	See note	DICOM JPEG Lossless Process First Order Predict	1.2.840.10008.1.2.4.70	SCU	None

Note: The Abstract Syntax corresponds to the value found in the database maintained by the each server. More than one presentation context can be offered, each with a different abstract syntax.
If compressed storage is enabled, proposed Transfer Syntax corresponds to the same value of stored images and following noncompressed transfersyntaxes. If not, proposed Transfer Syntaxes will be DICOM Implicit VR Little Endian, DICOM Explicit VR Little Endian and DICOM Explicit VR Big Endian. More than one presentation context can be offered, each with a different transfer syntax.

TABLE 3.2 Proposed Presentation Contexts for DICOM Echo

		Presentation Context Table			
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Verification	1.2.840.10008.1.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

A.2.1.2.2 SOP Specific Conformance Statement

Archive Server sends one C-MOVE response message for each attempted C-STORE operation. For each response to a C-STORE request (success, warning, failure), Archive Server prints that response with an interpretation of the status value. Archive Server takes no action in response to a failure of warning status.
Archive Server, DCM Send Study and DICOM Echo do not attempt any extended negotiation.
Archive Server and DCM Send Study do not delete any elements from the files it transfers. Therefore the set of optional elements depends entirely on the contents of the files which were originally stored on Archive Server In the event that Archive Server or DCM Send Study receive an unsuccessful C-STORE response, Archive Server or DCM Send Study will continue sending the remaining images in the requested set.

A.2.1.3 Association Acceptance Policy

Archive Server accepts associations for the purpose of storing images in its database or for the purpose of performing query/retrieve operations on the images that have been previously stored. Archive Server will only accept association requests from applications that are defined during configuration. In addition, Archive Server will only store images sent by nodes that have been enabled by a configuration step.

A.2.1.3.1 Real-Word Activity - Storage

Archive Server accepts associations from nodes that wish to store images using the C-STORE command.

A.2.1.3.1.1 Associated Real-World Activity

The associated Real-World activity associated with the C-STORE operation is the storage of the image on the disk of the system upon which Archive Server is running. Images are stored by writing the data set of the C-STORE command directly to disk with DICOM part 10 media storage header. If compressed storage is enabled, transferred images are compressed by DCM Modify Compress, modified to Explicit Little Endian syntax by DCM Modify Object and stored. Archive Server updates an image database with patient, study, series and image information; this image database can be used by the image server for query/retrieve operations. Archive Server will issue a failure status if it is unable to store the image on disk, if the image does not conform to the IOD of the SOP class under which it was transmitted, or if Archive Server is not able to successfully update its image database.

A.2.1.3.1.2 Presentation Context Table

Any of the Presentation Contexts shown in Table 4 are acceptable to Archive Server for receiving images. Note that we do not repeat all of the SOP Class UIDs because they are implemented in the same way by our system.

TABLE 4. Acceptable Presentation Contexts for Archive Server

		Presentation Context Table			
Abstract Syntax	Transfer Syntax			Role	Extended Negotiation
Name	UID	Name List	UID List		
Value from Table 2	Value from Table 2	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Value from Table 2	Value from Table 2	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Value from Table 2	Value from Table 2	Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None

A.2.1.3.1.2.1 SOP Specific Conformance for SOP Class Storage

Archive Server implements Level 2 (Full) conformance for the Storage SOP Class.

The following attributes are modified by converting all characters to upper case before data is stored in the image database. The image files themselves are not modified.

1. Patient Name
2. Patient ID
3. Accession Number
4. Study ID

In the event that an image is successfully stored by Archive Server, it may be accessed by requesting associations with Archive Server and performing query/retrieve operations. Archive Server is not designed to allow other access to stored images.

Archive Server returns the following status values in response to a C-STORE request:

0000H Image successfully stored

A700H Refused - out of resources (unable to create local file)

A900H Error- data set does not match SOP Class

C000H Error - cannot understand

In the case of an error of an error storing an image, there is no documented method for recovery.

A.2.1.3.1.3 Presentation Context Acceptance Criterion

Archive Server will accept any number of storage SOP classes that are listed in Table 4 above, provided that the requesting application is known to Archive Server and has been enabled to store images on Archive Server (via a configuration step). Archive Server defines no limit on the number of presentation contexts accepted. In the event that Archive Server runs out of resources when trying to accept multiple presentation contexts, Archive Server will reject the association request. Archive Server does not check for duplicate presentation contexts and will accept duplicate presentation contexts.

A.2.1.3.2 Real World Activity - Query

Archive Server accepts associations from nodes that wish to perform query (find) and retrieve (move) operations on images that have been previously stored by Archive Server.

A.2.1.3.2.1 Associated Real World Activity - Query

The real-world activity associated with C-FIND and C-MOVE requests are the query and retrieval operations initiated by another application. An application other than Archive Server queries Archive Server for patient/study/series/image information that has been previously stored by Archive Server and can request that Archive Server send images to a third application.

A.2.1.3.2.2 Presentation Context Table

Table 5 shows the presentation contexts that may be accepted by Archive Server for query operations.

TABLE 5. Acceptable Presentation Contexts for Query Classes

Abstract Syntax	Transfer Syntax	Presentation Context Table		Role	Extended Negotiation
Name	UID	Name List	UID List		
Patient Root Query/Retrieve Information Model – FIND	1.2.840.10008.5.1.4.1.2.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Patient Root Query/ Retrieve Information Model – MOVE	1.2.840.10008.5.1.4.1.2.1.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Study Root Query/ Retrieve Information Model – FIND	1.2.840.10008.5.1.4.1.2.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Study Root Query/ Retrieve Information Model – MOVE	1.2.840.10008.5.1.4.1.2.2.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Patient StudyOnly Query/Retrieve Information Model - FIND	1.2.840.10008.5.1.4.1.2.3.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Patient StudyOnly Query/Retrieve Information Model – MOVE	1.2.840.10008.5.1.4.1.2.3.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

A.2.1.3.2.2.1 SOP Specific Conformance for SOP Class Query/Retrieve

Archive Server does not support relational searches. Table 6 below indicates which keys are supported by Archive Server for the patient root information model. Archive Server also supports the patient/study only information model. The keys supported for that model are the same keys found in Table 6 with a level of "Patient" or "Study". Table 8 indicates which keys are supported by Archive Server for the study root information model. These tables include the optional and required keys that are supported. Optional keys are supported like required keys. Archive Server does not support relational queries.

TABLE 6. Keys Supported for Patient Root Information Model

Level	Description	Tag	Type
Patient	Patient Name	0010 0010	R
Patient	Patient ID	0010 0020	U
Patient	Patient Birth Date	0010 0030	O
Patient	Patient Birth Time	0010 0032	O
Patient	Patient Sex	0010 0040	O
Study	Study Date	0008 0020	R
Study	Study Time	0008 0030	R
Study	Accession Number	0008 0050	R
Study	Study ID	0020 0010	R
Study	Study Instance UID	0020 000D	U
Study	Referring Physican Name	0008 0090	O
Study	Study Description	0008 1030	O
Study	Patient's Age	0010 1010	O
Study	Patient's Size	0010 1020	O
Study	Patient's Weight	0010 1030	O
Series	Modality	0008 0060	R
Series	Series Number	0020 0011	R
Series	Series Instance UID	0020 000E	U
Series	Body Part Examined	0018 0015	O
Image	Image Number	0020 0013	R
Image	SOP Instance UID	0008 0018	U
Image	SOP Class UID	0008 0016	O
Image	Samples Per Pixel	0028 0002	O
Image	Rows	0028 0010	O
Image	Columns	0028 0011	O
Image	Bits Allocated	0028 0100	O
Image	Bits Stored	0028 0101	O
Image	Pixel Representation	0028 0103	O

Archive Server supports the three MOVE SOP classes listed in Table 5. In response to a move request, Archive Server supports the Storage SOP classes that are listed in Table 1.

TABLE 7. Keys Supported for Study Root Information Model

Level	Description	Tag	Type
Study	Study Date	0008 0020	R
Study	Study Time	0008 0030	R
Study	Accession Number	0008 0050	R
Study	Patient Name	0010 0010	R
Study	Patient ID	0010 0020	R
Study	Study ID	0020 0010	R
Study	Study Instance UID	0020 000D	U
Study	Referring Physican Name	0008 0090	O
Study	Study Description	0008 1030	O
Study	Patient Birth Date	0010 0030	O
Study	Patient Birth Time	0010 0032	O
Study	Patient Sex	0010 0040	O
Study	Patient's Age	0010 1010	O
Study	Patient's Size	0010 1020	O
Study	Patient's Weight	0010 1030	O
Series	Modality	0008 0060	R
Series	Series Number	0020 0011	R
Series	Series Instance UID	0020 000E	U
Series	Body Part Examined	0018 0015	O
Image	Image Number	0020 0013	R
Image	SOP Instance UID	0008 0018	U
Image	SOP Class UID	0008 0016	O
Image	Samples Per Pixel	0028 0002	O
Image	Rows	0028 0010	O
Image	Columns	0028 0011	O
Image	Bits Allocated	0028 0100	O
Image	Bits Stored	0028 0101	O
Image	Pixel Representation	0028 0103	O

A.2.1.3.2.3 Presentation Context Acceptance Criterion

Archive Server will accept any number of query SOP classes that are listed in Table 5 above, provided that the requesting application is known to Archive Server and has been enabled to make requests from Archive Server (via a configuration step). Archive Server defines no limit on the number of presentation contexts accepted. In the event that Archive Server runs out of resources when trying to accept multiple presentation contexts, Archive Server will reject the association request. Archive Server does not check for duplicate presentation contexts and will accept duplicate presentation contexts.

A.2.1.3.2.4 Transfer Syntax Selection Policies

Archive Server server only supports the Implicit VR Little Endian transfer syntax. Any proposed presentation context which includes the Implicit VR Little Endian transfer syntax will be accepted with the Implicit VR Little Endian transfer syntax. Any proposed presentation context that does not include the Implicit VR Little Endian transfer syntax will be rejected.

A.2.1.3.3 Real World Activity - Verification

Archive Server accepts associations from nodes that wish to perform a verification operation on the Archive Server.

A.2.1.3.3.1 Associated Real World Activity - Verification

The real-world activity associated with the C-ECHO request is that an external node wishes to verify network or server operation without initiating any actual work.

A.2.1.3.3.2 Presentation Context Table

Table 8 shows the presentation contexts that may be accepted by Archive Server for verification operations.

TABLE 8. Acceptable Presentation Contexts for Archive Server for Verification

		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

A.2.1.3.3.2.1 SOP Specific Conformance for SOP Class Verification

A.2.1.3.3.3 Presentation Context Acceptance Criterion

Archive Server will accept any number of verification SOP classes that are listed in Table 8 above, provided that the requesting application is known to Archive Server (via a configuration step). Archive Server defines no limit on the number of presentation contexts accepted. In the event that the Archive Server runs out of resources when trying to accept multiple presentation contexts, Archive Server will reject the association request. Archive Server does not check for duplicate presentation contexts and will accept duplicate presentation contexts.

A.2.1.3.3.4 Transfer Syntax Selection Policies

Archive Server only supports the Implicit VR Little Endian transfer syntax. Any proposed presentation context which includes the Implicit VR Little Endian transfer syntax will be accepted with the Implicit VR Little Endian transfer syntax. Any proposed presentation context that does not include the Implicit VR Little Endian transfer syntax will be rejected.

A.3 Communication Profiles

A.3.1 TCP/IP Stack

Archive Server, DICOM Echo and DCM Send Study provide DICOM V3.0 TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard.

A.3.1.1 TCP/IP API

Archive Server, DICOM Echo and DCM Send Study use the TCP/IP stack from the Unix system upon which it executes. They use a subroutine library that is based on a Berkeley socket interface.

A.3.1.2 Physical Media Support

Archive Server, DICOM Echo and DCM Send Study exist as software applications that can be compiled as Unix system processes. As such, they place no restrictions on the physical network.

A.4 Extensions/Specializations/Privatizations

Not applicable

A.5 Configuration

Archive Server obtains configuration information from a "Control" database which is stored in a relational database. In this implementation, the relational database is MySQL Database.

A.5.1 AE Title/Presentation Address Mapping

The control table "ApplicationEntity" is used to map between AE Titles and Presentation Addresses.

A.5.2 Security Features

Archive Server uses three additional control tables to control access. These tables allow Archive Server to determine which nodes are allowed read and or write access and where images should be stored.

A.5.3 Support of Extended Character Sets

Archive Server provides no support for extended character sets.