



# DIADEM DICOM Conformance Statement

Software Version: 1.4  
Document Version: 5.0

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# 1 Glossary

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Application Entity (AE)	An end point of a DICOM information exchange, including the DICOM network or media interface software; i.e., the software that sends or receives DICOM information objects or messages. A single device may have multiple Application Entities.
DIADDEM	The software product whose conformance is specified in this document.
DICOM	Digital Imaging and Communications in Medicine (DICOM) is a standard for handling, storing, printing, and transmitting information in medical imaging. It includes a file format definition and a network communications protocol.
JPG	Joint Photographic Experts Group (JPEG). A set of standardized image compression techniques, available for use by DICOM applications.
PACS	Picture Archive and Communication System, a computer network for digitized radiologic images and reports.
PDF	The Portable Document Format, a file format used to present documents in a manner independent of application software, hardware, and operating systems.
Service Class Provider (SCP)	Role of an Application Entity that provides a DICOM network service; typically, a server that performs operations requested by another Application Entity (Service Class User). Examples: Picture Archiving and Communication System (image storage SCP, and image query/retrieve SCP), Radiology Information System (modality worklist SCP).
Service Class User (SCU)	Role of an Application Entity that uses a DICOM network service; typically, a client. Examples: imaging modality (image storage SCU, and modality worklist SCU), imaging workstation (image query/retrieve SCU)
Service/Object Pair Class (SOP Class)	The specification of the network or media transfer (service) of a particular type of data (object); the fundamental unit of DICOM interoperability specification. Examples: Ultrasound Image Storage Service, Basic Grayscale Print Management.

## 2 Introduction

### 2.1 Background

Radiologists and neuroradiologists use MRI images of a patient’s brain during the assessment of a patient for dementia. The MRI images can be used to compare the patient’s brain structural regions against a set of normal, expected human brain structures. Any differences identified between the patient’s brain structural regions and those regions in a normal brain, may indicate the nature of the patient’s dementia.

The DIADEM product provides a report containing volumetric data for a whole brain and 150 smaller brain regions derived from an MRI 3D scan. The patient’s volumetric data is compared to a normal database to generate patient to normal ratio volumetric data. The report is used by radiologists and neuroradiologists to better inform their clinical judgement on assessment of dementia.

The DIADEM system interacts with a hospital’s PACS to automatically discover suitable MRI images to scan, and to push resulting reports to the PACS.

### 2.2 References

Document Title	Document No.	Version	Date
DICOM PS3.2 2017a - Conformance	PS 3.2	2017a	

### 3 Conformance Statement Overview

This DIADEM product implements the necessary DICOM services to query an information system for images that it can process, download suitable images from the information system, and provide reports containing the results of that processing to the information system for permanent storage.

Table 1 provides an overview of the network services supported by DIADEM.

*Table 1 - Network Services*

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
<b>Transfer</b>		
MR Image Storage	No	Yes
Encapsulated PDF Storage (PDF Report)	Yes	No
Secondary Capture Image Storage	Yes	No
<b>Query/Retrieve</b>		
Study Root Information Model FIND	Yes	No
Study Root Information Model GET	Yes	No
Study Root Information Model MOVE	Yes	No

## 4 Networking

### 4.1 Implementation Model

#### 4.1.1 Application Data Flow

Figure 1 is a summary of the data flows between DIADEM and the PACS (when the system is configured for automatic processing by polling the PACS). The DIADEM system being described is contained in the grey box; the other (green) items represent applications and activities outside of DIADEM and are included for context only.

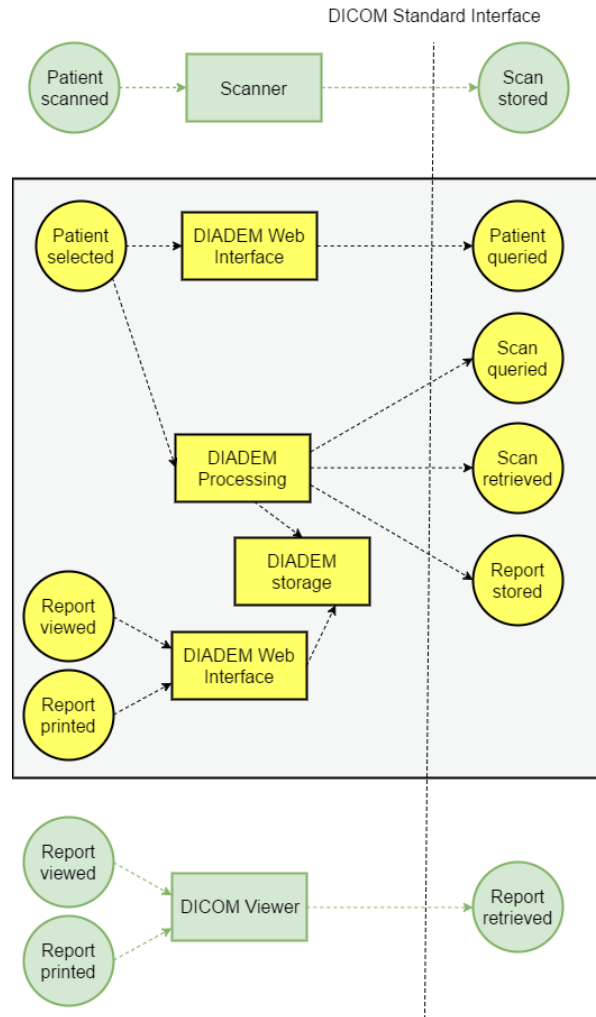


Figure 1 - Application Data Flow Diagram

When a patient is scanned, their scan is stored in the PACS.

DIADDEM Processing runs continuously, querying the PACS for scans of interest. When it finds one it retrieves the scan from the PACS and processes the scan. If this succeeds then it stores a report locally, and may also store it in the PACS.

It is also possible for the user to search for a patient to scan and to instruct the processing to process that patient's scans, using the DIADEM web interface.

The reports may be viewed directly through the DIADEM web interface, or using a standard DICOM viewer to view reports that have been stored in the PACS.

The system may also be configured to allow DICOMS to be pushed directly from a scanner (or the PACS) to DIADEM for processing, rather than by polling.

Another possible configuration is for files to be uploaded via the web interface, potentially with no connection to the PACS at all.

4.1.2 Functional Definition of AEs

4.1.2.1 *Functional Definition of StoreSCP Application Entity*

If the DIADEM Processing Entity is configured for automatic processing and to receive data using C MOVE then an instance of the StoreSCP program (part of the open-source DCM4CHE Tools library) is launched and used to listen for incoming C STORE requests. StoreSCP will also be launched if the system is configured as a “push target” (i.e. to process scans sent directly from the scanner or PACS, without polling).

If the DIADEM Processing Entity is configured for automatic processing and to receive data using C GET then this entity will not be created.

4.1.2.2 *Functional Definition of DIADEM Web Interface Application Entity*

Normally the DIADEM Processing system will process series (scans) automatically. However, there are cases where the user may wish to instruct the system to process a scan, for example if that scan was taken before DIADEM was installed. In this case, the user enters the patient ID of interest into a web page and the web interface queries the PACS using C FIND for patient(s) with that ID. The user can then select a patient and the DIADEM Processing will subsequently download and process the patient’s scans as described below.

Another possible system configuration allows scans to be uploaded for processing via the web interface.

The Web Interface also enables the user to view reports from local storage.

4.1.2.3 *Functional Definition of DIADEM Processing Entity*

This software runs continuously. If the system is configured for automatic processing then it regularly polls the PACS using C-FIND for studies with a recent study time (by default, within the last 30 minutes). If possible it keeps track of the number of series (scans) within each study so that it can notice if a new series is added to a study. If a new series is detected then if possible its image count is queried using C-FIND and this query is repeated at intervals to determine when all images have been uploaded for that series.

The DIADEM Processing then retrieves one image object for the series using either C GET or C MOVE (configurable), which it examines to determine if the series appears to be suitable for processing. If so then the entire image is downloaded using either C GET or C MOVE and then processed.

Alternatively, depending on the configuration, processing may be initiated by a scan that is pushed to the system from a scanner, or is uploaded via the web interface.

The result of processing is a report. The report will typically be automatically pushed into the PACS using C STORE.

## 4.2 AE Specifications

This section applies to all the Application Entities.

4.2.1 SOP Classes

DIADEM Application Entities provide Standard Conformance to the SOP Classes shown in Table 2:

*Table 2 - SOP Classes for AE Storage*

SOP Class Name	SOP Class UID	SCU	SCP
<b>StoreSCP Application Entity</b>			
<b>Transfer</b>			
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	No	Yes

SOP Class Name	SOP Class UID	SCU	SCP
<b>Other Application Entities</b>			
<b>Query/Retrieve</b>			
Study Root Information Model FIND	1.2.840.10008.5.1.4.1.2.2.1	Yes <sup>1</sup>	No
Study Root Information Model GET	1.2.840.10008.5.1.4.1.2.1.3	Yes <sup>2</sup>	No
Study Root Information Model MOVE	1.2.840.10008.5.1.4.1.2.2.2	Yes <sup>3</sup>	No
<b>Transfer</b>			
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	No	Yes
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Yes <sup>4</sup>	No
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Yes <sup>5</sup>	No

- 1 – If the system is configured for automatic processing
- 2 – If the system is configured for automatic processing and using C GET protocol
- 3 – If the system is configured for automatic processing and using C MOVE protocol
- 4 – If report storage is enabled and the system is configured to store reports in PDF format
- 5 – If report storage is enabled and the system is configured to store reports in PNG, JPG or GIF format

**4.2.2 Association Policies**

**4.2.2.1 General**

The DICOM standard application context name for DICOM 3.0 shown in Table 3 is always proposed:

*Table 3 - DICOM Application Context for AE Storage*

Item	Value
Application Context Name	1.2.840.10008.3.1.1.1

**4.2.2.2 Number of Associations**

DIADEM Application Entities only perform one transaction (C FIND, C GET, C MOVE or C GET) at a time.

**4.2.2.3 Implementation Identifying Information**

The implementation information for these Application Entities is shown in Table 4:

*Table 4 - DICOM Implementation Class and Version for AE Storage*

Item	Value
<b>StoreSCP Application Entity</b>	
Implementation Class UID	1.2.40.0.13.1.1.1
Implementation Version Name	dcm4che-1.4.31
<b>Other Application Entities</b>	
Implementation Class UID	1.2.826.0.1.9537531.3
Implementation Version Name	The name and version number of the software (e.g. "DIADEM 1.0.0")



**4.2.3 Association Initiation Policy**

**4.2.3.1 Patient Query Activity**

4.2.3.1.1 Description and Sequencing of Activities

This activity is initiated by the user of the web user interface. The user can enter the ID of a patient, which causes a C FIND query to be sent to the PACS. The results of this query are shown to the user, who can then choose to import the patient’s series – see the Patient Import Activity.

4.2.3.1.2 Proposed Presentation Contexts

Table 5 - Proposed Presentation Contexts for DIADEM Application Entities

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Study Root - FIND	1.2.840.10008.5.1.4.1.2.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	NONE
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

4.2.3.1.3 SOP Specific Conformance for SOP Classes

See section 4.2.5.

**4.2.3.2 Patient Import Activity**

4.2.3.2.1 Description and Sequencing of Activities

This activity is performed by the processing entity and is triggered by the Patient Query Activity; the two activities are separated because they are performed by different Application Entities.

It consists of a C FIND query for the specified patient which lists the patient’s series and starts them being tested and imported by the Series Processing Activity, in the same way as if the series had been found automatically by the Series Polling Activity.

It consists of first retrieving a single image of the scan, using a C-FIND query to obtain a SOP (i.e. image) UID, followed by a C GET or C MOVE.

The DICOM in this image is examined to see if the series is suitable for processing (see section 9.1.2.3).

If the series is suitable for processing then the entire series is obtained using C GET or C MOVE.

4.2.3.2.2 Proposed Presentation Contexts

Proposed presentation contexts and error handling are identical to the Patient Query Activity above.

4.2.3.2.3 SOP Specific Conformance for SOP Classes

See section 4.2.5.

**4.2.3.3 Series Polling Activity**

4.2.3.3.1 Description and Sequencing of Activities

This activity is the polling for new series that have been pushed to the PACS (for instance by scanners).

The activity is triggered by a timer (by default, every 30 seconds), if the system is configured for automatic processing.

It uses a sequence of C FIND queries to detect new series and wait until they are “stable” (i.e. no more images are being uploaded to a series). Where possible, a single C FIND is issued for several studies or series rather than using multiple queries.

It consists of first retrieving a single image of the scan, using a C-FIND query to obtain a SOP (i.e. image) UID, followed by a C GET or C MOVE.

The DICOM in this image is examined to see if the series is suitable for processing (see section 9.1.2.3).

If the series is suitable for processing then the entire series is obtained using C GET or C MOVE.

4.2.3.3.2 Proposed Presentation Contexts

Table 6 - Proposed Presentation Contexts for DIADEM Application Entities

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Study Root - FIND	1.2.840.10008.5.1.4.1.2.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	NONE
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
Study Root - GET	1.2.840.10008.5.1.4.1.2.2.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	NONE
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
Study Root - MOVE	1.2.840.10008.5.1.4.1.2.2.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	NONE
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	NONE
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

Due to a restriction in the toolkit used, the following SOP classes are all also proposed alongside all C-GET requests, all with Implicit and Explicit VR Little-Endian and Explicit VR Little Endian transfer syntaxes, and SCP role, but they are never actually used:

- Study Root Query/Retrieve Information Model - GET (1.2.840.10008.5.1.4.1.2.2.3)
- Computed Radiography Image Storage (1.2.840.10008.5.1.4.1.1.1)
- 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 X-Ray Image Storage - For Presentation (1.2.840.10008.5.1.4.1.1.1.2)
- Digital Mammography X-Ray Image Storage - For Processing (1.2.840.10008.5.1.4.1.1.1.2.1)
- Digital Intra-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)
- CT Image Storage (1.2.840.10008.5.1.4.1.1.2)
- Ultrasound Multi-frame Image Storage (1.2.840.10008.5.1.4.1.1.3.1)
- MR Image Storage (1.2.840.10008.5.1.4.1.1.4)
- Ultrasound Image Storage (1.2.840.10008.5.1.4.1.1.6.1)
- Secondary Capture Image Storage (1.2.840.10008.5.1.4.1.1.7)
- Grayscale Softcopy Presentation State Storage SOP Class (1.2.840.10008.5.1.4.1.1.11.1)
- X-Ray Angiographic Image Storage (1.2.840.10008.5.1.4.1.1.12.1)
- X-Ray Radiofluoroscopic Image Storage (1.2.840.10008.5.1.4.1.1.12.2)
- Nuclear Medicine Image Storage (1.2.840.10008.5.1.4.1.1.20)
- VL Photographic Image Storage (1.2.840.10008.5.1.4.1.1.77.1.4)
- Video Photographic Image Storage (1.2.840.10008.5.1.4.1.1.77.1.4.1)
- Basic Text SR Storage (1.2.840.10008.5.1.4.1.1.88.11)
- Enhanced SR Storage (1.2.840.10008.5.1.4.1.1.88.22)
- Key Object Selection Document Storage (1.2.840.10008.5.1.4.1.1.88.59)
- X-Ray Radiation Dose SR Storage (1.2.840.10008.5.1.4.1.1.88.67)
- Encapsulated PDF Storage (1.2.840.10008.5.1.4.1.1.104.1)
- Positron Emission Tomography Image Storage (1.2.840.10008.5.1.4.1.1.128)

4.2.3.3.3 SOP Specific Conformance for SOP Classes

See section 4.2.5.

4.2.3.4 Push Target Activity

4.2.3.4.1 Description and Sequencing of Activities

This activity is the polling for new series that have been pushed to the DIADEM system (for instance by scanners). The activity is triggered by a timer (by default, every 30 seconds), if the system is configured as a push target. It monitors the data that has been received by the StoreSCP AE, on disk, waiting for scans to become “stable” before they are considered ready to process. It does not interact with the PACS or with the scanner. The DICOM in this image is examined to see if the series is suitable for processing (see section 9.1.2.3).

4.2.3.5 Scan Upload Activity

4.2.3.5.1 Description and Sequencing of Activities

This activity is initiated by the user of the web user interface. If so configured, the user may upload data in DICOM (or some other formats) for processing. The DICOM in this image is examined to see if the series is suitable for processing (see section 9.1.2.3). There is no interaction with the PACS or scanner.

4.2.3.6 Series Processing Activity

4.2.3.6.1 Description and Sequencing of Activities

This activity is triggered when a new series has been identified and checked by the Series Polling Activity, Push Target Activity, Scan Upload Activity or Patient Import Activity. When resources allow, the series is processed, producing a report.

4.2.3.7 Report Storage Activity

4.2.3.7.1 Description and Sequencing of Activities

If the system is so configured, once a report has been generated by the Series Processing Activity then it will be automatically pushed to the PACS using C STORE. This activity can also be triggered by the user, through the web user interface.

4.2.3.7.2 Proposed Presentation Contexts

Table 7 - Proposed Presentation Contexts for DIADEM Application Entities

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
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	NONE
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	NONE
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	NONE

Presentation Context Table					
Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	UID	Name List	UID List		
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	NONE

4.2.3.7.3 SOP Specific Conformance for SOP Classes

See section 4.2.5.

4.2.4 Association Acceptance Policy

4.2.4.1 All Activities

4.2.4.1.1 Description and Sequencing of Activities

Whilst the StoreSCP AE will accept associations and instances at any time that it is running, those instances are only inspected and considered for use in processing as part of the Series Polling Activity or Push Target Activity. Received instances are stored on disk using the Series UID and SOP Instance UID.

If configured to use Series Polling Activity, received instances that were not requested as part of the Series Polling Activity will be stored and will then be ignored.

4.2.4.1.2 Accepted Presentation Contexts

Table 8 - Acceptable Presentation Contexts

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	SCP	NONE
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	NONE
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

No extended negotiation is performed.

4.2.4.1.3 SOP Specific Conformance for SOP Classes

See section 4.2.5.

4.2.5 Error and communication failure handling

The DIADEM software handles errors and communications failures as follows. This mechanism is intended to provide resilience in the event of a communications failure, while also allowing the system to continue if a PACS should for some reason reject some specific request.

In the event of a command returning an error (irrespective of the returned error code, including “communications failure”), the system will retry the command at intervals, in addition to other commands that may be scheduled.

A command will eventually be considered to have failed if:

- Some other command succeeded immediately before this failure, and
- This command has failed at least 3 times previously (this is the 4th failure), and
- Some other command has succeeded after at least 3 of the previous failures

The effect of this failure is as follows:

- When a failing command is the initial query of a Series Polling Activity then the system continues to poll (the failure has no effect).
- When a failing command is a later part of the Series Polling Activity then the relevant pipeline will fail.
- When a failing command is part of the Patient Query Activity or a Patient Import Activity then the GUI will report the error and the activity ends.
- When a failing command is part of a Report Storage Activity then the storage will fail.

In all cases, the error and any resulting failure are logged to the application’s log file.

## 4.3 Network Interfaces

### 4.3.1 Physical Network Interface

DIADEM Web Interface and DIADEM Processing are installed in the same computer and share both a network connection and the PACS configuration. These are software products and so the physical interfaces depend on the computer on to which the software is installed.

### 4.3.2 Additional Protocols

DIADEM Web Interface and DIADEM Processing are software products. Other protocols may be used by the computer on which the software is installed to configure the network, achieve time synchronisation, etc.

## 4.4 Configuration

Configuration settings include:

- PACS IP address, port and AET
- AET and listen port of the StoreSCP AET
- Whether to accept new data by polling, push target, patient import or web upload
- Whether to use C GET or C MOVE to retrieve series (if polling)
- Parameters of the polling algorithm used to query for new series (e.g. how long in time to “look back” when querying by study time)
- “PACS Protector” settings, which limit the scope and frequency of PACS interactions
- Installation serial number (used when creating series numbers for C-STORE)
- Modalities of interest (by default MR only)
- SOP Classes of interest (by default, 1.2.840.10008.5.1.4.1.1.4 and 1.2.840.10008.5.1.4.1.1.4.1)
- Determining which series are suitable for processing (see section 9.1.2.3)

These settings are intended to be configured by BrainMiner service personnel only.

## 5 Media interchange

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Not applicable.

## 6 Transformation of DICOM to CDA

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Not applicable.

## 7 Support of Character Sets

In addition to the default character repertoire, the Defined Terms for Specific Character Set are supported:

Defined Term	Character Set Description
ISO_IR 100	Latin alphabet No. 1
ISO_IR 101	Latin alphabet No. 2
ISO_IR 109	Latin alphabet No. 3
ISO_IR 110	Latin alphabet No. 4
ISO_IR 144	Cyrillic
ISO_IR 127	Arabic
ISO_IR 126	Greek
ISO_IR 138	Hebrew
ISO_IR 148	Latin alphabet No. 5
ISO_IR 13	Japanese
ISO_IR 166	Thai
ISO IR 192	Unicode in UTF-8
GB18030	Chinese GB 18030

In the event of an unsupported character set being received, the data will be accepted by the system but the processing pipeline will fail.



## 8 Security

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DIADEM Web Interface and DIADEM Processing make use of LDAP to authenticate users.

A command line tool will be provided to service personnel to add administrative users.

DIADEM Web Interface enables an administrative user to configure users and groups as either radiologist or administrative users.

## 9 Annexes

### 9.1 IOD Contents

#### 9.1.1 Created SOP Instances

None.

#### 9.1.2 Usage of Attributes From Received IODs

##### 9.1.2.1 C-FIND

The following attributes are used in C-FIND queries:

Tag	Usage	Required
PatientID	Specified	Yes*
PatientName	Specified	Yes*
PatientBirthDate	Queried	Yes
ReferringPhysicianName	Queried	No
PatientSex	Queried	No
StudyInstanceUID	Queried	No
StudyID	Queried	No
StudyDate	Queried / Specified	Yes
StudyTime	Queried / Specified	No
StudyDescription	Queried	No
AccessionNumber	Queried	No
NumberOfStudyRelatedSeries	Queried	No
StudyInstanceUID	Queried / Specified	Yes
SeriesInstanceUID	Queried / Specified	Yes
SOPInstanceUID	Queried / Specified	Yes
SeriesNumber	Queried	No
SeriesDescription	Queried	No
Modality	Queried	No
NumberOfSeriesRelatedInstances	Queried	No
ModalitiesInStudy	Specified	No

\* The combination of name and ID is considered unique; DIADEM will accept a missing name or ID providing that at least one of them is provided.

##### 9.1.2.2 C-GET and C\_MOVE

The following DICOM tags are used for C-GET and C-MOVE requests:

Tag	Usage	Required
StudyInstanceUID	Specified	Yes

Tag	Usage	Required
SeriesInstanceUID	Specified	Yes
SOPInstanceUID	Specified	Yes

**9.1.2.3 DICOM Files – Suitability checking**

Additional tags are read from the DICOM files received using C MOVE or C GET in order to determine if a series is suitable for processing. This system is configurable and may vary from site to site. A default implementation will test the following tags:

Tag	Required
ProtocolName	Yes*
SeriesDescription	Yes*
ReceiveCoil	Yes
SeriesMagneticFieldStrength	Yes
SliceThickness	Yes

\* ProtocolName and SeriesDescription are both searched for relevant strings, which only need to be found in one of them.

**9.1.2.4 DICOM Files – Information for reports**

The following attributes are read from the DICOM files received using C MOVE or C GET and baked into the report content if they are present:

Tag
PatientID
PatientName
PatientBirthDate
PatientSex
StudyDate
StudyTime
SeriesNumber
SeriesMagneticFieldStrength
InstitutionName
StationName
StationManufacturer
Other Patient IDs Sequence (0010, 1002) – NHS Number

**9.1.3 Attribute Mapping**

Not applicable.

**9.1.4 Coerced/Modified Fields**

No coercion is performed.

## 9.2 Data Dictionary of Private Attributes

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No private attributes are defined.

## 9.3 Coded Terminology and Templates

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Not applicable.

## 9.4 Grayscale Image Consistency

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Not applicable.

## 9.5 Standard Extended/Specialized/Private SOP Classes

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None.

## 9.6 Private Transfer Syntaxes

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None.