TOSHIBA

DICOM CONFORMANCE STATEMENT

MODALITY WORKLIST MANAGEMENT SCU
MODALITY PERFORMED PROCEDURE STEP SCU

FOR

TOSHIBA DIGITAL FLUOROGRAPHY SYSTEM

MODEL DFP-2000A

with XIDF-058A

(MIIXR0009EAA)

TOSHIBA CORPORATION

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1. Introduction

This document is a DICOM Conformance Statement for TOSHIBA's Digital Fluorography System. It is intended to provide the reader with the knowledge of how to integrate this product within a DICOM compliant hospital network. It details the DICOM Service Classes, Information Objects, and Communication Protocols which are supported by this product.

If the reader is unfamiliar with DICOM, it is recommended that they read the DICOM Specification (referenced below) prior to reading this conformance statement. Also note that this document is formatted according to the DICOM Specification, Part 2: Conformance.

1.1. References

- ACR-NEMA Digital Imaging and Communications in Medicine, DICOM V3.0.

1.2. Definitions

- **Association Establishment** - An Association Establishment is the first phase of communication between two DICOM Application Entities. The AEs use the Association Establishment to negotiate how data will be encoded and the type of data to be exchanged.
- **Called Application Entity Title** - The Called AE Title defines the intended receiver of an Association.
- **Calling Application Entity Title** - The Calling AE Title defines the requestor of an Association.
- **DICOM Message Service Element (DIMSE)** - A DIMSE defines the services and protocols utilized by an Application Entity to exchange messages.
- **Information Object Definition (IOD)** - An IOD is a data model which is an abstraction of real-world information. This data model defines the nature and attributes relevant to the class of real-world objects represented.
- **Service Class Provider (SCP)** - A Service Class Provider plays the "server" role to perform operations and invoke notifications during an Association. An example of a Storage Service Class Provider would be an image storage device. In this case, the image storage device is storing the image that was sent by a Service Class User.
- **Service Class User (SCU)** - A Service Class User plays the "client" role to invoke operations and perform notifications during an Association. An example of a Storage Service Class User would be an image acquisition device. In this case, the image acquisition device will create and send a DICOM image by requesting that a Service Class Provider store that image.
- **Service/Object Pair (SOP) Class** - A SOP Class is defined by the union of an Information Object Definition and a set of DIMSE Services. A DICOM Application Entity may support one or more SOP Classes. Each SOP Class is uniquely identified by a SOP Class UID.
- **SOP Instance** - A specific occurrence of a Information Object.
- **Transfer Syntax** - The Transfer Syntax is a set of encoding rules that allow DICOM Application Entities to negotiate the encoding techniques (e.g. data element structure, byte ordering, compression) they are able to support. The Transfer Syntax is negotiated during Association Negotiation.
- **Unique Identifier (UID)** - A Unique Identifier is a globally unique, ISO compliant, ASCII-numeric string. It guarantees uniqueness across multiple countries, sites, vendors and equipment.

1.3. Acronyms, Abbreviations and Symbols

- ACC American College of Cardiology
- ACR American College of Radiology
- ASCII American Standard Code for Information Interchange
- AE Application Entity
- ANSI American National Standards Institute
- CEN TC251 Comite Europeen de Normalisation - Technical Committee 251 - Medical Informatics
- DICOM Digital Imaging and Communications in Medicine
- DIMSE DICOM Message Service Element
- DIMSE-C DICOM Message Service Element - Composite
- DIMSE-N DICOM Message Service Element - Normalized
- HIS Hospital Information System
- HL7 Health Level 7
- IE Information Entity
- IOD Information Object Definition
- ISO International Standards Organization
- JIRA Japan Industries Association of Radiological Systems
- MPPS Modality Performed Procedure Step
- NEMA National Electrical Manufacturers Association
- OSI Open Systems Interconnection
- PDU Protocol Data Unit
- RIS Radiology Information System
- SCP Service Class Provider
- SCU Service Class User
- SOP Service-Object Pair
- TCP/IP Transmission Control Protocol/Internet Protocol
- UID Unique Identifier

2. Implementation Model

2.1. Application Data Flow Diagram

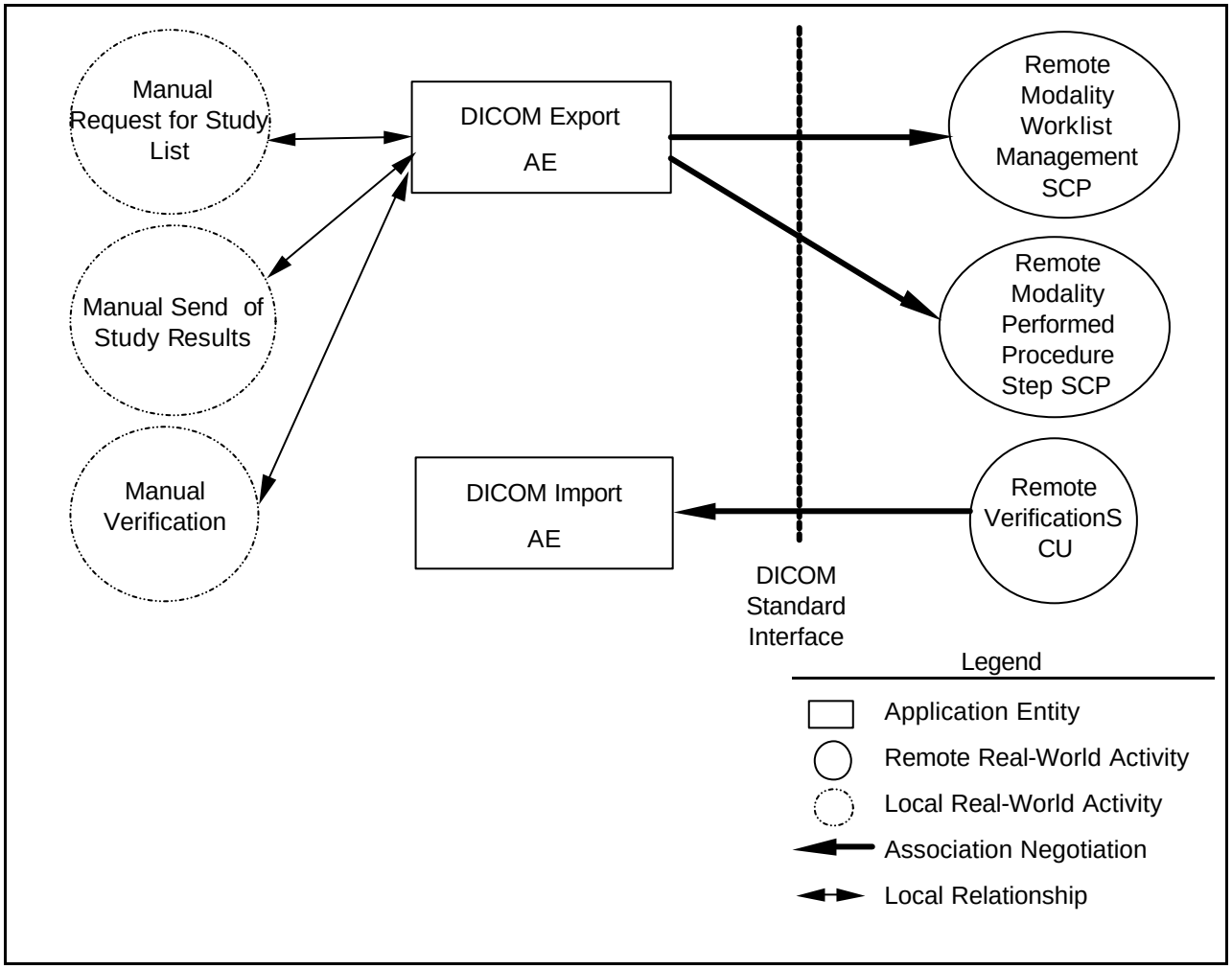

Figure 1

2.2. Functional Definitions of AE's

2.2.1. Export AE

Export AE is used to transmit request for Study List to a remote DICOM device and to retrieve Study List with Procedure Step . It therefore performs the following tasks:

- Establishes DICOM Association with remote DICOM device
- Performs request of DICOM Modality Worklist Objects to remote DICOM device
- Retrieves Study List with Procedure Step Information from remote DICOM device

Export AE is used to transmit the information of Modality Performed Procedure Step to a remote DICOM device. It therefore performs the following tasks:

- Builds DICOM Modality Performed Procedure Step Objects
- Establishes DICOM Association with remote DICOM device
- Performs transmit of DICOM Modality Performed Procedure Step Objects to remote DICOM device

Export AE is used to verify that a remote DICOM device is active on the network. It therefore performs the following tasks:

- Establishes DICOM Association with remote DICOM device
- Performs verification of a remote DICOM device's presence on network

2.2.2. Import AE

Import AE is used to respond to requests to verify that the Digital Fluorography System is present and active on the network.

2.3. Sequencing of Real World Activities

2.3.1. Features

2.3.1.1. Manual Request for Study List

- Operator manually requests to transmit requesting Study List and retrieves it with Procedure Step.

2.3.1.2. Manual Send of Study Results

- The start of study is sent automatically at the time of the first image acquisition.
- Operator can send Study results manually.

2.3.1.3. Manual verification

- Operator can request verification manually on troubleshooting.

2.3.2. Operation

2.3.2.1. Manual Request for Study List

The operation for manual request for Study List is described below:

Step-1: Specify the Scheduled Procedure Step Start Date, Scheduled Performing Physician's Name, Patient ID, etc., request for Study List to the remote SCP.

Step-2: Select one or more of the Study List for the examination.

Step-3: Register the patient name, patient ID, etc. to the Digital Fluorography System.

2.3.2.2. Manual Send of Study Results

The operation for manual send of study results is described below.

STEP-1: Select patient information for the study.

STEP-2: Perform image acquisition for the study.

STEP-3: Press “Complete” button to send study results.

Study results are sent automatically when operator selects the next patient information.

2.3.2.3. Manual verification

The operation for manual verification is described below:
STEP-1: Select the destination of verification.
STEP-2: Request verification.

3. AE Specifications

3.1. Export AE Specification

Export AE provides Standard Conformance to the following DICOM SOP Classes as an SCU:

Table 1

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
Modality Worklist Information Model-FIND	1.2.840.10008.5.1.4.31
Modality Performed Procedure Step	1.2.840.10008.3.1.2.3.3

3.1.1. Export Association Establishment Policies

3.1.1.1. Export General

Export AE will utilize and understand the following Application Context Name:

Table 2

DICOM V3.0 Application Context	1.2.840.10008.3.1.1.1

Export AE supports a minimum PDU size of 16 Kbytes and a maximum PDU size of 64 Kbytes. The default value is set to 16 Kbytes.

3.1.1.2. Export Number of Associations

Export AE can only establish one association at a time, independent of the number of destinations chosen.

3.1.1.3. Export Asynchronous Nature

Export AE allows a single outstanding operation on any association. Therefore, Export AE does not support asynchronous operations window negotiation, other than the default as specified by the DICOM specification.

3.1.1.4. Export Implementation Identifying Information

Export AE will specify the following Implementation Identifying Information:

- Implementation Class UID <1.2.392.200036.9116.31>
- Implementation Version Name <TM_XA_DCM_V12>

3.1.2. Export Association Initiation by Real-World Activity

Export AE initiates an association when the operator chooses the following activity:

- "Manual Request for Study List"
  - — Request Worklist - Query and Retrieve Study List
- "Manual Send of Study Results"
  - — MPPS - Create and send MPPS to a remote DICOM device.
- "Manual Verification"
  - — Verification - Verify that a remote DICOM device is present on the network

    Verification is initiated manually.

3.1.2.1. Export Real-World Activity - Request Worklist

3.1.2.1.1. Export Associated Real-World Activity - Request Worklist

The operator specifies a search and sends the request to a remote DICOM device.

When the results of the search have been completely received, the association is released.

3.1.2.1.2. Export Proposed Presentation Contexts - Request Worklist

Export AE proposes the following Presentation Context shown below:

Table 3

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**			**Extended**
Name	**UID**	**Name List**	**UID List**	**Role**	**Negotiation**
Modality Worklist Information Model - FIND	1.2.840.10008.5.1.4.31	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

3.1.2.1.2.1. Export SOP Specific Conformance - Request Worklist

- Export AE operation involves the following sequence of steps for each Query and Retrieve Study List.

  (1) Association establishment (requestor only)

  (2) Query and Retrieve Study List (SCU only)

  (3) Association release (requestor only)

  Export AE judges that the “Query and Retrieve Study List” succeeded when the result of (2) “Query and Retrieve Study List” is “Success” even if the result of (3) “Association release” is “Failure”.
- Search keys for Modality Worklist Management SCU are described in chapter 8.

3.1.2.2. Export Real-World Activity - MPPS

3.1.2.2.1. Export Associated Real-World Activity - MPPS

Export AE performs the MPPS to a destination device. If a communication error occurs, the MPPS operation is automatically retried several times.

3.1.2.2.2. Export Proposed Presentation Contexts - MPPS

Export AE proposes the following Presentation Context shown below:

Table 4

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**			**Extended**
Name	**UID**	**Name List**	**UID List**	**Role**	**Negotiation**
Modality Performed Procedure Step	1.2.840.10008.3.1.2.3.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None

3.1.2.2.3. Export SOP Specific Conformance - MPPS

- Export AE operation involves the following sequence of steps for each request MPPS.
  - (1) Association establishment (requestor only)
  - (2) MPPS information transfer (SCU only)
  - (3) Association release (requestor only)

  Export AE judges that the transfer of MPPS information succeeded when the result of (2) "MPPS information transfer" is "Success" even if the result of (3) "Association release" is "Failure".
- MPPS Information Object Definition is described in chapter 9.

3.1.2.3. Export Real-World Activity - Verification

3.1.2.3.1. Export Associated Real-World Activity - Verification

Verification is executed by the Digital Fluorography System after the operator selects a destination.

3.1.2.3.2. Export Proposed Presentation Contexts - Verification

Export AE proposes the following Presentation Context shown below:

Table 5

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

3.1.3. Export Association Acceptance Policy

Export AE does not accept any associations generated by remote applications.

3.2. Import AE Specification

Import AE provides Standard Conformance to the following DICOM SOP Classes as an SCP:

Table 5

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1

3.2.1. Import Association Establishment Policies

3.2.1.1. Import General

Import AE will utilize and understand the following Application Context Name:

Table 6

DICOM V3.0 Application Context	1.2.840.10008.3.1.1.1

Import AE supports a minimum PDU size of 16Kbytes and a maximum PDU size of 64Kbytes. The default value is set to 16Kbytes.

3.2.1.2. Import Number of Associations

Import AE supports only one association at a time.

3.2.1.3. Import Asynchronous Nature

Import AE allows a single outstanding operation on any association. Therefore, Import AE does not support asynchronous operations window negotiation, other than the default as specified by the DICOM specification.

3.2.1.4. Import Implementation Identifying Information

Import AE will specify the following Implementation Identifying Information:

- Implementation Class UID <1.2.392.200036.9116.31>
- Implementation Version Name <TM_XA_DCM_V12>

3.2.2. Import Association Initiation by Real-World Activity

Import AE never initiates an association.

3.2.3. Import Association Acceptance Policy

When Import AE receives an association request, it will allow the following activities to be performed during that association:

- Verification - Allow a remote DICOM device to verify that the Digital Fluorography System is active on the DICOM network.

3.2.3.1. Import Real-World Activity - Verification

3.2.3.1.1. Import Associated Real-World Activity - Verification

The Digital Fluorography System responds to Verification made by a remote Verification SCU.

3.2.3.1.2. Import Presentation Context Table - Verification

Import AE accepts the Presentation Context shown below:

Table 7

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

3.2.3.1.2.1. Import SOP Specific Conformance - Verification

Import AE responds with the following status codes in response to a C-ECHO request.

Table 8

Service Status	Further Meaning	Protocol Codes	Description
Success	Success	0x0000	Operation performed properly

3.2.3.1.3. Import Presentation Context Acceptance Criterion- Verification

Import AE accepts the Presentation Contexts listed in the Presentation Context Table.(Table 7)

3.2.3.1.4. Import Transfer Syntax Selection Policies- Verification

Import AE supports only the Implicit VR Little Endian transfer syntax. It rejects any proposed Presentation Context which does not specify the default Implicit VR Little Endian transfer syntax.

4. Communication Profiles

4.1. Supported Communication Stacks

This product provides DICOM TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard.

4.2. OSI Stack

Not applicable to this product.

4.3. TCP/IP Stack

This product inherits its TCP/IP stack from the computer system upon which it executes.

4.3.1. API

Not applicable to this product.

4.3.2. Physical Media Support

This product is indifferent to the physical medium over which TCP/IP executes; it inherits the medium from the computer system upon which it executes.

4.4. Point-to-Point Stack

Not applicable to this product.

5. Extensions/Specializations/Privatizations

Not applicable to this product.

6. Configuration

For the Digital Fluorography System, the configuration can be set.

Note : Settings and changes are performed by Toshiba Service Personnel at the time of installation of the system.

6.1. AE Title/Presentation Address Mapping

Mapping from the AE titles to the presentation addresses is as follows:

- One port number and one AE title can be described for one host name.
- Each AE title is mapped to one port number.
- The Digital Fluorography System has following default values:

  Local port No. 5000

  Local AE Title TM_XA_DCM_V12

6.2. Configurable Parameters

6.2.1. Time-out Value, Retry Count, Retry Interval

The time-out value, retry count, and retry interval in each status are shown below.

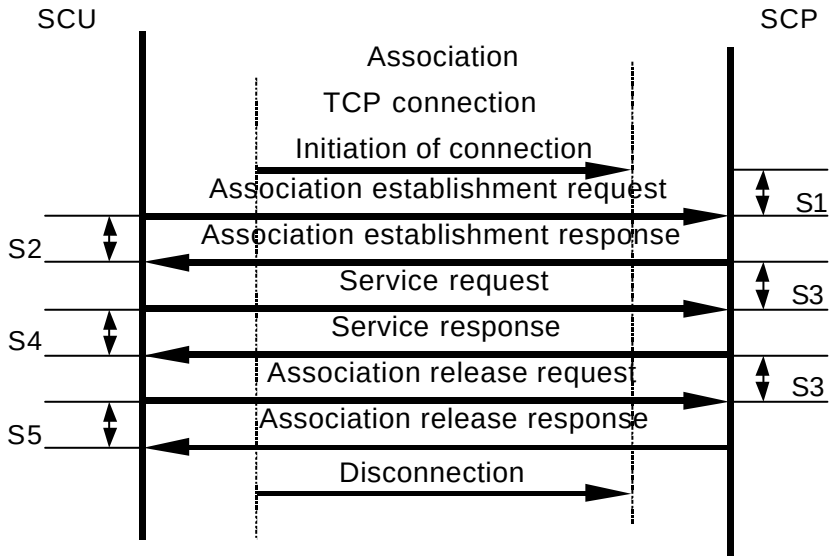

Figure 2

Table 9

Status	Item	Time-out Value	Retry Count	Retry Interval	Remarks
S1	Association establishment request waiting time	default: 60 seconds range: 1 to 10000	Not set	Not set	Only one parameter can be set in the Digital Fluorography System.
S2	Association establishment response waiting time	default: 30 seconds range: 1 to 10000	Not set	Not set	Only one parameter can be set in the Digital Fluorography System.
S3	Service request waiting time	default: 60 seconds range: 1 to 10000	Not set	Not set	Only one parameter can be set in the Digital Fluorography System.
S4	Service response waiting time	default: 300 seconds range: 1 to 10000	Not set	Not set	Can be set for each provided service.
S5	Association release waiting time	default: 30 seconds range: 1 to 10000	Not set	Not set	Only one parameter can be set in the Digital Fluorography System.

6.3. Implementation Information and Maximum Reception PDU Size

The default values for the Digital Fluorography System are used for the Implementation Class UID, the Implementation Version name, and the Maximum length received.

Table 10

Parameter	Default
Implementation Class UID	1.2.392.200036.9116.31
Implementation Version name	TM_XA_DCM_V12
Maximum length received	16 Kbytes

7. Support of Extended Character Sets

This product supports the following character sets:

- ISO-IR 6 (default) ISO 646
- ISO-IR 87 (Japanese) JIS X 0208 (kanji)

8. Modality Worklist Management Information Object Definition

The attributes listed in the following tables represent a small set of the possible attributes which could be supported by a Modality Worklist Management SCU.

8.1. Matching Key Attributes

The supported Matching Key Attributes are listed as follows.

8.1.1. Scheduled Procedure Step Module

Table 11

Description / Module	Tag	Matching Key Type	Matching Type
Scheduled Procedure Step Sequence	(0040, 0100)	Required	Sequence Matching.
>Scheduled station AE title	(0040, 0001)	Required	Single Value Matching only.
>Scheduled Procedure Step Start Date	(0040, 0002)	Required	Single Value Matching or Range Matching.
>Scheduled Procedure Step Start Time	(0040,0003)	Required	Single Value Matching or Range Matching.
>Modality	(0008, 0060)	Required	“XA”.
>Scheduled Performing Physician's Name	(0040,0006)	Required	Single Value Matching or Wild Card Matching.

8.1.2. Patient Identification Module

Table 12

Description / Module	Tag	Matching Key Type	Matching Type
Patient's Name	(0010,0010)	Required	Single Value Matching or Wild Card Matching.
Patient ID	(0010,0020)	Required	Single Value Matching only.

8.1.3. Requested Procedure Module

Table 13

Description / Module	Tag	Matching Key Type	Matching Type
Requested Procedure ID	(0040, 1001)	Optional	Single Value Matching only

8.1.4. Imaging Service Request Module

Table 14

Description / Module	Tag	Matching Key Type	Matching Type
Accession Number	(0008,0050)	Optional	Single Value Matching only

8.2. Return Key Attributes

The supported Return Key Attributes are listed as follows.

8.2.1. SOP Common Module

Table 15

Description / Module	Tag	Return Key Type	Remarks
Specific Character Set	(0008,0005)	1C	Required if an expands or replacement character set is used.

8.2.2. Scheduled Procedure Step Module

Table 16

Description / Module	Tag	Return Key Type	Remarks
Scheduled Procedure Step Sequence	(0040, 0100)	1	
>Scheduled station AE title	(0040, 0001)	1	
>Scheduled Procedure Step Start Date	(0040, 0002)	1	
>Scheduled Procedure Step Start Time	(0040, 0003)	1	
>Modality	(0008, 0060)	1	
>Scheduled Performing Physician's Name	(0040, 0006)	2	
>Scheduled Procedure Step Description	(0040, 0007)	1C	
>Scheduled Station Name	(0040,0010)	2	
>Scheduled Procedure Step Location	(0040,0011)	2	
>Scheduled Action Item Code Sequence	(0040,0008)	1C	
>>Code Value	(0008,0100)	1C	
>>Coding Scheme Designator	(0008,0102)	1C	
>>Coding Scheme Version	(0008,0103)	3	
>>Code Meaning	(0008,0104)	3	
>Scheduled Procedure Step ID	(0040, 0009)	1	

8.2.3. Requested Procedure Module

Table 17

Description / Module	Tag	Return Key Type	Remarks
Requested Procedure ID	(0040, 1001)	1	
Requested Procedure Description	(0032,1060)	1C	
Requested Procedure Code Sequence	(0032,1064)	1C	
>Code Value	(0008,0100)	1C	
>Coding Scheme Designator	(0008,0102)	1C	
>Coding Scheme Version	(0008,0103)	3	
>Code Meaning	(0008,0104)	3	
Study Instance UID	(0020, 000D)	1	
Requested Procedure Priority	(0040,1003)	2	
Patient Transport Arrangements	(0040,1004)	2	
Requested Procedure Comments	(0040,1400)	3	
Names of Intended Recipients of results	(0040,1010)	3	

8.2.4. Imaging Service Request Module

Table 18

Description / Module	Tag	Return Key Type	Remarks
Imaging Service Request Comments	(0040,2400)	3	
Accession Number	(0008,0050)	2	
Requesting Physician	(0032,1032)	2	
Requesting Service	(0032,1033)	3	
Referring Physician's Name	(0008,0090)	2	

8.2.5. Visit Identification Module

Table 19

Description / Module	Tag	Return Key Type	Remarks
Admission ID	(0038,0010)	2	

8.2.6. Visit Status Module

Table 19

Description / Module	Tag	Return Key Type	Remarks
Current Patient Location	(0038,0300)	2	

8.2.7. Patient Identification Module

Table 20

Description / Module	Tag	Return Key Type	Remarks
Patient's Name	(0010,0010)	1	
Patient ID	(0010,0020)	1	
Other Patient IDs	(0010,1000)	3	

8.2.8. Patient Demographic Module

Table 21

Description / Module	Tag	Return Key Type	Remarks
Patient's Birth Date	(0010,0030)	2	
Patient's Sex	(0010,0040)	2	
Patient's Size	(0010,1020)	3	
Patient's Weight	(0010,1030)	2	
Ethnic Group	(0010,2160)	3	
Patient Comments	(0010,4000)	3	
Confidentiality Constraint on Patient Data	(0040,3001)	2	

8.2.9. Patient Medical Module

Table 22

Description / Module	Tag	Return Key Type	Remarks
Patient State	(0038,0500)	2	
Pregnancy Status	(0010,21C0)	2	
Medical Alerts	(0010,2000)	2	
Contrast Allergies	(0010,2110)	2	
Additional Patient History	(0010,21B0)	3	
Special Needs	(0038,0050)	2	

9. Modality Performed Procedure Step Information Object Definition

The attributes listed in the following tables represent a small set of the possible attributes which could be supported by a Modality Performed Procedure Step SCU.

9.1. MPPS IOD Modules

9.1.1. N-CREATE

Table 23

Module	Reference
SOP Common Module	9.2.1
Performed Procedure Step Relationship Module	9.2.2
Performed Procedure Step Information Module	9.2.3
Image Acquisition Results Module	9.2.4
Radiation Dose Module	Not used
Billing and Material Management Codes Module	Not used

9.1.2. N-SET

Table 24

Module	Reference
SOP Common Module	Not used
Performed Procedure Step Relationship Module	Not used
Performed Procedure Step Information Module	9.3.1
Image Acquisition Results Module	9.3.2
Radiation Dose Module	9.3.3
Billing and Material Management Codes Module	9.3.4

9.2. N-CREATE Attributes

9.2.1. SOP Common Module

Table 25

Attribute Name	Tag	Type	Attribute Description
Specific Character Set	(0008,0005)	1C	Set if an extended or replacement character set is used

9.2.2. Performed Procedure Step Relationship Module

Table 26

Attribute Name	Tag	Type	Attribute Description
Scheduled Step Attribute Sequence	(0040,0270)	1	Always set
>Study Instance UID	(0020,000D)	1	Always set
>Referenced Study Sequence	(0008,1110)	2	Always set, length=0
>Accession Number	(0008,0050)	2	Length=0 when no entry is made
>Requested Procedure ID	(0040,1001)	2	Length=0 when no entry is made
>Requested Procedure Description	(0032,1060)	2	Length=0 when no entry is made
>Scheduled Procedure Step Description	(0040,0007)	2	Length=0 when no entry is made
>Scheduled Action Item Code Sequence	(0040,0008)	2	Length=0 when no entry is made
>>Code Value	(0008,0100)	1C	Set if sequence item is present
>>Coding Scheme Designator	(0008,0102)	1C	Set if sequence item is present
>>Coding Scheme Version	(0008,0103)	3	Not set when no entry is made
>>Code Meaning	(0008,0104)	3	Not set when no entry is made
>Scheduled Procedure Step ID	(0040,0009)	2	Length=0 when no entry is made
Patient’s Name	(0010,0010)	2	Always set
Patient ID	(0010,0020)	2	Always set
Patient’s Birth Date	(0010,0030)	2	Length=0 when no entry is made
Patient’s Sex	(0010,0040)	2	Length=0 when no entry is made
Referenced Patient Sequence	(0008,1120)	2	Always set, length=0

9.2.3. Performed Procedure Step Information Module

Table 27

Attribute Name	Tag	Type	Attribute Description
Performed Procedure Step ID	(0040,0253)	1	Always set
Performed Station AE Title	(0040,0241)	1	Always set
Performed Station Name	(0040,0242)	2	Length=0 when no entry is made
Performed Location	(0040,0243)	2	Length=0 when no entry is made
Performed Procedure Step Start Date	(0040,0244)	1	Always set
Performed Procedure Step Start Time	(0040,0245)	1	Always set
Performed Procedure Step Status	(0040,0252)	1	Always set (“IN PROGRESS”)
Performed Procedure Step Description	(0040,0254)	2	Length=0 when no entry is made
Performed Procedure Type Description	(0040,0255)	2	Always set, length=0
Procedure Code Sequence	(0008,1032)	2	Length=0 when no entry is made
>Code Value	(0008,0100)	1C	Set if sequence item is present
>Coding Scheme Designator	(0008,0102)	1C	Set if sequence item is present
>Coding Scheme Version	(0008,0103)	3	Not set when no entry is made
>Code Meaning	(0008,0104)	3	Not set when no entry is made
Performed Procedure Step End Date	(0040,0250)	2	Always set, length=0
Performed Procedure Step End Time	(0040,0251)	2	Always set, length=0

9.2.4. Image Acquisition Results Module

Table 28

Attribute Name	Tag	Type	Attribute Description
Modality	(0008,0060)	1	Always set (“XA”)
Study ID	(0020,0010)	2	Always set
Performed Action Item Code Sequence	(0040,0260)	2	Always set, length=0
Performed Series Sequence	(0040,0340)	2	Always set, length=0

9.3. N-SET Attributes

9.3.1. Performed Procedure Step Information Module

Table 29

Attribute Name	Tag	Type (*1)	Attribute Description
Performed Procedure Step Status	(0040,0252)	3	Always set (“COMPLETED”)
Performed Procedure Step End Date	(0040,0250)	3 (1)	Always set
Performed Procedure Step End Time	(0040,0251)	3 (1)	Always set

*1) Requirement Type Final State

9.3.2. Image Acquisition Results Module

Table 30

Attribute Name	Tag	Type (*1)	Attribute Description
Performed Series Sequence	(0040,0340)	3(1)	Always set
>Retrieve AE Title	(0008,0054)	2C(2)	Always set, length=0
>Series Description	(0008,103E)	2C(2)	Always set, length=0
>Performing Physician’s Name	(0008,1050)	2C(2)	Length=0 when no entry is made
>Operator’s Name	(0008,1070)	2C(2)	Always set, length=0
>Protocol Name	(0018,1030)	1C(1)	Always set
>Series Instance UID	(0020,000E)	1C(1)	Always set
>Referenced Image Sequence	(0008,1140)	2C	Always set, length=0
>Referenced Standalone SOP Instance Sequence	(0040,0220)	2C	Always set, length=0

*1) Requirement Type Final State

9.3.3. Radiation Dose Module

Table 31

Attribute Name	Tag	Type	Attribute Description
Total Time of Fluoroscopy	(0040,0300)	3	Not set when no entry is made
Total Number of Exposures	(0040,0301)	3	Not set when no entry is made
Distance Source to Detector	(0018,1110)	3	Not set when no entry is made
Image Area Dose Product	(0018,115E)	3	Not set when no entry is made

9.3.4. Billing and Material Management Codes Module

Table 32

Attribute Name	Tag	Type	Attribute Description
Film Consumption Sequence	(0040,0321)	3	Not set when no data is available
>Number of Films	(2100,0170)	3	Not set when no data is available