No. MIIUS0049EA

TOSHIBA

DICOM CONFORMANCE STATEMENT

FOR

DIAGNOSTIC ULTRASOUND SYSTEM

Viamo™

MODEL SSA-640A V3.0

TOSHIBA MEDICAL SYSTEMS CORPORATION

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IMPORTANT!

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1. CONFORMANCE STATEMENT OVERVIEW

Table 1-1 provides an overview of the network services supported by *Viamo*^{TM}.

Table 1-1
NETWORK SERVICES

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
Transfer		
Secondary Capture Image Storage	Yes	No
Ultrasound Image Storage	Yes	No
Ultrasound Multi-frame Image Storage	Yes	No
Basic Text SR Storage	Yes	No
Enhanced SR Storage	Yes	No
Comprehensive SR Storage	Yes	No
Storage Commitment	Yes	No
Storage Commitment Push Model	Yes	No
Workflow Management	Yes	No
Modality Worklist Information Model – Find	Yes	No
Modality Performed Procedure Step	Yes	No
Print Management	Yes	No
Basic Grayscale Print Management	Yes	No
Basic Color Print Management	Yes	No

Table 1-2 provides an overview of the Media Storage Application Profiles supported by *Viamo*^{TM}.

Table 1-2
MEDIA SERVICES

Media Storage Application Profile	Write Files (FSC)	Read Files (FSR)
USB Media		
General Purpose USB Media	Yes	No

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2. TABLE OF CONTENTS

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3. INTRODUCTION

3.1 AUDIENCE

This document is intended for hospital staff, health system integrators, software designers or implementers. It is assumed that the reader has a working understanding of DICOM.

3.2 REMARKS

DICOM, by itself, does not guarantee interoperability. However, the Conformance Statement facilitates a first-level validation for interoperability between different applications supporting the same DICOM functionality.

This Conformance Statement is not intended to replace validation with other DICOM equipment to ensure proper exchange of information intended.

The scope of this Conformance Statement is to facilitate communication with Toshiba Medical Systems and other vendors' Medical equipment. The Conformance Statement should be read and understood in conjunction with the DICOM Standard [DICOM]. However, by itself it is not guaranteed to ensure the desired interoperability and a successful interconnectivity.

The user should be aware of the following important issues:

— The comparison of different conformance statements is the first step towards assessing interconnectivity between Toshiba Medical Systems and non-Toshiba Medical Systems equipment.

— Test procedures should be defined to validate the desired level of connectivity.

— The DICOM standard will evolve to meet the users' future requirements. Toshiba Medical Systems is actively involved in developing the standard further and therefore reserves the right to make changes to its products or to discontinue its delivery.

3.3 DEFINITIONS, TERMS AND ABBREVIATIONS

Definitions, terms and abbreviations used in this document are defined within the different parts of the DICOM standard.

Abbreviations and terms are as follows:

AE Application Entity
ASCE Association Control Service Element
DIMSE DICOM Message Service Element
FSC File-Set Creator
FSR File-Set Reader
FSU File-Set Updater
IE Information Entity
IOD Information Object Definition
ISO International Standard Organization
MPPS Modality Performed Procedure Step
MWM Modality Worklist Management
PDU Protocol Data Unit
SCU Service Class User (DICOM client)
SCP Service Class Provider (DICOM server)
SOP Service-Object Pair
UID Unique Identifier

3.4 REFERENCES

[DICOM] Digital Imaging and Communications in Medicine (DICOM), NEMA PS 3.1-3.18, 2007

4. NETWORKING

4.1 IMPLEMENTATION MODEL

4.1.1 Application Data Flow

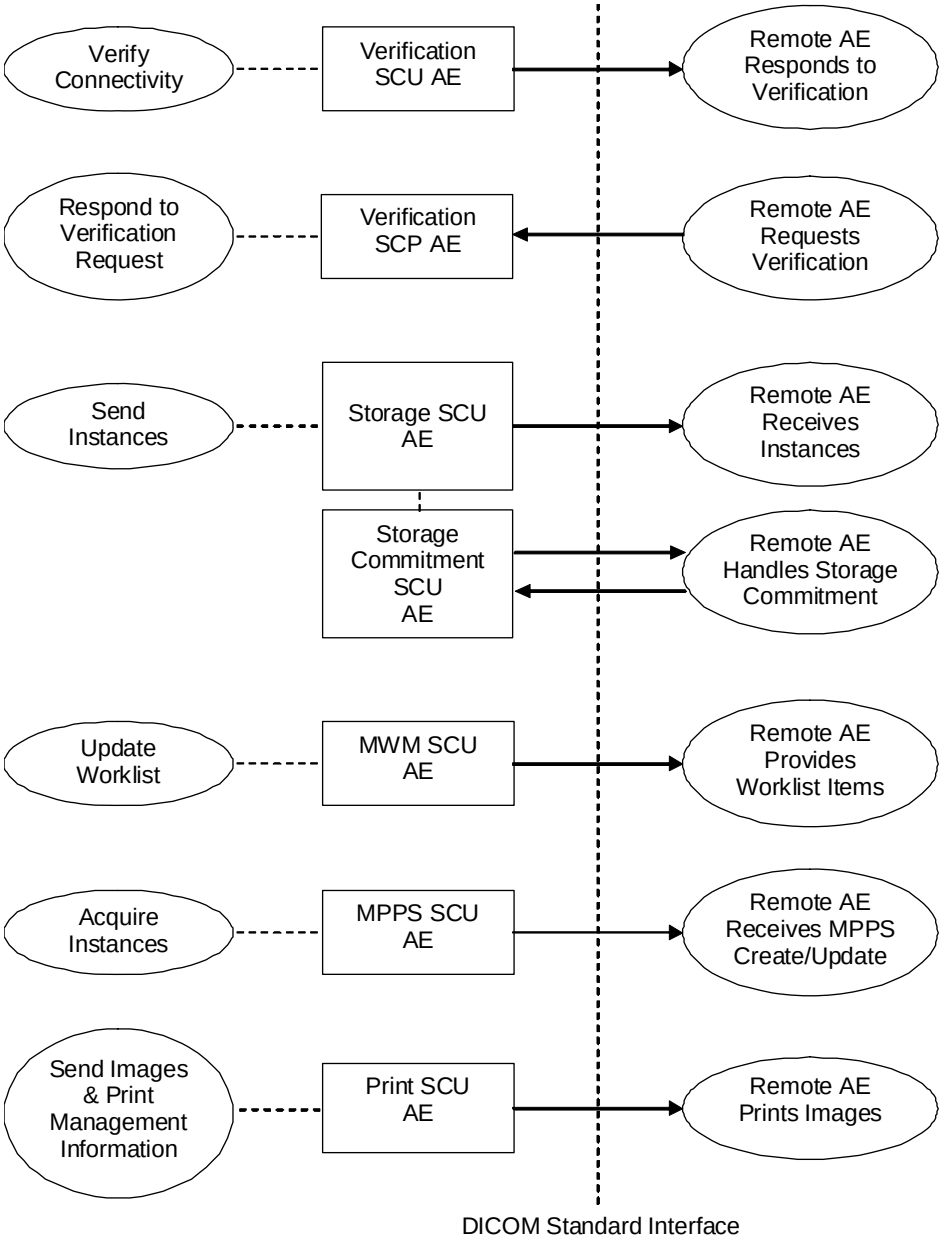

Figure 4.1-1
APPLICATION DATA FLOW DIAGRAM

— The Verification SCU AE issues a C-ECHO to verify a DICOM connection to a remote AE. It is associated with the local real-world activity “Verify Connectivity”. “Verify Connectivity” is performed via the Service Tool.

— The Verification SCP AE responds successfully to C-ECHO requests from known AE Titles. It is associated with the local real-world activity “Respond to Verification Request”

— The Storage SCU AE sends instances to a remote AE. It is associated with the local real-world activity “Send Instances”. “Send Instances” is performed upon user request for specific instances selected. If the remote AE is configured as a Storage Commitment SCP AE, the Storage SCU AE will send a storage commitment request to the Storage Commitment SCU AE.

— The MWM SCU AE receives worklist information from a remote AE. It is associated with the local real-world activity “Update Worklist”. When the “Update Worklist” is performed the MWM SCU AE queries a remote AE for worklist items and provides the set of worklist items matching the query request. ”Update Worklist” is performed manually or automatically.

— The MPPS SCU AE sends MPPS information to a remote AE. It is associated with the local real-world activity “Acquire Instances”. When the “Acquire Instances” is performed the MPPS SCU AE creates and updates Modality Performed Procedure Step instances managed by a remote AE. Acquisition of instances will result in automated creation of an MPPS instance. Completion of the MPPS is performed as the result of an operator action.

— The Print SCU AE prints images on a remote AE (Printer). It is associated with the local real-world activity “Send Images & Print Management Information”. “Send Images & Print Management Information” creates a print-job within the print queue containing a virtual film sheet composed from images selected by the user.

4.1.2 Functional Definition of AEs

4.1.2.1 Functional Definition of Verification SCU AE

The Verification SCU AE issues a C-ECHO to verify a DICOM connection to a remote AE. It is performed via the Service Tool.

4.1.2.2 Functional Definition of Verification SCP AE

The Verification SCP AE responds successfully to C-ECHO requests from known AE Titles.

4.1.2.3 Functional Definition of Storage SCU AE

The existence of a send-job queue entry with associated network destination will activate the Storage SCU AE. An association request is sent to the destination AE and upon successful negotiation of a Presentation Context the image transfer is started. If the image transfer fails, the Storage SCU AE will retry this send-job automatically. Storage SCU AE also sends the converted SR data according to the conversion type selected. The conversion types are three and they are Basic SR, Enhanced SR and Comprehensive SR.

4.1.2.4 Functional Definition of Storage Commitment SCU AE

Receiving the storage commitment request from the Storage SCU AE, the Storage Commitment SCU AE will request Storage Commitment and if a commitment is successfully obtained will record this information in the local database.

4.1.2.5 Functional Definition of MWM SCU AE

The MWM SCU AE attempts to download a worklist from a remote node. If the MWM SCU AE establishes an association to a remote AE, it will transfer patient’s information and worklist items via the open association. The results will be displayed in a separate list. The patient’s information will be used for the patient registration.

4.1.2.6 Functional Definition of MPPS SCU AE

The MPPS SCU AE performs the creation of an MPPS Instance automatically when the user selects and starts a worklist item. Further updates on the MPPS data can be performed when the user completes the acquisition.

4.1.2.7 Functional Definition of Print SCU AE

The existence of a print-job in the print queue will activate the Print SCU AE. An association is established with the printer and the printer's status determined. If the printer is operating normally, the film sheet described within the print-job will be printed. If the printer is not operating normally, this print-job can be canceled or restarted by the user operations.

4.1.3 Sequencing of Real-World Activities

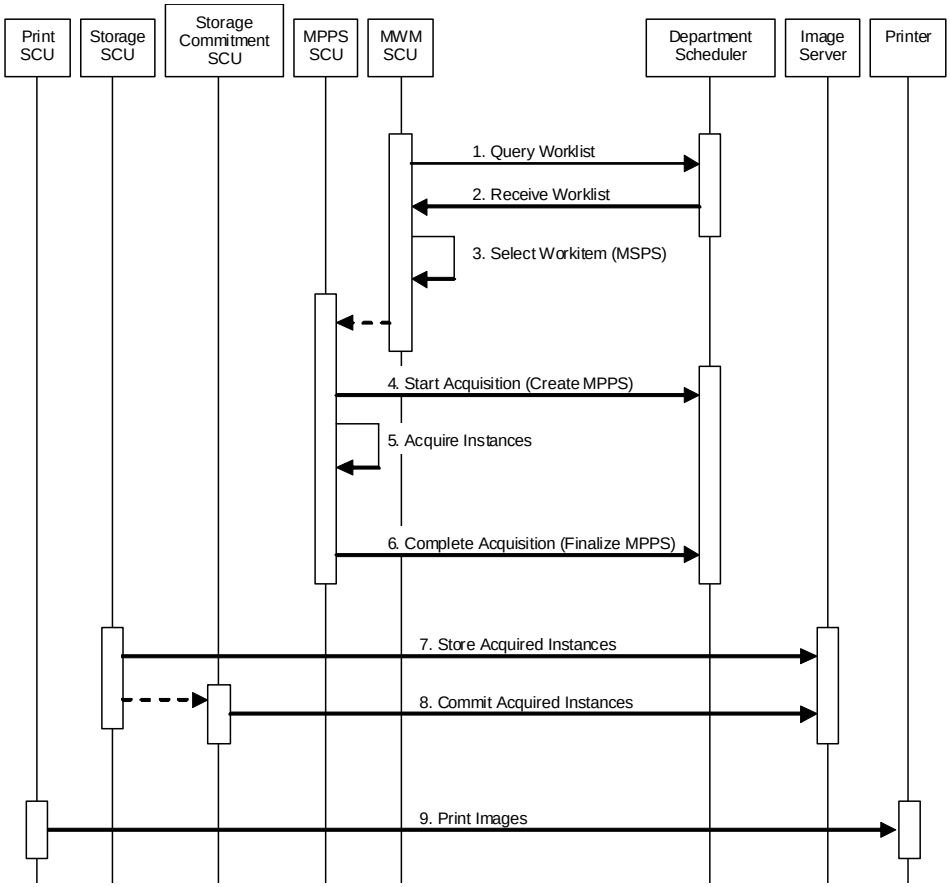

Figure 4.1-2
SEQUENCING CONSTRAINTS

4.2 AE SPECIFICATIONS

4.2.1 Verification SCU AE Specification

4.2.1.1 SOP Classes

The Verification SCU AE provides Standard Conformance to the following SOP Classes:

Table 4.2-1
SOP CLASSES FOR THE VERIFICATION SCU AE

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

4.2.1.2 Association Policies

4.2.1.2.1 General

The DICOM standard application context name for DICOM 3.0 is always proposed:

Table 4.2-2
DICOM APPLICATION CONTEXT FOR THE VERIFICATION SCU AE

Application Context Name	1.2.840.10008.3.1.1.1

4.2.1.2.2 Number of Associations

The Verification SCU AE initiates one association at a time.

Table 4.2-3
NUMBER OF ASSOCIATIONS INITIATED FOR THE VERIFICATION SCU AE

Maximum number of simultaneous associations	1

4.2.1.2.3 Asynchronous Nature

The Verification SCU AE does not support asynchronous communication (multiple outstanding transactions over a single association).

Table 4.2-4
ASYNCHRONOUS NATURE FOR THE VERIFICATION SCU AE

Maximum number of outstanding asynchronous transactions	1

4.2.1.2.4 Implementation Identifying Information

The implementation information for the Verification SCU AE is:

Table 4.2-5
DICOM IMPLEMENTATION CLASS AND VERSION FOR THE VERIFICATION SCU AE

Implementation Class UID	1.2.392.200036.9116.6.17.1000.1
Implementation Version Name	TM_VIAMO_3.0

4.2.1.3 Association Initiation Policy

4.2.1.3.1 Activity – Verify Connectivity

4.2.1.3.1.1 Description and Sequencing of Activities

The Verification SCU AE attempts to initiate a new association in order to issue a verification request (C-ECHO) if needed.

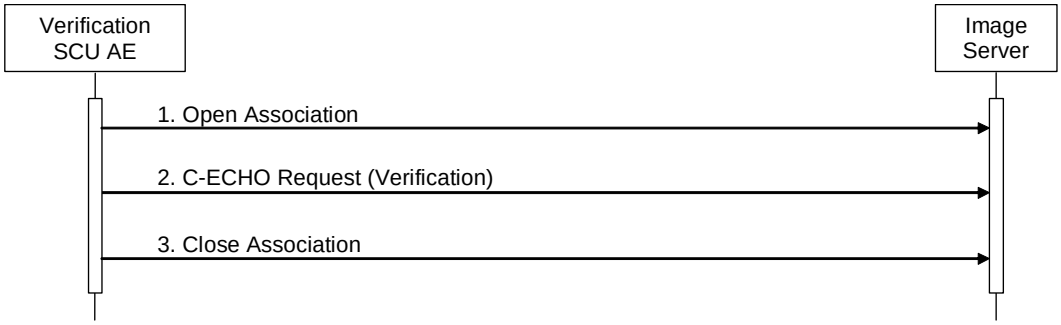

Figure 4.2-1
SEQUENCING OF ACTIVITY – VERIFY CONNECTIVITY

A possible sequence of interactions between the Verification SCU AE and an Image Server (e.g. a storage or archive device supporting the Verification SOP Classes as an SCP) is illustrated in the Figure above:

1. The Verification SCU AE opens an association with the Image Server.
2. The Verification SCU AE issues a verification request (C-ECHO) and the Image Server replies with a C-ECHO response (status success).
3. The Verification SCU AE closes the association with the Image Server.

4.2.1.3.1.2 Proposed Presentation Contexts

The Verification SCU AE will propose the Presentation Contexts shown in the following table:

Table 4.2-6
PROPOSED PRESENTATION CONTEXTS FOR ACTIVITY VERIFY CONNECTIVITY

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
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
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

4.2.1.3.1.3 SOP Specific Conformance for Verification SOP Class

The Verification SCU AE provides standard conformance to the Verification Service Class as an SCU.

The behavior of Verification SCU AE when encountering status codes in a C-ECHO response is summarized in the table below:

Table 4.2-7
VERIFICATION RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Status Code	Behavior
Success	Success	0000	The Verification SCU AE judges the remote AE is present and active on the network.

The behavior of Verification SCU AE during communication failure is summarized in the table below:

Table 4.2-8
VERIFICATION COMMUNICATION FAILURE BEHAVIOR

Exception	Behavior
Timeout	The association is aborted and the failure reason is logged and reported to the user.
Association aborted by the SCP or network layers	The failure reason is logged and reported to the user.

4.2.2 Verification SCP AE Specification

4.2.2.1 SOP Classes

The Verification SCP AE provides Standard Conformance to the following SOP Classes:

Table 4.2-9
SOP CLASSES FOR THE VERIFICATION SCP AE

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

4.2.2.2 Association Policies

4.2.2.2.1 General

The DICOM standard application context name for DICOM 3.0 is always proposed:

Table 4.2-10
DICOM APPLICATION CONTEXT FOR THE VERIFICATION SCP AE

Application Context Name	1.2.840.10008.3.1.1.1

4.2.2.2.2 Number of Associations

Table 4.2-11
NUMBER OF ASSOCIATIONS ACCEPTED FOR THE VERIFICATION SCP AE

Maximum number of simultaneous associations	Unlimited

4.2.2.2.3 Asynchronous Nature

The Verification SCP AE does not support asynchronous communication (multiple outstanding transactions over a single association).

Table 4.2-12
ASYNCHRONOUS NATURE FOR THE VERIFICATION SCP AE

Maximum number of outstanding asynchronous transactions	1

4.2.2.2.4 Implementation Identifying Information

The implementation information for the Verification SCP AE is:

Table 4.2-13
DICOM IMPLEMENTATION CLASS AND VERSION FOR THE VERIFICATION SCP AE

Implementation Class UID	1.2.392.200036.9116.6.17.1000.1
Implementation Version Name	TM_VIAMO_3.0

4.2.2.3 Association Initiation Policy

The Verification SCP AE does not initiate associations.

4.2.2.4 Association Acceptance Policy

4.2.2.4.1 Activity – Respond to Verification Request

4.2.2.4.1.1 Description and Sequencing of Activities

When the Verification SCP AE accepts an association, it will respond to a verification request (C-ECHO).

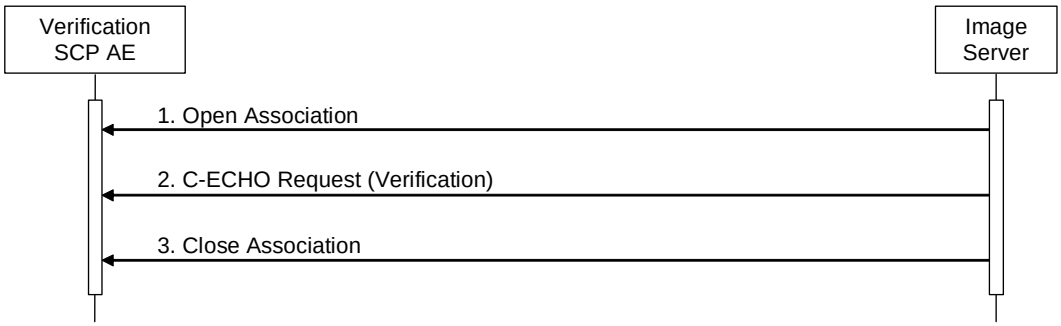

Figure 4.2-2
SEQUENCING OF ACTIVITY – RESPOND TO VERIFICATION REQUEST

A possible sequence of interactions between the Verification SCP AE and an Image Server (e.g. a storage or archive device supporting the Verification SOP Classes as an SCU) is illustrated in the Figure above:

1. The Image Server opens an association with the Verification SCP AE.
2. The Image Server issues a verification request (C-ECHO) and the Verification SCP AE replies with a C-ECHO response (status success).
3. The Image Server closes the association with the Verification SCP AE.

The Verification SCP AE may reject association attempts as shown in the table below. The Result, Source and Reason/Diag columns represent the values returned in the appropriate fields of an ASSOCIATE-RJ PDU (see PS 3.8, Section 9.3.4). The contents of the Source column is abbreviated to save space and the meaning of the abbreviations are:

Table 4.2-14
ASSOCIATION REJECTION REASONS

Result	Source	Reason/Diag	Explanation
1 – rejected-permanent	DICOM UL service-user	3 – calling-AE-title-not-recognized	The association request contained an unrecognized calling AE Title. An association request with the same parameters will not succeed at a later time unless configuration changes are made. This rejection reason normally occurs when the association acceptor has not been configured to recognize the AE Title of the association initiator.
1 – rejected-permanent	DICOM UL service-provider (ASCE related function)	1 – no-reason-given	The association request could not be parsed. An association request with the same format will not succeed at a later time.

4.2.2.4.1.2 Accepted Presentation Contexts

The default behavior of the Verification SCP AE supports the Implicit VR Little Endian and Explicit VR Little Endian transfer syntaxes. If the both transfer syntaxes are proposed per presentation context then the Verification SCP AE will select Explicit VR Little Endian transfer syntax.

Table 4.2-15
PROPOSED PRESENTATION CONTEXTS FOR ACTIVITY RESPOND TO VERIFICATION REQUEST

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
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
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

4.2.2.4.1.3 SOP Specific Conformance for Verification SOP Class

The Verification SCP AE provides standard conformance to the Verification Service Class as an SCP.

4.2.3 Storage SCU AE Specification

4.2.3.1 SOP Classes

The Storage SCU AE provides Standard Conformance to the following SOP Classes:

Table 4.2-16
SOP CLASSES FOR THE STORAGE SCU AE

SOP Class Name	SOP Class UID	SCU	SCP
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Yes	No
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		
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		
Comprehensive SR Storage	1.2.840.10008.5.1.4.1.1.88.33		

4.2.3.2 Association Policies

4.2.3.2.1 General

The DICOM standard application context name for DICOM 3.0 is always proposed:

Table 4.2-17
DICOM APPLICATION CONTEXT FOR THE STORAGE SCU AE

Application Context Name	1.2.840.10008.3.1.1.1

4.2.3.2.2 Number of Associations

The Storage SCU AE initiates one association at a time for a transfer request.

Table 4.2-18
NUMBER OF ASSOCIATIONS INITIATED FOR THE STORAGE SCU AE

Maximum number of simultaneous associations	1

4.2.3.2.3 Asynchronous Nature

The Storage SCU AE does not support asynchronous communication (multiple outstanding transactions over a single association).

Table 4.2-19
ASYNCHRONOUS NATURE FOR THE STORAGE SCU AE

Maximum number of outstanding asynchronous transactions	1

4.2.3.2.4 Implementation Identifying Information

The implementation information for the Storage SCU AE is:

Table 4.2-20
DICOM IMPLEMENTATION CLASS AND VERSION FOR THE STORAGE SCU AE

Implementation Class UID	1.2.392.200036.9116.6.17.1000.1
Implementation Version Name	TM_VIAMO_3.0

4.2.3.3 Association Initiation Policy

4.2.3.3.1 Activity – Send Images

4.2.3.3.1.1 Description and Sequencing of Activities

The Storage SCU AE attempts to initiate a new association in order to issue a storage request (C-STORE). If the image transfer fails, the Storage SCU AE will retry this send-job automatically.

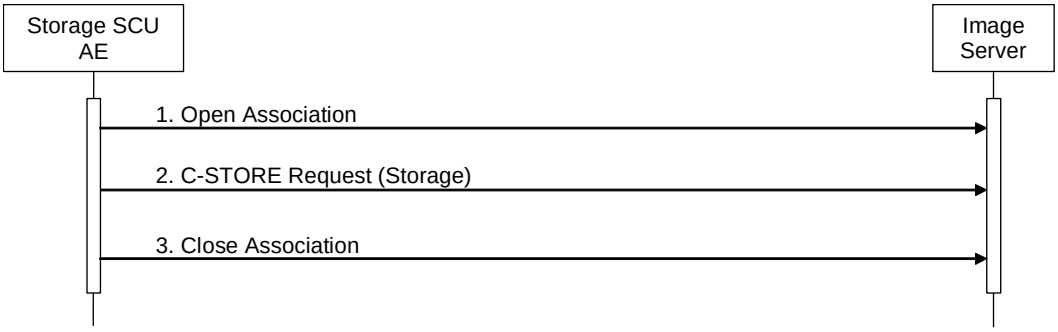

Figure 4.2-3
SEQUENCING OF ACTIVITY – SEND IMAGES

A possible sequence of interactions between the Storage SCU AE and an Image Server (e.g. a storage or archive device supporting the Storage SOP Classes as an SCP) is illustrated in the Figure above:

1. The Storage SCU AE opens an association with the Image Server.
2. Acquired images are transmitted to the Image Server using a storage request (C-STORE) and the Image Server replies with a C-STORE response (status success).
3. The Storage SCU AE closes the association with the Image Server.

4.2.3.3.1.2 Proposed Presentation Contexts

The Storage SCU AE will propose the Presentation Contexts shown in the following table:

Table 4.2-21
Proposed Presentation Contexts for Activity Send Images

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name List**	**UID List**		
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
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Implicit VR Little Endian	1.2.840.10008.1.2		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Implicit VR Little Endian	1.2.840.10008.1.2		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
		JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50		
Basic Text SR Storage	1.2.840.10008.5.1.4.1.1.88.11	Implicit VR Little Endian	1.2.840.10008.1.2		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

Enhanced SR Storage	1.2.840.10008.5.1.4.1.1.88.22	Implicit VR Little Endian	1.2.840.10008.1.2		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
Comprehensive SR Storage	1.2.840.10008.5.1.4.1.1.88.33	Implicit VR Little Endian	1.2.840.10008.1.2		
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

4.2.3.3.1.3 SOP Specific Conformance for Storage SOP Classes

The Storage SCU AE provides standard conformance to the Storage Service Class as an SCU.

The behavior of Storage SCU AE when encountering status codes in a C-STORE response is summarized in the table below:

Table 4.2-22
STORAGE C-STORE RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Status Code	Behavior
Success	Success	0000	The SCP has successfully stored the SOP Instance. If all SOP Instances in a send job have status success then the job is marked as complete.
Refused	Out of Resources	A7xx	The association is aborted and the send job is marked as failed. The status meaning is logged and the job failure is reported to the user via the job control application.
Error	Data Set does not match SOP Class	A9xx	
Error	Cannot Understand	Cxxx	
Warning	Coercion of Data Elements	B000	
Warning	Data Set does not match SOP Class	B007	
Warning	Elements Discarded	B006	
*	*	Any other status code	

The behavior of Storage SCU AE during communication failure is summarized in the table below:

Table 4.2-23
STORAGE COMMUNICATION FAILURE BEHAVIOR

Exception	Behavior
Timeout	The association is aborted and the send job is marked as failed. The reason is logged and the job failure is reported to the user via the job control application.
Association aborted by the SCP or network layers	The send job is marked as failed. The reason is logged and the job failure is reported to the user via the job control application.

If the image transfer fails, the Storage SCU AE will retry this send-job automatically. The number of retries is configurable.

The contents of Image Storage SOP Instances created by the Storage SCU AE conform to the DICOM Image IOD definitions and are described in section 8.1.

4.2.4 Storage Commitment SCU AE Specification

4.2.4.1 SOP Classes

The Storage Commitment SCU AE provides Standard Conformance to the following SOP Classes:

Table 4.2-24
SOP CLASSES FOR THE STORAGE COMMITMENT SCU AE

SOP Class Name	SOP Class UID	SCU	SCP
Storage Commitment Push Model	1.2.840.10008.1.20.1	Yes	No

4.2.4.2 Association Policies

4.2.4.2.1 General

The DICOM standard application context name for DICOM 3.0 is always proposed:

Table 4.2-25
DICOM APPLICATION CONTEXT FOR THE STORAGE COMMITMENT SCU AE

Application Context Name	1.2.840.10008.3.1.1.1

4.2.4.2.2 Number of Associations

The Storage Commitment SCU AE initiates one association at a time.

Table 4.2-26
NUMBER OF ASSOCIATIONS INITIATED FOR THE STORAGE COMMITMENT SCU AE

Maximum number of simultaneous associations	1

The Storage Commitment SCU AE accepts one association to receive N-EVENT-REPORT notification for the Storage Commitment Push Model SOP Class.

Table 4.2-27
NUMBER OF ASSOCIATIONS ACCEPTED FOR THE STORAGE COMMITMENT SCU AE

Maximum number of simultaneous associations	1

4.2.4.2.3 Asynchronous Nature

The Storage Commitment SCU AE does not support asynchronous communication (multiple outstanding transactions over a single association).

Table 4.2-28
ASYNCHRONOUS NATURE FOR THE STORAGE COMMITMENT SCU AE

Maximum number of outstanding asynchronous transactions	1

4.2.4.2.4 Implementation Identifying Information

The implementation information for the Storage Commitment SCU AE is:

Table 4.2-29
DICOM IMPLEMENTATION CLASS AND VERSION FOR THE STORAGE COMMITMENT SCU AE

Implementation Class UID	1.2.392.200036.9116.6.17.1000.1
Implementation Version Name	TM_VIAMO_3.0

4.2.4.3 Association Initiation Policy

4.2.4.3.1 Activity – Commit Sent Images

4.2.4.3.1.1 Description and Sequencing of Activities

If the remote AE is configured as a Storage Commitment SCP AE, the Storage Commitment SCU AE will, after all images have been sent, transmit a single storage commitment request (N-ACTION). Upon receiving the N-ACTION response the Storage Commitment SCU AE will release the association. The notification of storage commitment (N-EVENT-REPORT) will be received over a separate association.

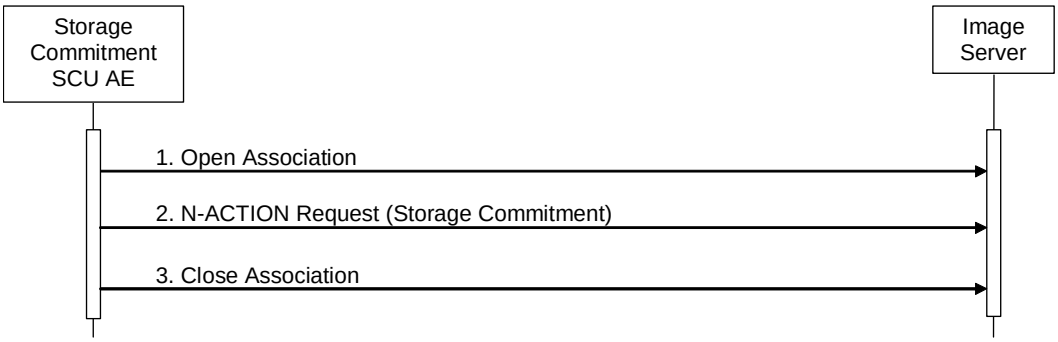

Figure 4.2-4
SEQUENCING OF ACTIVITY – COMMIT SENT IMAGES

A possible sequence of interactions between the Storage Commitment SCU AE and an Image Server (e.g. a storage or archive device supporting the Storage Commitment SOP Classes as an SCP) is illustrated in the Figure above:

1. The Storage Commitment SCU AE opens an association with the Image Server.
2. A storage commitment request (N-ACTION) is transmitted to the Image Server to obtain storage commitment of previously transmitted images. The Image Server replies with an N-ACTION response indicating the request has been received and is being processed.
3. The Storage Commitment SCU AE closes the association with the Image Server.

Note: The N-EVENT-REPORT will be sent over a separate association initiated by the Image Server. (See Section 4.2.4.4.1)

4.2.4.3.1.2 Proposed Presentation Contexts

The Storage Commitment SCU AE will propose the Presentation Contexts shown in the following table:

Table 4.2-30
PROPOSED PRESENTATION CONTEXTS FOR ACTIVITY COMMIT SENT IMAGES

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name List**	**UID List**		
Storage Commitment Push Model	1.2.840.10008.1.20.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

A Presentation Context for the Storage Commitment Push Model will only be proposed if the remote AE is configured as a Storage Commitment SCP AE.

4.2.4.3.1.3 SOP Specific Conformance for Storage Commitment SOP Class

4.2.4.3.1.3.1 Storage Commitment Operations (N-ACTION)

The Storage Commitment SCU AE provides standard conformance to the Storage Commitment Service Class as an SCU.

The Storage Commitment SCU AE will request storage commitment for instances of the Storage SOP Classes if the remote AE is configured as a Storage Commitment SCP AE and a presentation context for the Storage Commitment Push Model has been accepted.

The behavior of Storage SCU Commitment AE when encountering status codes in an N-ACTION response is summarized in the table below:

Table 4.2-31
STORAGE COMMITMENT N-ACTION RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Status Code	Behavior
Success	Success	0000	The request for storage commitment is considered successfully sent. A timer is started which will expire if no N-EVENT-REPORT for the Transaction UID is received within a configurable timeout period.
*	*	Any other status code	The association is aborted and the request for storage commitment is marked as failed.

The behavior of Storage Commitment AE during communication failure is summarized in the table below:

Table 4.2-32
STORAGE COMMITMENT COMMUNICATION FAILURE BEHAVIOR

Exception	Behavior
Timeout	The association is aborted and the send job is marked as failed. The reason is logged and the job failure is reported to the user via the job control application.
Association aborted by the SCP or network layers	The send job is marked as failed. The reason is logged and the job failure is reported to the user via the job control application.

4.2.4.4 Association Acceptance Policy

4.2.4.4.1 Activity – Receive Storage Commitment Response

4.2.4.4.1.1 Description and Sequencing of Activities

The Storage Commitment SCU AE will accept associations in order to receive responses to a storage commitment request.

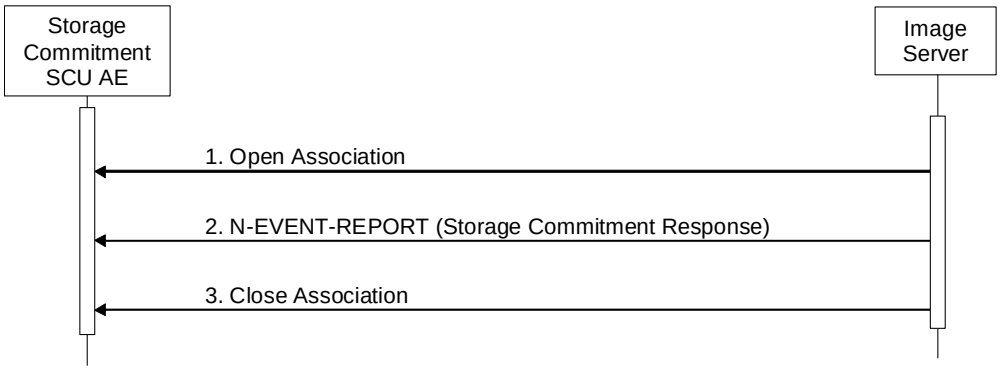

Figure 4.2-5
SEQUENCING OF ACTIVITY - RECEIVE STORAGE COMMITMENT RESPONSE

A possible sequence of interactions between the Storage Commitment SCU AE and an Image Server (e.g. a storage or archive device supporting Storage Commitment SOP Classes as an SCP) is illustrated in the Figure above:

1. The Image Server opens an association with the Storage Commitment SCU AE.
2. The Image Server sends an N-EVENT-REPORT request notifying the Storage SCU AE of the status of a previous storage commitment request. The Storage SCU AE replies with an N-EVENT-REPORT response confirming receipt.
3. The Image Server closes the association with the Storage Commitment SCU AE.

The Storage Commitment SCU AE may reject association attempts as shown in the Table 4.2-14.

4.2.4.4.1.2 Accepted Presentation Contexts

The Storage Commitment SCU AE will accept Presentation Contexts shown in the table below.

Table 4.2-33
ACCEPTABLE PRESENTATION CONTEXTS FOR
ACTIVITY RECEIVE STORAGE COMMITMENT RESPONSE

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name List**	**UID List**		
Storage Commitment Push Model	1.2.840.10008.1.20.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

4.2.4.4.1.3 SOP Specific Conformance for Storage Commitment SOP Class

4.2.4.4.1.3.1 Storage Commitment Notifications (N-EVENT-REPORT)

The Storage Commitment SCU AE provides standard conformance to the Storage Commitment Service Class as an SCU.

The behavior of Storage Commitment SCU AE when receiving Event Types within the N-EVENT-REPORT is summarized in the table below.

Table 4.2-34
STORAGE COMMITMENT N-EVENT-REPORT BEHAVIOUR

Event Type Name	Event Type ID	Behavior
Storage Commitment Request Successful	1	The Storage Commitment SCU AE permits the operator(s) to delete the Referenced SOP Instances under Referenced SOP Sequence (0018,1199).
Storage Commitment Request Complete – Failures Exist	2	The Storage Commitment SCU AE requests the Storage SCU AE to send the Referenced SOP Instances under Failed SOP Sequence (0018,1198).

The reasons for returning specific status codes in an N-EVENT-REPORT response are summarized in the table below.

Table 4.2-35
STORAGE COMMITMENT N-EVENT-REPORT RESPONSE STATUS REASONS

Service Status	Further Meaning	Status Code	Reasons
Success	Success	0000	The storage commitment result has been successfully received.
Failure	Processing Failure	0110H	An internal error occurred during processing of the N-EVENT-REPORT. A short description of the error will be returned in Error Comment (0000,0902).

4.2.5 MWM SCU AE Specification

4.2.5.1 SOP Classes

The MWM SCU AE provides Standard Conformance to the following SOP Classes:

Table 4.2-36
SOP CLASSES FOR THE MWM SCU AE

SOP Class Name	SOP Class UID	SCU	SCP
Modality Worklist Information Model – FIND	1.2.840.10008.5.1.4.31	Yes	No

4.2.5.2 Association Policies

4.2.5.2.1 General

The DICOM standard application context name for DICOM 3.0 is always proposed:

Table 4.2-37
DICOM APPLICATION CONTEXT FOR THE MWM SCU AE

Application Context Name	1.2.840.10008.3.1.1.1

4.2.5.2.2 Number of Associations

The MWM SCU AE initiates one association at a time for a worklist request.

Table 4.2-38
NUMBER OF ASSOCIATIONS INITIATED FOR THE MWM SCU AE

Maximum number of simultaneous associations	1

4.2.5.2.3 Asynchronous Nature

The MWM SCU AE does not support asynchronous communication (multiple outstanding transactions over a single association).

Table 4.2-39
ASYNCHRONOUS NATURE FOR THE MWM SCU AE

Maximum number of outstanding asynchronous transactions	1

4.2.5.2.4 Implementation Identifying Information

The implementation information for this Application Entity is:

Table 4.2-40
DICOM IMPLEMENTATION CLASS AND VERSION FOR THE MWM SCU AE

Implementation Class UID	1.2.392.200036.9116.6.17.1000.1
Implementation Version Name	TM_VIAMO_3.0

4.2.5.3 Association Initiation Policy

4.2.5.3.1 Activity – Update Worklist

4.2.5.3.1.1 Description and Sequencing of Activities

The request for an “Update Worklist” is initiated by user interaction, i.e. pressing the buttons “Get Worklist” or automatically at the time of patient registration.

Upon initiation of the request, the MWM SCU AE will build an Identifier for the C-FIND request, will initiate an association to send the request and will wait for worklist responses. After retrieval of all responses, the MWM SCU AE will access the local database to add or update patient demographic data. The results will be displayed in a separate list.

The MWM SCU AE will initiate an association in order to issue a C-FIND request according to the Modality Worklist Information Model.

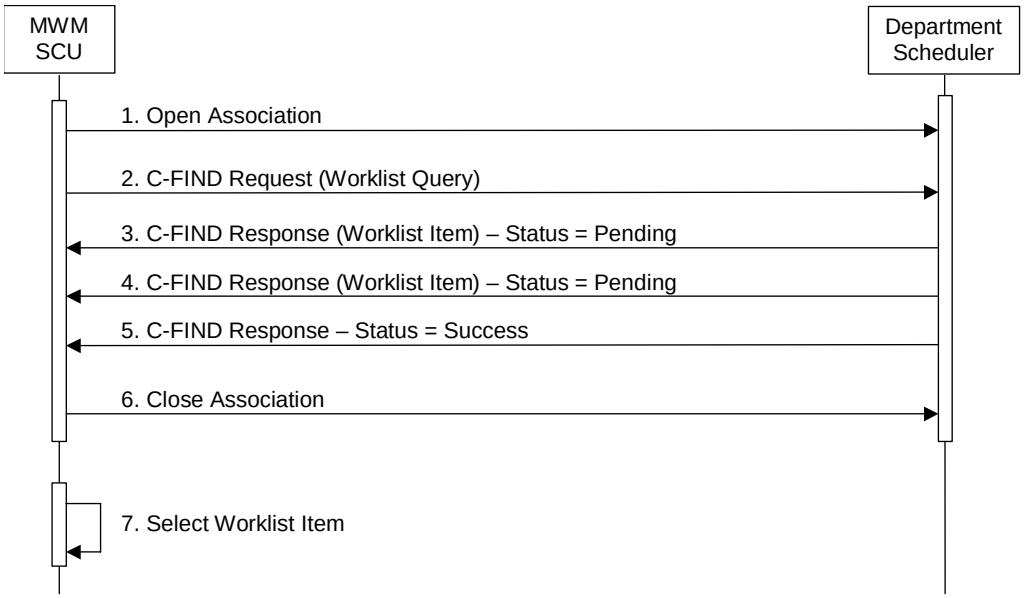

Figure 4.2-6
SEQUENCING OF ACTIVITY – UPDATE WORKLIST

A possible sequence of interactions between the MWM SCU AE and a Department Scheduler (e.g. a device such as a RIS or HIS which supports the Modality Worklist SOP Class as an SCP) is illustrated in the Figure above:

1. The MWM SCU AE opens an association with the Department Scheduler
2. The MWM SCU AE sends a C-FIND request to the Department Scheduler containing the Worklist Query attributes.
3. The Department Scheduler returns a C-FIND response containing the requested attributes of the first matching worklist item.
4. The Department Scheduler returns another C-FIND response containing the requested attributes of the second matching worklist item.
5. The Department Scheduler returns another C-FIND response with status Success indicating that no further matching worklist items exist. This example assumes that only 2 worklist items match the Worklist Query.
6. The MWM SCU AE closes the association with the Department Scheduler.
7. The user selects a worklist item from the Worklist and prepares to acquire new instances.

4.2.5.3.1.2 Proposed Presentation Contexts

The MWM SCU AE will propose Presentation Contexts shown in the following table:

Table 4.2-41
PROPOSED PRESENTATION CONTEXTS FOR ACTIVITY UPDATE WORKLIST

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name List**	**UID List**		
Modality Worklist Information Model – FIND	1.2.840.10008.5.1.4.31	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

4.2.5.3.1.3 SOP Specific Conformance for Modality Worklist SOP Class

The MWM SCU AE provides standard conformance to the Modality Worklist SOP Class as an SCU.

The behavior of the MWM SCU, when encountering status codes in a Modality Worklist C-FIND response, was summarized in the table below.

Table 4.2-42
MODALITY WORKLIST C-FIND RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Status Code	Behavior
Success	Matching is complete	0000	The SCP has completed the matches. Worklist items are available for display or further processing.
*	*	Any other status code	The association is aborted using A-ABORT and the status meaning is logged.

The behavior of the MWM SCU AE during communication failure was summarized in the table below.

Table 4.2-43
MODALITY WORKLIST COMMUNICATION FAILURE BEHAVIOR

Exception	Behavior
Timeout	The association is aborted using A-ABORT and the reason is logged.
Unsupported character sets	
Association aborted by the SCP or network layers	The reason is logged.

Acquired instances will always use the Study Instance UID specified for the Scheduled Procedure Step (if available). If an acquisition is unscheduled, a Study Instance UID will be generated locally.

The table below provides a description of the MWM SCU AE Worklist Request Identifier and specifies the attributes that are copied into the instances. Unexpected attributes returned in a C-FIND response are ignored.

Table 4.2-44
WORKLIST REQUEST IDENTIFIER

Module Name Attribute Name	Tag	VR	M	R	D	IOD
SOP Common						
Specific Character Set	(0008,0005)	CS				X
Scheduled Procedure Step						
Scheduled Procedure Step Sequence	(0040,0100)	SQ				
>Modality	(0008,0060)	CS	S	X	X	X
>Requested Contrast Agent	(0032,1070)	LO		X		
>Scheduled Station AE Title	(0040,0001)	AE	S	X	X	
>Scheduled Procedure Step Start Date	(0040,0002)	DA	S/R	X	X	
>Scheduled Procedure Step Start Time	(0040,0003)	TM	S/R	X	X	
>Scheduled Performing Physician's Name	(0040,0006)	PN		X	X	
>Scheduled Procedure Step Description	(0040,0007)	LO		X	X	
>Scheduled Station Name	(0040,0010)	SH		X		
>Scheduled Procedure Step Location	(0040,0011)	SH		X		
>Scheduled Protocol Code Sequence	(0040,0008)	SQ				
>>Code Value	(0008,0100)	SH		X	X	
>>Coding Scheme Designator	(0008,0102)	SH		X	X	
>>Coding Scheme Version	(0008,0103)	SH		X		
>>Code Meaning	(0008,0104)	LO		X	X	
>Pre-Medication	(0040,0012)	LO		X		
>Scheduled Procedure Step Status	(0040,0020)	CS		X		
>Scheduled Procedure Step ID	(0040,0009)	SH		X	X	
Requested Procedure						
Referenced Study Sequence	(0008,1110)	SQ				
>Referenced SOP Class UID	(0008,1150)	UI		X		
>Referenced SOP Instance UID	(0008,1155)	UI		X		
Study Instance UID	(0020,000D)	UI		X		X
Requested Procedure Description	(0032,1060)	LO		X	X	
Requested Procedure Code Sequence	(0032,1064)	SQ				
>Code Value	(0008,0100)	SH		X	X	
>Coding Scheme Designator	(0008,0102)	SH		X	X	
>Coding Scheme Version	(0008,0103)	SH		X		
>Code Meaning	(0008,0104)	LO		X	X	
Requested Procedure ID	(0040,1001)	SH	S	X	X	
Requested Procedure Priority	(0040,1003)	SH		X		
Patient Transport Arrangements	(0040,1004)	LO		X		

Imaging Service Request						
Accession Number	(0008,0050)	SH	S	X	X	X
Referring Physician's Name	(0008,0090)	PN		X	X	X
Requesting Physician	(0032,1032)	PN		X	X	
Requesting Service	(0032,1033)	LO		X		
Reason for the Imaging Service Request	(0040,2001)	LO		X		
Issue Date of Imaging Service Request	(0040,2004)	DA		X		
Issue Time of Imaging Service Request	(0040,2005)	TM		X		
Order Entered By	(0040,2008)	PM		X		
Order Enterer's Location	(0040,2009)	SH		X		
Order Callback Phone Number	(0040,2010)	SH		X		
Placer Order Number	(0040,2016)	LO		X		
Filler Order Number	(0040,2017)	LO		X		
Imaging Service Request Comments	(0040,2400)	LT		X		
Visit Identification						
Institution Name	(0008,0080)	LO		X		
Institution Address	(0008,0081)	LO		X		
Institution Code Sequence	(0008,0082)	SQ		X		
>Code Value	(0008,0100)	SH		X		
>Coding Scheme Designator	(0008,0102)	SH		X		
>Coding Scheme Version	(0008,0103)	SH		X		
>Code Meaning	(0008,0104)	LO		X		
Admission ID	(0038,0010)	LO		X		
Issuer of Admission ID	(0038,0011)	LO		X		
Visit Status						
Visit Status ID	(0038,0008)	CS		X		
Current Patient Location	(0038,0300)	LO		X		
Patient's Institution Residence	(0038,0400)	LO		X		
Visit Comments	(0038,4000)	LT		X		
Visit Relationship						
Referenced Patient Sequence	(0008,1120)	SQ				
>Referenced SOP Class UID	(0008,1150)	UI		X		
>Referenced SOP Instance UID	(0008,1155)	UI		X		
Visit Admission						
Referring Physician's Name	(0008,0090)	PN		X	X	X
Referring Physician's Address	(0008,0092)	ST		X		
Referring Physician's Telephone Numbers	(0008,0094)	SH		X		
Admitting Diagnoses Description	(0008,1080)	LO		X		
Admitting Diagnosis Code Sequence	(0008,1084)			X		
>Code Value	(0008,0100)	SH		X		
>Coding Scheme Designator	(0008,0102)	SH		X		
>Coding Scheme Version	(0008,0103)	SH		X		

>Code Meaning	(0008,0104)	LO		X		
Route of Admissions	(0038,0016)	DA		X		
Admitting Date	(0038,0020)	DA		X		
Admitting Time	(0038,0021)	TM		X		
Patient Identification						
Patient's Name	(0010,0010)	PN	W	X	X	X
Patient ID	(0010,0020)	LO	S	X	X	X
Patient Demographic						
Patient's Birth Date	(0010,0030)	DA		X	X	X
Patient's Birth Time	(0010,0032)	TM		X		
Patient's Sex	(0010,0040)	CS		X	X	X
Patient's Insurance Plan Code Sequence	(0010,0050)	SQ		X		
>Code Value	(0008,0100)	SH		X		
>Coding Scheme Designator	(0008,0102)	SH		X		
>Coding Scheme Version	(0008,0103)	SH		X		
>Code Meaning	(0008,0104)	LO		X		
Patient's Age	(0010,1010)	AS		X	X	X
Patient's Size	(0010,1020)	DS		X	X	X
Patient's Weight	(0010,1030)	DS		X	X	X
Patient's Address	(0010,1040)	LO		X		
Military Rank	(0010,1080)	LO		X		
Branch of Service	(0010,1081)	LO		X		
Country of Residence	(0010,2150)	LO		X		
Region of Residence	(0010,2152)	LO		X		
Patient's Telephone Numbers	(0010,2154)	SH		X		
Occupation	(0010,2180)	SH		X		
Patient's Religious Preference	(0010,21F0)	LO		X		
Patient Comments	(0010,4000)	LT		X	X	X
Confidentiality constraint on patient data	(0040,3001)	LO		X		
Patient Medical						
Medical Alerts	(0010,2000)	LO		X	X	
Allergies	(0010,2110)	LO		X	X	
Smoking Status	(0010,21A0)	CS		X	X	
Additional Patient History	(0010,21B0)	LT		X	X	
Pregnancy Status	(0010,21C0)	US		X	X	
Last Menstrual Date	(0010,21D0)	DA		X	X	
Special Needs	(0038,0050)	LO		X	X	
Patient State	(0038,0500)	LO		X	X	

The above table should be read as follows:

Module Name : The name of the associated module for supported worklist attributes.

Attribute Name: Attributes supported to build the MWM SCU AE Worklist Request Identifier.

Tag : DICOM tag for this attribute.

VR : DICOM VR for this attribute.

M : Matching keys for (automatic) Worklist Update.
S: Single Value Matching
R: Range Matching
W: Wild Card Matching

R : Return keys. An "X" will indicate that the MWM SCU AE will supply this attribute as Return Key with zero length for Universal Matching. This setting can be configured using the service tool.

D : Displayed keys. An “X” indicates that this worklist attribute is displayed to the user during a patient registration. For example, Patient Name will be displayed when registering the patient prior to an examination.

IOD : An "X" indicates that this worklist attribute is included into all Object Instances created during performance of the related Procedure Step.

Notes:

1. Specific Character Set (0008,0005) will be created if an extended or replacement character set is used in the matching keys.
2. Scheduled Performing Physician’s Name (0040,0006) will be copied into Performing Physician’s Name (0008,1050).
3. Scheduled Procedure Step Description (0040,0007), or Requested Procedure Description (0032,1060) can be displayed at *Exam Type* when matching the following exam types: Abdomen, Kidney, Tests, Thyroid, Other, TCD, GYN, Breast, Endo Vaginal, OB, Fetal Heart, Neo-General, Neo-Head, Neo-Hip, Adult Heart, Pediatric Heart, Coronary, Carotid, PV Arterial, PV Venous, Digits, and MSK. They can be also configured to correspond to user-defined terms, and it is selectable where to set those terms.

4.2.5.4 Association Acceptance Policy

The MWM SCU AE does not accept associations.

4.2.6 MPPS SCU AE Specification

4.2.6.1 SOP Classes

The MPPS SCU AE provides Standard Conformance to the following SOP Classes:

Table 4.2-45
SOP CLASSES FOR THE MPPS SCU AE

SOP Class Name	SOP Class UID	SCU	SCP
Modality Performed Procedure Step	1.2.840.10008.3.1.2.3.3	Yes	No

4.2.6.2 Association Policies

4.2.6.2.1 General

The DICOM standard application context name for DICOM 3.0 is always proposed:

Table 4.2-46
DICOM APPLICATION CONTEXT FOR THE MPPS SCU AE

Application Context Name	1.2.840.10008.3.1.1.1

4.2.6.2.2 Number of Associations

The MPPS SCU AE initiates one association at a time.

Table 4.2-47
NUMBER OF ASSOCIATIONS INITIATED FOR THE MPPS SCU AE

Maximum number of simultaneous associations	1

4.2.6.2.3 Asynchronous Nature

The MPPS SCU AE does not support asynchronous communication (multiple outstanding transactions over a single association).

Table 4.2-48
ASYNCHRONOUS NATURE FOR THE MPPS SCU AE

Maximum number of outstanding asynchronous transactions	1

4.2.6.2.4 Implementation Identifying Information

The implementation information for this Application Entity is:

Table 4.2-49
DICOM IMPLEMENTATION CLASS AND VERSION FOR THE MPPS SCU AE

Implementation Class UID	1.2.392.200036.9116.6.17.1000.1
Implementation Version Name	TM_VIAMO_3.0

4.2.6.3 Association Initiation Policy

4.2.6.3.1 Activity – Acquire Instances

4.2.6.3.1.1 Description and Sequencing of Activities

The MPPS SCU AE performs the creation of an MPPS instance automatically when the user selects and starts a worklist item. Further updates on the MPPS data can be performed when the user completes the acquisition.

The MPPS SCU AE will initiate an association to issue an:

— N-CREATE request according to the CREATE Modality Performed Procedure Step SOP Instance operation, or an:

— N-SET request to update the contents and state of the MPPS according to the SET Modality Performed Procedure Step Information operation.

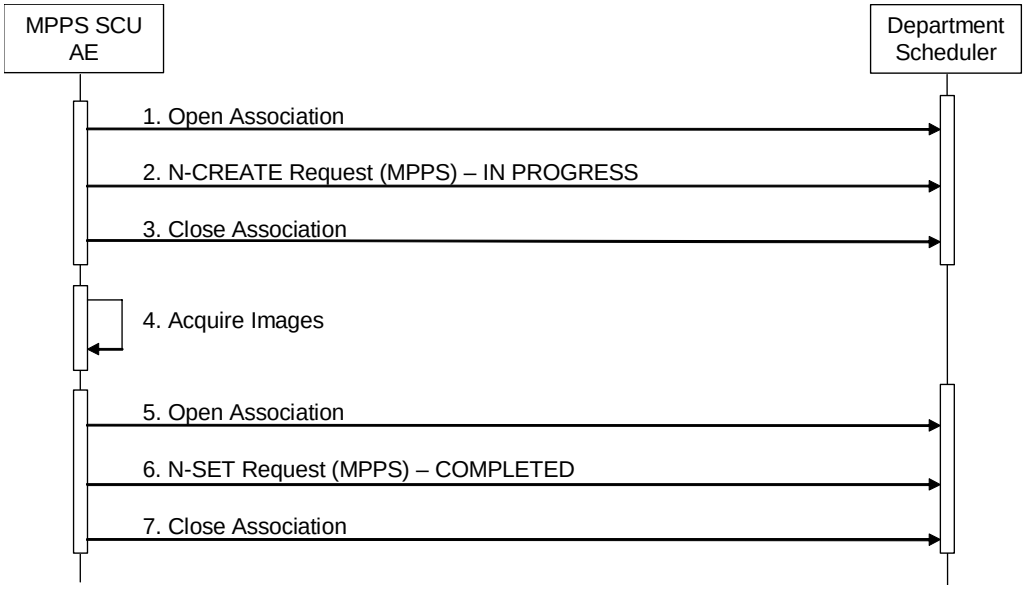

Figure 4.2-7
SEQUENCING OF ACTIVITY – ACQUIRE INSTANCES

A possible sequence of interactions between the MPPS SCU AE and a Department Scheduler (e.g. a device such as a RIS or HIS which supports the MPPS SOP Class as an SCP) is illustrated in the Figure above:

1. The MPPS SCU AE opens an association with the Department Scheduler
2. The MPPS SCU AE sends an N-CREATE request to the Department Scheduler to create an MPPS instance with status of “IN PROGRESS” and create all necessary attributes. The Department Scheduler acknowledges the MPPS creation with an N-CREATE response (status success).
3. The MPPS SCU AE closes the association with the Department Scheduler.
4. All instances are acquired and stored in the local database.
5. The MPPS SCU AE opens an association with the Department Scheduler.
6. The MPPS SCU AE sends an N-SET request to the Department Scheduler to update the MPPS instance with status of “COMPLETED” and set all necessary attributes. The Department Scheduler acknowledges the MPPS update with an N-SET response (status success).
7. The MPPS SCU AE closes the association with the Department Scheduler.

4.2.6.3.1.2 Proposed Presentation Contexts

The MPPS SCU AE will propose Presentation Contexts shown in the following table:

Table 4.2-50
PROPOSED PRESENTATION CONTEXTS FOR REAL-WORLD ACTIVITY ACQUIRE INSTANCES

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name List**	**UID List**		
Modality Performed Procedure Step	1.2.840.10008.3.1.2.3.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

4.2.6.3.1.3 SOP Specific Conformance for MPPS SOP Class

The MPPS SCU AE provides standard conformance to the Modality Performed Procedure Step SOP Class as an SCU.

The behavior of MPPS SCU AE, when encountering status codes in an MPPS N-CREATE or N–SET response, was summarized in the table below.

Table 4.2-51
MPPS N-CREATE / N-SET RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Status Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully.
*	*	Any other status code	The association is aborted and the MPPS is marked as failed. The status meaning is logged and reported to the user.

The behavior of the MPPS SCU AE during communication failure is summarized in the table below:

Table 4.2-52
MPPS COMMUNICATION FAILURE BEHAVIOR

Exception	Behavior
Timeout	The association is aborted and MPPS is marked as failed. The reason is logged and reported to the user.
Association aborted by the SCP or network layers	The MPPS is marked as failed. The reason is logged and reported to the user.

The table below provides a description of the MPPS N-CREATE and N-SET request identifiers sent by the MPPS SCU AE. Empty cells in the N-CREATE and N-SET columns indicate that the attribute is not sent. An "x" indicates that an appropriate value will be sent. A "Zero length" attribute will be sent with zero length.

Table 4.2-53
MPPS N-CREATE / N-SET REQUEST IDENTIFIER

Attribute Name	Tag	VR	N-CREATE	N-SET
Specific Character Set	(0008,0005)	CS	Created, if an extended or replacement character set is used.	
Performed Procedure Step Relationship				
Scheduled Step Attributes Sequence	(0040,0270)	SQ	Always set	
>Study Instance UID	(0020,000D)	UI	From Modality Worklist	
>Referenced Study Sequence	(0008,1110)	SQ	Zero length	
>Accession Number	(0008,0050)	SH	From Modality Worklist	
>Requested Procedure ID	(0040,1001)	SH	From Modality Worklist	
>Requested Procedure Description	(0032,1060)	LO	From Modality Worklist	
>Scheduled Procedure Step ID	(0040,0009)	SH	From Modality Worklist	
>Scheduled Procedure Step Description	(0040,0007)	LO	From Modality Worklist	
>Scheduled Protocol Code Sequence	(0040,0008)	SQ	Zero length	
Patient's Name	(0010,0010)	PN	From Modality Worklist or user input	
Patient ID	(0010,0020)	LO	From Modality Worklist or user input	
Patient's Birth Date	(0010,0030)	DA	From Modality Worklist or user input	
Patient's Sex	(0010,0040)	CS	From Modality Worklist or user input	
Referenced Patient Sequence	(0008,1120)	SQ	Zero length	
Performed Procedure Step Information				
Performed Procedure Step ID	(0040,0253)	SH	X	
Performed Station AE Title	(0040,0241)	AE	MPPS AE Title	
Performed Station Name	(0040,0242)	SH	From configuration	
Performed Location	(0040,0243)	SH	Zero length	
Performed Procedure Step Start Date	(0040,0244)	DA	Actual start date	
Performed Procedure Step Start Time	(0040,0245)	TM	Actual start time	
Performed Procedure Step Status	(0040,0252)	CS	IN PROGRESS	COMPLETED
Performed Procedure Step Description	(0040,0254)	LO	X	X
Performed Procedure Type Description	(0040,0255)	LO	Zero length	
Procedure Code Sequence	(0008,1032)	SQ	Zero or more items	Zero or more items
Performed Procedure Step End Date	(0040,0250)	DA	Zero length	Actual end date
Performed Procedure Step End Time	(0040,0251)	TM	Zero length	Actual end time
Image Acquisition Results				
Modality	(0008,0060)	CS	US	
Study ID	(0020,0010)	SH	X	
Performed Protocol Code Sequence	(0040,0260)	SQ	From Modality Worklist	X
Performed Series Sequence	(0040,0340)	SQ	One or more items	One or more items

>Performing Physician's Name	(0008,1050)	PN	From Modality Worklist or user input	X
>Protocol Name	(0018,1030)	LO	X	X
>Operator's Name	(0008,1070)	PN	Zero length	Zero length
>Series Instance UID	(0020,000E)	UI	X	X
>Series Description	(0008,103E)	LO	Zero length	Zero length
>Retrieve AE Title	(0008,0054)	AE	Zero length	Zero length
>Referenced Image Sequence	(0008,1140)	SQ	Zero length	One or more items
>>Referenced SOP Class UID	(0008,1150)	UI		X
>>Referenced SOP Instance UID	(0008,1155)	UI		X
>Referenced Non-Image Composite SOP Instance Sequence	(0040,0220)	SQ	Zero length	Zero length

4.2.6.4 Association Acceptance Policy

The MPPS SCU AE does not accept associations.

4.2.7 Print SCU AE Specification

4.2.7.1 SOP Classes

The Print SCU AE provides Standard Conformance to the following Meta SOP Classes:

Table 4.2-54
META SOP CLASSES FOR THE PRINT SCU AE

SOP Class Name	SOP Class UID	SCU	SCP
Basic Grayscale Print Management Meta	1.2.840.10008.5.1.1.9	Yes	No
Basic Color Print Management Meta	1.2.840.10008.5.1.1.18	Yes	No

The above Meta SOP Classes are defined by the following set of supported SOP Classes:

Table 4.2-55
SOP CLASSES FOR THE PRINT SCU AE

SOP Class Name	SOP Class UID	SCU	SCP
Basic Film Session SOP Class	1.2.840.10008.5.1.1.1	Yes	No
Basic film Box SOP Class	1.2.840.10008.5.1.1.2	Yes	No
Basic Grayscale Image Box SOP Class	1.2.840.10008.5.1.1.4	Yes	No
Basic Color Image Box SOP Class	1.2.840.10008.5.1.1.4.1	Yes	No
Printer SOP Class	1.2.840.10008.5.1.1.16	Yes	No

4.2.7.2 Association Policies

4.2.7.2.1 General

The DICOM standard application context name for DICOM 3.0 is always proposed:

Table 4.2-56
DICOM APPLICATION CONTEXT FOR THE PRINT SCU AE

Application Context Name	1.2.840.10008.3.1.1.1

4.2.7.2.2 Number of Associations

The Print SCU AE initiates one association at a time.

Table 4.2-57
NUMBER OF ASSOCIATIONS ACCEPTED FOR THE PRINT SCU AE

Maximum number of simultaneous Associations	1

4.2.7.2.3 Asynchronous Nature

The Print SCU AE does not support asynchronous communication (multiple outstanding transactions over a single Association).

Table 4.2-58
ASYNCHRONOUS NATURE FOR THE PRINT SCU AE

Maximum number of outstanding asynchronous transactions	1

4.2.7.2.4 Implementation Identifying Information

The implementation information for the Print SCU AE is:

Table 4.2-59
DICOM IMPLEMENTATION CLASS AND VERSION FOR THE PRINT SCU AE

Implementation Class UID	1.2.392.200036.9116.6.17.1000.1
Implementation Version Name	TM_VIAMO_3.0

4.2.7.3 Association Initiation Policy

4.2.7.3.1 Activity – Send Images & Print Management Information

4.2.7.3.1.1 Description and Sequencing of Activities

A user composes images onto film sheets and requests them to be sent to a specific hardcopy device. The user can select the desired film format and number of copies.

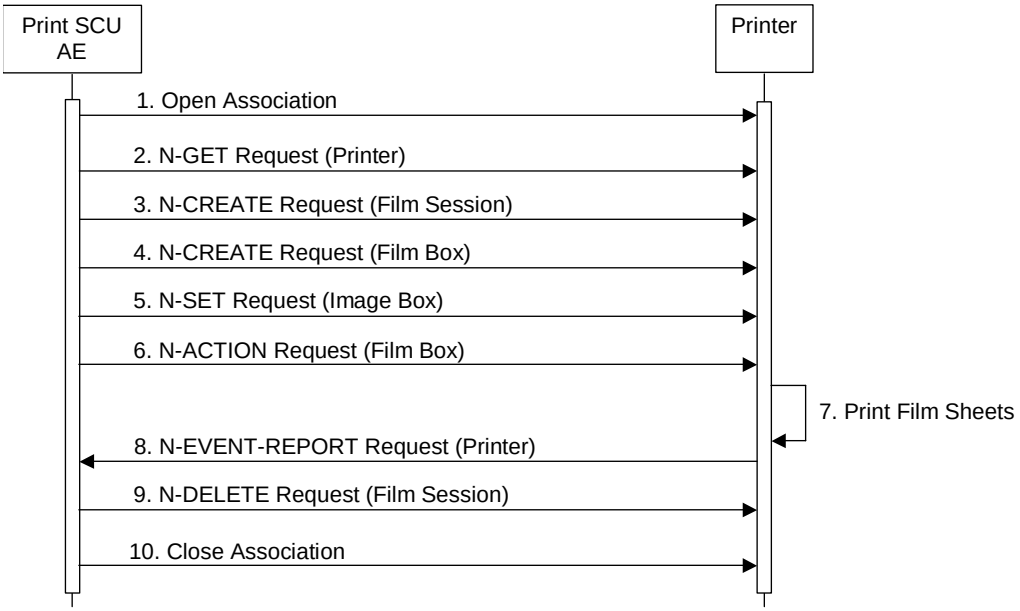

Figure 4.2-8
SEQUENCING OF ACTIVITY – SEND IMAGES & PRINT MANAGEMENT INFORMATION

A typical sequence of DIMSE messages sent over an association between the Print SCU AE and a Printer is illustrated in the Figure above:

1. The Print SCU AE opens an Association with the Printer.
2. N-GET on the Printer SOP Class is used to obtain current printer status information.
3. N-CREATE on the Film Session SOP Class creates a Film Session.
4. N-CREATE on the Film Box SOP Class creates a Film Box linked to the Film Session.
5. N-SET on the Image Box SOP Class transfers the contents of the film sheet to the printer.
6. N-ACTION on the Film Box SOP Class instructs the Printer to print the Film Box.
7. The Printer prints the requested number of film sheets.
8. The Printer asynchronously reports its status via N-EVENT-REPORT notification (Printer SOP Class). The printer can send this message at any time. The Print SCU AE does not require the N-EVENT-REPORT to be sent. The Print SCU AE is capable of receiving an N-EVENT-REPORT notification at any time during an association.
9. N-DELETE on the Film Session SOP Class deletes the complete Film Session SOP Instance hierarchy.
10. The Print SCU AE closes the Association with the Printer.

4.2.7.3.1.2 Proposed Presentation Contexts

The Print SCU AE is capable of proposing the Presentation Contexts shown in the table below:

Table 4.2-60
PROPOSED PRESENTATION CONTEXTS FOR ACTIVITY
SEND IMAGES & PRINT MANAGEMENT INFORMATION

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name List**	**UID List**		
Basic Grayscale Print Management Meta	1.2.840.10008.5.1.1.9	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		
Basic Color Print Management Meta	1.2.840.10008.5.1.1.18	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		

4.2.7.3.1.3 Common SOP Specific Conformance for all Print SOP Classes

The general behavior of the Print SCU AE during communication failure is summarized in the table below. This behavior is common for all SOP Classes supported by the Print SCU AE.

Table 4.2-61
PRINT COMMUNICATION FAILURE BEHAVIOR

Exception	Behavior
Timeout	The Association is aborted using A-ABORT and the print-job is marked as failed. The reason is logged and the job failure is reported to the user via the job control application.
Association aborted by the SCP or network layers	The print-job is marked as failed. The reason is logged and the job failure is reported to the user via the job control application.

4.2.7.3.1.4 SOP Specific Conformance for Printer SOP Class

The Print SCU AE supports the following DIMSE operations and notifications for the Printer SOP Class:

— N-GET
— N-EVENT-REPORT

Details of the supported attributes and status handling behavior are described in the following subsections.

4.2.7.3.1.4.1 Printer SOP Class Operations (N-GET)

The Print SCU AE uses the Printer SOP Class N-GET operation to obtain information about the current printer status. The attributes obtained via N-GET are listed in the table below:

Table 4.2-62
PRINTER SOP CLASS N-GET REQUEST ATTRIBUTES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Printer Status	(2110,0010)	CS	Provided by Printer	ALWAYS	Printer
Printer Status Info	(2110,0020)	CS	Provided by Printer	ALWAYS	Printer

The Printer Status information is evaluated as follows:

1. If Printer status (2110,0010) is NORMAL, the print-job continues to be printed.

2. If Printer status (2110,0010) is FAILURE, the print-job is marked as failed. The contents of Printer Status Info (2110,0020) is logged and reported to the user via the job control application.

3. If Printer status (2110,0010) is WARNING, the print-job continues to be printed. The contents of Printer Status Info (2110,0020) is logged and reported to the user via the job control application.

The behavior of The Print SCU AE when encountering status codes in an N-GET response is summarized in the table below:

Table 4.2-63
PRINTER SOP CLASS N-GET RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Status Code	Behavior
Success	Success	0000	The request to get printer status information was success.
*	*	Any other status code.	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.7.3.1.4.2 Printer SOP Class Notifications (N-EVENT-REPORT)

The Print SCU AE is capable of receiving an N-EVENT-REPORT request at any time during an association.

The behavior of The Print SCU AE when receiving Event Types within the N-EVENT-REPORT is summarized in the table below:

Table 4.2-64
PRINTER SOP CLASS N-EVENT-REPORT BEHAVIOUR

Event Type Name	Event Type ID	Behavior
Normal	1	The print-job continues to be printed.
Warning	2	The print-job continues to be printed. The contents of Printer Status Info (2110,0020) is logged and reported to the user via the job-control application.
Failure	3	The print-job is marked as failed. The contents of Printer Status Info (2110,0020) is logged and reported to the user via the job-control application.
*	*	An invalid Event Type ID will cause a status code of 0113H to be returned in a N-EVENT-REPORT response.

The reasons for returning specific status codes in an N-EVENT-REPORT response are summarized in the table below:

Table 4.2-65
PRINTER SOP CLASS N-EVENT-REPORT RESPONSE STATUS REASONS

Service Status	Further Meaning	Status Code	Reasons
Success	Success	0000	The notification event has been successfully received.
Failure	No Such Event Type	0113H	An invalid Event Type ID was supplied in the N-EVENT-REPORT request.
Failure	Processing Failure	0110H	An internal error occurred during processing of the N-EVENT-REPORT. A short description of the error will be returned in Error Comment (0000, 0902).

4.2.7.3.1.5 SOP Specific Conformance for the Film Session SOP Class

The Print SCU AE supports the following DIMSE operations for the Film Session SOP Class:

— N-CREATE
— N-DELETE

Details of the supported attributes and status handling behavior are described in the following subsections.

4.2.7.3.1.5.1 Film Session SOP Class Operations (N-CREATE)

The attributes supplied in an N-CREATE Request are listed in the table below:

Table 4.2-66
FILM SESSION SOP CLASS N-CREATE REQUEST ATTRIBUTES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Number of Copies	(2000,0010)	IS	1	ALWAYS	Auto
Medium Type	(2000,0030)	CS	BLUE FILM, CLEAR FILM or PAPER	ALWAYS	User
Film Destination	(2000,0040)	CS	MAGAZINE or PROCESSOR	ALWAYS	User

The behavior of The Print SCU AE when encountering status codes in an N-CREATE response is summarized in the table below:

Table 4.2-67
FILM SESSION SOP CLASS N-CREATE RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Status Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully.
Warning	Attribute Value Out of Range	0116H	The N-CREATE operation is considered successful if it is configured that the status would be considered successful.
Warning	Attribute List Error	0107H	The N-CREATE operation is considered successful if it is configured that the status would be considered successful.
*	*	Any other status code.	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.7.3.1.5.2 Film Session SOP Class Operations (N-DELETE)

The behavior of The Print SCU AE when encountering status codes in an N-DELETE response is summarized in the table below:

Table 4.2-68
PRINTER SOP CLASS N-DELETE RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Status Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully.
*	*	Any other status code.	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.7.3.1.6 SOP Specific Conformance for the Film Box SOP Class

The Print SCU AE supports the following DIMSE operations for the Film Box SOP Class:

— N-CREATE
— N-ACTION

Details of the supported attributes and status handling behavior are described in the following subsections.

4.2.7.3.1.6.1 Film Box SOP Class Operations (N-CREATE)

The attributes supplied in an N-CREATE Request are listed in the table below:

Table 4.2-69
FILM BOX SOP CLASS N-CREATE REQUEST ATTRIBUTES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Image Display Format	(2010,0010)	CS	STANDARD\1,1	ALWAYS	User
Referenced Film Session Sequence	(2010,0500)	SQ		ALWAYS	Auto
>Referenced SOP Class UID	(0008,1150)	UI	1.2.840.10008.5.1.1.1	ALWAYS	Auto
>Referenced SOP Instance UID	(0008,1155)	UI	From created Film Session SOP Instance	ALWAYS	Auto
Film Orientation	(2010,0040)	CS	PORTRAIT or LANDSCAPE	ALWAYS	User
Film Size ID	(2010,0050)	CS	8INX10IN, 8_5INX11IN, 10INX12IN, 10INX14IN, 11INX14IN, 14INX14IN, 14INX17IN, 11INX17IN, 24CMX24CM, 24CMX30CM, A4 or A3	ALWAYS	User
Magnification Type	(2010,0060)	CS	REPLICATE, BILINEAR, CUBIC or NONE	ALWAYS	User
Border Density	(2010,0100)	CS	BLACK or WHITE	ALWAYS	User
Min Density	(2010,0120)	US	0 .. 9999	ALWAYS	User
Max Density	(2010,0130)	US	0 .. 9999	ALWAYS	User

The behavior of the Print SCU AE when encountering status codes in an N-CREATE response is summarized in the table below:

Table 4.2-70
FILM BOX SOP CLASS N-CREATE RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Status Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully.
Warning	Requested Min Density or Max Density outside of printer's operating range	B605H	The N-CREATE operation is considered successful if it is configured that the status would be considered successful.
*	*	Any other status code.	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.7.3.1.6.2 Film Box SOP Class Operations (N-ACTION)

An N-ACTION Request is issued to instruct the Print SCP to print the contents of the Film Box. The Action Reply argument in an N-ACTION response is not evaluated.

The behavior of The Print SCU AE when encountering status codes in an N-ACTION response is summarized in the table below:

Table 4.2-71
FILM BOX SOP CLASS N-ACTION RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Status Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully. The film has been accepted for printing.
Warning	Film Box SOP Instance hierarchy does not contain Image Box SOP Instances (empty page)	B603H	The N-ACTION operation is considered successful if it is configured that the status would be considered successful.
Warning	Image size is larger than Image Box size. The image has been demagnified.	B604H	The N-ACTION operation is considered successful if it is configured that the status would be considered successful.
Warning	Image size is larger than Image Box size. The image has been cropped to fit.	B609H	The N-ACTION operation is considered successful if it is configured that the status would be considered successful.
Warning	Image size or Combined Print Image Size is larger than Image Box size. The image or combined Print Image has been decimated to fit.	B60AH	The N-ACTION operation is considered successful if it is configured that the status would be considered successful.
Failure	Unable to create Print Job SOP Instance; print queue is full.	C602	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
Failure	Image size is larger than Image Box size.	C603	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
Failure	Combined Print Image Size is larger than Image Box size.	C613	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
*	*	Any other status code.	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.7.3.1.7 SOP Specific Conformance for the Grayscale Image Box SOP Class

The Print SCU AE supports the following DIMSE operations for the Grayscale Image Box SOP Class:

— N-SET

Details of the supported attributes and status handling behavior are described in the following subsections.

4.2.7.3.1.7.1 Grayscale Image Box SOP Class Operations (N-SET)

The attributes supplied in an N-SET Request are listed in the table below:

Table 4.2-72
GRAYSCALE IMAGE BOX SOP CLASS N-SET REQUEST ATTRIBUTES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Image Position	(2020,0010)	US	1	ALWAYS	Auto
Basic Grayscale Image Sequence	(2020,0110)	SQ		ALWAYS	Auto
>Samples Per Pixel	(0028,0002)	US	1	ALWAYS	Auto
>Photometric Interpretation	(0028,0004)	CS	MONOCHROME2	ALWAYS	Auto
>Rows	(0028,0010)	US		ALWAYS	Auto
>Columns	(0028,0011)	US		ALWAYS	Auto
>Pixel Aspect Ratio	(0028,0034)	IS	1\1	ALWAYS	Auto
>Bits Allocated	(0028,0100)	US	8	ALWAYS	Auto
>Bits Stored	(0028,0101)	US	8	ALWAYS	Auto
>High Bit	(0028,0102)	US	7	ALWAYS	Auto
>Pixel Representation	(0028,0103)	US	0	ALWAYS	Auto
>Pixel Data	(7FE0,0010)	OB		ALWAYS	Auto

The behavior of the Print SCU AE when encountering status codes in an N-SET response is summarized in the table below:

Table 4.2-73
GRAYSCALE IMAGE BOX SOP CLASS N-SET RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Status Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully. Image successfully stored in Image Box.
Warning	Image size is larger than Image Box size. The image has been demagnified.	B604H	The N-SET operation is considered successful if it is configured that the status would be considered successful.
Warning	Requested Min Density or Max Density outside of printer's operating range.	B605H	The N-SET operation is considered successful if it is configured that the status would be considered successful.
Warning	Image size is larger than Image Box size. The image has been cropped to fit.	B609H	The N-SET operation is considered successful if it is configured that the status would be considered successful.
Warning	Image size or Combined Print Image Size is larger than Image Box size. The image or combined Print Image has been decimated to fit.	B60AH	The N-SET operation is considered successful if it is configured that the status would be considered successful.
Failure	Image size is larger than Image Box size.	C603	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
Failure	Insufficient memory in printer to store the image.	C605	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
Failure	Combined Print Image Size is larger than Image Box size.	C613	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
*	*	Any other status code.	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.7.3.1.8 SOP Specific Conformance for the Color Image Box SOP Class

The Print SCU AE supports the following DIMSE operations for the Color Image Box SOP Class:

— N-SET

Details of the supported attributes and status handling behavior are described in the following subsections.

4.2.7.3.1.8.1 Color Image Box SOP Class Operations (N-SET)

The attributes supplied in an N-SET Request are listed in the table below:

Table 4.2-74
COLOR IMAGE BOX SOP CLASS N-SET REQUEST ATTRIBUTES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Image Position	(2020,0010)	US	1	ALWAYS	Auto
Basic Color Image Sequence	(2020,0111)	SQ		ALWAYS	Auto
>Samples Per Pixel	(0028,0002)	US	3	ALWAYS	Auto
>Photometric Interpretation	(0028,0004)	CS	RGB	ALWAYS	Auto
>Planar Configuration	(0028,0006)	US	1	ALWAYS	Auto
>Rows	(0028,0010)	US		ALWAYS	Auto
>Columns	(0028,0011)	US		ALWAYS	Auto
>Pixel Aspect Ratio	(0028,0034)	IS	1\1	ALWAYS	Auto
>Bits Allocated	(0028,0100)	US	8	ALWAYS	Auto
>Bits Stored	(0028,0101)	US	8	ALWAYS	Auto
>High Bit	(0028,0102)	US	7	ALWAYS	Auto
>Pixel Representation	(0028,0103)	US	0	ALWAYS	Auto
>Pixel Data	(7FE0,0010)	OB		ALWAYS	Auto

The behavior of the Print SCU AE when encountering status codes in an N-SET response is summarized in the table below:

Table 4.2-75
COLOR IMAGE BOX SOP CLASS N-SET RESPONSE STATUS HANDLING BEHAVIOR

Service Status	Further Meaning	Status Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully. Image successfully stored in Image Box.
Warning	Image size is larger than Image Box size. The image has been demagnified.	B604H	The N-SET operation is considered successful if it is configured that the status would be considered successful.
Warning	Requested Min Density or Max Density outside of printer's operating range.	B605H	The N-SET operation is considered successful if it is configured that the status would be considered successful.
Warning	Image size is larger than Image Box size. The image has been cropped to fit.	B609H	The N-SET operation is considered successful if it is configured that the status would be considered successful.
Warning	Image size or Combined Print Image Size is larger than Image Box size. The image or combined Print Image has been decimated to fit.	B60AH	The N-SET operation is considered successful if it is configured that the status would be considered successful.
Failure	Image size is larger than Image Box size.	C603	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
Failure	Insufficient memory in printer to store the image.	C605	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
Failure	Combined Print Image Size is larger than Image Box size.	C613	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
*	*	Any other status code.	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.7.4 Association Acceptance Policy

The Print SCU AE does not accept associations.

4.3 NETWORK INTERFACES

4.3.1 Physical Network Interface

This product supports a single network interface. One of the following physical network interfaces will be available depending on installed hardware options:

Table 4.3-1
SUPPORTED PHYSICAL NETWORK INTERFACES

Ethernet 1000baseT
Ethernet 100baseT
Ethernet 10baseT

4.3.2 Additional Protocols

None.

4.4 CONFIGURATION

4.4.1 AE Title/Presentation Address Mapping

4.4.1.1 Local AE Titles

All local applications use the AE Titles and TCP/IP Ports configured via the Service Tool. The Field Service Engineer can configure the TCP Port via the Service Tool.

Note: AE Titles can use alphanumeric characters, "-", ".", and "_", up to 16 characters.

Table 4.4-1
AE TITLE CONFIGURATION TABLE

Application Entity	Default AE Title	Default TCP/IP Port
Verification SCU	VERIFYSCU_AE	Not applicable
MWM SCU	MWMSCU_AE	
MPPS SCU	MPPSSCU_AE	
Print SCU	PrintSCU_AE	
Storage SCU	DICOM_LOCAL_SCU	
Storage Commitment SCU	DICOM_LOCAL_SCP	104

4.4.1.2 Remote AE Title/Presentation Address Mapping

The AE Titles, host names and port numbers of remote applications are configured using the Service Tool.

Note: AE Titles can use alphanumeric characters, "-", ".", and "_", up to 16 characters.

4.4.2 Parameters

A large number of parameters related to acquisition and general operation can be configured using the Service Tool. The table below only shows those configuration parameters relevant to DICOM communication. See the Product's Service Manual for details on general configuration capabilities.

Table 4.4-2
CONFIGURATION PARAMETERS TABLE

Parameter	Configurable (Yes/No)[Range]	Default Value
General Parameters		
Time-out waiting for an acceptance or rejection response to an association request (Application Level timeout)	Yes[0-99999]	60 sec
Time-out waiting for a response to an association release request (Application Level timeout)	Yes [0-99999]	60 sec
Time-out waiting for completion of a TCP/IP connect request (Low-level timeout)	Yes[0-99999]	20 sec
Time-out awaiting a response to a DIMSE request (Low-level timeout)	Yes[0-99999]	60 sec
Time-out for waiting for data between TCP/IP-packets (Low-level timeout)	Yes[0-99999]	32 sec

Parameter	Configurable (Yes/No)[Range]	Default Value
Storage SCU Parameters		
Maximum number of simultaneously initiated associations by the Storage SCU AE	No	1
Supported transfer syntaxes (separately configurable for each remote AE)	Yes	Implicit VR Little Endian JPEG Baseline (Process 1)
Number of times a failed send job may be retried	Yes [0-99999]	0
Storage SCU Commitment Parameters		
Maximum number of simultaneously initiated associations by the Storage Commitment SCU AE	No	1
Maximum number of simultaneously accepted associations by the Storage Commitment SCU AE	No	1
Time-out waiting for a Storage Commitment Notification (maximum duration of applicability for a Storage Commitment Transaction UID)	Yes [1-99999](msec, sec, min, hour, month or year)	180 sec
Delay association release after sending a storage commitment request (wait for a storage commitment notification over the same association)	No	0
Modality Worklist SCU Parameters		
Maximum number of simultaneously initiated associations by the MWM SCU AE	No	1
Maximum number of worklist items	Yes [1-9999]	200
Query worklist for specific Scheduled Station AE Title	Yes [Up to 16 Characters]	MWMSCU_AE
Query worklist for specific Modality	Yes [US or blank]	US
Time out between Results (This time-out is activated on a higher priority than General Parameter's time-out values)	Yes [0-999]	20 sec
MPPS SCU Parameters		
Maximum number of simultaneously initiated associations by the MPPS SCU AE	No	1
Number of times a failed send job may be retried	Yes [0-99999]	0
Print SCU Parameters		
Maximum number of simultaneously initiated associations by the Print SCU AE	No	1

5. MEDIA INTERCHANGE

5.1 IMPLEMENTATION MODEL

5.1.1 Application Data Flow

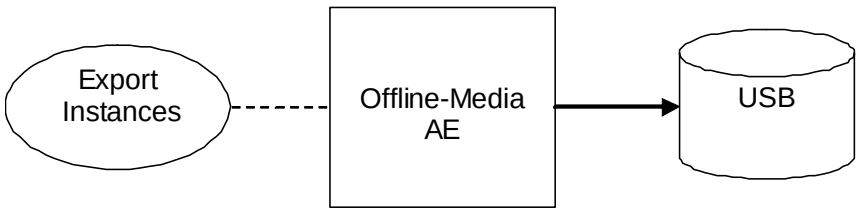

Figure 5.1-1
APPLICATION DATA FLOW DIAGRAM FOR MEDIA STORAGE

The Offline-Media AE exports instances to a USB Storage medium. It is associated with the local real-world activity “Export Instances” performed upon user request.

5.1.2 Functional Definition of AEs

5.1.2.1 Functional Definition of Offline-Media AE

The Offline-Media AE is performed upon user request for selected instances to an offline USB medium. It therefore performs the following tasks:

Export:

- Builds DICOM Information Objects.
- Creates a DICOMDIR file that represents the contents of the DICOM Information Objects to be recorded.
- Records DICOM Information Objects and the DICOMDIR file to the USB medium.

5.1.3 Sequencing of Real-World Activities

5.1.3.1 Activity – Export Instances

Operator requests to create new File-set(s) onto a new USB medium. The requests are placed in a queue and are executed in the background.

The operations for “Export Instances” are described below:

Step-1: Select the instances on the local storage device to be created to the medium.
Step-2: Request to copy to the medium.

5.1.4 File Meta Information for Implementation Class and Version

The implementation information written to the File Meta Header in each file is:

Table 5.1-1
DICOM IMPLEMENTATION CLASS AND VERSION FOR MEDIA STORAGE

File Meta Information Version	1
Implementation Class UID	1.2.392.200036.9116.6.17.1000.1
Implementation Version Name	TM_VIAMO_3.0

5.2 AE SPECIFICATIONS

5.2.1 Offline-Media AE Specification

The Offline-Media AE provides standard conformance to the DICOM Interchange Option of the Media Storage Service Class. The Application Profiles and roles are listed below:

Table 5.2-1
APPLICATION PROFILES, ACTIVITIES AND ROLES FOR OFFLINE-MEDIA

Application Profiles Supported	Real World Activity	Role	SC Option
AUG-GEN-USB	Export Instances	FSC	Interchange

5.2.1.1 File Meta Information for the Application Entity

The Source Application Entity Title is always “RMEDIA”.

5.2.1.2 Real-World Activities

5.2.1.2.1 Activity – Export Instances

The Offline-Media AE acts as an FSC using the interchange option when requested to export SOP Instances from the local database to a USB medium.

5.2.1.2.1.1 Media Storage Application Profiles

The Offline-Media AE supports the AUG-GEN-USB Application Profiles.

5.2.1.2.1.1.1 Options

The Offline-Media AE supports the SOP Classes and Transfer Syntaxes listed in Table 5.3-1.

5.3 AUGMENTED AND PRIVATE APPLICATION PROFILES

5.3.1 Augmented Application Profiles

5.3.1.1 Augmented Application Profiles – AUG-GEN-USB

5.3.1.1.1 SOP Class Augmentations

The Augmented Application Profiles support the following SOP Classes and Transfer Syntaxes:

Table 5.3-1
SOP CLASS AUGMENTATIONS

Information Object Definition	SOP Class UID	Transfer Syntax	Transfer Syntax UID
DICOM Media Storage Directory	1.2.840.10008.1.3.10	Explicit VR Little Endian	1.2.840.10008.1.2.1
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	JPEG Baseline (Process 1)	1.2.840.10008.1.2.4.50
Basic Text SR Storage	1.2.840.10008.5.1.4.1.1.88.11	Explicit VR Little Endian	1.2.840.10008.1.2.1
Enhanced SR Storage	1.2.840.10008.5.1.4.1.1.88.22	Explicit VR Little Endian	1.2.840.10008.1.2.1
Comprehensive SR Storage	1.2.840.10008.5.1.4.1.1.88.33	Explicit VR Little Endian	1.2.840.10008.1.2.1

5.3.1.1.2 Directory Augmentations

Not applicable.

5.3.1.1.3 Other Augmentations

Not applicable.

5.3.2 Private Application Profiles

Not applicable.

5.4 MEDIA CONFIGURATION

Not applicable.

6. SUPPORT OF CHARACTER SETS

This product supports the following character sets:

- ISO-IR 6 (default) ISO 646
- ISO-IR 100 (Latin alphabet No.1) Supplementary set of ISO 8859

7. SECURITY

This product does not support any specific security measures.

It is assumed that the product is used within a secured environment. It is assumed that a secured environment includes at a minimum:

a. Firewall or router protections to ensure that only approved external hosts have network access to the product.

b. Firewall or router protections to ensure that the product only has network access to approved external hosts and services.

Other network security procedures such as automated intrusion detection may be appropriate in some environments. Additional security features may be established by the local security policy and are beyond the scope of this conformance statement.

8. ANNEXES

8.1 IOD CONTENTS

8.1.1 Created SOP Instances

Table 8.1-1 specifies the attributes of a Secondary Capture Image transmitted by the Storage SCU AE.

Table 8.1-2 specifies the attributes of an Ultrasound Image transmitted by the Storage SCU AE.

Table 8.1-3 specifies the attributes of an Ultrasound Multi-frame Image transmitted by the Storage SCU AE.

Table 8.1-4 specifies the attributes of a Basic SR transmitted by the Storage SCU AE.

Table 8.1-5 specifies the attributes of an Enhanced SR transmitted by the Storage SCU AE.

Table 8.1-6 specifies the attributes of a Comprehensive SR transmitted by the Storage SCU AE.

The following tables use a number of abbreviations. The abbreviations used in the “Presence of …” column are:

VNAP	Value Not Always Present (attribute sent zero length if no value is present)
ANAP	Attribute Not Always Present
ALWAYS	Always Present
EMPTY	Attribute is sent without a value

The abbreviations used in the “Source” column:

MWL	the attribute value source Modality Worklist
USER	the attribute value source is from user input
AUTO	the attribute value is generated automatically
MPPS	the attribute value is the same as that use for Modality Performed Procedure Step
CONFIG	the attribute value source is a configurable parameter

8.1.1.1 SC Image IOD

Table 8.1-1
IOD OF CREATED SC IMAGE SOP INSTANCES

IE	Module	Reference	Presence of Module
Patient	Patient	Table 8.1-7	ALWAYS
	Clinical Trial Subject	--	Not Present
Study	General Study	Table 8.1-8	ALWAYS
	Patient Study	Table 8.1-9	ALWAYS
	Clinical Trial Study	--	Not Present
Series	General Series	Table 8.1-10	ALWAYS
	Clinical Trial Series	--	Not Present
Equipment	General Equipment	Table 8.1-11	ALWAYS
	SC Equipment	Table 8.1-15	ALWAYS
Image	General Image	Table 8.1-12	ALWAYS
	Image Pixel	Table 8.1-13	ALWAYS
	SC Image	--	Not Present
	Overlay Plane	--	Not Present
	Modality LUT	--	Not Present
	VOI LUT	--	Not Present
	SOP Common	Table 8.1-16	ALWAYS

8.1.1.2 US Image IOD

Table 8.1-2
IOD OF CREATED US IMAGE SOP INSTANCES

IE	Module	Reference	Presence of Module
Patient	Patient	Table 8.1-7	ALWAYS
	Clinical Trial Subject	--	Not Present
Study	General Study	Table 8.1-8	ALWAYS
	Patient Study	Table 8.1-9	ALWAYS
	Clinical Trial Study	--	Not Present
Series	General Series	Table 8.1-10	ALWAYS
	Clinical Trial Series	--	Not Present
Frame of Reference	Frame of Reference	--	Not Present
	Synchronization	--	Not Present
Equipment	General Equipment	Table 8.1-11	ALWAYS
Image	General Image	Table 8.1-12	ALWAYS
	Image Pixel	Table 8.1-13	ALWAYS
	Contrast/bolus	--	Not Present
	Palette Color Lookup Table	--	Not Present
	US Region Calibration	Table 8.1-14	ALWAYS
	US Image	Table 8.1-17	ALWAYS
	Overlay Plane	--	Not Present
	VOI LUT	--	Not Present
	SOP Common	Table 8.1-18	ALWAYS

8.1.1.3 US Multi-frame Image IOD

Table 8.1-3
IOD OF CREATED US MULTI-FRAME IMAGE SOP INSTANCES

IE	Module	Reference	Presence of Module
Patient	Patient	Table 8.1-7	ALWAYS
	Clinical Trial Subject	--	Not Present
Study	General Study	Table 8.1-8	ALWAYS
	Patient Study	Table 8.1-9	ALWAYS
	Clinical Trial Study	--	Not Present
Series	General Series	Table 8.1-10	ALWAYS
	Clinical Trial Series	--	Not Present
Frame of Reference	Frame of Reference	--	Not Present
	Synchronization	--	Not Present
Equipment	General Equipment	Table 8.1-11	ALWAYS
Image	General Image	Table 8.1-12	ALWAYS
	Image Pixel	Table 8.1-13	ALWAYS
	Contrast/bolus	--	Not Present
	Cine	Table 8.1-19	ALWAYS
	Multi-frame	Table 8.1-20	ALWAYS
	Frame Pointers	--	Not Present
	Palette Color Lookup Table	--	Not Present
	US Region Calibration	--	Not Present
	US Image	Table 8.1-21	ALWAYS
	VOI LUT	--	Not Present
	SOP Common	Table 8.1-22	ALWAYS

8.1.1.4 Basic Text SR IOD

Table 8.1-4
IOD OF CREATED BASIC TEXT SR SOP INSTANCES

IE	Module	Reference	Presence of Module
Patient	Patient	Table 8.1-7	ALWAYS
	Specimen Identification	--	Not Present
	Clinical Trial Subject	--	Not Present
Study	General Study	Table 8.1-8	ALWAYS
	Patient Study	Table 8.1-9	ALWAYS
	Clinical Trial Study	--	Not Present
Series	SR Document Series	Table 8.1-23	ALWAYS
	Clinical Trial Series	--	Not Present
Equipment	General Equipment	Table 8.1-11	ALWAYS
Document	SR Document General	Table 8.1-24	ALWAYS
	SR Document Content	Table 8.1-25	ALWAYS
	SOP Common	Table 8.1-26	ALWAYS

8.1.1.5 Enhanced SR IOD

Table 8.1-5
IOD OF CREATED ENHANCED SR SOP INSTANCES

IE	Module	Reference	Presence of Module
Patient	Patient	Table 8.1-7	ALWAYS
	Specimen Identification	--	Not Present
	Clinical Trial Subject	--	Not Present
Study	General Study	Table 8.1-8	ALWAYS
	Patient Study	Table 8.1-9	ALWAYS
	Clinical Trial Study	--	Not Present
Series	SR Document Series	Table 8.1-27	ALWAYS
	Clinical Trial Series	--	Not Present
Equipment	General Equipment	Table 8.1-11	ALWAYS
Document	SR Document General	Table 8.1-28	ALWAYS
	SR Document Content	Table 8.1-29	ALWAYS
	SOP Common	Table 8.1-31	ALWAYS
	Private Application	Table 8.1-33	ALWAYS

8.1.1.6 Comprehensive SR IOD

Table 8.1-6
IOD OF CREATED COMPREHENSIVE SR SOP INSTANCES

IE	Module	Reference	Presence of Module
Patient	Patient	Table 8.1-7	ALWAYS
	Specimen Identification	--	Not Present
	Clinical Trial Subject	--	Not Present
Study	General Study	Table 8.1-8	ALWAYS
	Patient Study	Table 8.1-9	ALWAYS
	Clinical Trial Study	--	Not Present
Series	SR Document Series	Table 8.1-27	ALWAYS
	Clinical Trial Series	--	Not Present
Equipment	General Equipment	Table 8.1-11	ALWAYS
Document	SR Document General	Table 8.1-28	ALWAYS
	SR Document Content	Table 8.1-29	ALWAYS
	SOP Common	Table 8.1-32	ALWAYS
	Private Application	Table 8.1-33	ALWAYS

8.1.1.7 Common Modules

Table 8.1-7
PATIENT MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Patient's Name	(0010,0010)	PN		VNAP	MWL/ USER
Patient ID	(0010,0020)	LO		VNAP	MWL/ USER
Patient's Birth Date	(0010,0030)	DA		VNAP	MWL/ USER
Patient's Sex	(0010,0040)	CS		VNAP	MWL/ USER
Patient Comments	(0010,4000)	LT		ANAP	MWL/ USER

Table 8.1-8
GENERAL STUDY MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Study Instance UID	(0020,000D)	UI		ALWAYS	MWL/ AUTO
Study Date	(0008,0020)	DA		ALWAYS	AUTO
Study Time	(0008,0030)	TM		ALWAYS	AUTO
Referring Physician's Name	(0008,0090)	PN		VNAP	MWL/ USER
Study ID	(0020,0010)	SH		ALWAYS	AUTO
Accession Number	(0008,0050)	SH		VNAP	MWL/ USER
Study Description	(0008,1030)	LO		ANAP	MWL/ USER
Study Comments	(0032,4000)	LT	Additional Info from user input will be edited in the following format: <"BSA="BSA Information<LINEFEED> "BloodPressure="Blood Pressure Information<LINEFEED> Additional Info<LINEFEED> "BSAType="BSA Type Information>.	ALWAYS	USER

Table 8.1-9
PATIENT STUDY MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Patient's Age	(0010,1010)	AS		ANAP	AUTO
Patient's Size	(0010,1020)	DS		VNAP	MWL/ USER
Patient's Weight	(0010,1030)	DS		VNAP	MWL/ USER

Table 8.1-10
GENERAL SERIES MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Modality	(0008,0060)	CS	US	ALWAYS	MWL/ AUTO
Series Instance UID	(0020,000E)	UI		ALWAYS	AUTO
Series Number	(0020,0011)	IS		ALWAYS	AUTO
Series Date	(0008,0021)	DA		ALWAYS	AUTO
Series Time	(0008,0031)	TM		ALWAYS	AUTO
Performing Physician's Name	(0008,1050)	PN		ANAP	MWL/ USER
Performed Procedure Step Start Date	(0040,0244)	DA		ANAP	AUTO
Performed Procedure Step Start Time	(0040,0245)	TM		ANAP	AUTO
Performed Procedure Step ID	(0040,0253)	SH		ANAP	MWL
Performed Procedure Step Description	(0040,0254)	LO		ANAP	MWL
Performed Protocol Code Sequence	(0040,0260)	SQ		ANAP	MWL
>Code Value	(0008,0100)	SH		ANAP	AUTO
>Coding Scheme Designator	(0008,0102)	SH		ANAP	AUTO
>Coding Scheme Version	(0008,0103)	SH		ANAP	AUTO
>Code Meaning	(0008,0104)	LO		ANAP	AUTO

Table 8.1-11
GENERAL EQUIPMENT MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Manufacturer	(0008,0070)	LO	TOSHIBA_MEC	ALWAYS	AUTO
Institution Name	(0008,0080)	LO		ANAP	CONFIG
Manufacturer's Model Name	(0008,1090)	LO	Viamo	ALWAYS	AUTO
Device Serial Number	(0018,1000)	LO		ALWAYS	AUTO
Software Version	(0018,1020)	LO	V3.0	ALWAYS	AUTO

Table 8.1-12
GENERAL IMAGE MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Instance Number	(0020,0013)	IS		ALWAYS	AUTO
Patient Orientation	(0020,0020)	CS		EMPTY	AUTO
Content Date	(0008,0023)	DA		ALWAYS	AUTO
Content Time	(0008,0033)	TM		ALWAYS	AUTO
Image Type	(0008,0008)	CS		ALWAYS	AUTO
Acquisition Date	(0008,0022)	DA		ALWAYS	AUTO
Acquisition Time	(0008,0032)	TM		ALWAYS	AUTO
Lossy Image Compression	(0028,2110)	CS		ANAP	AUTO
Lossy Image Compression Ratio	(0028,2112)	DS		ANAP	AUTO

Table 8.1-13
IMAGE PIXEL MODULE OF CREATED SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Samples per Pixel	(0028,0002)	US	3	ALWAYS	AUTO
Photometric Interpretation	(0028,0004)	CS	“RGB” or “YBR_FULL_422”	ALWAYS	CONFIG
Planar Configuration	(0028,0006)	US	0	ANAP	AUTO
Rows	(0028,0010)	US	600	ALWAYS	AUTO
Columns	(0028,0011)	US	800	ALWAYS	AUTO
Bits Allocated	(0028,0100)	US	8	ALWAYS	AUTO
Bits Stored	(0028,0101)	US	8	ALWAYS	AUTO
High Bit	(0028,0102)	US	7	ALWAYS	AUTO
Pixel Representation	(0028,0103)	US	0	ALWAYS	AUTO
Pixel Data	(7FE0,0010)	OB or OW		ALWAYS	AUTO

8.1.1.8 US Region Calibration Module

Table 8.1-14
US REGION CALIBRATION MODULE

Attribute Name	Tag	VR	Value	Presence of Value	Source
Sequence of Ultrasound Regions	(0018,6011)	SQ		ALWAYS	AUTO
>Region Spatial Format	(0018,6012)	US		ALWAYS	AUTO
>Region Data Type	(0018,6014)	US		ALWAYS	AUTO
>Region Flags	(0018,6016)	UL		ALWAYS	AUTO
>Region Location Min x0	(0018,6018)	UL		ALWAYS	AUTO
>Region Location Min y0	(0018,601A)	UL		ALWAYS	AUTO
>Region Location Max x1	(0018,601C)	UL		ALWAYS	AUTO
>Region Location Max y1	(0018,601E)	UL		ALWAYS	AUTO
>Reference Pixel x0	(0018,6020)	SL		ALWAYS	AUTO
>Reference Pixel y0	(0018,6022)	SL		ALWAYS	AUTO
>Physical Units X Direction	(0018,6024)	US		ALWAYS	AUTO
>Physical Units Y Direction	(0018,6026)	US		ALWAYS	AUTO
>Reference Pixel Physical Value X	(0018,6028)	FD		ALWAYS	AUTO
>Reference Pixel Physical Value Y	(0018,602A)	FD		ALWAYS	AUTO
>Physical Delta X	(0018,602C)	FD		ALWAYS	AUTO
>Physical Delta Y	(0018,602E)	FD		ALWAYS	AUTO
>Transducer Frequency	(0018,6030)	UL		ANAP	AUTO
>Pulse Repetition Frequency	(0018,6032)	UL		ANAP	AUTO
>Doppler Correction Angle	(0018,6034)	FD		ANAP	AUTO
>Steering Angle	(0018,6036)	FD		ANAP	AUTO
>Doppler Sample Volume X Position	(0018,6038)	UL		ANAP	AUTO
>Doppler Sample Volume Y Position	(0018,603A)	UL		ANAP	AUTO
>TM-Line Position x0	(0018,603C)	UL		ANAP	AUTO
>TM-Line Position y0	(0018,603E)	UL		ANAP	AUTO
>TM-Line Position x1	(0018,6040)	UL		ANAP	AUTO
>TM-Line Position y1	(0018,6042)	UL		ANAP	AUTO

8.1.1.9 SC Image Modules

Table 8.1-15
SC EQUIPMENT MODULE OF CREATED SC IMAGE SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Conversion Type	(0008,0064)	CS	"DV" (Digitized Video), "DI" (Digital Interface), "DF" (Digitized Film), or "WSD" (Workstation)	ALWAYS	AUTO

Table 8.1-16
SOP COMMON MODULE OF CREATED SC IMAGE SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Specific Character Set	(0008,0005)	CS	ISO_IR 100	ALWAYS	AUTO
SOP Class UID	(0008,0016)	UI	1.2.840.10008.5.1.4.1.1.7	ALWAYS	AUTO
SOP Instance UID	(0008,0018)	UI	Starts with 1.2.392.200036.9116.6.17.	ALWAYS	AUTO

8.1.1.10 US Image Modules

Table 8.1-17
US IMAGE MODULE OF CREATED US IMAGE SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Samples per Pixel	(0028,0002)	US	3	ALWAYS	AUTO
Photometric Interpretation	(0028,0004)	CS	"RGB" or "YBR_FULL_422"	ALWAYS	CONFIG
Planar Configuration	(0028,0006)	US	0	ANAP	AUTO
Rows	(0028,0010)	US	600	ALWAYS	AUTO
Columns	(0028,0011)	US	800	ALWAYS	AUTO
Ultrasound Color Data Present	(0028,0014)	US	1	ALWAYS	AUTO
Bits Allocated	(0028,0100)	US	8	ALWAYS	AUTO
Bits Stored	(0028,0101)	US	8	ALWAYS	AUTO
High Bit	(0028,0102)	US	7	ALWAYS	AUTO
Pixel Representation	(0028,0103)	US	0	ALWAYS	AUTO
Pixel Data	(7FE0,0010)	OB or OW		ALWAYS	AUTO

Table 8.1-18
SOP COMMON MODULE OF CREATED US IMAGE SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Specific Character Set	(0008,0005)	CS	ISO_IR 100	ALWAYS	AUTO
SOP Class UID	(0008,0016)	UI	1.2.840.10008.5.1.4.1.1.6.1	ALWAYS	AUTO
SOP Instance UID	(0008,0018)	UI	Starts with 1.2.392.200036.9116.6.17.	ALWAYS	AUTO

8.1.1.11 US Multi-frame Image Modules

Table 8.1-19
CINE MODULE OF CREATED US MULTI-FRAME IMAGE SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Start Trim	(0008,2142)	IS		ANAP	AUTO
Stop Trim	(0008,2143)	IS		ANAP	AUTO
Recommended Display Frame Rate	(0008,2144)	IS		ANAP	USER
Cine Rate	(0018,0040)	IS		ANAP	USER
Effective Duration	(0018,0072)	DS		ANAP	AUTO
Frame Time	(0018,1063)	DS		ALWAYS	AUTO
Frame Delay	(0018,1066)	DS		ANAP	AUTO
Actual Frame Duration	(0018,1242)	IS		ANAP	AUTO

Table 8.1-20
MULTI-FRAME MODULE OF CREATED US MULTI-FRAME IMAGE SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Number of Frames	(0028,0008)	IS		ALWAYS	USER
Frame Increment Pointer	(0028,0009)	AT		ALWAYS	AUTO

Table 8.1-21
US IMAGE MODULE OF CREATED US MULTI-FRAME IMAGE SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Stage Name	(0008,2120)	SH		ANAP	AUTO
Stage Number	(0008,2122)	IS		ANAP	AUTO
Number of Stages	(0008,2124)	IS		ANAP	AUTO
View Name	(0008,2127)	SH		ANAP	AUTO
View Number	(0008,2128)	IS		ANAP	AUTO
Number of Views in Stage	(0008,212A)	IS		ANAP	AUTO
Heart Rate	(0018,1088)	IS		ANAP	AUTO
Samples per Pixel	(0028,0002)	US	3	ALWAYS	AUTO
Photometric Interpretation	(0028,0004)	CS	“RGB” or “YBR_FULL_422”	ALWAYS	AUTO
Planar Configuration	(0028,0006)	US	0	ALWAYS	AUTO
Rows	(0028,0010)	US	600	ALWAYS	AUTO
Columns	(0028,0011)	US	800	ALWAYS	AUTO
Ultrasound Color Data Present	(0028,0014)	US	1	ANAP	AUTO
Bits Allocated	(0028,0100)	US	8	ALWAYS	AUTO
Bits Stored	(0028,0101)	US	8	ALWAYS	AUTO
High Bit	(0028,0102)	US	7	ALWAYS	AUTO
Pixel Representation	(0028,0103)	US	0	ALWAYS	AUTO
Pixel Data	(7FE0,0010)	OB or OW		ALWAYS	AUTO

Table 8.1-22
SOP COMMON MODULE OF CREATED US MULTI-FRAME IMAGE SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Specific Character Set	(0008,0005)	CS	ISO_IR 100	ALWAYS	AUTO
SOP Class UID	(0008,0016)	UI	1.2.840.10008.5.1.4.1.1.3.1	ALWAYS	AUTO
SOP Instance UID	(0008,0018)	UI	Starts with 1.2.392.200036.9116.6.17.	ALWAYS	AUTO

8.1.1.12 Basic Text SR Modules

Table 8.1-23
SR DOCUMENT SERIES MODULE OF CREATED BASIC TEXT SR SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Modality	(0008,0060)	CS	SR	ALWAYS	AUTO
Referenced Study Component Sequence	(0008,1111)	SQ		VNAP	AUTO
Series Instance UID	(0020,000E)	UI		ALWAYS	AUTO
Series Number	(0020,0011)	IS		ALWAYS	AUTO

Table 8.1-24
SR DOCUMENT GENERAL MODULE OF CREATED BASIC TEXT SR SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Content Date	(0008,0023)	DA		ALWAYS	AUTO
Content Time	(0008,0033)	TM		ALWAYS	AUTO
Instance Number	(0020,0013)	IS		ALWAYS	AUTO
Referenced Request Sequence	(0040,A370)	SQ		VNAP	AUTO
>Accession Number	(0008,0050)	SH		VNAP	MWL/ USER
>Referenced Study Sequence	(0008,1110)	SQ		VNAP	MWL
>Study Instance UID	(0020,000D)	UI		VNAP	MWL/ AUTO
>Requested Procedure Description	(0032,1060)	LO	See Table 4.2-44 Notes 3	VNAP	MWL/ USER
>Requested Procedure Code Sequence	(0032,1064)	SQ		VNAP	MWL
>Requested Procedure ID	(0040,1001)	SH		VNAP	MWL/ USER
>Placer Order Number/Imaging Service Request	(0040,2016)	LO		VNAP	MWL
>Filler Order Number/Imaging Service Request	(0040,2017)	LO		VNAP	MWL
Performed Procedure Code Sequence	(0040,A372)	SQ		ALWAYS	AUTO
Current Requested Procedure Evidence Sequence	(0040,A375)	SQ		VNAP	AUTO
>Referenced Series Sequence	(0008,1115)	SQ		VNAP	AUTO
>>Referenced SOP Sequence	(0008,1199)	SQ		VNAP	AUTO
>>>Referenced SOP Class UID	(0008,1150)	UI		VNAP	AUTO
>>>Referenced SOP Instance UID	(0008,1155)	UI		VNAP	AUTO
>>Series Instance UID	(0020,000E)	UI		ALWAYS	AUTO
>Study Instance UID	(0020,000D)	UI		VNAP	MWL/ AUTO
Completion Flag	(0040,A491)	CS	COMPLETE	ALWAYS	AUTO
Verification Flag	(0040,A493)	CS	UNVERIFIED	ALWAYS	AUTO

Table 8.1-25
SR DOCUMENT CONTENT MODULE OF CREATED BASIC TEXT SR SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Value Type	(0040,A040)	CS	CONTAINER	ALWAYS	AUTO
Concept Name Code Sequence	(0040,A043)	SQ		ALWAYS	AUTO
>Code Value	(0008,0100)	SH	V5000001	ALWAYS	AUTO
>Coding Scheme Designator	(0008,0102)	SH	TSBUS	ALWAYS	AUTO
>Code Meaning	(0008,0104)	LO	APLIO_BASIC_REPORT	ALWAYS	AUTO
Continuity of Content	(0040,A050)	CS	SEPARATE	ALWAYS	AUTO
Content sequence	(0040,A730)	SQ		ALWAYS	AUTO
>Relationship Type	(0040,A010)	CS	CONTAINS	ALWAYS	AUTO
>Value Type	(0040,A040)	CS	TEXT	ALWAYS	AUTO
>Concept Name Code Sequence	(0040,A043)	SQ		ALWAYS	AUTO
>>Code Value	(0008,0100)	SH	V5000002	ALWAYS	AUTO
>>Coding Scheme Designator	(0008,0102)	SH	TSBUS	ALWAYS	AUTO
>>Code Meaning	(0008,0104)	LO	ORIGINAL_XML_DATA	ALWAYS	AUTO
>Text Value	(0040,A160)	UT	Measurement Result	ALWAYS	AUTO

Table 8.1-26
SOP COMMON MODULE OF CREATED BASIC TEXT SR SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Specific Character Set	(0008,0005)	CS	ISO_IR 100	ALWAYS	AUTO
SOP Class UID	(0008,0016)	UI	1.2.840.10008.5.1.4.1.1.88.11	ALWAYS	AUTO
SOP Instance UID	(0008,0018)	UI	Starts with 1.2.392.200036.9116.6.17.	ALWAYS	AUTO

8.1.1.13 Enhanced/Comprehensive SR Modules

Table 8.1-27
SR DOCUMENT SERIES MODULE OF CREATED ENHANCED/COMPREHENSIVE SR SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Modality	(0008,0060)	CS	SR	ALWAYS	AUTO
Referenced Study Component Sequence	(0008,1111)	SQ		VNAP	AUTO
Series Instance UID	(0020,000E)	UI		ALWAYS	AUTO
Series Number	(0020,0011)	IS		ALWAYS	AUTO

Table 8.1-28
SR DOCUMENT GENERAL MODULE OF CREATED ENHANCED/COMPREHENSIVE SR SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Content Date	(0008,0023)	DA		ALWAYS	AUTO
Content Time	(0008,0033)	TM		ALWAYS	AUTO
Instance Number	(0020,0013)	IS		ALWAYS	AUTO
Referenced Request Sequence	(0040,A370)	SQ		VNAP	AUTO
>Accession Number	(0008,0050)	SH		VNAP	MWL/ USER
>Referenced Study Sequence	(0008,1110)	SQ		VNAP	MWL
>Study Instance UID	(0020,000D)	UI		VNAP	MWL/ AUTO
>Requested Procedure Description	(0032,1060)	LO		VNAP	MWL/ USER
>Requested Procedure Code Sequence	(0032,1064)	SQ		VNAP	MWL
>Requested Procedure ID	(0040,1001)	SH		VNAP	MWL/ USER
>Placer Order Number/Imaging Service Request	(0040,2016)	LO		VNAP	MWL
>Filler Order Number/Imaging Service Request	(0040,2017)	LO		VNAP	MWL
Performed Procedure Code Sequence	(0040,A372)	SQ		ALWAYS	AUTO
Current Requested Procedure Evidence Sequence	(0040,A375)	SQ		VNAP	AUTO
>Referenced Series Sequence	(0008,1115)	SQ		VNAP	AUTO
>>Referenced SOP Sequence	(0008,1199)	SQ		VNAP	AUTO
>>>Referenced SOP Class UID	(0008,1150)	UI		VNAP	AUTO
>>>Referenced SOP Instance UID	(0008,1155)	UI		VNAP	AUTO
>>Series Instance UID	(0020,000E)	UI		ALWAYS	AUTO
>Study Instance UID	(0020,000D)	UI		VNAP	MWL/ AUTO
Completion Flag	(0040,A491)	CS	COMPLETE	ALWAYS	AUTO
Verification Flag	(0040,A493)	CS	UNVERIFIED	ALWAYS	AUTO

Table 8.1-29
SR DOCUMENT CONTENT MODULE OF CREATED ENHANCED/COMPREHENSIVE SR SOP INSTANCES FOR OB-GYN ULTRASOUND PROCEDURE REPORT TEMPLATE

Attribute Name	Tag	VR	Value	Presence of Value	Source
Value Type	(0040,A040)	CS	CONTAINER	ALWAYS	AUTO
Concept Name Code Sequence	(0040,A043)	SQ		ALWAYS	AUTO
>Code Value	(0008,0100)	SH	125000	ALWAYS	AUTO
>Coding Scheme Designator	(0008,0102)	SH	DCM	ALWAYS	AUTO
>Code Meaning	(0008,0104)	LO	OB-GYN Ultrasound Procedure Report	ALWAYS	AUTO
Continuity of Content	(0040,A050)	CS	SEPARATE	ALWAYS	AUTO
Content Template Sequence	(0040,A504)	SQ		ALWAYS	AUTO
>Template Identifier	(0040,DB00)	CS	5000	ALWAYS	AUTO
>Mapping Resource	(0008,0105)	CS	DCMR	ALWAYS	AUTO
Content sequence	(0040,A730)	SQ		ALWAYS	AUTO
>Relationship Type	(0040,A010)	CS	HAS CONCEPT MOD	ALWAYS	AUTO
>Value Type	(0040,A040)	CS	CODE	ALWAYS	AUTO
>Concept Name Code Sequence	(0040,A043)	SQ		ALWAYS	AUTO
>>Code Value	(0008,0100)	SH	121049	ALWAYS	AUTO
>>Coding Scheme Designator	(0008,0102)	SH	DCM	ALWAYS	AUTO
>>Code Meaning	(0008,0104)	LO	Language of Content Item and descendants	ALWAYS	AUTO
>Concept Code Sequence	(0040,A160)	SQ		ALWAYS	AUTO
>>Code value	(0008,0100)	SH	eng	ALWAYS	AUTO
>>Coding Scheme designator	(0008,0102)	SH	ISO639_2	ALWAYS	AUTO
>>Code Meaning	(0008,0104)	LO	English	ALWAYS	AUTO
>Relationship Type	(0040,A010)	CS	HAS OBS CONTEXT	ALWAYS	AUTO
>Value Type	(0040,A040)	CS	CODE	ALWAYS	AUTO
>Concept Name Code Sequence	(0040,A043)	SQ		ALWAYS	AUTO
>>Code Value	(0008,0100)	SH	121005	ALWAYS	AUTO
>>Coding Scheme Designator	(0008,0102)	SH	DCM	ALWAYS	AUTO
>>Code Meaning	(0008,0104)	LO	Observer Type	ALWAYS	AUTO
>Concept Code Sequence	(0040,A160)	SQ		ALWAYS	AUTO
>>Code value	(0008,0100)	SH	121006	ALWAYS	AUTO
>>Coding Scheme designator	(0008,0102)	SH	DCM	ALWAYS	AUTO
>>Code Meaning	(0008,0104)	LO	Person	ALWAYS	AUTO
>Relationship Type	(0040,A010)	CS	CONTAINS	ALWAYS	AUTO
>Value Type	(0040,A040)	CS	CONTAINER	ALWAYS	AUTO
>Concept Name Code Sequence	(0040,A043)	SQ		ALWAYS	AUTO
>>Code Value	(0008,0100)	SH	121118	ALWAYS	AUTO
>>Coding Scheme Designator	(0008,0102)	SH	DCM	ALWAYS	AUTO
>>Code Meaning	(0008,0104)	LO	Patient Characteristics	ALWAYS	AUTO
>Content sequence	(0040,A730)	SQ		ALWAYS	AUTO
>>Relationship Type	(0040,A010)	CS	CONTAINS	ALWAYS	AUTO
>>Value Type	(0040,A040)	CS	TEXT	ALWAYS	AUTO
>>Concept Name Code Sequence	(0040,A043)	SQ		ALWAYS	AUTO

Attribute Name	Tag	VR	Value	Presence of Value	Source
>>>Code Value	(0008,0100)	SH	121106	ALWAYS	AUTO
>>>Coding Scheme Designator	(0008,0102)	SH	DCM	ALWAYS	AUTO
>>>Code Meaning	(0008,0104)	LO	Comment	ALWAYS	AUTO
>>Text Value	(0040,A160)	UT		ALWAYS	AUTO
>>Relationship Type	(0040,A010)	CS	CONTAINS	ALWAYS	AUTO
>>Value Type	(0040,A040)	CS	NUM	ALWAYS	AUTO
>>Concept Name Code Sequence	(0040,A043)	SQ		ALWAYS	AUTO
>>>Code Value	(0008,0100)	SH	8302-2	ALWAYS	AUTO
>>>Coding Scheme Designator	(0008,0102)	SH	LN	ALWAYS	AUTO
>>>Code Meaning	(0008,0104)	LO	Patient Height	ALWAYS	AUTO
>>Measured Value Sequence	(0040,A300)	SQ		ALWAYS	AUTO
>>>Measured Units Code Sequence	(0040,08EA)	SQ		ALWAYS	AUTO
>>>>Code value	(0008,0100)	SH		ALWAYS	AUTO
>>>>Coding Scheme designator	(0008,0102)	SH		ALWAYS	AUTO
>>>Code Meaning	(0008,0104)	LO		ALWAYS	AUTO
>>>Numeric Value	(0040,A30A)	DA		ALWAYS	AUTO
>>Relationship Type	(0040,A010)	CS	CONTAINS	ALWAYS	AUTO
>>Value Type	(0040,A040)	CS	NUM	ALWAYS	AUTO
>>Concept Name Code Sequence	(0040,A043)	SQ		ALWAYS	AUTO
>>>Code Value	(0008,0100)	SH	29463-7	ALWAYS	AUTO
>>>Coding Scheme Designator	(0008,0102)	SH	LN	ALWAYS	AUTO
>>>Code Meaning	(0008,0104)	LO	Patient Weight	ALWAYS	AUTO
>>Measured Value Sequence	(0040,A300)	SQ		ALWAYS	AUTO
>>>Measured Units Code Sequence	(0040,08EA)	SQ		ALWAYS	AUTO
>>>>Code value	(0008,0100)	SH		ALWAYS	AUTO
>>>>Coding Scheme designator	(0008,0102)	SH		ALWAYS	AUTO
>>>>Code Meaning	(0008,0104)	LO		ALWAYS	AUTO
>>>Numeric Value	(0040,A30A)	DA		ALWAYS	AUTO
>Relationship Type	(0040,A010)	CS	CONTAINS	ALWAYS	AUTO
>Value Type	(0040,A040)	CS	CONTAINER	ALWAYS	AUTO
>Concept Name Code Sequence	(0040,A043)	SQ		ALWAYS	AUTO
>>Code Value	(0008,0100)	SH	111028	ALWAYS	AUTO
>>Coding Scheme Designator	(0008,0102)	SH	DCM	ALWAYS	AUTO
>>Code Meaning	(0008,0104)	LO	Image Library	ALWAYS	AUTO
>>Referenced SOP Sequence	(0008,1199)	SQ		ALWAYS	AUTO
>>>Referenced SOP Class UID	(0008,1150)	UI		ALWAYS	AUTO
>>>Referenced SOP Instance UID	(0008,1155)	UI		ALWAYS	AUTO
>>Relationship Type	(0040,A010)	CS	CONTAINS	ALWAYS	AUTO
>>Value Type	(0040,A040)	CS	IMAGE	ALWAYS	AUTO
>Relationship Type	(0040,A010)	CS	CONTAINS	ALWAYS	AUTO
>Value Type	(0040,A040)	CS	CONTAINER	ALWAYS	AUTO

<table>
<tr><th>Attribute Name</th><th>Tag</th><th>VR</th><th>Value</th><th>Presence of Value</th><th>Source</th></tr>
<tr><td>>Concept Name Code Sequence</td><td>(0040,A043)</td><td>SQ</td><td></td><td>ALWAYS</td><td>AUTO</td></tr>
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>>Coding Scheme Designator

>>Code Meaning</td><td>(0008,0100)

(0008,0102)

(0008,0104)</td><td>SH

SH

LO</td><td>
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<tr><th>CSD</th><th>CV</th><th>CM</th><th>Concept Name</th></tr>
<tr><td>DCM</td><td>121111</td><td>Summary</td><td>DTID 5002</td></tr>
<tr><td>DCM</td><td>125001</td><td>Fetal Biometry Ratios</td><td>DTID 5004</td></tr>
<tr><td>DCM</td><td>125002</td><td>Fetal Biometry</td><td>DTID 5005</td></tr>
<tr><td>DCM</td><td>125003</td><td>Fetal Long Bones</td><td>DTID 5006</td></tr>
<tr><td>DCM</td><td>125004</td><td>Fetal Cranium</td><td>DTID 5007</td></tr>
<tr><td rowspan="3">DCM</td><td rowspan="3">121070</td><td rowspan="3">Findings</td><td>DTID 5010
DTID 5025
DTID 5026</td></tr>
<tr><td>DCM</td><td>125009</td><td>Early Gestation</td><td>DTID 5011</td></tr>
<tr><td>DCM</td><td>125011</td><td>Pelvis and Uterus</td><td>DTID 5015</td></tr>
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<tr><td>>Continuity of Content</td><td>(0040, A050)</td><td>CS</td><td>SEPARATE</td><td>ALWAYS</td><td>AUTO</td></tr>
<tr><td>>Content Sequence</td><td>(0040,A730)</td><td>SQ</td><td></td><td>ALWAYS</td><td>AUTO</td></tr>
<tr><td>>>Relationship Type</td><td>(0040,A010)</td><td>CS</td><td>HAS CONCEPT MOD</td><td>ALWAYS</td><td>AUTO</td></tr>
<tr><td>>>Value Type</td><td>(0040,A040)</td><td>CS</td><td>CODE</td><td>ALWAYS</td><td>AUTO</td></tr>
<tr><td>>>Concept Name Code Sequence</td><td>(0040,A043)</td><td>SQ</td><td></td><td>ALWAYS</td><td>AUTO</td></tr>
<tr><td>>>>Code Value</td><td>(0008,0100)</td><td>SH</td><td>G-C0E3</td><td>ALWAYS</td><td>AUTO</td></tr>
<tr><td>>>>Coding Scheme Designator</td><td>(0008,0102)</td><td>SH</td><td>SRT</td><td>ALWAYS</td><td>AUTO</td></tr>
<tr><td>>>>Code Meaning</td><td>(0008,0104)</td><td>LO</td><td>Finding Site</td><td>ALWAYS</td><td>AUTO</td></tr>
<tr><td>>>Concept Code Sequence</td><td>(0040,A043)</td><td>SQ</td><td></td><td>ALWAYS</td><td>AUTO</td></tr>
<tr><td>>>>Code Value

>>>Coding Scheme Designator

>>>Code Meaning</td><td>(0008,0100)

(0008,0102)

(0008,0104)</td><td>SH

SH

LO</td><td>
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<tr><td>SRT</td><td>T-F6800</td><td>Embryonic Vascular Structure</td><td>DTID 5025</td></tr>
<tr><td>SRT</td><td>T-D6007</td><td>Pelvic Vascular Structure</td><td>DTID 5026</td></tr>
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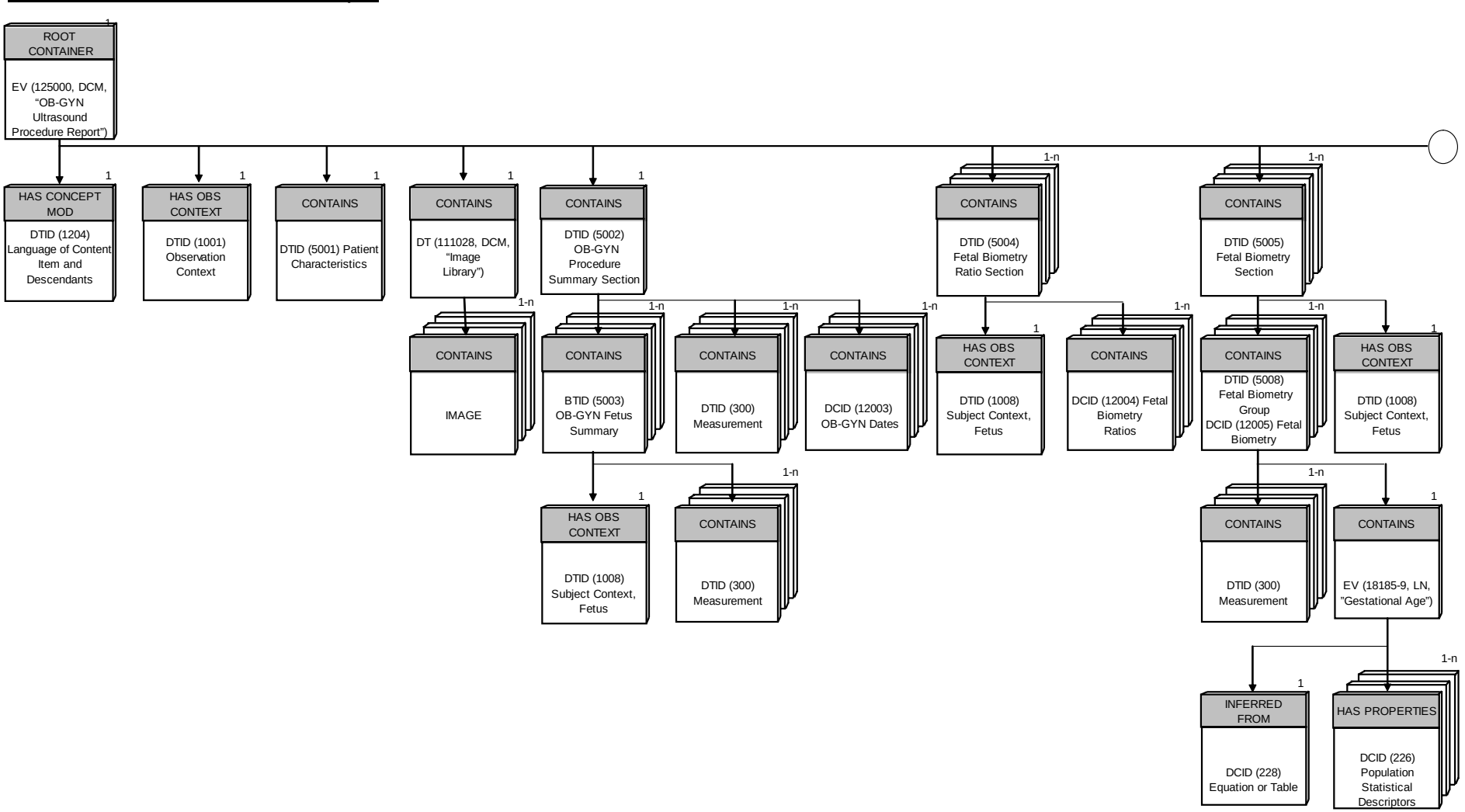
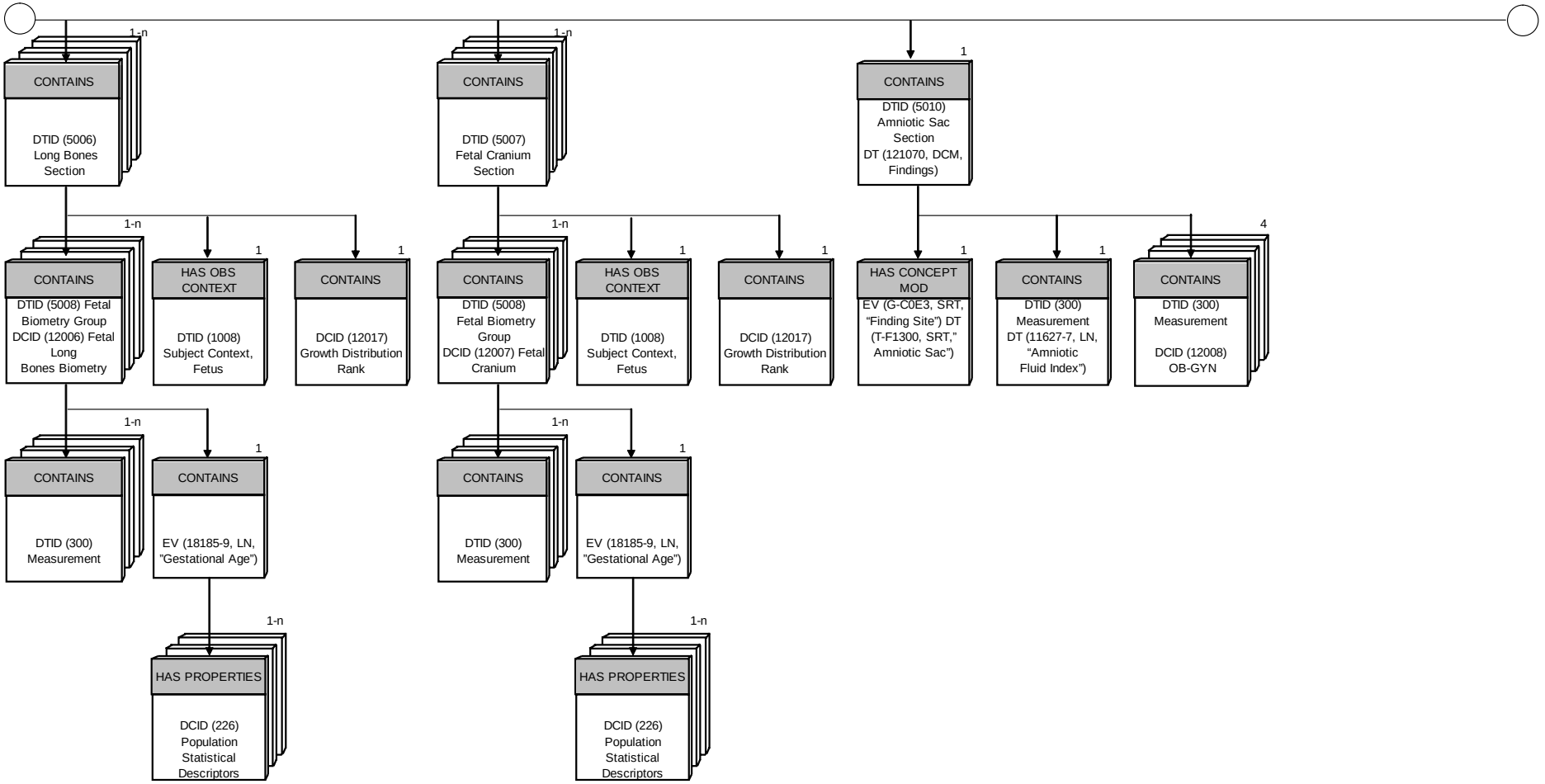
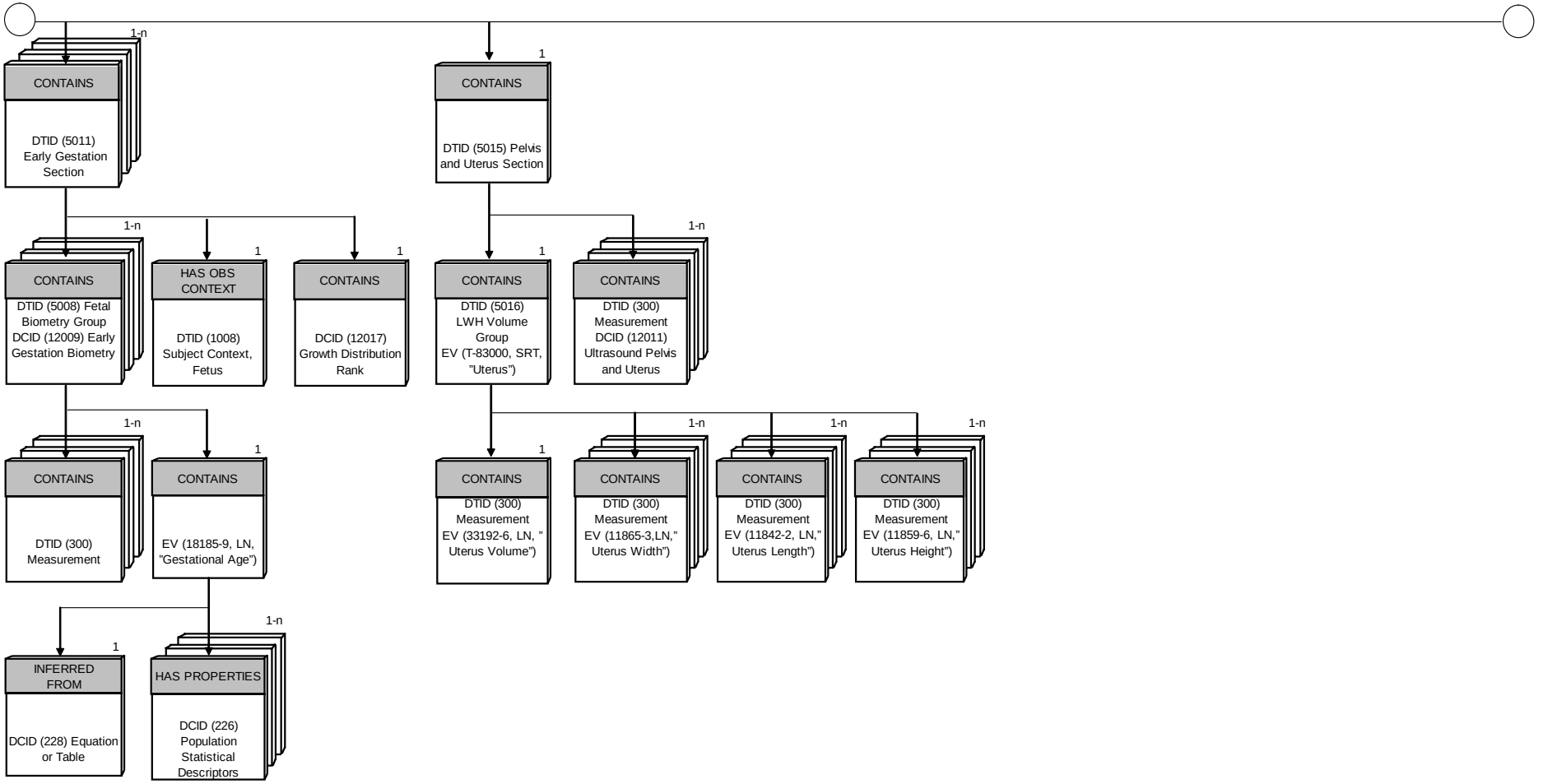
Figure 8.1-1 OB-GYN Ultrasound Procedure Report



(Figure 8.1-1 Continued)



(Figure 8.1-1 Continued)



(Figure 8.1-1 Continued)

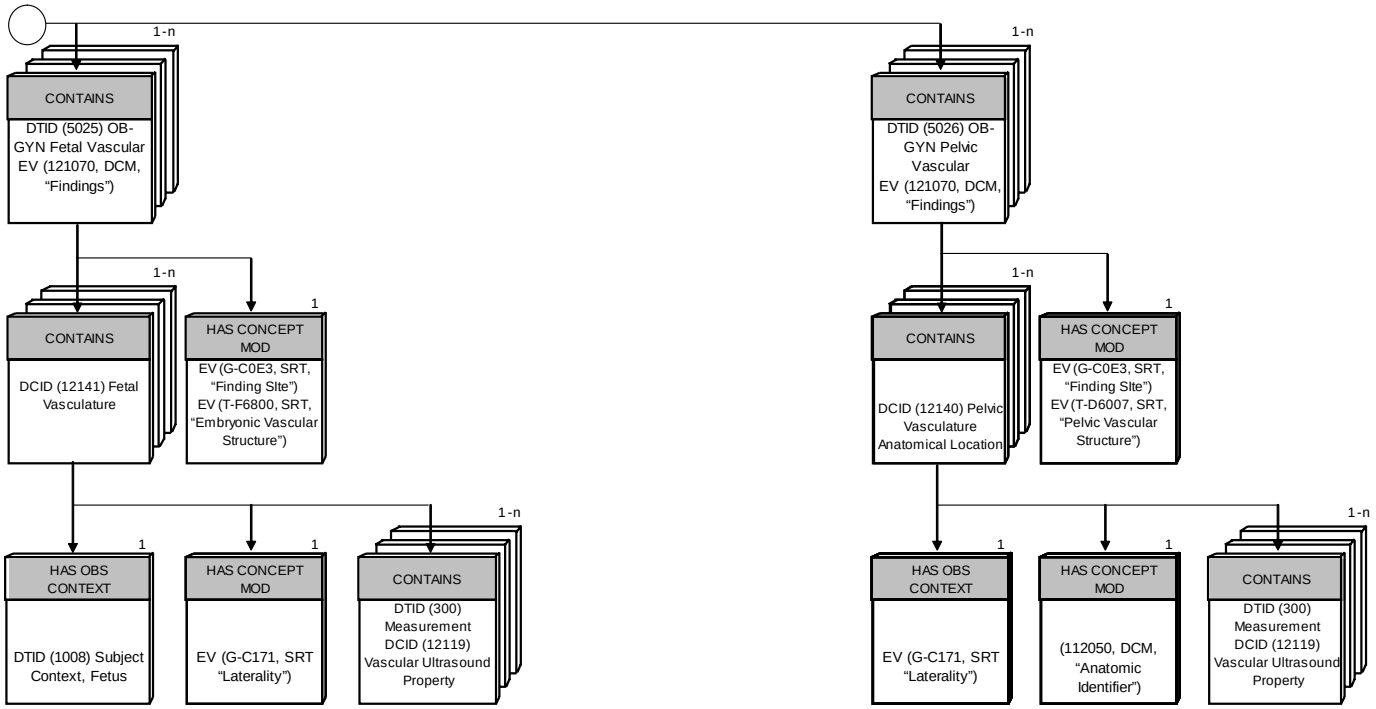


Table 8.1-30
Details of Measurement Items & Calc Items in OB-GYN Template

Toshiba Measurement Identifier					DICOM SR Representation												
					$Measurement			$Equation				$Laterality			$AnatomyGroup		
Item ID	Item Name	Display Name	Unit	Detailed Container Tree Information	CSD	CV	CM	Author Item ID	CSD	CV	CM	CSD	CV	CM	CSD	CV	CM
264	BPD	BPD	mm	TID 5005 Fetal Biometry Section	LN	11820-8	Biparietal Diameter	EQ_ID_11	LN	33085-2	BPD, Tokyo 1986						
								EQ_ID_49	TSBus	03510054	BPD, TokyoSD 1986						
								EQ_ID_12	TSBus	03510064	BPD, Osaka 1983						
								EQ_ID_50	TSBus	03510065	BPD, OsakaSD						
								EQ_ID_37	TSBus	03510033	BPD, JSUM						
								EQ_ID_51	TSBus	03510055	BPD, JSUMSD						
								EQ_ID_2	LN	11902-4	BPD, Hadlock 1984						
								EQ_ID_3	LN	11906-5	BPD, Kurtz 1980						
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_4	LN	11907-3	BPD, Sabbagha 1978						
								EQ_ID_5	LN	33081-1	BPD, Mertz 1988						
								EQ_ID_6	LN	33538-0	BPD, Hansmann 1986						
								EQ_ID_8	LN	33083-7	BPD, Rempen 1991						
								EQ_ID_40	LN	33087-8	BPD-oo, Chitty 1997						
								EQ_ID_41	LN	33086-0	BPD-oi, Chitty 1997						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population	EQ_ID_7	TSBus	03510066	BPD, Campbell						
								EQ_ID_35	TSBus	03510031	BPD, ASUM 1990						
								EQ_ID_47	TSBus	03510032	BPD, ASUM 2001						
								EQ_ID_46	TSBus	3510036	BPD,CFEF 2000						
								EQ_ID_1	LN	33539-8	BPD, Jeanty 1982						
								EQ_ID_10	TSBus	03510035	BPD, Shepard						
								EQ_ID_48	TSBus	03510034	BPD, Nicolaides 1994						
265	OFD	OFD	mm	TID 5005 Fetal Biometry Section	LN	11851-3	Occipital-Frontal Diameter	EQ_ID_5	TSBus	3510045	OFD, Merz						
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_6	LN	33120-7	OFD, Hansmann 1986						
								EQ_ID_9	TSBus	3510044	OFD, Chitty						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population	EQ_ID_47	LN	33119-9	OFD, ASUM 2000						
								EQ_ID_48	TSBus	3510046	OFD, Nicolaides 1994						

Toshiba Measurement Identifier					DICOM SR Representation											
					$Measurement			$Equation				$Laterality			$AnatomyGroup		
Item ID	Item Name	Display Name	Unit	Detailed Container Tree Information	CSD	CV	CM	Author Item ID	CSD	CV	CM	CSD	CV	CM	CSD	CV	CM
266	HC	HC	mm	TID 5005 Fetal Biometry Section	LN	11984-2	Head Circumference	EQ_ID_1	LN	11934-7	HC, Jeanty 1984						
								EQ_ID_5	LN	33115-7	HC Merz, 1988						
								EQ_ID_2	LN	11932-1	HC, Hadlock 1984						
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_6	LN	33543-0	HC, Hansmann 1986						
								EQ_ID_44	LN	33110-8	HC measured, Chitty 1997						
								EQ_ID_45	LN	33111-6	HC derived, Chitty 1997						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population	EQ_ID_35	TSBus	03510067	HC, ASUM 1991						
								EQ_ID_47	LN	33109-0	HC, ASUM 2000						
								EQ_ID_46	TSBus	3510043	HC, CFEF						
267	THD	THD	mm	TID 5005 Fetal Biometry Section	LN	11864-6	Transverse Thoracic Diameter										
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_6	TSBus	03510068	THD, HANSMANN						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population										
268	TAD	TAD	mm	TID 5005 Fetal Biometry Section	LN	11862-0	Tranverse Abdominal Diameter										
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_5	TSBus	3510048	TAD, Merz						
								EQ_ID_46	TSBus	3510047	TAD, CFEF						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population										
269	TTD	TTD	mm	TID 5005 Fetal Biometry Section	TSBus	3510063	Transverse Trunk Diameter										
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_11	TSBus	3510076	TTD, Tokyo						
								EQ_ID_49	TSBus	3510077	TTD, TokyoSD						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population										
270	APAD	APAD	mm	TID 5005 Fetal Biometry Section	LN	11818-2	Anterior-Posterior Abdominal Diameter										
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_5	TSBus	3510078	APAD, Merz						
								EQ_ID_7	TSBus	3510079	APAD, Campbell						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population										
271	APTD	APTD	mm	TID 5005 Fetal Biometry Section	LN	11819-0	Anterior-Posterior Trunk Diameter										
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_11	TSBus	3510080	APTD, Tokyo						
								EQ_ID_49	TSBus	3510081	APTD, TokyoSD						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population										

Toshiba Measurement Identifier					DICOM SR Representation											
					$Measurement			$Equation				$Laterality			$AnatomyGroup		
Item ID	Item Name	Display Name	Unit	Detailed Container Tree Information	CSD	CV	CM	Author Item ID	CSD	CV	CM	CSD	CV	CM	CSD	CV	CM
272	AC	AC	mm	TID 5005 Fetal Biometry Section	LN	11979-2	Abdominal Circumference	EQ_ID_49	TSBus	3510056	AC, TokyoSD 1996						
								EQ_ID_13	TSBus	0351002B	AC, Deter 1982						
								EQ_ID_37	TSBus	0351002C	AC, Jsum 2003						
								EQ_ID_51	TSBus	3510057	AC, JsumSD 2003						
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_2	LN	11892-7	AC, Hadlock 1984						
								EQ_ID_1	LN	11893-5	AC, Jeanty 1984						
								EQ_ID_5	LN	33075-3	AC, Mertz 1988						
								EQ_ID_10	TSBus	0351002E	AC, Shepard						
								EQ_ID_44	TSBus	0351002A	AC, Chitty Pltd						
								EQ_ID_45	TSBus	3510029	AC, Chitty Drvd						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population	EQ_ID_35	TSBus	03510069	AC, ASUM 1991						
								EQ_ID_47	LN	33072-0	AC, ASUM 2000						
								EQ_ID_46	TSBus	3510028	AC, CFEF						
								EQ_ID_7	LN	11889-3	AC, Campbell 1975						
								EQ_ID_48	TSBus	0351002D	AC, Nicolaides						
								EQ_ID_11	TSBus	0351002F	AC, Tokyo 1996						
273	FL	FL	mm	TID 5005 Fetal Biometry Section	LN	11963-6	Femur Length	EQ_ID_11	LN	33103-3	FL, Tokyo 1986						
								EQ_ID_49	TSBus	03510058	FL, TokyoSD 1986						
								EQ_ID_12	TSBus	0351006A	FL, Osaka 1983						
								EQ_ID_50	TSBus	0351006B	FL, OsakaSD						
								EQ_ID_37	TSBus	03510042	FL, JSUM						
								EQ_ID_51	TSBus	03510059	FL, JSUMSD						
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_2	LN	11920-6	FL, Hadlock 1984						
								EQ_ID_1	LN	11923-0	FL, Jeanty 1984						
								EQ_ID_5	LN	33542-2	FL, Merz 1988						
								EQ_ID_6	LN	33541-4	FL, Hansmann 1986						
								EQ_ID_15	TSBus	3510040	FL, O-Brien						
								EQ_ID_16	TSBus	3510041	FL, Warda 1985						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population	EQ_ID_9	LN	33098-5	FL, Chitty 1997						
								EQ_ID_35	TSBus	0351006C	FL, ASUM 1991						
								EQ_ID_47	TSBus	0351003B	FL, Asum 2001						
								EQ_ID_46	TSBus	0351003D	FL, CFEF						
								EQ_ID_14	LN	11922-2	FL, Hohler 1982						
								EQ_ID_48	TSBus	0351003F	FL, Nicolaides						

Toshiba Measurement Identifier					DICOM SR Representation											
					$Measurement			$Equation				$Laterality			$AnatomyGroup		
Item ID	Item Name	Display Name	Unit	Detailed Container Tree Information	CSD	CV	CM	Author Item ID	CSD	CV	CM	CSD	CV	CM	CSD	CV	CM
274	CRL	CRL	mm	TID 5011 Early Gestation Section	LN	11957-8	Crown Rump Length	EQ_ID_11	LN	33096-9	CRL, Tokyo 1986						
								EQ_ID_12	TSBus	0351006D	CRL, Osaka 1983						
								EQ_ID_37	TSBus	0351003A	CRL, JSUM						
								EQ_ID_2	LN	11910-7	CRL, Hadlock 1992						
								EQ_ID_18	LN	11914-9	CRL, Robinson 1975						
	GA		d	TID 5011 Early Gestation Section	LN	18185-9	Gestational Age	EQ_ID_8	LN	33094-4	CRL, Rempen 1991						
								EQ_ID_52	TSBus	0351006E	CRL, Rob & Flem 2007						
								EQ_ID_6	LN	33540-6	CRL, Hansmann 1986						
								EQ_ID_35	LN	33089-4	CRL, ASUM 1991						
								EQ_ID_47	LN	33090-2	CRL, ASUM 2000						
	SD		{sd}	TID 5011 Early Gestation Section	DCM	121414	Standard deviation of population	EQ_ID_1	LN	11917-2	CRL, Jeanty 1984						
								EQ_ID_17	LN	11913-1	CRL, Nelson 1981						
								EQ_ID_49	TSBus	0351006F	CRL, TokyoSD						
								EQ_ID_50	TSBus	03510070	CRL, OsakaSD						
								EQ_ID_51	TSBus	03510071	CRL, JSUMSD						
275	Humerus	Humerus	mm	TID 5006 Long Bones Section	LN	11966-9	Humerus length	EQ_ID_5	LN	11937-0	Humerus, Merz 1987						
	GA		d	TID 5006 Long Bones Section	LN	18185-9	Gestational Age	EQ_ID_1	LN	11936-2	Humerus, Jeanty 1984						
	SD		{sd}	TID 5006 Long Bones Section	DCM	121414	Standard deviation of population	EQ_ID_47	LN	33116-5	Humerus Length, ASUM 2000						
276	Radius	Radius	mm	TID 5006 Long Bones Section	LN	11967-7	Radius length										
	GA		d	TID 5006 Long Bones Section	LN	18185-9	Gestational Age	EQ_ID_5	LN	11939-6	Radius, Merz 1987						
	SD		{sd}	TID 5006 Long Bones Section	DCM	121414	Standard deviation of population										
277	Ulna	Ulna	mm	TID 5006 Long Bones Section	LN	11969-3	Ulna length										
	GA		d	TID 5006 Long Bones Section	LN	18185-9	Gestational Age	EQ_ID_5	LN	11945-3	Ulna, Merz 1987						
								EQ_ID_1	LN	11944-6	Ulna, Jeanty 1984						
	SD		{sd}	TID 5006 Long Bones Section	DCM	121414	Standard deviation of population										
278	Tibia	Tibia	mm	TID 5006 Long Bones Section	LN	11968-5	Tibia length										
	GA		d	TID 5006 Long Bones Section	LN	18185-9	Gestational Age	EQ_ID_5	TSBus	03510049	Tibia, Merz						
								EQ_ID_1	LN	11941-2	Tibia, Jeanty 1984						
	SD		{sd}	TID 5006 Long Bones Section	DCM	121414	Standard deviation of population										

Toshiba Measurement Identifier					DICOM SR Representation											
					$Measurement			$Equation				$Laterality			$AnatomyGroup		
Item ID	Item Name	Display Name	Unit	Detailed Container Tree Information	CSD	CV	CM	Author Item ID	CSD	CV	CM	CSD	CV	CM	CSD	CV	CM
279	Fibula	Fibula	mm	TID 5006 Long Bones Section	LN	11964-4	Fibula length										
	GA		d	TID 5006 Long Bones Section	LN	18185-9	Gestational Age	EQ_ID_5	LN	11918-0	Fibula, Merz 1987						
	SD		{sd}	TID 5006 Long Bones Section	DCM	121414	Standard deviation of population										
280	CER	CER	mm	TID 5005 Fetal Biometry Section	LN	11863-8	Trans Cerebellar Diameter										
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_19	TSBus	03510037	CER, Goldstein						
								EQ_ID_20	TSBus	03510038	CER, Hill						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population	EQ_ID_48	TSBus	3510039	CER, Nicolaides						
281	Foot	Foot	mm	TID 5005 Fetal Biometry Section	LN	11965-1	Foot length										
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_21	LN	11926-3	Foot Length, Mercer 1987						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population										
282	GSD	GS	mm	TID 5011 Early Gestation Section	LN	11850-5	Gestational Sac Diameter	EQ_ID_11	LN	33108-2	GS, Tokyo 1986						
	GA		d	TID 5011 Early Gestation Section	LN	18185-9	Gestational Age	EQ_ID_22	LN	11928-9	GS, Hellman 1969						
								EQ_ID_49	TSBus	03510072	GS, TokyoSD						
	SD		{sd}	TID 5011 Early Gestation Section	DCM	121414	Standard deviation of population	EQ_ID_6	LN	33106-6	GS, Hansmann 1982						
								EQ_ID_8	LN	11929-7	GS, Rempen 1991						
283	ORB	OOD	mm	TID 5007 Fetal Cranium Section	LN	11629-3	Outer Orbital Diameter										
	GA		d	TID 5007 Fetal Cranium Section	LN	18185-9	Gestational Age	EQ_ID_23	LN	33124-9	OOD, Mayden 1982						
	SD		{sd}	TID 5007 Fetal Cranium Section	DCM	121414	Standard deviation of population	EQ_ID_1	TSBus	03510073	OOD Jeanty 1984						
284	Kidney	Kidney	mm	TID 5005 Fetal Biometry Section	TSBus	3330000	Fetal Kidney length										
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_24	TSBus	0351008A	GA Fetal Kidney Bertagnoli						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population										
285	HA	HA	mm2	TID 5005 Fetal Biometry Section	TSBus	3310000	Head Area										
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_9	TSBus	0351000B	HA Chitty						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population										

Toshiba Measurement Identifier					DICOM SR Representation											
					$Measurement			$Equation				$Laterality			$AnatomyGroup		
Item ID	Item Name	Display Name	Unit	Detailed Container Tree Information	CSD	CV	CM	Author Item ID	CSD	CV	CM	CSD	CV	CM	CSD	CV	CM
286	AA	AA	mm2	TID 5005 Fetal Biometry Section	TSBus	3310001	Abdominal Area	EQ_ID_9	TSBus	0351004A	AA Chitty						
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age										
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population										
287	FTA	FTA	mm2	TID 5005 Fetal Biometry Section	LN	33068-8	Thoracic Area	EQ_ID_12	TSBus	03510074	FTA Osaka 1983						
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age	EQ_ID_50	TSBus	03510075	FTA Osaka SD						
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population										
288	Clavicle	Clavicle	mm	TID 5006 Long Bones Section	LN	11962-8	Clavicle length	EQ_ID_39	LN	33088-6	Clavical length,Yarkoni 1985						
	GA		d	TID 5006 Long Bones Section	LN	18185-9	Gestational Age										
	SD		{sd}	TID 5006 Long Bones Section	DCM	121414	Standard deviation of population										
289	TC	TC	mm	TID 5005 Fetal Biometry Section	LN	11988-3	Thoracic Circumference	Equation Details Not Available									
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age										
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population										
292	YS	Yolk Sac	mm	TID 5011 Early Gestation Section	LN	11816-6	Yolk Sac length	Equation Details Not Available									
	GA		d	TID 5011 Early Gestation Section	LN	18185-9	Gestational Age										
	SD		{sd}	TID 5011 Early Gestation Section	DCM	121414	Standard deviation of population										
293	Ocular	Ocular D	mm	TID 5005 Fetal Biometry Section	TSBus	03330001	Occular Diameter										
	GA	Nill															
	SD	Nill															
295	Cist.Magna	Cist.Magna	mm	TID 5005 Fetal Biometry Section	LN	11860-4	Cisterna Magna length	Equation Details Not Available									
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age										
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population										

Toshiba Measurement Identifier					DICOM SR Representation												
					$Measurement			$Equation				$Laterality			$AnatomyGroup		
Item ID	Item Name	Display Name	Unit	Detailed Container Tree Information	CSD	CV	CM	Author Item ID	CSD	CV	CM	CSD	CV	CM	CSD	CV	CM
296	AFI	AFI	mm	TID 5010 Amniotic Sac Section	LN	11627-7	Amniotic Fluid Index	Equation Details Not Available									
	GA		d	TID 5010 Amniotic Sac Section	LN	18185-9	Gestational Age										
	SD		{sd}	TID 5010 Amniotic Sac Section	DCM	121414	Standard deviation of population										
297	Cervix Len	Cervix Len	mm	TID 5015 Pelvis and Uterus Section	LN	11961-0	Cervix Length	Equation Details Not Available									
	GA		d	TID 5015 Pelvis and Uterus Section	LN	18185-9	Gestational Age										
	SD		{sd}	TID 5015 Pelvis and Uterus Section	DCM	121414	Standard deviation of population										
298	NT	NT	mm	TID 5007 Fetal Cranium Section	LN	33069-6	Nuchal Translucency	Equation Details Not Available									
	GA		d	TID 5007 Fetal Cranium Section	LN	18185-9	Gestational Age										
	SD		{sd}	TID 5007 Fetal Cranium Section	DCM	121414	Standard deviation of population										
299	Umb VD	Umb VD	mm	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	TSBus	3330003	Umbilical Vein Diameter								SRT	T-F1820	Umbilical Vein
	GA	Nill															
	SD	Nill															
301	FHR	FHR	{H.B.}/min	TID 5003 OB-GYN Fetus Summary	LN	11948-7	Fetal Heart Rate										
	GA	Nill															
	SD	Nill															
302	Umb ARI	Umb ARI	Nill	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	12023-8	Resistivity Index								SRT	T-F1810	Umbilical Artery
	GA	Nill															
	SD	Nill															
303	Umb API	Umb API	Nill	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	12008-9	Pulsatility Index								SRT	T-F1810	Umbilical Artery
	GA	Nill															
	SD	Nill															
304	MCA RI	MCA RI	Nill	TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group	LN	12023-8	Resistivity Index								SRT	T-45600	Middle Cerebral Artery
	GA	Nill															
	SD	Nill															

Toshiba Measurement Identifier					DICOM SR Representation													
Item ID	Item Name	Display Name	Unit	Detailed Container Tree Information	$Measurement			$Equation				$Laterality			$AnatomyGroup		
					CSD	CV	CM	Author Item ID	CSD	CV	CM	CSD	CV	CM	CSD	CV	CM
305	MCA PI	MCA PI	Nill	TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group	LN	12008-9	Pulsatility Index								SRT	T-45600	Middle Cerebral Artery
	GA	Nill															
	SD	Nill															
308	rUtPI	Rt Uterin PI	Nill	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	12008-9	Pulsatility Index					SRT	G-A100	Right	SRT	T-46820	Uterine Artery
	GA	Nill															
	SD	Nill															
309	rUtRI	Rt Uterin RI	Nill	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	12023-8	Resistivity Index					SRT	G-A100	Right	SRT	T-46820	Uterine Artery
	GA	Nill															
	SD	Nill															
310	lUtPI	Lt Uterin PI	Nill	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	12008-9	Pulsatility Index					SRT	G-A101	Left	SRT	T-46820	Uterine Artery
	GA	Nill															
	SD	Nill															
311	lUtRI	Lt Uterin RI	Nill	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	12023-8	Resistivity Index					SRT	G-A101	Left	SRT	T-46820	Uterine Artery
	GA	Nill															
	SD	Nill															
312	F AoRI	Fetal AO RI	Nill	TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group	LN	12023-8	Resistivity Index								SRT	T-42000	Aorta
	GA	Nill															
	SD	Nill															
313	F AoPI	Fetal AO PI	Nill	TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group	LN	12008-9	Pulsatility Index								SRT	T-42000	Aorta
	GA	Nill															
	SD	Nill															
314	EFW	EFW	g	TID 5003 OB-GYN Fetus Summary	LN	11727-5	Estimated Weight										
	GA		d	TID 5003 OB-GYN Fetus Summary	LN	18185-9	Gestational Age										
	SD		{sd}	TID 5003 OB-GYN Fetus Summary	DCM	121414	Standard deviation of population										

Toshiba Measurement Identifier					DICOM SR Representation													
Item ID	Item Name	Display Name	Unit	Detailed Container Tree Information	$Measurement			$Equation				$Laterality			$AnatomyGroup			
					CSD	CV	CM	Author Item ID	CSD	CV	CM	CSD	CV	CM	CSD	CV	CM	
315	HC2	HC2	mm	TID 5005 Fetal Biometry Section	LN	11984-2	Head Circumference	Equation Details Not Available										
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age											
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population											
316	AC2	AC2	mm	TID 5005 Fetal Biometry Section	LN	11979-2	Abdominal Circumference	Equation Details Not Available										
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age											
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population											
317	AXT	AXT	mm2	TID 5005 Fetal Biometry Section	TSBus	3330002	AXTArea											
	GA		d	TID 5005 Fetal Biometry Section	LN	18185-9	Gestational Age											
	SD		{sd}	TID 5005 Fetal Biometry Section	DCM	121414	Standard deviation of population											
318	HC/AC	HC/AC	%	TID 5004 Fetal Biometry Ratio Section	LN	11947-9	HC/AC											
	GA	Nill																
	SD	Nill																
319	FL/AC	FL/AC	%	TID 5004 Fetal Biometry Ratio Section	LN	11871-1	FL/AC											
	GA	Nill																
	SD	Nill																
320	FL/BPD	FL/BPD	%	TID 5004 Fetal Biometry Ratio Section	LN	11872-9	FL/BPD											
	GA	Nill																
	SD	Nill																
13	CI	CI	Nill	TID 5004 Fetal Biometry Ratio Section	LN	11823-2	Cephalic Index											
	GA	Nill																
	SD	Nill																
323	FL/HC	FL/HC	%	TID 5004 Fetal Biometry Ratio Section	LN	11873-7	FL/HC											
	GA	Nill																
	SD	Nill																

Toshiba Measurement Identifier					DICOM SR Representation												
					$Measurement			$Equation				$Laterality			$AnatomyGroup		
Item ID	Item Name	Display Name	Unit	Detailed Container Tree Information	CSD	CV	CM	Author Item ID	CSD	CV	CM	CSD	CV	CM	CSD	CV	CM
324	CI	CI2	Nill	TID 5004 Fetal Biometry Ratio Section	LN	11823-2	Cephalic Index										
	GA	Nill															
	SD	Nill															
401	Nasal Bone	Nasal Bone	mm	TID 5005 Fetal Biometry Section	SRT	T-11149	Nasal bone										
	GA	Nill															
	SD	Nill															
402	UmbAVS	Umb A VPS	cm/s	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	11726-7	Peak Systolic Velocity								SRT	T-F1810	Umbilical Artery
	GA	Nill															
	SD	Nill															
403	UmbAVM	Umb A VM	cm/s	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	20352-1	Time averaged mean velocity								SRT	T-F1810	Umbilical Artery
	GA	Nill															
	SD	Nill															
404	UmbAVD	Umb A VED	cm/s	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	11653-3	End Diastolic Velocity								SRT	T-F1810	Umbilical Artery
	GA	Nill															
	SD	Nill															
405	UmbAVN	Umb A VMIN	cm/s	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	11665-7	Minimum Diastolic Velocity								SRT	T-F1810	Umbilical Artery
	GA	Nill															
	SD	Nill															
406	MCA VS	MCA VPS	cm/s	TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group	LN	11726-7	Peak Systolic Velocity								SRT	T-45600	Middle Cerebral Artery
	GA	Nill															
	SD	Nill															
407	MCA VM	MCA VM	cm/s	TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group	LN	11692-1	Time averaged peak velocity								SRT	T-45600	Middle Cerebral Artery
	GA	Nill															
	SD	Nill															
408	MCA VD	MCA VED	cm/s	TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group	LN	11653-3	End Diastolic Velocity								SRT	T-45600	Middle Cerebral Artery
	GA	Nill															
	SD	Nill															

Toshiba Measurement Identifier					DICOM SR Representation													
Item ID	Item Name	Display Name	Unit	Detailed Container Tree Information	$Measurement			$Equation				$Laterality			$AnatomyGroup		
					CSD	CV	CM	Author Item ID	CSD	CV	CM	CSD	CV	CM	CSD	CV	CM
409	MCA VN	MCA VMIN	cm/s	TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group	LN	11665-7	Minimum Diastolic Velocity								SRT	T-45600	Middle Cerebral Artery
	GA	Nill															
	SD	Nill															
414	rUtVS	Rt Uterin VPS	cm/s	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	11726-7	Peak Systolic Velocity					SRT	G-A100	Right	SRT	T-46820	Uterine Artery
	GA	Nill															
	SD	Nill															
415	rUtVM	Rt Uterin VM	cm/s	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	20352-1	Time averaged mean velocity					SRT	G-A100	Right	SRT	T-46820	Uterine Artery
	GA	Nill															
	SD	Nill															
416	rUtVD	Rt Uterin VED	cm/s	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	11653-3	End Diastolic Velocity					SRT	G-A100	Right	SRT	T-46820	Uterine Artery
	GA	Nill															
	SD	Nill															
417	rUtVN	Rt Uterin VMIN	cm/s	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	11665-7	Minimum Diastolic Velocity					SRT	G-A100	Right	SRT	T-46820	Uterine Artery
	GA	Nill															
	SD	Nill															
418	lUtVS	Lt Uterin VPS	cm/s	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	11726-7	Peak Systolic Velocity					SRT	G-A101	Left	SRT	T-46820	Uterine Artery
	GA	Nill															
	SD	Nill															
419	lUtVM	Lt Uterin VM	cm/s	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	20352-1	Time averaged mean velocity					SRT	G-A101	Left	SRT	T-46820	Uterine Artery
	GA	Nill															
	SD	Nill															
420	lUtVD	Lt Uterin VED	cm/s	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	11653-3	End Diastolic Velocity					SRT	G-A101	Left	SRT	T-46820	Uterine Artery
	GA	Nill															
	SD	Nill															
421	lUtVN	Lt Uterin VMIN	cm/s	TID 5026 OB-GYN Pelvic Vascular Ultrasound Measurement Group	LN	11665-7	Minimum Diastolic Velocity					SRT	G-A101	Left	SRT	T-46820	Uterine Artery
	GA	Nill															
	SD	Nill															

Toshiba Measurement Identifier					DICOM SR Representation												
Item ID	Item Name	Display Name	Unit	Detailed Container Tree Information	$Measurement			$Equation				$Laterality			$AnatomyGroup		
					CSD	CV	CM	Author Item ID	CSD	CV	CM	CSD	CV	CM	CSD	CV	CM
422	F AoVS	Fetal AO VPS	cm/s	TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group	LN	11726-7	Peak Systolic Velocity								SRT	T-42000	Aorta
	GA	Nill															
	SD	Nill															
423	F AoVM	Fetal AO VM	cm/s	TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group	LN	20352-1	Time averaged mean velocity								SRT	T-42000	Aorta
	GA	Nill															
	SD	Nill															
424	F AoVD	Fetal AO VED	cm/s	TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group	LN	11653-3	End Diastolic Velocity								SRT	T-42000	Aorta
	GA	Nill															
	SD	Nill															
425	F AoVN	Fetal AO VMIN	cm/s	TID 5025 OB-GYN Fetal Vascular Ultrasound Measurement Group	LN	11665-7	Minimum Diastolic Velocity								SRT	T-42000	Aorta
	GA	Nill															
	SD	Nill															
426	AFP	AFP	mm	TID 5010 Amniotic Sac Section	SRT	M-02550	Diameter										
	GA	Nill															
	SD	Nill															
427	CTAR	CTAR	%	TID 5005 Fetal Biometry Section	TSBus	03310005	Cardiothoracic area ratio										
	GA	Nill															
	SD	Nill															

Note: Author Item IDs are just for internal use, and those values are not output.

Table 8.1-31
SOP COMMON MODULE OF CREATED ENHANCED SR SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Specific Character Set	(0008,0005)	CS	ISO_IR 100	ALWAYS	AUTO
SOP Class UID	(0008,0016)	UI	1.2.840.10008.5.1.4.1.1.88.22	ALWAYS	AUTO
SOP Instance UID	(0008,0018)	UI	Starts with 1.2.392.200036.9116.6.17.	ALWAYS	AUTO

Table 8.1-32
SOP COMMON MODULE OF CREATED COMPREHENSIVE SR SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Specific Character Set	(0008,0005)	CS	ISO_IR 100	ALWAYS	AUTO
SOP Class UID	(0008,0016)	UI	1.2.840.10008.5.1.4.1.1.88.33	ALWAYS	AUTO
SOP Instance UID	(0008,0018)	UI	Starts with 1.2.392.200036.9116.6.17.	ALWAYS	AUTO

Table 8.1-33
PRIVATE APPLICATION MODULE OF CREATED ENHANCED/COMPREHENSIVE SR SOP INSTANCES

Attribute Name	Tag	VR	Value	Presence of Value	Source
Private Creator	(7015,0010)	LO	TOSHIBA_SR	ALWAYS	AUTO
Application Header Data	(7015,1060)	OB		ALWAYS	AUTO

8.1.2 Usage of Attributes from received IOD's

No SOP Class specific fields are required.

8.1.3 Attribute Mapping

Table 8.1-34
ATTRIBUTE MAPPING BETWEEN MODALITY WORKLIST, IMAGE AND MPPS

Modality Worklist	Image IOD	MPPS IOD
Patient Name	Patient Name	Patient Name
Patient ID	Patient ID	Patient ID
Patient's Birth Date	Patient's Birth Date	Patient's Birth Date
Patient's Sex	Patient's Sex	Patient's Sex
Patient's Weight	Patient's Weight	
Referring Physician's Name	Referring Physician's Name	
----	----	Scheduled Step Attributes Sequence
Study Instance UID	Study Instance UID	>Study Instance UID
Referenced Study Sequence	Referenced Study Sequence	>Referenced Study Sequence
Accession Number	Accession Number	>Accession Number
----	Request Attributes Sequence	----
Requested Procedure ID	> Requested Procedure ID	> Requested Procedure ID
Requested Procedure Description		>Requested Procedure Description
Scheduled Procedure Step ID	> Scheduled Procedure Step ID	> Scheduled Procedure Step ID
Scheduled Procedure Step Description	> Scheduled Procedure Step Description	> Scheduled Procedure Step Description
Scheduled Protocol Code Sequence	>Scheduled Protocol Code Sequence	----
----	Performed Protocol Code Sequence	Performed Protocol Code Sequence
----	Study ID	Study ID
----	Performed Procedure Step ID	Performed Procedure Step ID
----	Performed Procedure Step Start Date	Performed Procedure Step Start Date
----	Performed Procedure Step Start Time	Performed Procedure Step Start Time
----	Performed Procedure Step Description	Performed Procedure Step Description
----	Comments on the Performed Procedure Step	Comments on the Performed Procedure Step
----	----	Performed Series Sequence
Scheduled Performing Physician's Name	Performing Physician's Name	>Performing Physician's Name
Requested Procedure Code Sequence	----	Procedure Code Sequence
----	Referenced Study Component Sequence	----
----	>Referenced SOP Class UID	SOP Class UID
----	>Referenced SOP Instance UID	SOP Instance UID
Scheduled Procedure Step Description, or Requested Procedure Description (See Table 4.2-44 Notes 3)	Protocol Name	Protocol Name

8.1.4 Coerced/Modified Fields

Not applicable.

8.2 DATA DICTIONARY OF PRIVATE ATTRIBUTES

This product reserves private attribute values in the group 7015.
The private attributes added to created SOP instances or directory records are listed in the following table:

Table 8.2-1
DATA DICTIONARY OF PRIVATE ATTRIBUTES

Tag	Attribute Name	VR	VM
(7015,00xx)	Private Creator	LO	1
(7015,xx60)	Application Header Data	OB	1

8.3 GRAYSCALE IMAGE CONSISTENCY

Not applicable.

8.4 STANDARD EXTENDED/SPECIALIZED/PRIVATE SOP CLASSES

Not applicable.

8.5 PRIVATE TRANSFER SYNTAXES

Not applicable.