KONICA MINOLTA

REGIUS CONSOLE

CS-2

DICOM 3.0 Conformance Statement

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KONICA MINOLTA MEDICAL & GRAPHIC, INC.

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This Conformance Statement applies to DICOM3.0 (2000 version).

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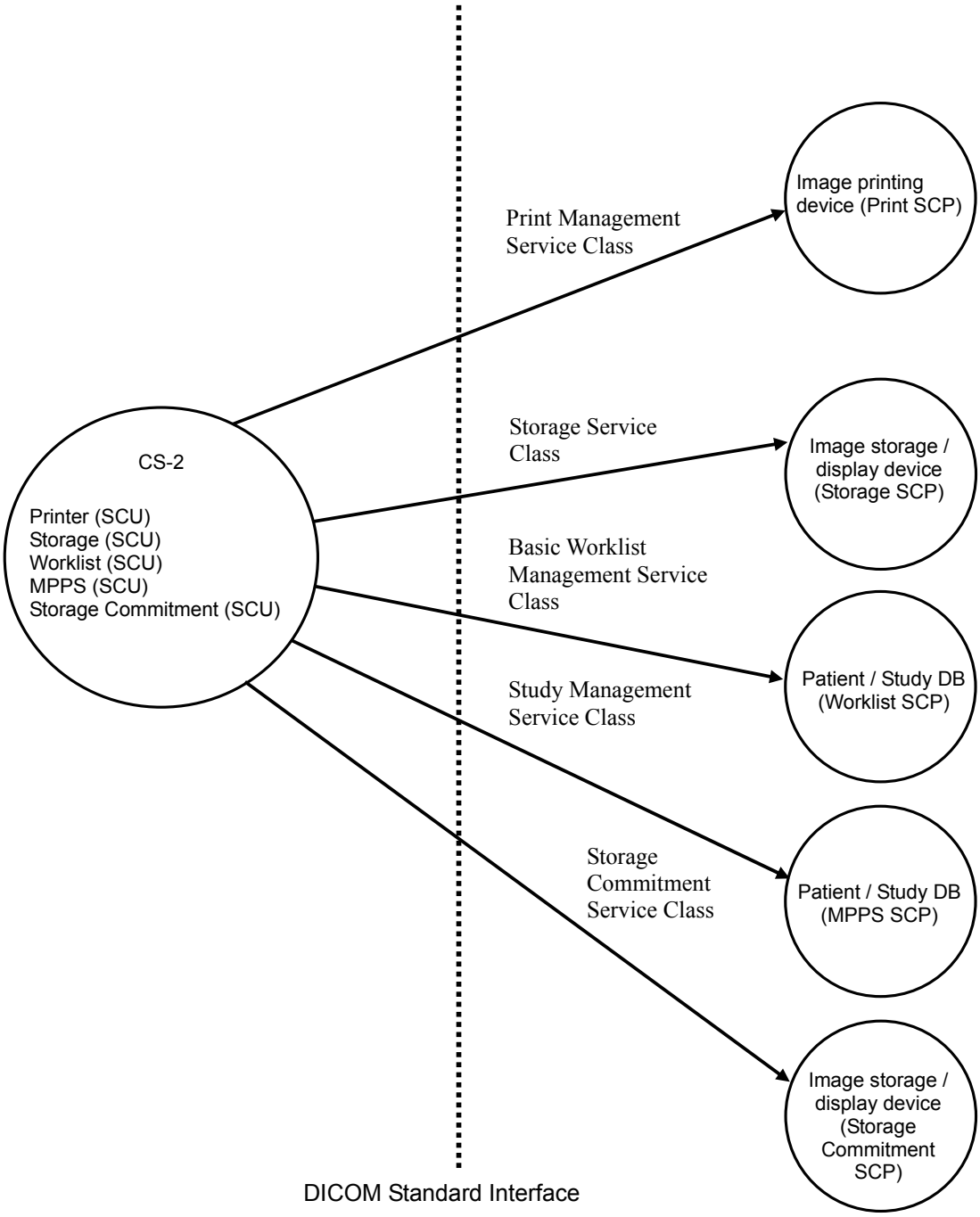
1 INTRODUCTION

This document declares conformity of REGIUS CONSOLE CS-2 (hereinafter, CS-2) to DICOM3.0.

2 IMPLEMENTATION MODEL

The CS-2 functions as an SCU for the Print Management Service Class.
The CS-2 functions as an SCU for the Storage Service Class.
The CS-2 functions as an SCU for the Basic Worklist Management Service Class.
The CS-2 functions as an SCU for the Study Management Service Class.
The CS-2 functions as an SCU for the Storage Commitment Service Class.

2.1 Application Data Flow Diagram



2.2 Functional Definitions of AE's

2.2.1 Print Management Service Class SCU

The CS-2 Print Management Service Class functions as a communication process. After receiving an association request for an external AE, N-Create-RQ initiates the image printing process.

2.2.2 Storage Service Class SCU

The CS-2 Storage Service Class SCU operates as a communication process.
After receiving an association request for an external AE, C-STORE-RQ initiates the image send process.

2.2.3 Basic Worklist Management Service Class SCU

The CS-2 Basic Worklist Management Service Class SCU operates as a communication process.
After receiving an association request for an external AE, C-FIND-RQ initiates the Patient/Study Information retrieval process.

2.2.4 Study Management Service Class SCU

The CS-2 Basic Study Management Service Class SCU operates as a communication process.
After receiving an association request for an external AE, N-Create/N-Set initiates the Study Status Information retrieval process.

2.2.5 Storage Commitment Service Class SCU

The CS-2 Storage Commitment Service Class SCU operates as a communication process.
It starts a Storage Commitment Request Result Retrieval service process.
After receiving an association request for an external AE, N-Action initiates the Storage Commitment Request process.

2.3 Sequencing of Real World Activities

Sequencing of real world activities is not supported.

3 AE Specifications

3.1 CS-2 Print Management Service Class SCU Specifications

As a Print Management Service Class SCU, the CS-2 supports the following SOP classes.

SOP class name	SOP class UID
Basic Grayscale Print Management Meta SOP Class	1.2.840.10008.5.1.1.9
Presentation LUT SOP Class	1.2.840.10008.5.1.1.23

3.1.1 Association Establishment Policies

Conditions for establishing association are described below.

3.1.1.1 General

The CS-2 Print Management Service Class SCU recognizes and uses the following application context name.

Description	Value
Application Context Name	1.2.840.10008.3.1.1.1

The maximum PDU size is 64 KB.

3.1.1.2 Number of Associations

The CS-2 Print Management Service Class SCU issues a single association request at one time for the external AE that is implemented as a separate device.

3.1.1.3 Asynchronous Nature

Within the association, only images subject to printing are handled. Asynchronous processing is not supported.

3.1.1.4 Implementation Identifying Information

Description	Value
Implementation Class UID	The Instance UIDs for Basic Film Session, Basic Film Box, and Basic Grayscale Image Box issued by SCP are used.
Implementation Version Name	KC_CS2_1.00

3.1.2 Real World Activities

3.1.2.1 Associated Real World Activity

The relevant activity in the real world is sending images and various parameters to an image printing device to print images on films.

3.1.2.2 Presentation Context Tables

The following presentation contexts will be proposed as required.

Abstract syntax			
Name	UID	Role	Extended Negotiation
Basic Grayscale Print Management Meta SOP Class	1.2.840.10008.5.1.1.9	SCU	None
Presentation LUT SOP Class	1.2.840.10008.5.1.1.23	SCU	None

Transfer syntax	
Name	UID
Implicit VR Little Endian	1.2.840.10008.1.2

3.1.2.3 Basic Film Session SOP Class

This model conforms with the Basic Film Session SOP Class.
The CS-2 uses the DIMSE services for film print on an imager (SCP).

Behavior: For SOP instances matching the Basic Film Session attribute list, the CS-2 executes the DIMSE services listed in the table below.
The CS-2 recognizes the DIMSE service response status and takes appropriate action depending on whether the service terminated normally or not.

DIMSE service request	Usage SCU/SCP
N-CREATE	M/M
N-SET	U/M
N-DELETE	U/M
N-ACTION	U/U

Basic Film Session attribute list (N-CREATE/N-SET)

Tag	Attribute Name	VR	VM	Usage
(2000, 0010)	Number of Copies	IS	1	U/M
(2000, 0020)	Print Priority	CS	1	U/M
(2000, 0030)	Medium Type	CS	1	U/M
(2000, 0040)	Film Destination	CS	1	U/M

3.1.2.4 Basic Film Box SOP Class

This model conforms with the Basic Film Box SOP Class.
The CS-2 uses the DIMSE services for film print on an imager (SCP).
If necessary, Private Data are output.

Behavior: For SOP instances matching the Basic Film Box attribute list, the CS-2 executes the DIMSE services listed in the table below.
The CS-2 recognizes the DIMSE service response status and takes appropriate action depending on whether the service terminated normally or not.

DIMSE service request	Usage SCU/SCP
N-CREATE	M/M
N-ACTION	M/M
N-DELETE	U/M
N-SET	U/U

Basic Film Box attribute list (N-CREATE/N-SET)

Tag	Attribute Name	VR	VM	Usage
(2010,0010)	Image Display Format	ST	1	M/M
(2010,0500)	Reference Film Session Sequence	SQ	1	M/M
>(0008,1150)	Reference SOP Class UID	UI	1	M/M
>(0008,1155)	Reference SOP Instance UID	UI	1	M/M
(2010,0510)	Reference Image Box Sequence	SQ	1	-/M
>(0008,1150)	Reference SOP Class UID	UI	1	-/M
>(0008,1155)	Reference SOP Instance UID	UI	1	-/M
(2010,0040)	Film Orientation	CS	1	U/M
(2010,0050)	Film Size ID	CS	1	U/M
(2010,0060)	Magnification Type	CS	1	U/M
(2010,0130)	Maximum Density	US	1	U/M
(2010,0150)	Configuration Information	ST	1	U/M
(2050,0500)	Reference Presentation LUT Sequence	SQ	1	U/MC (Required if Presentation LUT is supported.)
>(0008,1150)	Reference SOP Class UID	UI	1	U/MC (Required if a LUT sequence item is presnt.)
>(0008,1155)	Reference SOP Instance UID	UI	1	U/MC (Required if a LUT sequence item is presnt.)
(2010,0030)	Comment Display Format ID	CS	1	U/U
(2010,0080)	Smoothing Type	CS	1	U/U
(2010,0100)	Border Density	CS	1	U/U
(2010,0110)	Empty Image Density	CS	1	U/U
(2010,0120)	Minimum Density	US	1	U/U
(2010,0140)	Trim	US	1	U/U
(2010,015E)	Lighting	US	1	U/MC (Required if Presentation LUT is supported.)
(2010,0160)	Reflected Ambient Light	US	1	U/MC (Required if Presentation LUT is supported.)

* (2010,0150) The Configuration Information is given as "KC_LUT=i" (i: LUT number).

* (2010,0030) The Comment Display Format ID is given as a combination of the character codes "P1" (Portrait), "L1" (Landscape), "TM" (Time), "CC" (Copy Count), "ID" (Modality ID), and "MS" (Message), joined with "_".

Private data				
Tag	Attribute Name	VR	VM	Type
(2011,0010)	Private Creator	CS	1	3
(2011,10xx)	Private Data			

3.1.2.5 Basic Grayscale Image Box SOP Class

This model conforms with the Basic Grayscale Image Box SOP Class.
The CS-2 uses the DIMSE services for film print on an imager (SCP).

Behavior: For SOP instances matching the Basic Grayscale Image attribute list, the CS-2 executes the DIMSE services listed in the table below.
The CS-2 recognizes the DIMSE service response status and takes appropriate action depending on whether the service terminated normally or not.

DIMSE service request	Usage SCU/SCP
N-SET	M/M

Basic Grayscale Image Box attribute list (N-SET)

Tag	Attribute Name	VR	VM	Usage
(2020,0010)	Image Position	US	1	M/M
(2020,0110)	Basic Grayscale Image Sequence	SQ	1	M/M
>(0028,0002)	Samples Per Pixel	US	1	M/M
>(0028,0004)	Photometric Interpretation	CS	1	M/M
>(0028,0010)	Rows	US	1	M/M
>(0028,0011)	Columns	US	1	M/M
>(0028,0034)	Pixel Aspect Ratio	IS	2	MC/M (Required if aspect ratio is not 1/1.)
>(0028,0100)	Bits Allocated	US	1	M/M
>(0028,0101)	Bits Stored	US	1	M/M
>(0028,0102)	High Bit	US	1	M/M
>(0028,0103)	Pixel Representation	US	1	M/M
>(7FE0,0010)	Pixel Data	OW or OB	1	M/M
(2020,0020)	Polarity	CS	1	U/M

3.1.2.6 Printer SOP Class

This model conforms with the Printer SOP Class.
The CS-2 uses the DIMSE services for obtaining the device status of the imager (SCP).
If necessary, Private Data are output.

Behavior: For SOP instances matching the Printer attribute list, the CS-2 executes the DIMSE services listed in the table below.
The CS-2 recognizes the DIMSE service response status and takes appropriate action depending on whether the service terminated normally or not.

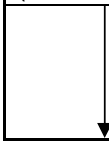
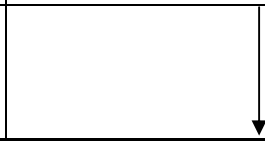
DIMSE service request	Usage SCU/SCP
N-EVENT-REPORT	M/M
N-GET	U/M

Printer SOP attribute list (N-EVENT-REPORT)

Tag	Attribute Name	VR	VM	Usage
(2000,0040)	Film Destination	CS	1	U/M
(2110,0020)	Printer Status Info	CS	1	U/U
(2110,0030)	Printer Name	LO	1	U/U

Printer SOP attribute list (N-GET)

Tag	Attribute Name	VR	VM	Usage
(2110,0010)	Printer Status	CS	1	U/M
(2110,0020)	Printer Status Info	CS	1	U/M
(2110,0030)	Printer Name	LO	1	U/U
(0008,0070)	Manufacturer	LO	1	U/U
(0008,1090)	Manufacturer's Model Name	LO	1	U/U
(0018,1000)	Device Serial Number	LO	1	U/U
(0018,1020)	Software Version	LO	1	U/U
(0018,1200)	Date of Last Calibration	DA	1-n	U/U
(0018,1201)	Time of Last Calibration	TM	1-n	U/U

Private data				
Tag	Attribute Name	VR	VM	Type
(2011,0010)	Private Creator	CS	1	3
(2011,10xx)	Private Data			
				

3.1.2.7 Presentation LUT SOP Class

This model conforms with the Presentation LUT SOP Class.
The CS-2 uses the DIMSE services for film print on an imager (SCP).

Behavior: For SOP instances matching the Presentation LUT attribute list, the CS-2 executes the DIMSE services listed in the table below.
The CS-2 recognizes the DIMSE service response status and takes appropriate action depending on whether the service terminated normally or not.

DIMSE service request	Usage SCU/SCP
N-CREATE	M/M
N-DELETE	U/M

Presentation LUT attribute list (N-CREATE)

Tag	Attribute Name	VR	VM	Usage
(2050,0010)	Presentation LUT sequence	SQ	1	MC/M (Required if Presentation LUT format does not exist. Shall not be present otherwise.)
>(0028,3002)	LUT Descriptor	SS	3	MC/M (Required if Presentation LUT sequence exists.)
>(0028,3003)	LUT Description	LO	1	U/U (Required if Presentation LUT sequence exists.)
>(0028,3006)	LUT Data	SS	1-n	MC/M (Required if Presentation LUT sequence exists.)

3.2 CS-2 Storage Service Class SCU Specifications

The CS-2 supports the following SOP classes as Storage Service Class SCU.

SOP Class Name	SOP Class UID
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1
Digital X-Ray Image Storage -For Presentation	1.2.840.10008.5.1.4.1.1.1.1

3.2.1 Association Establishment Policies

Conditions for establishing association are described below.

3.2.1.1 General

The CS-2 Storage Service Class SCU recognizes and uses the following application context name.

Description	Value
Application Context Name	1.2.840.10008.3.1.1.1

The maximum PDU size is 64 KB.

3.2.1.2 Number of Associations

The CS-2 Storage Service Class SCU issues a single association request at one time for the external AE that is implemented as a separate device.

3.2.1.3 Asynchronous Nature

Within the association, only a single image is handled. Asynchronous processing is not supported.

3.2.1.4 Implementation Identifying Information

Description	Value
Implementation Class UID	See explanation of Instance UID below
Implementation Version Name	KC_CS2_1.00

The SOP Instance UID is as follows.
1.2.392.200036.9107.500.[Device].[Serial No.].[yyyymmdd].[hhmmss].[10+Unique No.]

The Study Instance UID is as follows.
1.2.392.200036.9107.500.[11+Study No.]

The Series Instance UID is as follows.
1.2.392.200036.9107.500.[Device].[Serial No].[Study No.].[12+Series No.]

Note) [Device] : Sending device type 304
[Serial No.] : Device serial number
[yyyymmdd] : Date
[hhmmss] : Time
[Study No.] : Study ID
[Series No.] : Series number
[Unique No.] : Unique number issued within device

3.2.2 Real World Activities

3.2.2.1 Associated Real World Activity

The relevant activity in the real world is issuing a CR/DX image C-STORE request to the Storage Service Class SCP.

3.2.2.2 Presentation Context Tables

The following presentation contexts will be proposed as required.

Abstract syntax			
Name	UID	Role	Extended Negotiation
Computed Radiography Image Storage SOP	1.2.840.10008.5.1.4.1.1.1	SCU	None
Digital X-Ray Image Storage -For Presentation	1.2.840.10008.5.1.4.1.1.1.1	SCU	None

Transfer syntax	
Name	UID
Implicit VR Little Endian	1.2.840.10008.1.2
Explicit VR Little Endian	1.2.840.10008.1.2.1
Explicit VR Big Endian	1.2.840.10008.1.2.2
JPEG Lossless	1.2.840.10008.1.2.4.57

3.2.2.3 CR Image Storage SOP Class

This model conforms to the CR Image SOP Class.
The CR-2 uses C-STORE to store image data in an image storage / display device (SCP).
If necessary, Private Data are output.

Behavior: For SOP instances matching the CR Image IOD request, the CS-2 executes the C-STORE DIMSE service.
The CS-2 recognizes the C-STORE response status and takes appropriate action depending on whether the service terminated normally or not.
Regarding each tag of the CR image IOD module, the CS-2 omits the tag when a valid value is not held within CS-2.

CR Image IOD Modules

IE	Module	Usage
Patient	Patient	M
Study	General Study	M
	Patient Study	U
Series	General Series	M
	CR Series	M
Device	General Device	M
Image	General Image	M
	Image Pixel	M
	Contrast Medium/Bolus	C
	CR Image	M
	Overlay Plane	U
	Curve	U
	Modality LUT	U
	VOI LUT	U
	SOP Common	M

Patient				
Tag	Attribute Name	VR	VM	Type
(0010,0010)	Patient's Name	PN	1	2
(0010,0020)	Patient ID	LO	1	2
(0010,0030)	Patient's Birth Date	DA	1	2
(0010,0040)	Patient's Sex	CS	1	2
(0010,0032)	Patient's Birth Time	TM	1	3
(0010,1000)	Other Patient IDs	LO	1	3
(0010,1001)	Other Patient Names	PN	1	3
(0010,2160)	Ethnic Group	SH	1	3
(0010,4000)	Patient Comments	LT	1	3

General Study				
Tag	Attribute Name	VR	VM	Type
(0020,000D)	Study Instance UID	UI	1	1
(0008,0020)	Study Date	DA	1	2
(0008,0030)	Study Time	TM	1	2
(0008,0090)	Referring Physician's Name	PN	1	2
(0020,0010)	Study ID	SH	1	2
(0008,0050)	Accession Number	SH	1	2
(0008,1030)	Study Description	LO	1	3
(0008,1048)	Physician(s) of Record	PN	1	3
(0008,1060)	Physician(s) Reading the Study	PN	1	3
(0032,1033)	Requesting Service	LO	1	3

Patient Study				
Tag	Attribute Name	VR	VM	Type
(0008,1080)	Admitting Diagnosis Description	LO	1	3
(0010,1010)	Patient's Age	AS	1	3
(0010,1020)	Patient's Size	DS	1	3
(0010,1030)	Patient's Weight	DS	1	3
(0010,2180)	Patient's Occupation	SH	1	3
(0010,21B0)	Additional Patient History	LT	1	3

General Series				
Tag	Attribute Name	VR	VM	Type
(0008,0060)	Modality	CS	1	1
(0020,000E)	Series Instance UID	UI	1	1
(0020,0011)	Series Number	IS	1	2
(0020,0060)	Left/Right	CS	1	2C
(0008,1050)	Performing Physician's Name	PN	1	3
(0018,1030)	Protocol Name	LO	1	3
(0008,1070)	Operator's Name	PN	1	3
(0018,0015)	Body Part Examined	CS	1	3

General Series				
Tag	Attribute Name	VR	VM	Type
(0040,0275)	Request Attributes Sequence	CS	1	3
>(0040,1001)	Requested Procedure ID	UI	1	1C
>(0040,0009)	Scheduled Procedure Step ID	IS	1	1C
>(0040,0007)	Scheduled Procedure Step	CS	1	3
>(0040,0008)	Scheduled Action Item Code Sequence			3
>>Code Sequence Macro	Reference CID			
(0040,0253)	Performed Procedure Step ID			3
(0040,0244)	Performed Procedure Step Start Date			3
(0040,0245)	Performed Procedure Step Start Time	PN	1	3
(0040,0254)	Performed Procedure Step Description	LO	1	3
(0040,0260)	Performed Action Item Sequence	PN	1	3
>Code Sequence Macro	Reference CID	CS	1	1C

CR Series				
Tag	Attribute Name	VR	VM	Type
(0018,0015)	Examined Part	CS	1	2
(0018,5101)	View Position	CS	1	2
(0018,1160)	Film Type	SH	1	3
(0018,1190)	Focal Spot(s)	DS	1	3
(0018,1260)	Plate Type	SH	1	3
(0018,1261)	Phosphor Type	LO	1	3

General Device				
Tag	Attribute Name	VR	VM	Type
(0008,0070)	Manufacturer	LO	1	2
(0008,0080)	Institution Name	LO	1	3
(0008,0081)	Institution Address	ST	1	3
(0008,1010)	Station Name	SH	1	3
(0008,1040)	Institutional Department Name	LO	1	3
(0008,1090)	Manufacturer's Model Name	LO	1	3
(0018,1000)	Device Serial Number	LO	1	3
(0018,1020)	Software Versions	LO	4	3
(0018,1200)	Date of Last Calibration	DA	1	3
(0018,1201)	Time of Last Calibration	TM	1	3

General Image				
Tag	Attribute Name	VR	VM	Type
(0020,0013)	Image Number	IS	1	2
(0020,0020)	Patient Orientation	CS	2	2C
(0008,0023)	Image Date	DA	1	2C
(0008,0033)	Image Time	TM	1	2C
(0008,0008)	Image Type	CS	2	3
(0020,0012)	Acquisition Number	IS	1	3
(0008,2112)	Event Original Image Sequence	SQ	1	3
>(0008,1150)	Reference SOP Class UID	UI	1	1C
>(0008,1155)	Reference SOP Instance UID	UI	1	1C

General Image				
Tag	Attribute Name	VR	VM	Type
(0020,4000)	Image Comment	LT	1	3
(0028,0300)	Quality Control Image	CS	1	3
(0028,0301)	Burned In Annotation	CS	1	3
(0028,2110)	Lossy Image Compression	CS	1	3

Image Pixel				
Tag	Attribute Name	VR	VM	Type
(0028,0002)	Samples Per Pixel	US	1	1
(0028,0004)	Photometric Interpretation	CS	1	1
(0028,0010)	Rows	US	1	1
(0028,0011)	Columns	US	1	1
(0028,0100)	Bits Allocated	US	1	1
(0028,0101)	Bits Stored	US	1	1
(0028,0102)	High Bit	US	1	1
(0028,0103)	Pixel Representation	US	1	1
(7FE0,0010)	Pixel Data	OW	1	1

Contrast/Bolus				
Tag	Attribute Name	VR	VM	Type
(0018,0010)	Contrast/Bolus Agent	LO	1	2
(0018,1040)	Contrast/Bolus Route	LO	1	3
(0018,1041)	Contrast/Bolus Volume	DS	1	3
(0018,1042)	Contrast/Bolus Start Time	TM	1	3
(0018,1043)	Contrast/Bolus Stop Time	TM	1	3
(0018,1044)	Contrast/Bolus Total Dose	DS	1	3
(0018,1046)	Contrast Flow Rate(s)	DS	1	3
(0018,1047)	Contrast Flow Duration(s)	DS	1	3
(0018,1048)	Contrast/Bolus Ingredient	CS	1	3
(0018,1049)	Contrast/Bolus Ingredient Concentration	DS	1	3

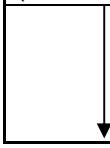
CR Image				
Tag	Attribute Name	VR	VM	Type
(0028,0004)	Photometric Interpretation	CS	1	1
(0018,0060)	KVP	DS	1	3
(0018,1004)	Plate ID	LO	1	3
(0018,1110)	Distance Source to Detector	DS	1	3
(0018,1111)	Distance Source to Patient	DS	1	3
(0018,1150)	Exposure Time	IS	1	3
(0018,1151)	X-Ray Tube Current	IS	1	3
(0018,1152)	Exposure	IS	1	3
(0018,1153)	µAs exposure	IS	1	3
(0018,1164)	Pixel Spacing	DS	2	3
(0018,6000)	Sensitivity	DS	1	3

Overlay Plane				
Tag	Attribute Name	VR	VM	Type
(60xx,0010)	Rows	US	1	1
(60xx,0011)	Columns	US	1	1
(60xx,0040)	Overlay Type	CS	1	1
(60xx,0050)	Origin	SS	2	1
(60xx,0100)	Bits Allocated	US	1	1
(60xx,0102)	Bit Position	US	1	1

Modality LUT				
Tag	Attribute Name	VR	VM	Type
(0028,1052)	Rescale Intercept	DS	1	1C
(0028,1053)	Rescale Slope	DS	1	1C
(0028,1054)	Rescale Type	LO	1	1C

VOI LUT				
Tag	Attribute Name	VR	VM	Type
(0028,3010)	VOI LUT Sequence	SQ	1	3
>(0028,3002)	LUT Descriptor	US	3	1C
>(0028,3006)	LUT Data	US	4095	1C
(0028,1050)	Window Center	DS	1	3
(0028,1051)	Window Width	DS	1	1C

SOP Common				
Tag	Attribute Name	VR	VM	Type
(0008,0016)	SOP Class UID	UI	1	1
(0008,0018)	SOP Instance UID	UI	1	1
(0008,0005)	Specific Character Set	CS	2-3	1C

Private Data				
Tag	Attribute Name	VR	VM	Type
(0031,0010)	Private Creator	CS	1	3
(0031,10FF)	Private Data Sequence	SQ	1	1C
	Private Data			

3.2.2.4 DX Image Storage SOP Class

This model conforms with the DX Image SOP Class.
The CR-2 uses C-STORE to store image data in an image storage / display device (SCP).
If necessary, Private Data are output.

Behavior: For SOP instances matching the DX Image IOD request, the CS-2 executes the C-STORE DIMSE service.
The CS-2 recognizes the C-STORE response status and takes appropriate action depending on whether the service terminated normally or not.
Regarding each tag of the CR image IOD module, the CS-2 omits the tag when a valid value is not held within CS-2.

DX Image IOD Modules

IE	Module	Usage
Patient	Patient	M
	Specimen Identification	U
Study	General Study	M
	Patient Study	U
Series	General Series	M
	DX Series	M
Reference Coordinates	Reference Coordinates	U
Device	General Device	M
Image	General Image	M
	Image Pixel	M
	Contrast/Bolus	U
	Device	U
	Therapy	U
	DX Anatomy Imaged	M
	DX Image	M
	DX Detector	M
	X-Ray Collimator	U
	DX Positioning	U
	X-Ray Tomo Acquisition	U
	X-Ray Acquisition Dose	U
	X-Ray Generation	U
	X-Ray Filtration	U
	X-Ray Grid	U
	Overlay Plane	Required if graphic annotation is present.
	Curve	U
	VOI LUT	Required if Presentation Intent Type is FOR PRESENTATION. Shall not be present otherwise.
	Image Histogram	U
	Acquisition Context	M
	SOP Common	M

Patient				
Tag	Attribute Name	VR	VM	Type
(0010,0010)	Patient's Name	PN	1	2
(0010,0020)	Patient ID	LO	1	2
(0010,0030)	Patient's Birth Date	DA	1	2
(0010,0040)	Patient's Sex	CS	1	2
(0010,0032)	Patient's Birth Time	TM	1	3
(0010,1000)	Other Patient IDs	LO	1	3
(0010,1001)	Other Patient Names	PN	1	3
(0010,2160)	Ethnic Group	SH	1	3
(0010,4000)	Patient Comments	LT	1	3

General Study				
Tag	Attribute Name	VR	VM	Type
(0020,000D)	Study Instance UID	UI	1	1
(0008,0020)	Study Date	DA	1	2
(0008,0030)	Study Time	TM	1	2
(0008,0090)	Referring Physician's Name	PN	1	2
(0020,0010)	Study ID	SH	1	2
(0008,0050)	Accession Number	SH	1	2
(0008,1030)	Study Description	LO	1	3
(0008,1048)	Physician(s) of Record	PN	1	3
(0008,1060)	Physician(s) Reading the Study	PN	1	3
(0032,1033)	Requesting Service	LO	1	3

Patient Study				
Tag	Attribute Name	VR	VM	Type
(0008,1080)	Admitting Diagnosis Description	LO	1	3
(0010,1010)	Patient's Age	AS	1	3
(0010,1020)	Patient's Size	DS	1	3
(0010,1030)	Patient's Weight	DS	1	3
(0010,2180)	Patient's Occupation	SH	1	3
(0010,21B0)	Additional Patient History	LT	1	3

General Series				
Tag	Attribute Name	VR	VM	Type
(0008,0060)	Modality	CS	1	1
(0020,000E)	Series Instance UID	UI	1	1
(0020,0011)	Series Number	IS	1	2
(0020,0060)	Left/Right	CS	1	2C
(0008,1050)	Performing Physician's Name	PN	1	3
(0018,1030)	Protocol Name	LO	1	3
(0008,1070)	Operator's Name	PN	1	3
(0018,0015)	Body Part Examined	CS	1	3

General Series				
Tag	Attribute Name	VR	VM	Type
(0040,0275)	Request Attributes Sequence	SQ	1	3
>(0040,1001)	Requested Procedure ID	SH	1	1C
>(0040,0009)	Scheduled Procedure Step ID	SH	1	1C
>(0040,0007)	Scheduled Procedure Step	LO	1	3
>(0040,0008)	Scheduled Action Item Code Sequence	SQ	1	3
>>(0008,0100)	Code Value	SH	1	1C
>>(0008,0102)	Coding Scheme Designator	SH	1	1C
>>(0008,0104)	Code Meaning	LO	1	1C
(0040,0253)	Performed Procedure Step ID	SH	1	3
(0040,0244)	Performed Procedure Step Start Date	DA	1	3
(0040,0245)	Performed Procedure Step Start Time	TM	1	3
(0040,0254)	Performed Procedure Step Description	LO	1	3
(0040,0260)	Performed Action Item Sequence	SQ	1	3
>(0008,0100)	Code Value	SH	1	1C
>(0008,0102)	Coding Scheme Designator	SH	1	1C
>(0008,0104)	Code Meaning	LO	1	1C

DX Series				
Tag	Attribute Name	VR	VM	Type
(0008,0060)	Modality	CS	1	1
(0008,0068)	Presentation Intent Type	CS	1	1

General Device				
Tag	Attribute Name	VR	VM	Type
(0008,0070)	Manufacturer	LO	1	2
(0008,0080)	Institution Name	LO	1	3
(0008,0081)	Institution Address	ST	1	3
(0008,1010)	Station Name	SH	1	3
(0008,1040)	Institutional Department Name	LO	1	3
(0008,1090)	Manufacturer's Model Name	LO	1	3
(0018,1000)	Device Serial Number	LO	1	3
(0018,1020)	Software Versions	LO	4	3
(0018,1200)	Date of Last Calibration	DA	1	3
(0018,1201)	Time of Last Calibration	TM	1	3

General Image				
Tag	Attribute Name	VR	VM	Type
(0020,0013)	Image Number	IS	1	2
(0020,0020)	Patient Orientation	CS	2	2C
(0008,0023)	Image Date	DA	1	2C
(0008,0033)	Image Time	TM	1	2C
(0008,0008)	Image Type	CS	2	3
(0020,0012)	Acquisition Number	IS	1	3

General Image				
Tag	Attribute Name	VR	VM	Type
(0008,2112) >(0008,1150) >(0008,1155)	Event Original Image Sequence Reference SOP Class UID Reference SOP Instance UID	SQ UI UI	1 1 1	3 1C 1C
(0020,4000)	Image Comment	LT	1	3
(0028,0300)	Quality Control Image	CS	1	3
(0028,0301)	Burned In Annotation	CS	1	3
(0028,2110)	Lossy Image Compression	CS	1	3

Image Pixel				
Tag	Attribute Name	VR	VM	Type
(0028,0002)	Samples Per Pixel	US	1	1
(0028,0004)	Photometric Interpretation	CS	1	1
(0028,0010)	Rows	US	1	1
(0028,0011)	Columns	US	1	1
(0028,0100)	Bits Allocated	US	1	1
(0028,0101)	Bits Stored	US	1	1
(0028,0102)	High Bit	US	1	1
(0028,0103)	Pixel Representation	US	1	1
(7FE0,0010)	Pixel Data	OW	1	1

Contrast/Bolus				
Tag	Attribute Name	VR	VM	Type
(0018,0010)	Contrast/Bolus Agent	LO	1	2
(0018,1040)	Contrast/Bolus Route	LO	1	3
(0018,1041)	Contrast/Bolus Volume	DS	1	3
(0018,1042)	Contrast/Bolus Start Time	TM	1	3
(0018,1043)	Contrast/Bolus Stop Time	TM	1	3
(0018,1044)	Contrast/Bolus Total Dose	DS	1	3
(0018,1046)	Contrast Flow Rate(s)	DS	1	3
(0018,1047)	Contrast Flow Duration(s)	DS	1	3
(0018,1048)	Contrast/Bolus Ingredient	CS	1	3
(0018,1049)	Contrast/Bolus Ingredient Concentration	DS	1	3

DX Anatomy Imaged				
Tag	Attribute Name	VR	VM	Type
(0020,0062)	Image Laterality	CS	1	1
(0008,2218)	Anatomic Region Sequence	SQ	1	2
>Code Sequence Macro				

DX Image				
Tag	Attribute Name	VR	VM	Type
(0008,0008)	Image Type	CS	1-n	1
(0028,0002)	Samples per Pixel	US	1	1
(0028,0004)	Photometric Interpretation	CS	1	1
(0028,0100)	Bits Allocated	US	1	1
(0028,0101)	Bits Stored	US	1	1
(0028,0102)	High Bit	US	1	1
(0028,0103)	Pixel Representation	US	1	1
(0028,1040)	Pixel Intensity Relationship	CS	1	1
(0028,1041)	Pixel Intensity Relationship Sign	SS	1	1
(0028,1052)	Rescale Intercept	DS	1	1
(0028,1053)	Rescale Slope	DS	1	1
(0028,1054)	Rescale Type	LO	1	1
(2050,0020)	Presentation LUT Shape	CS	1	1
(0028,2110)	Lossy Image Compression	CS	1	3
(0020,0020)	Patient Orientation	CS	2	2C
(0028,0301)	Burned In Annotation	CS	1	1
(0028,3010)	VOI LUT Sequence	SQ	1	1C
>(0028,3002)	LUT Descriptor	US or SS	3	1C
>(0028,3006)	LUT Data	US or SS or OW	1-n 1	1C
(0028,1050)	Window Center	DS	1-n	1C
(0028,1051)	Window Width	DS	1-n	1C

DX Detector				
Tag	Attribute Name	VR	VM	Type
(0018,7004)	Detector Type	CS	1	2
(0018,7005)	Detector Configuration	CS	1	3
(0018,700A)	Detector ID	SH	1	3
(0018,700C)	Date of Last Detector Calibration	DA	1	3
(0018,700E)	Time of Last Detector Calibration	TM	1	3
(0018,7010)	Exposures on Detector Since Last Calibration	IS	1	3
(0018,7011)	Exposures on Detector Since Manufactured	IS	1	3
(0018,7012)	Detector Time Since Last Exposure	DS	1	3
(0018,7016)	Detector Active Time	DS	1	3
(0018,6000)	Offset From Exposure	DS	1	3
(0018,1147)	Sensitivity	CS	1	3
(0018,1149)	Field of View Dimension(s)	IS	1-2	3
(0018,7030)	Field of View Origin	DS	2	1C
(0018,7032)	Field of View Rotation	DS	1	1C
(0018,7034)	Field of View Horizontal Flip	CS	1	1C
(0018,1164)	Detector Element Spacing	DS	2	1
(0018,7024)	Detector Active Shape	CS	1	3
(0018,7026)	Detector Active Dimension(s)	DS	1-2	3
(0018,7028)	Detector Active Origin	DS	2	3

DX Positioning				
Tag	Attribute Name	VR	VM	Type
(0018,5101)	View Position	CS	1	2
(0018,1111)	Distance Source to Patient	DS	1	3
(0018,1110)	Distance Source to Detector	DS	1	3

X-Ray Acquisition Dose				
Tag	Attribute Name	VR	VM	Type
(0018,0060)	KVP	DS	1	3
(0018,1151)	X-Ray Tube Current	IS	1	3
(0018,1150)	Exposure Time	IS	1	3
(0018,1152)	Exposure	IS	1	3
(0018,1153)	µAs exposure	IS	1	3
(0018,1110)	Distance Source to Detector	DS	1	3
(0018,1111)	Distance Source to Patient	DS	1	3
(0040,0302) (0040,0303) (0040,0306)	Incidence Surface Dose Exposure Area Distance Source to Incidence Surface	US US DS	1 1-2 1	3 3 3
(0018,1191)	Anode Target Material	CS	1	3
(0018,7050)	Filter Material	CS	1-n	3
(0018,7052)	Filter Thickness Minimum	DS	1-n	3
(0018,7054)	Filter Thickness Maximum	DS	1-n	3
(0018,1156)	Rectification Type	CS	1	3

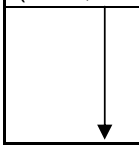
X-Ray Generation				
Tag	Attribute Name	VR	VM	Type
(0018,0060)	KVP	DS	1	3
(0018,1151)	X-Ray Tube Current	IS	1	3
(0018,1150)	Exposure Time	IS	1	3
(0018,1152)	Exposure	IS	1	3
(0018,1153)	µAs exposure	IS	1	3
(0018,7060)	Exposure Control Mode	CS	1	3
(0018,7064)	Exposure Status	CS	1	3
(0018,1190)	Focal Spot	DS	1-n	3
(0018,1191)	Anode Target Material	CS	1	3
(0018,1156)	Rectification Type	CS	1	3

X-Ray Filtration				
Tag	Attribute Name	VR	VM	Type
(0018,1160)	Filter Type	SH	1	3
(0018,7050)	Filter Material	CS	1-n	3
(0018,7052)	Filter Thickness Minimum	DS	1-n	3
(0018,7054)	Filter Thickness Maximum	DS	1-n	3

X-Ray Grid				
Tag	Attribute Name	VR	VM	Type
(0018,1166)	Grid	SH	1	3
(0018,7040)	Grid Absorbing Material	LT	1	3
(0018,7041)	Grid Spacing Material	LT	1	3
(0018,7042)	Grid Thickness	DS	1	3
(0018,7044)	Grid Pitch	DS	1	3
(0018,7046)	Grid Aspect Ratio	IS	2	3
(0018,704C)	Grid Focal Distance	DS	1	3

VOI LUT				
Tag	Attribute Name	VR	VM	Type
(0028,3010)	VOI LUT Sequence	SQ	1	3
>(0028,3002)	LUT Descriptor	US	3	1C
>(0028,3006)	LUT Data	US	4095	1C
(0028,1050)	Window Center	DS	1	3
(0028,1051)	Window Width	DS	1	1C

SOP Common				
Tag	Attribute Name	VR	VM	Type
(0008,0016)	SOP Class UID	UI	1	1
(0008,0018)	SOP Instance UID	UI	1	1
(0008,0005)	Specific Character Set	CS	2-3	1C

Private Data				
Tag	Attribute Name	VR	VM	Type
(0031,0010)	Private Creator	CS	1	3
(0031,10FF)	Private Data Sequence	SQ	1	1C
	Private Data			

3.3 Basic Worklist Management Service Class SCU Specifications

The CS-2 supports the following SOP classes as Basic Worklist Management Service Class SCU.

SOP Class Name	SOP Class UID
Modality Worklist Information Model - FIND	1.2.840.10008.5.1.4.31

3.3.1 Association Establishment Policies

3.3.1.1 General

The CS-2 Basic Worklist Management Service Class SCU recognizes and uses the following Application context name.

Description	Value
Application Context Name	1.2.840.10008.3.1.1.1

The maximum PDU size is 64 KB.

3.3.1.2 Number of Associations

The CS-2 Basic Worklist Management Service Class SCU issues a single association request at one time for the external AE that is implemented as a separate device.

3.3.1.3 Asynchronous Nature

Asynchronous processing is not supported.

3.3.1.4 Implementation Identifying Information

Implementation Identifying Information is issued by CS-2.

Description	Value
Implementation Class UID	1.2.392.200036.9107.500.304
Implementation Version Name	KC_CS2_1.00

3.3.2 Real World Activities

3.3.2.1 Associated Real World Activity

The relevant activity of the CS-2 Basic Worklist Management in the real world where an association has been established is issuing a C-FIND request to the Remote Basic Worklist Management Service Class SCP, to retrieve patient and study information.

3.3.2.2 Presentation Context Tables

The CS-2 Basic Worklist Management Service Class SCU performs requests with the following Presentation Contexts.

Abstract syntax			
Name	UID	Role	Extended Negotiation
Modality Worklist Information Model- FIND	1.2.840.10008.5.1.4.31	SCU	None

Transfer syntax	
Name	UID
Implicit VR Little Endian	1.2.840.10008.1.2

3.3.3 Modality Worklist Attributes

3.3.3.1 Matching Key Attributes

The CS-21 supports the following two search methods.

[Patient based search]

Tag	Attribute Name	VR	VM	Matching Key Type
SOP Common				
(0008,0005)	Specific Character Set	CS	1-n	O
Scheduled Procedure Step				
(0040,0100)	Scheduled Procedure Step Sequence	SQ	1	R
>(0040,0001)	Scheduled Station AE Title	AE	1-n	R
>(0040,0002)	Scheduled Procedure Step Start Date	DA	1	R
>(0008,0060)	Modality	CS	1	R
>(0040,0010)	Scheduled Station Name	SH	1-n	O
Requested Procedure				
(0040,1001)	Requested Procedure ID	SH	1	O
Imaging Service Request				
(0008,0050)	Accession Number	SH	1	O
Patient Identification				
(0010,0010)	Patient's Name	PN	1	R
(0010,0020)	Patient ID	LO	1	R

[Wide range search]

Tag	Attribute Name	VR	VM	Matching Key Type
SOP Common				
(0008,0005)	Specific Character Set	CS	1-n	O
Scheduled Procedure Step				
(0040,0100)	Scheduled Procedure Step Sequence	SQ	1	R
>(0040,0001)	Scheduled Station AE Title	AE	1-n	R
>(0040,0002)	Scheduled Procedure Step Start Date	DA	1	R
>(0008,0060)	Modality	CS	1	R
>(0040,0010)	Scheduled Station Name	SH	1-n	O

3.3.3.2 Return Key Attributes

Tag	Attribute Name	VR	VM	Matching Key Type
SOP Common				
(0008,0005)	Specific Character Set	CS	1-n	O
Scheduled Procedure Step				
(0040,0100)	Scheduled Procedure Step Sequence	SQ	1	R
>(0040,0001)	Scheduled Station AE Title	AE	1-n	R
>(0040,0002)	Scheduled Procedure Step Start Date	DA	1	R
>(0040,0003)	Scheduled Procedure Step Start Time	TM	1	R
>(0008,0060)	Modality	CS	1	R
>(0040,0006)	Scheduled Performing Physician's Name	PN	1	R
>(0040,0007)	Scheduled Procedure Step Description	LO	1	O
>(0040,0010)	Scheduled Station Name	SH	1-n	O
>(0040,0011)	Scheduled Procedure Step Location	SH	1	O
>(0040,0008)	Scheduled Action Item Code Sequence	SQ	1	O
>>(0008,0100)	Code Value	SH	1	O
>>(0008,0102)	Coding Scheme Designator	SH	1	O
>>(0008,0104)	Code Meaning	LO	1	O
>(0040,0009)	Scheduled Procedure Step ID	SH	1	O
>(0032,1070)	Requested Contrast Agent	LO	1	O
>	All other attributes from the Scheduled Procedure Step Module			O
Requested Procedure				
(0040,1001)	Requested Procedure ID	SH	1	O
(0032,1060)	Requested Procedure Description	LO	1	O
(0032,1064)	Requested Procedure Code Sequence	SQ	1	O
>(0008,0100)	Code Value	SH	1	O
>(0008,0102)	Coding Scheme Designator	SH	1	O
>(0008,0104)	Code Meaning	LO	1	O
(0020,000D)	Study Instance UID	UI	1	O
(0008,1110)	Referenced Study Sequence	SQ	1	O
>(0008,1150)	Referenced SOP Class UID	UI	1	O
>(0008,1155)	Referenced SOP Instance UID	UI	1	O
>(0040,1010)	Person to Receive Result	PN	1	O
	All other attributes from the Requested Procedure Module			O
Imaging Service Request				
(0008,0050)	Accession Number	SH	1	O
(0032,1032)	Requesting Physician	PN	1	O
(0008,0090)	Referring Physician's Name	PN	1	O
	All other attributes from the Imaging Service Request Module			O
(0032,1033)	Requesting Medical Department	SH	1	O
Visit Identification				
	All other attributes from the Visit Identification Module			O

Visit Status				
(0038,0300)	Current Patient Location	LO	1	O
	All other attributes from the Visit Status Module			O
(0038,0400)	Main Patient Locations	LO	1	O
Visit Relationship				
(0008,1120)	Referenced Patient Sequence	SQ	1	O
>(0008,1150)	Referenced SOP Class UID	UI	1	O
>(0008,1155)	Referenced SOP Instance UID	UI	1	O
	All other attributes from the Visit Relationship Module			O
Visit Admission				
	All attributes from the Visit Admission Module			O
Patient Relationship				
	All attributes from the Patient Relationship Module			O
Patient Identification				
(0010,0010)	Patient's Name	PN	1	R
(0010,0020)	Patient ID	LO	1	R
	All other attributes from the Patient Identification Module			O
(0010,1000)	Other Patient IDs	LO	1	O
Patient Demographic				
(0010,0030)	Patients Birth Date	DA	1	O
(0010,0040)	Patient's Sex	CS	1	O
(0010,1030)	Patient's Weight	DS	1	O
(0040,3001)	Confidentiality Constraint on Patient Data	LO	1	O
	All other attributes from the Patient Demographic Module			O
Patient Medical				
(0038,0500)	Patient State	LO	1	O
(0010,21C0)	Pregnancy Status	US	1	O
(0010,2000)	Medical Alerts	LO	1-n	O
(0010,2110)	Contrast Allergies	LO	1-n	O
(0038,0050)	Special Needs	LO	1	O
	All other attributes from the Patient Medical Module			O

*When obtaining exam tag information, one of the following values a) - c) will be required

a) (0040,0100) Scheduled Procedure Step Sequence
>(0040,0008) Scheduled Action Item Code Sequence
>>(0008,0100) Code Value
>>(0008,0102) Coding Scheme Designator

b) (0040,1001) Requested Procedure ID

c) (0032,1060) Requested Procedure Description

3.4 Study Management Service Class SCU Specifications

The CS-2 supports the following SOP classes as Study Management Service Class SCU.

SOP Class Name	SOP Class UID
Modality Performed Procedure Step SOP Class	1.2.840.10008.3.1.2.3.3

3.4.1 Association Establishment Policies

3.4.1.1 General

The CS-2 Study Management Service Class SCU recognizes and uses the following application context name.

Description	Value
Application Context Name	1.2.840.10008.3.1.1.1

The maximum PDU size is 64 KB.

3.4.1.2 Number of Associations

The CS-2 Study Management Service Class SCU issues a single association request at one time for the external AE that is implemented as a separate device.

3.4.1.3 Asynchronous Nature

Asynchronous processing is not supported.

3.4.1.4 Implementation Identifying Information

Description	Value
Implementation Class UID	1.2.392.200036.9107.500.304
Implementation Version Name	KC_CS2_1.00

3.4.2 Real World Activities

3.4.2.1 Associated Real World Activity

The relevant activity of the CS-2 Study Management Service Class SCU in the real world where an association has been established is sending N-CREATE/N-SET to the Remote Study Management Service Class SCP, to transmit study status information.

3.4.2.2 Presentation Context Tables

The CS-2 Study Management Service Class SCU performs requests with the following Presentation Contexts.

Abstract syntax			
Name	UID	Role	Extended Negotiation
Modality Performed Procedure Step SOP Class	1.2.840.10008.3.1.2.3.3	SCU	None

Transfer syntax	
Name	UID
Implicit VR Little Endian	1.2.840.10008.1.2

3.4.3 Modality Implementation Step SOP Class

This model conforms with the Modality Implementation Step SOP Class.
The CS-2 uses N-CREATE/N-SET to indicate the study status to the Modality Implementation Step Service Class SCP.

Behavior: The CS-2 executes the DIMSE services for SOP instances matching request attributes of the Modality Implementation Step SOP Class.
The CS-2 recognizes the N-CREATE/N-SET response status and takes appropriate action depending on whether the service terminated normally or not.

DIMSE service request	Usage SCU/SCP
N-CREATE	M/M
N-SET	M/M

Modality Implementation Step SOP Class (N-CREATE/N-SET/Final State Attribute)

Tag	Attribute Name	VR	VM	Required Type N-CREATE (SCU/SCP)	Required Type N-SET (SCU/SCP)	Required Type Final State
(0008,0005)	Specific Character Set	CS	1-n	1C/1C	Not Allowed	
Performed Procedure Step Relationship						
(0040,0270)	Scheduled Step Attribute Sequence	SQ	1	1/1	Not Allowed	
>(0020,000D)	Study Instance UID	UI	1	1/1	Not Allowed	
>(0008,1110)	Referenced Study Sequence	SQ	1	2/2	Not Allowed	
>>(0008,1150)	Referenced SOP Class UID	UI	1	1C/1	Not Allowed	
>>(0008,1155)	Referenced SOP Instance UID	UI	1	1C/1	Not Allowed	
>(0008,0050)	Accession Number	SH	1	2/2	Not Allowed	
>(0040,1001)	Requested Procedure ID	SH	1	2/2	Not Allowed	
>(0032,1060)	Requested Procedure Description	LO	1	2/2	Not Allowed	
>(0040,0009)	Scheduled Procedure Step ID	SH	1	2/2	Not Allowed	
>(0040,0007)	Scheduled Procedure Step Description	LO	1	2/2	Not Allowed	
>(0040,0008)	Scheduled Action Item Code Sequence	SQ	1	2/2	Not Allowed	
>>(0008,0100)	Code Value	SH	1	1C/1	Not Allowed	
>>(0008,0102)	Coding Scheme Designator	SH	1	1C/1	Not Allowed	
>>(0008,0104)	Code Meaning	LO	1	3/3	Not Allowed	
(0010,0010)	Patient's Name	PN	1	2/2	Not Allowed	
(0010,0020)	Patient ID	LO	1	2/2	Not Allowed	
(0010,0030)	Patient's Birth Date	DA	1	2/2	Not Allowed	
(0010,0040)	Patient's Sex	TM	1	2/2	Not Allowed	
(0008,1120)	Referenced Patient Sequence	SQ	1	2/2	Not Allowed	
>(0008,1150)	Referenced SOP Class UID	UI	1	1C/1	Not Allowed	
>(0008,1155)	Referenced SOP Instance UID	UI	1	1C/1	Not Allowed	

Performed Procedure Step Information						
(0040,0253)	Performed Procedure Step ID	SH	1	1/1	Not Allowed	
(0040,0241)	Performed Station AE Title	AE	1	1/1	Not Allowed	
(0040,0242)	Performed Station Name	SH	1	2/2	Not Allowed	
(0040,0243)	Performed Location	SH	1	2/2	Not Allowed	
(0040,0244)	Performed Procedure Step Start Date	DA	1	1/1	Not Allowed	
(0040,0245)	Performed Procedure Step Start Time	TM	1	1/1	Not Allowed	
(0040,0252)	Performed Procedure Step Status	CS	1	1/1	3/1	
(0008,1032)	Procedure Code Sequence	SQ	1	2/2	3/2	
>(0008,0100)	Code Value	SH	1	1C/1	1C/1	
>(0008,0102)	Coding Scheme Designator	SH	1	1C/1	1C/1	
>(0008,0104)	Code Meaning	LO	1	3/3	3/3	
(0040,0250)	Performed Procedure Step End Date	DA	1	2/2	3/1	1
(0040,0251)	Performed Procedure Step End Time	TM	1	2/2	3/1	1
Image Acquisition Results						
(0008,0060)	Modality	CS	1	1/1	Not Allowed	
(0020,0010)	Study ID	SH	1	2/2	Not Allowed	
(0040,0260)	Performed Action Item Code Sequence	SQ	1	2/2	3/2	
>(0008,0100)	Code Value	SH	1	1C/1	1C/1	
>(0008,0102)	Coding Scheme Designator	SH	1	1C/1	1C/1	
>(0008,0104)	Code Meaning	LO	1	3/3	3/3	
(0040,0340)	Performed Series Sequence	SQ	1	2/2	3/1	1
>(0008,1050)	Performing Physician's Name	PN	1-n	2C/2	2C/2	2
>(0008,1070)	Operator's Name	PN	1-n	2C/2	2C/2	2
>(0020,000E)	Series Instance UID	UI	1	1C/1	1C/1	1
>(0008,1140)	Referenced Image Sequence	SQ	1	2C/2	2C/2	
>>(0008,1150)	Referenced SOP Class UID	UI	1	1C/1	1C/1	
>>(0008,1155)	Referenced SOP Instance UID	UI	1	1C/1	1C/1	
>	All other attributes from Performed Series Sequence			3/3	3/3	
Radiation Dose						
(0018,1110)	Distance Source to Detector	DS	1	3/3	3/3	
(0040,0306)	Distance Source to Entrance	DS	1	3/3	3/3	
	All attributes from Radiation Dose Module			3/3	3/3	
Billing Code and Material Management Code						
	All attributes from Billing and Material Code Module			3/3	3/3	

3.5 Storage Commitment Class SCU Specifications

The CS-2 supports the following SOP classes as Storage Commitment Service Class SCU.

SOP Class Name	SOP Class UID
Storage Commitment Push Model SOP Class	1.2.840.10008.1.20.1

3.5.1 Association Establishment Policies

3.5.1.1 General

The CS-2 Storage Commitment Service Class SCU recognizes and uses the following application context name.

Description	Value
Application Context Name	1.2.840.10008.3.1.1.1

The maximum PDU size is 64 KB.

3.5.1.2 Number of Associations

The CS-2 Storage Commitment Service Class SCU issues a single association request at one time for the external AE that is implemented as a separate device.

3.5.1.3 Asynchronous Nature

Asynchronous processing is not supported.

3.5.1.4 Implementation Identifying Information

Description	Value
Implementation Class UID	The Instance UID issued by SCP is used.
Implementation Version Name	KC_CS2_1.00

3.5.2 Real World Activities

3.5.2.1 Associated Real World Activity

The relevant activity of the CS-2 Storage Commitment Service Class SCU in the real world where an association has been established is sending an N-Action storage request to the Remote Storage Commitment Service Class SCP, and to receive the N-EVENT-REPORT indicating success or failure of the storage commitment action.

3.5.2.2 Presentation Context Tables

The CS-2 Storage Commitment Service Class SCU performs requests with the following Presentation Contexts.

Abstract syntax			
Name	UID	Role	Extended Negotiation
Storage Commitment Push Model SOP Class	1.2.840.10008.1.20.1	SCU	None

Transfer syntax	
Name	UID
Implicit VR Little Endian	1.2.840.10008.1.2

3.5.3 Storage Commitment Push Model SOP Class

This model conforms with the Storage Commitment Push Model SOP Class.
The CS-2 uses N-ACTION/N-EVENT-REPORT to put out a Storage Commitment request to and receive information about the result from the Storage Commitment Service Class SCP.

Behavior: The CS-2 executes the DIMSE services for SOP instances matching request attributes for storage commitment request action information/event information.
The CS-2 recognizes the N-ACTION response status and takes appropriate action depending on whether the service terminated normally or not. When receiving the N-EVENT-REPORT, the CS-2 takes appropriate measures and returns information about normal/error end to the SCP.

DIMSE service request	Usage SCU/SCP
N-EVENT-REPORT	M/M
N-ACTION	M/M

Storage Commitment Request -- Action Information (N-ACTION)

Tag	Attribute Name	VR	VM	Requirement Type SCU/SCP
(0008,1195)	Transaction UID	UI	1	1/1
(0008,1199)	Referenced SOP Sequence	SQ	1	1/1
>(0008,1150)	Referenced SOP Class UID	UI	1	1/1
>(0008,1155)	Referenced SOP Instance UID	UI	1	1/1

Storage Commitment Result - Event Information/Successful (N-EVENT-REPORT)

Tag	Attribute Name	VR	VM	Requirement Type SCU/SCP
(0008,1195)	Transaction UID	UI	1	-/1
(0008,1199)	Referenced SOP Sequence	SQ	1	-/1
>(0008,1150)	Referenced SOP Class UID	UI	1	-/1
>(0008,1155)	Referenced SOP Instance UID	UI	1	-/1

Storage Commitment Result - Event Information/Failed (N-EVENT-REPORT)

Tag	Attribute Name	VR	VM	Requirement Type SCU/SCP
(0008,1195)	Transaction UID	UI	1	-/1
(0008,1199)	Referenced SOP Sequence	SQ	1	-/1C
>(0008,1150)	Referenced SOP Class UID	UI	1	-/1
>(0008,1155)	Referenced SOP Instance UID	UI	1	-/1
(0008,1198)	Failed SOP Sequence	SQ	1	-/1
>(0008,1150)	Referenced SOP Class UID	UI	1	-/1
>(0008,1155)	Referenced SOP Instance UID	UI	1	-/1
>(0008,1197)	Failure Reason	US	1	-/1

4 Communication Profiles

4.1 Supported Communication Stacks

CS-2 provides the TCP/IP network communication support defined by the DICOM3.0 PART8.

4.2 TCP/IP Stack

The TCP/IP stack is inherited from the Windows system environment.

4.2.1 Physical Media Support

For using TCP/IP, 100BASE-TX and 1000BASE-T are supported as standard.

5 Extensions/Specializations/Privatizations

Basic Film Box and Printer Attributes (2011,1000) are handled as Private Data.
CR/DX image IOD (0031,1000) are handled as Private Data.
However, these are transferred if required.

6 Configuration

6.1 Print Management Service Class SCU

6.1.1 Configurable Parameters

The following are configurable parameters.

Item	Contents
IP address	IP address of SCP
Port number	Port number of SCP
Calling AE Title	AE title of CS-2
Called AE Title	AE title of SCP

6.2 Storage Service Class SCU

6.2.1 Configurable Parameters

The following are configurable parameters.

Item	Contents
IP address	IP address of SCP
Port number	Port number of SCP
Calling AE Title	AE title of CS-2
Called AE Title	AE title of SCP

6.3 Basic Worklist Management Service Class SCU

6.3.1 Configurable Parameters

The following are configurable parameters.

Item	Contents
IP address	IP address of SCP
Port number	Port number of SCP
Calling AE Title	AE title of CS-2
Called AE Title	AE title of SCP

6.4 Study Management Service Class SCU

6.4.1 Configurable Parameters

The following are configurable parameters.

Item	Contents
IP address	IP address of SCP
Port number	Port number of SCP
Calling AE Title	AE title of CS-2
Called AE Title	AE title of SCP

6.5 Storage Commitment Service Class SCU

6.5.1 Configurable Parameters

The following are configurable parameters.

Item	Contents
IP address	IP address of SCP
Port number	Port number of SCP
Calling AE Title	AE title of CS-2
Called AE Title	AE title of SCP

7 Support of Extended Character Sets

The VR provides support for extended characters in SH (short string), LO (long string), ST (short text), LT (long text), and PN (person name) by specifying an extended character repertoire for the Attribute Specific Character Set (0008,0005) in each Service Class.
The supported extended character repertoire is as follows.
- \ISO 2022 IR 87
- ISO 2022 IR13\ISO 2022 IR 87
- \ISO 2022 IR87\ISO 2022 IR 13
- ISO_IR 100

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