



**CD Direct System
for
Kodak DirectView Distribution Suite
Version 5.1**

DICOM Conformance Statement

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Revision History

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1 Introduction

1.1 CD Direct System

The CD Direct System for *Kodak DirectView* Distribution Suite communication is based on the DICOM 3.0 standard. This enables the CD Direct System to communicate with any DICOM 3.0 compliant products (e.g., scanners, workstations, hardcopy units). Images are transferred in the DICOM 3.0 protocol based on TCP/IP as a transport layer.

1.2 About this Document

This document provides the DICOM Conformance Statement for the CD Direct implementation of the DICOM 3.0 standard. Conformance Statement defines the subset of options selected from those offered by the DICOM 3.0 standard. Copies of the DICOM 3.0 standard may be obtained by written request or phone, by contacting:

NEMA
Suite 1847
1300 North 17th Street
Rosslyn, VA 22209 USA
Phone: (703) 841-3285

It is assumed that the reader of this document is familiar with the DICOM 3.0 standard and with the terminology and concepts that are used in the standard.

1.3 Important Remarks

The use of this Conformance Statement, in conjunction with the DICOM 3.0 standard, is intended to facilitate communication with the CD Direct server. However, by itself, it is not sufficient to ensure that inter-operation will be successful. Proceed with caution and be aware of at least the following issues:

It is the user's responsibility to analyze the applications requirements and to design a solution that integrates the server properly with the network. The integration of any DICOM compliant device into an existing network goes beyond the scope of the standard.

Testing the complete range of possible interactions between the server and other devices should not be overlooked by the user. This includes the accuracy of the image data once it has crossed the interface between the server and the other device, and the suitability of the image data for the intended applications. Such a validation is required before any clinical use is performed.

Evolution of the DICOM 3.0 standard may require changes to devices which have implemented it, such as the CD Direct server. The user should ensure that other DICOM products in the network are also updated as the standard evolves.

If the user encounters unspecified private data elements while parsing a data set coming from the server, the user is well advised to ignore those data elements (per the DICOM 3.0 standard). Unspecified private data element information is subject to change without notice.

2 Implementation Model

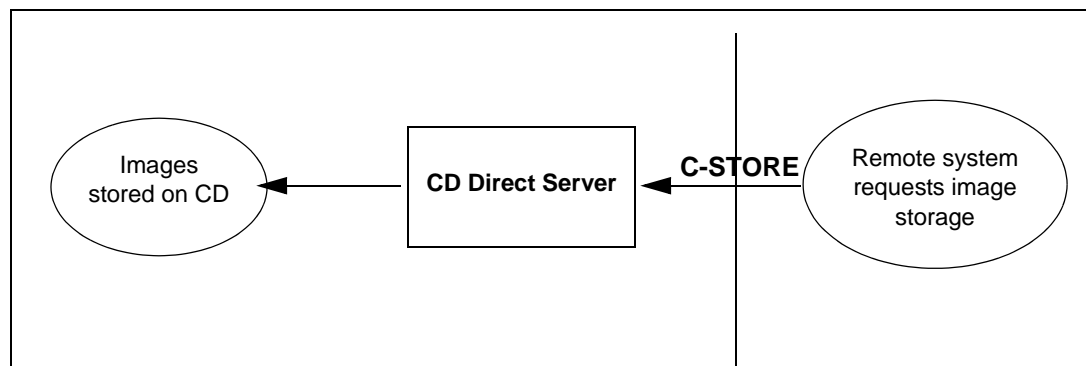
CD Direct uses the DICOM protocol to receive images for burning on CD.

2.1 Application Data Flow Diagram

The CD Direct system implements and provides DICOM services using the CD Direct Application.

2.1.1 CD Direct

This Application Entity (AE) burns images it receives to CDs. This Service Class Provider (SCP) provides DICOM Storage services. The following shows an illustration of CD Direct server activities.



2.2 Functional Definitions of AE

2.2.1 CD Direct

CD Direct waits for another application to connect at the presentation address configured for its AE title. CD Direct will accept associations with Presentation Contexts for Service Object Pair (SOP) classes of the Storage and Verification Service Classes.

When performing a Storage Service Class, CD Direct will receive images and store them into a temporary archive, which later will be burned on a CD.

2.3 Sequencing of Real World Activities

Not applicable.

3 AE Specifications

3.1 CD Direct Specifications

CD Direct provides Standard Conformance to the following DICOM 3.0 SOP Classes as SCP:

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
CT Image Storage	1.2.840.10008.5.1.4.1.1.2
MR Image Storage	1.2.840.10008.5.1.4.1.1.4
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Ultrasound Multi-Frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3
Ultrasound Multi-Frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2
Digital X-Ray Image Storage for Presentation	1.2.840.10008.5.1.4.1.1.1.1
Digital X-Ray Image Storage for Processing	1.2.840.10008.5.1.4.1.1.1.1.1
Digital Mammography X-Ray Image Storage for Presentation	1.2.840.10008.5.1.4.1.1.1.2
Digital Mammography X-Ray Image Storage for Processing	1.2.840.10008.5.1.4.1.1.1.2.1
Digital Intra Oral X-Ray Image Storage for Presentation	1.2.840.10008.5.1.4.1.1.1.3
Digital Intra Oral X-Ray Image Storage for Processing	1.2.840.10008.5.1.4.1.1.1.3.1
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2
VL Slide Coordinates Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008.5.1.4.1.1.12.3
Positron Emission Tomography	1.2.840.10008.5.1.4.1.1.128
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59
RT Dose Storage	1.2.840.10008.5.1.4.1.1.481.2
RT Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3
RT Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.4
RT Plan Storage	1.2.840.10008.5.1.4.1.1.481.5
RT Brachy Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.6

SOP Class Name	SOP Class UID
RT Treatment Summary Record Storage	1.2.840.10008.5.1.4.1.1.481.7
Hardcopy Grayscale Image Storage	1.2.840.10008.5.1.1.29
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30
Multi-Frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2
Multi-Frame Grayscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3
Visible Light Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.1
Visible Light Multi-Frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.2
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5
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
Stand-alone Overlay Storage	1.2.840.10008.5.1.4.1.1.8
Stand-alone Curve Storage	1.2.840.10008.5.1.4.1.1.9
Stand-alone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10
Stand-alone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11

3.1.1 Association Establishment Policies

3.1.1.1 General

The maximum Protocol Data Unit (PDU) size which the CD Direct will use is 16K bytes.

3.1.1.2 Number of Associations

The number of simultaneous associations which will be accepted by CD Direct is limited only by the kernel parameters of the underlying TCP/IP implementation. CD Direct will spawn a new thread for each connection request it receives. Therefore, CD Direct can have multiple simultaneous connections, and there are no inherent limitations on the number of simultaneous associations which the Application Entity represented by Cocksure-Server can maintain.

3.1.1.3 Asynchronous Nature

CD Direct will only allow a single outstanding operation on an association. Therefore CD Direct will not perform asynchronous operations window negotiation.

3.1.1.4 Implementation Identifying Information

Kodak image processing and management systems provide a single Implementation Class Unique Identifier (UID) which is 1.2.840.113704.7.0.2. The Application Context Name is 1.2.840.10008.3.1.1.1.

3.1.2 Association Initiation by Real World Activity

CD Direct never initiates an association.

3.1.3 Association Acceptance Policy

CD Direct places no limitations on the number of simultaneous connections it will support. However, it is possible to control who may connect to CD Direct during the system configuration process.

3.1.3.1 Remote System Requests Verification

A remote system requests verification from CD Direct using the C-ECHO command.

3.1.3.1.1 Associated Real World Activity

CD Direct performs the Verification Service Class by responding with C-ECHO-RSP.

3.1.3.1.2 Presentation Context Table

Any of the Presentation Contexts shown in [Table 1](#) is acceptable to the CD Direct.

Table 1: Acceptable Presentation Contexts for CD Direct

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Verification	1.2.840.10008.1.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1		
		DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2		

3.1.3.1.2.1 SOP Specific Conformance to Verification SOP Class

CD Direct provides standard conformance to the DICOM 3.0 Verification Service Class as an SCP for the Verification SOP Class, UID=1.2.840.10008.1.1.

3.1.3.1.3 Transfer Syntax Selection Policies

CD Direct prefers an explicit Transfer Syntax encoding. If offered a choice of Transfer Syntax in a Presentation Context, it will apply the following priorities to the choice of Transfer Syntax:

- DICOM Explicit VR Little Endian.
- DICOM Explicit VR Big Endian.
- DICOM Implicit VR Little Endian (Default).

3.1.3.2 Remote System Requests Image Storage

A remote system requests image storage from CD Direct using the C-STORE command.

3.1.3.2.1 Associated Real World Activity

The Real World activity associated with the C-STORE operation is the storage of the image in the archive. CD Direct will issue a failure status if it is unable to store the image in the temporary archive.

3.1.3.2.2 Presentation Context Table

Any of the Presentation Contexts shown in [Table 2](#) is acceptable to the CD Direct:

3.1.3.2.2.1 SOP Specific Conformance to Storage SOP Class

CD Direct provides standard conformance to the DICOM 3.0 Storage Service Class as an SCP.

SOP Class Name	SOP Class UID
Verification	1.2.840.10008.1.1
CT Image Storage	1.2.840.10008.5.1.4.1.1.2
MR Image Storage	1.2.840.10008.5.1.4.1.1.4
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7
Ultrasound Multi-Frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3
Ultrasound Multi-Frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1
X-Ray Angiographic Image Storage	1.2.840.10008.5.1.4.1.1.12.1
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2
Digital X-Ray Image Storage for Presentation	1.2.840.10008.5.1.4.1.1.1.1
Digital X-Ray Image Storage for Processing	1.2.840.10008.5.1.4.1.1.1.1.1
Digital Mammography X-Ray Image Storage for Presentation	1.2.840.10008.5.1.4.1.1.1.2
Digital Mammography X-Ray Image Storage for Processing	1.2.840.10008.5.1.4.1.1.1.2.1
Digital Intra Oral X-Ray Image Storage for Presentation	1.2.840.10008.5.1.4.1.1.1.3
Digital Intra Oral X-Ray Image Storage for Processing	1.2.840.10008.5.1.4.1.1.1.3.1
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2
VL Slide Coordinates Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008.5.1.4.1.1.12.3
Positron Emission Tomography	1.2.840.10008.5.1.4.1.1.128
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59
RT Dose Storage	1.2.840.10008.5.1.4.1.1.481.2

SOP Class Name	SOP Class UID
RT Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3
RT Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.4
RT Plan Storage	1.2.840.10008.5.1.4.1.1.481.5
RT Brachy Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.6
RT Treatment Summary Record Storage	1.2.840.10008.5.1.4.1.1.481.7
Hardcopy Grayscale Image Storage	1.2.840.10008.5.1.1.29
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30
Multi-Frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2
Multi-Frame Grayscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3
Visible Light Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.1
Visible Light Multi-Frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.2
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5
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
Stand-alone Overlay Storage	1.2.840.10008.5.1.4.1.1.8
Stand-alone Curve Storage	1.2.840.10008.5.1.4.1.1.9
Stand-alone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10
Stand-alone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11

CD Direct conforms to the SOPs of the Storage Service Class at Level 2 (Full).

In case of a successful C-STORE, the stored image may be burned on a CD.

If CD Direct returns one of the following status codes, it means that the C-STORE has been unsuccessful:

A700: General refusal status

C000: General failure status

3.1.3.2.3 Presentation Context Acceptance Criterion

CD Direct will accept any Presentation Context from [Table 2](#).

Table 2: Acceptable Presentation Contexts for CD Direct

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
CT Image	1.2.840.10008.5.1.4.1.1.2	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
CT Image	1.2.840.10008.5.1.4.1.1.2	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
CT Image	1.2.840.10008.5.1.4.1.1.2	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
MR Image	1.2.840.10008.5.1.4.1.1.4	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
MR Image	1.2.840.10008.5.1.4.1.1.4	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
MR Image	1.2.840.10008.5.1.4.1.1.4	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
NM Image	1.2.840.10008.5.1.4.1.1.20	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
NM Image	1.2.840.10008.5.1.4.1.1.20	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
NM Image	1.2.840.10008.5.1.4.1.1.20	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
CR Image	1.2.840.10008.5.1.4.1.1.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
CR Image	1.2.840.10008.5.1.4.1.1.1	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
CR Image	1.2.840.10008.5.1.4.1.1.1	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
SC Image	1.2.840.10008.5.1.4.1.1.7	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
SC Image	1.2.840.10008.5.1.4.1.1.7	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
SC Image	1.2.840.10008.5.1.4.1.1.7	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
XA Image	1.2.840.10008.5.1.4.1.1.12.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
XA Image	1.2.840.10008.5.1.4.1.1.12.1	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
XA Image	1.2.840.10008.5.1.4.1.1.12.1	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
RF Image	1.2.840.10008.5.1.4.1.1.12.2	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
RF Image	1.2.840.10008.5.1.4.1.1.12.2	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
RF Image	1.2.840.10008.5.1.4.1.1.12.2	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
US Image	1.2.840.10008.5.1.4.1.1.6.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
US Image	1.2.840.10008.5.1.4.1.1.6.1	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
US Image	1.2.840.10008.5.1.4.1.1.6.1	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
US Image (Retired)	1.2.840.10008.5.1.4.1.1.6	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
US Image (Retired)	1.2.840.10008.5.1.4.1.1.6	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
US Image (Retired)	1.2.840.10008.5.1.4.1.1.6	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
US Multi Frame Image	1.2.840.10008.5.1.4.1.1.3.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
US Multi Frame Image	1.2.840.10008.5.1.4.1.1.3.1	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
US Multi Frame Image	1.2.840.10008.5.1.4.1.1.3.1	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
US Multi Frame Image (Retired)	1.2.840.10008.5.1.4.1.1.3	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
US Multi Frame Image (Retired)	1.2.840.10008.5.1.4.1.1.3	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
US Multi Frame Image (Retired)	1.2.840.10008.5.1.4.1.1.3	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
DX Image for Presentation	1.2.840.10008.5.1.4.1.1.1.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
DX Image for Presentation	1.2.840.10008.5.1.4.1.1.1.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
DX Image for Presentation	1.2.840.10008.5.1.4.1.1.1.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2.2	SCP	None
DX Image for Processing	1.2.840.10008.5.1.4.1.1.1.1.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
DX Image for Processing	1.2.840.10008.5.1.4.1.1.1.1.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
DX Image for Processing	1.2.840.10008.5.1.4.1.1.1.1.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2.2	SCP	None
MG Image for Presentation	1.2.840.10008.5.1.4.1.1.1.2	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
MG Image for Presentation	1.2.840.10008.5.1.4.1.1.1.2	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
MG Image for Presentation	1.2.840.10008.5.1.4.1.1.1.2	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
MG Image for Processing	1.2.840.10008.5.1.4.1.1.1.2.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
MG Image for Processing	1.2.840.10008.5.1.4.1.1.1.2.1	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
MG Image for Processing	1.2.840.10008.5.1.4.1.1.1.2.1	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
IO Image for Presentation	1.2.840.10008.5.1.4.1.1.1.3	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
IO Image for Presentation	1.2.840.10008.5.1.4.1.1.1.3	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
IO Image for Presentation	1.2.840.10008.5.1.4.1.1.1.3	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
IO Image for Processing	1.2.840.10008.5.1.4.1.1.1.3.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
IO Image for Processing	1.2.840.10008.5.1.4.1.1.1.3.1	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
IO Image for Processing	1.2.840.10008.5.1.4.1.1.1.3.1	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
RT Image Storage	1.2.840.10008.5.1.4.1.1.481.1	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
VL Endoscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.1	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
VL Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.2	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
VL Slide Coordinates Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
VL Slide Coordinates Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
VL Slide Coordinates Microscopic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.3	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
VL Photographic Image Storage	1.2.840.10008.5.1.4.1.1.77.1.4	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008.5.1.4.1.1.12.3	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008.5.1.4.1.1.12.3	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
X-Ray Angiographic Bi-Plane Image Storage	1.2.840.10008.5.1.4.1.1.12.3	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Positron Emission Tomography	1.2.840.10008.5.1.4.1.1.128	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Positron Emission Tomography	1.2.840.10008.5.1.4.1.1.128	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Positron Emission Tomography	1.2.840.10008.5.1.4.1.1.128	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Stand-alone PET Curve Storage	1.2.840.10008.5.1.4.1.1.129	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Stand-alone PET Curve Storage	1.2.840.10008.5.1.4.1.1.129	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Stand-alone PET Curve Storage	1.2.840.10008.5.1.4.1.1.129	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
RT Dose Storage	1.2.840.10008.5.1.4.1.1.481.2	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
RT Dose Storage	1.2.840.10008.5.1.4.1.1.481.2	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
RT Dose Storage	1.2.840.10008.5.1.4.1.1.481.2	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
RT Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
RT Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
RT Structure Set Storage	1.2.840.10008.5.1.4.1.1.481.3	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
RT Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.4	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
RT Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.4	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
RT Beams Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.4	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
RT Plan Storage	1.2.840.10008.5.1.4.1.1.481.5	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
RT Plan Storage	1.2.840.10008.5.1.4.1.1.481.5	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
RT Plan Storage	1.2.840.10008.5.1.4.1.1.481.5	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
RT Brachy Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.6	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
RT Brachy Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.6	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
RT Brachy Treatment Record Storage	1.2.840.10008.5.1.4.1.1.481.6	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
RT Treatment Summary Record Storage	1.2.840.10008.5.1.4.1.1.481.7	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
RT Treatment Summary Record Storage	1.2.840.10008.5.1.4.1.1.481.7	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
RT Treatment Summary Record Storage	1.2.840.10008.5.1.4.1.1.481.7	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Hardcopy Grayscale Image Storage	1.2.840.10008.5.1.1.29	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Hardcopy Grayscale Image Storage	1.2.840.10008.5.1.1.29	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Hardcopy Grayscale Image Storage	1.2.840.10008.5.1.1.29	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Hardcopy Color Image Storage	1.2.840.10008.5.1.1.30	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Multi-Frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Multi-Frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Multi-Frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Multi-Frame Grayscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Multi-Frame Grayscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Multi-Frame Grayscale Word Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.3	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Visible Light Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.1	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Visible Light Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.1	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Visible Light Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.1	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Visible Light Multi-Frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.2	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Visible Light Multi-Frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.2	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Visible Light Multi-Frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.77.2	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Nuclear Medicine Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.5	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Basic Text SR Storage	1.2.840.10008.5.1.4.1.1.88.11	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Basic Text SR Storage	1.2.840.10008.5.1.4.1.1.88.11	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Basic Text SR Storage	1.2.840.10008.5.1.4.1.1.88.11	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Enhanced SR Storage	1.2.840.10008.5.1.4.1.1.88.22	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Enhanced SR Storage	1.2.840.10008.5.1.4.1.1.88.22	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Enhanced SR Storage	1.2.840.10008.5.1.4.1.1.88.22	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Comprehensive SR Storage	1.2.840.10008.5.1.4.1.1.88.33	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Comprehensive SR Storage	1.2.840.10008.5.1.4.1.1.88.33	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Comprehensive SR Storage	1.2.840.10008.5.1.4.1.1.88.33	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Stand-alone Overlay Storage	1.2.840.10008.5.1.4.1.1.8	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Stand-alone Overlay Storage	1.2.840.10008.5.1.4.1.1.8	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Stand-alone Overlay Storage	1.2.840.10008.5.1.4.1.1.8	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Stand-alone Curve Storage	1.2.840.10008.5.1.4.1.1.9	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Stand-alone Curve Storage	1.2.840.10008.5.1.4.1.1.9	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Stand-alone Curve Storage	1.2.840.10008.5.1.4.1.1.9	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Stand-alone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name	UID		
Stand-alone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Stand-alone Modality LUT Storage	1.2.840.10008.5.1.4.1.1.10	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
Stand-alone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11	DICOM Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
Stand-alone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11	DICOM Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
Stand-alone VOI LUT Storage	1.2.840.10008.5.1.4.1.1.11	DICOM Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None

3.1.3.2.4 Transfer Syntax Selection Policies

CD Direct prefers an explicit Transfer Syntax encoding. If offered a choice of Transfer Syntax in a Presentation Context, it will apply the following priorities to the choice of Transfer Syntax:

- DICOM Explicit VR Little Endian
- DICOM Explicit VR Big Endian
- DICOM Implicit VR Little Endian (Default)

4 Communication Profiles

4.1 Supported Communications Stacks (Parts 8, 9)

CD Direct provides DICOM 3.0 TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard.

4.2 TCP/IP Stack

All the Application Entities in CD Direct inherit their TCP/IP stack from the NT system upon which they operate.

4.2.1 Physical Media Support

CD Direct is indifferent to the physical medium over which TCP/IP operates.

5 Extensions, Specialization, Privatization of SOP Classes, and Transfer Syntax

Not applicable.

5.1 Configuration

5.2 AE Title/Presentation Address Mapping

This mapping is defined during the CD Direct installation procedure.

5.3 Configurable Parameters

- Time-out
- DICOM port number
- Application entity title

6 Support of Extended Character Sets

Support Code Extension Techniques. The following character sets are supported:

ISO 2022 IR 6 (ASCII 7)

ISO 2022 IR 100 (Latin-1, ISO-8859-1) for most European Languages

ISO 2022 IR 87 (JIS X 208) for Japanese

ISO 2022 IR 159 (JIS X 212) for Japanese

ISO 2022 IR 13 (JIS X 201 ROMAN) for Japanese

ISO 2022 IR 13 (JIS X 201) for Japanese

ISO 2022 IR 149 (KS X 101) for Korean

GB18030 (GB18030) for Chinese

ISO IR 192 (UTF-8) for Chinese

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Eastman Kodak Company
Health Imaging Division
Rochester, NY 14650
USA

Kodak Canada Inc.
Toronto, Ontario M6M 1V3
Canada

Eastman Kodak Europe
Hedelfingerstrasse 60
70327 Stuttgart
Germany

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