BRIT Systems

DICOM Conformance Statement

Basic Greyscale Print Management SCU
For BRIT Systems

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Revision History

Date	Release Number	Revised By	Sections Affected	Comments
Unknown	1	R. Barton	All	Initial Release
11/2004	2	R. Barton	All	Updates
1/2007	3	T. Harris	All	New Format

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1 Specification

1.1 Printing Application Entity

The Printing AE provides conformance to the following DICOM SP Classes an SCU:

Table 1 - DICOM SOP Classes as an SCU

SOP Class Name	SOP Class UID	Role
Basic Greyscale Print Management Meta SOP Class	1.2.840.10008.5.1.1.9	Standard
Basic Film Session SOP Class	1.2.840.10008.5.1. 1.1	Standard
Basic Film Box SOP Class	1.2.840.10008.5.1.1.4	Standard
Basic Grey Image Box SOP Class	1.2.840.10008.5.1.1.4	Standard
Printer SOP Class	1.2.840.10008.5.1.1.16	Standard

1.1.1 Application Establishment Policies

The commands to print are provided by the user.

In the case of an imaging work station, the command to print images will initiate an association by the printing AE.

In the case of an image capture device, the command to copy images will cause the images to be captured in the correct formats, following which the printing AE will initiate an association with the printer.

1.1.2 General

➢ Maximum PDU size offered: 32,768 bytes
➢ Minimum PDU size accepted: 1.024 bytes
➢ Maximum PDU size accepted: 32,768 bytes

1.1.3 Number of Associations

Number of simultaneous associations for the Printing AE: 1 for the Grey Print Management

1.1.4 Asynchronous Nature

The Printing AE doe not use asynchronous operations window negotiation.

1.1.5   Implementation Identifying Information

Implementation Class UID: "1.2.840.113797.2.1"
Implementation Version Name: BRITMODOCT96

Notes: "1.2.840.113797" is registered with ANSI by BRIT Systems
The version name is subject to change.

1.2 Association Initiation by Real-World Activity

The Printing AE will open associations to the Grey Print Server when the real-world activity occurs by one of two methods:

1. The user at an imaging workstation specifically requests that particular images be printed.
2. The user at a digitization workstation requests that images be copied to film.

1.2.1 Proposed Presentation Context to a Greyscale Print Server

Table 2 - Presentation Context Table Greyscale Print Server

Abstract Syntax		Transfer Syntax		Role	Extended Negotiation
Name	**UID**	**Name**	**UID**		
Basic Grey Print Management Meta SOP Class	1.2.840.10008.5.1.1.9	DICOM Implicit VR Little Endian Transfer Syntax	1.2.840.10008.1.2	SCU	None

1.2.1.1 SOP Specific Conformance to Basic Grey Print Management Meta SOP Class

The Printing AE provides Standard Conformance to the Basic Grey Print Management Meta SOP Class as an SCU. **This implies** standard conformance for the:

➢ Basic Film Session SOP Class
➢ Basic Film Box SOP Class
➢ Basic Greyscale Image Box SOP Class
➢ Printer SOP Class

Each of these SOP classes are described in the paragraphs to follow.

1.2.1.1.1 *SOP Specific Conformance to Basic Film Session SOP Class*

Table 3 - Supported DIMSE Services

Name	Usage	Usage
N-CREATE	M	Creates the film session
N-SET	U	Not used
N-DELETE	U	Deletes the film session
N-ACTION	U	Not used

DICOM specified usage: M=Mandatory, U=User Option

Table 4 - Supported SOP Class Elements

Name	Usage	Range	Description
Number of copies	U	1 to many	Number of requested copies of film
Print Priority	U	High, Medium, or Low	Default is Medium
Medium Type	U	Paper Clear Film Blue Film	Range may be further restricted by printer
Film Destination	U	Magazine Processor	Range may be further restricted by printer
Film Session Label	U	--	Not Used
Memory Allocation	U	--	Not used

1.2.1.1.2 *SOP Specific Conformance to Basic Film Box SOP Class*

Table 5 - Supported DIMSE Services

Name	Usage	Description
N-CREATE	M	Creates the film box
N-SET	U	Not used
N-DELETE	U	Deletes the film box. Used after each film is printed.
N-ACTION	M	PRINT – Sent after each filling of a film box and also at the end of the exam if one or more images have been transferred into the filmbox.

Table 6 - Support SOP Class Elements

Name	Usage	Range	Description
Image Display Format	M	STANDARD\1,1 STANDARD\2,2 STANDARD\3,3 STANDARD\4,4 STANDARD\1,2 STANDARD\2,3 STANDARD\3,4 STANDARD\4,5 STANDARD\2,1 STANDARD\3,2 STANDARD\4,3	Range may be further restricted by printer.

Name	Usage	Range	Description
		STANDARD\5,5	
Referenced Film Session Sequence	M		Used
Referenced SOP Class UID	M	1.2.840.10008.5.1.1.1	Film Session SOP Class UID
Supported SOP Instance UID	M	Magazine Processor	Referenced Film Session SOP
Film Orientation	U	PORTRAIT LANDSCAPE	Range may be further restricted by printer.
Film Size ID	U	8INX10IN 10INX12IN 10INX14IN 11INX14IN 14INX14IN 14INX17IN	Range may be further restricted by printer.
Magnification Type	U		Used
Max Density	U	Limited by printer	Used
Configuration Information	U	Limited by printer	Used
Annotation Display Format ID	U	Limited by printer	Used
Smoothing Type	U	Limited by printer	Used
Border Density	U	DMIN to DMAX	Used
Empty Image Density	U	DMIN to DMAX	Used
Min Density	U	Limited by printer	Used
Trim	U	Limited by printer	Used

1.2.1.1.3 SOP Specific Conformance to Basic Greyscale Image Box SOP Class

Table 7 - Supported DIMSE Services

Name	Usage	Description
N-SET	M	An image box instance is created by the SCP for each potential image of the film box. Only the instances which will actually contain images will be updated with the N-SET message.

Table 8 - Supported SOP Class Elements

Name	Usage	Range	Description
Image Position	M	1-N	Used
Preformatted Greyscale Image Sequence	M		Used
Samples/pixel	M	1	Used
Photometric Interpretation	M	Monochrome 2	0-255 or 0-4095 Limited by Printer
Rows	M	4096 max	Pixels, Limited by printer
Columns	M	3072 max	Pixels, Limited by printer
Pixel Aspect Ratio	M	Row/column	Row value/column value
Bits Allocated	M	8-16	Limited by printer
Bits stored	M	8-16	Limited by printer
High bit	M	7-15	Limited by printer
Pixel Representation	M	0 or 1	Unsigned pixel data or signed Limited by printer
Pixel Data	M		Grey pixel data
Polarity	U		Used
Referenced Overlay Sequence	U		Not used
>SOP Class UID	U		Not used
>SOP Instance UID	U		Not used
Magnification Type	U		Not used
Smoothing Type	U		Not used
Requesting Image Size	U		Used, Limited by printer

1.2.1.1.4   SOP Specific Conformance to Printer SOP Class

Table 9 - Supported DIMSE Services

Name	Usage	Description
N-EVENT	M	Handled but sometimes ignored.
N-GET	U	May be issued by this device at any time to get printer status. The Attribute Identifier List will commonly specify the attributes to be returned.

Table 10 - Supported SOP Class Elements

Name	Usage	Range	Description
Printer Status	U	NORMAL, WARNING, or FAILURE	Warning and Failure are reported to the user.
Print Status Info	U		Reported to user when returned status is WARNING or FAILURE
Printer Name	U		Used if available
Manufacturer	U		Used if available
Model Name	U		Used if available
Serial Number	U		Used if available
Software Version	U		Used if available
Calibration Date	U		Used if available

Note: These attributes are not set by this device. The attribute description here indicates which attributes are used by this device when they are returned by the printer.