

Q-Tel[®] RMS and Q-Stress[®] CSLINKMED DICOM Conformance Statement

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1 Introduction

This section provides general information about the scope, intended audience and contents of this conformance statement and how to use it.

1.1 Scope and field application

The scope of this DICOM Conformance Statement is to facilitate data exchange between CSLINKMED DICOM interface software with equipment of DICOM modality vendors. This document specifies the compliance to the DICOM standard. It contains a short description of the applications involved and provides technical information about the data exchange capabilities. The field of application is the integration of the CSLINKMED DICOM Interface Software into an environment of medical devices.

This conformance statement does not intend to replace validation of other DICOM modalities or equipment but to facilitate the data exchange of intended information between systems.

1.2 Intended audience

This conformance statement is intended for:

- ◆ CSLINKMED DICOM interface clients
- ◆ Marketing staff interested in data exchange functionality
- ◆ System integrators and customer support engineers of medical equipment
- ◆ Software engineers implementing DICOM interfaces

1.3 Contents and structure

The DICOM Conformance Statement is contained in section 2 through section 3 and follows the contents and structuring requirements of DICOM, NEMA PS 3.2 and PS 3.10, 2008

1.4 Used definitions, terms, and abbreviations

The word CSLINKMED DICOM interface module in this document refers to LINK Medical Computing DICOM Interface Software for Cardiac Science Q-Tel/Q-Stress systems.

Abbreviation:

AE	DICOM Application Entity
IOD	(DICOM) Information Object Definition
SCU	DICOM Service Class User (DICOM client)
SCP	DICOM Service Class Provider (DICOM server)
SOP	DICOM Service-Object Pair
UID	(DICOM) Unique Key Attribute

1.5 DICOM order interface

This section introduces CSLINKMED Standard DICOM interface with DICOM modality systems.

The DICOM order message are used by the CVIS and *Order Placer* to place a new order with the *Order Filler*. In CSLINKMED DICOM interface the DICOM order message is output to a *shared network directory folder* by the order placer, CSLINKMED DICOM interface is monitoring this folder for DICOM order messages if existed processes into its intermediate database then creates worklist for Cardiac Science Q-Tel/Q-Stress, acknowledgments of those processed messages will be output back to the shared directory folder for the *Order placer*.

Once the test is performed and result is available, CSLINKMED DICOM interface creates result messages (encapsulated PDF of the Cardiac Science Q-Tel/Q-Stress reports) are transferred from CSLINKMED DICOM interface to a *shared network directory folder* for client server to import and acknowledgments of those reports are expected to return in the same folder.

1.6 Communication between systems

Communication between CSLINKMED DICOM and other DICOM Modality system is via a shared network directory folder.

1.7 Inbound DICOM study's order (CVIS/Order Placer→CSLINKMED DICOM)

CSLINKMED DICOM expects unsolicited study order from the CVIS or Order placer. The DICOM order is output to a shared directory folder on the network. CSLINKMED DICOM interface monitors this folder for DICOM Order message if existed processes into its internal intermediate database and creates a Worklist for Cardiac Science Q-Tel/ Q-Stress systems, acknowledgments of the message is output to the same folder.

1.8 Outbound DICOM report (CSLINKMED DICOM→ CVIS/ Image server)

CSLINKMED DICOM interface sends DICOM encapsulated PDF report from Q-Tel/ Q-Stress system to a network shared directory folder as soon as the study is completed from Cardiac Science Q-Tel/Q-Stress systems, acknowledgments of the report is expected to receive in the same network shared directory folder.

2 CSLINKMED DICOM interface workflow

The CSLINKMED DICOM interface operates according to simpler workflow process as described in [Figure 1 on page 5](#). The CVIS or Ordering placer creates order study request and output to a network shared directory folder, CSLINKMED interface monitors this folder for study's order request if existed, processes into its intermediate database and creates study's worklist for Cardiac Science Q-Tel/Q-Stress system and creates message acknowledgments output to the same folder for CVIS/Order placer. After the study is completed and report is created from Cardiac Science Q-Tel/Q-Stress system, the CSLINKMED DICOM interface matched the report with study's order key stored in its intermediate database, if matched, creates a DICOM encapsulated PDF report and output to a network shared directory folder for CVIS Image server, acknowledgments of the report after successful import and store is expected in the same folder.

2.1 Interface implementation model

CSLINKMED DICOM interface module is a single application entity that can perform tasks such as the following:

- ◆ Receive DICOM study's order from CVIS/Order placer from a network shared directory folder processes into its intermediate database, creates worklist for Cardiac Science Q-Tel/Q-Stress systems and sends study's order acknowledgments back to the CVIS/Order placer
- ◆ Matched Study's report then creates DICOM Encapsulated PDF report and export to a network shared directory folder for the CVIS/Order placer or Image server, acknowledgments of the report is expected in the same folder after a successful importing the study's report

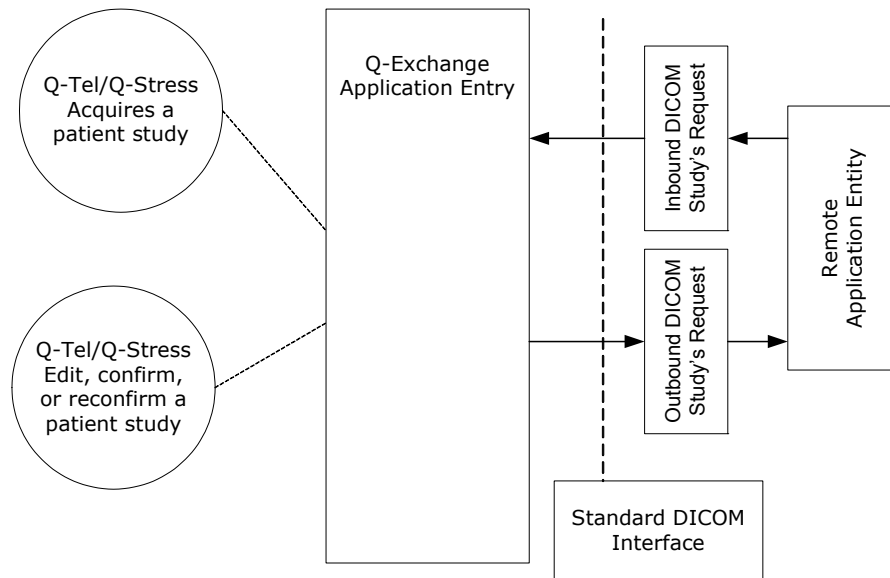


Figure 1: CSLINKMED DICOM interface workflow

3 CSLINKMED DICOM interface configuration

The CSLINKMED DICOM interface is configured per site specific requirements. The interface configuration template is created once the DICOM modality files of Study's order and report format is acquired. This procedure allows CSLINKMED DICOM Interface capability to interface with any DICOM modalities.

3.1 CSLINKMED DICOM study's order key

The following table defines the matching key attribute for study's order by the CSLINKMED DICOM Interface.

Key Attributes	DICOM Tag
Study Instance UID	(0020, 000D) Study Level (0020, 000E) Series Level
Patient's Name	(0010, 0010)
Patient ID #	(0010, 0020)
Accession #	(0008, 0050)
Requested Procedure ID #	(0040, 1001)

3.2 CSLINKMED DICOM—DICOM encapsulated PDF attributes

The CSLINKMED DICOM Interface provides all or part of the following attributes in the DICOM Encapsulated PDF images of the report (depends on information received from the CVIS/Order placer)

Attributes	DICOM Tag
Study Instance UID	(0020, 000D) Study Level (0020, 000E) Series Level
Patient's Name	(0010, 0010)
Patient Birth date	(0010, 0030)
Patient Sex	(0010, 0040)
Patient Ethnic Group	(0010, 2160)
Patient ID #	(0010, 0020)
Accession #	(0008, 0050)
Requested Procedure ID #	(0040, 1001)
Study ID	(0020, 0010)
Study Description (64 Characters limit)	(0008, 1030)
Study Date	(0008, 0020)
Study Time	(0008, 0030)
Modality	(0008, 0060)
Manufacturer	(0008, 0070)
Institution Name	(0008, 0080)
Referring Physician's Name	(0008, 0090)
Scheduled Procedure Code Sequence	(0040, 0008)
Acquisition Date	(0008, 0022)
Acquisition Time	(0008, 0032)

4 CSLINKMED DICOM interface support

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