

HIMMS and RSNA

**IHE**

Integrating the Healthcare Enterprise

# Display Consistency Test Plan for Evidence Creator

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# 1 Introduction

This document is intended for vendors participating in the IHE Connectathon who will supply one or more Evidence Creator Actors participating in the Consistent Presentation of Images (CPI) Integration Profile as defined in the IHE Technical Framework. In principle, it is also applicable to Acquisition Modality Actors.

Evidence Creators are systems that create additional evidence objects such as images and/or Grayscale Softcopy Presentation States, Key Image Notes, and/or Evidence Documents and transmits them to an Image Archive. They also make requests for the storage commitment of the Image Manager for the data previously transmitted. They may also retrieve worklist entries for post-processing steps from the Post-Processing Manager and provide notification of completion of the step, allowing the enterprise to track the status of post-processing work.

This test plan is for those Evidence Creators/Acquisition Modalities participating in CPI and contains the procedures for testing the display consistency aspects of the Evidence Creator's role. As such, it focuses only on the following transactions:

- “Creator Images Stored” transaction 18 of the Technical Framework.
- “Creator Presentation State Stored” transaction 19 of the Technical Framework.

A reference Image Display actor (DICOMscope) is specified. This tool is to be used to display created images/presentation states for visual verification that the rendering is as expected. DICOMscope also contains a tool that allows the validation of selected DICOM objects against the DICOM standard. The other aspects of Evidence Creators are tested elsewhere in the IHE test plan.

This test plan corresponds to MESA test number 521.

## 1.1 Submission of Results

Test descriptions below inform the reader to “submit results to the Project Manager”. This is does not mean “email”. The current submission process should be documented by the Project Manager, but will not include emailing files directly to the Project Manager.

## 2 Test Procedure for Evidence Creators

The IHE MESA Tools contain, among other components, a Java-based GUI application called “DICOMscope”. This application is used in the test procedure for Evidence Creators / Acquisition Modalities. Installation instructions and a simple user manual for the DICOMscope application are provided in different documents with the IHE MESA distribution. The following discussion assumes that the application has been successfully installed and that the user has a basic understanding of the application’s concepts as laid out in the user manual. However, not all functions offered by the DICOMscope application are required or used in this test procedure.

DICOMscope contains a Query/Retrieve Server that implements the requirements of the IHE “Query Image”, “Retrieve Image”, “Query Presentation State”, and “Retrieve Presentation State” transactions. It should be noted that interoperability between an Image Creator / Acquisition Modality and the DICOMscope testing Query/Retrieve Server does improve the probability for interoperability between the SCU and SCP of the specified provided by a different vendor, but is in no way a guarantee for interoperability.

Images and Presentation States created with any Evidence Creator / Acquisition Modality should be validated with DICOMscope. DICOMscope is a Storage Service Class Provider. Every Evidence Creator / Acquisition Modality can send images and/or Presentation States to DICOMscope where they can be rendered and visually inspected to verify that the rendering is as expected. It should be noted that DICOMscope is not able to display color images and that Presentation States are only defined for grayscale images.

DICOMscope also contains a tool that will allow you to check selected IOD (information object definition, called “instance” in this document) for conformance with the DICOM standard (correct value representation, value length etc., but the presence of mandatory attributes only for presentation states) and displays a report in a separate application (see the DICOMscope user manual for details)

Note: The current version of DICOMscope (3.5.1) has a known problem rendering some GSPS with spatial transformations.

**You are required to submit** one example of the images and presentation states representative of the type created by your system. You can locate the images/presentation states that were sent to DICOMscope using the following procedure.

The directory DICOMscope uses to store its DICOM object files is set in the Database section of the configuration file DICOMscope.cfg. The default location is “database” which appears as a subdirectory in DICOMscope’s installation directory. Set the Browser window to display filenames. This is done by clicking on the Options icon, selecting the Browser tab, and checking Filename. This will allow you to quickly match up objects in the browser with their corresponding files on disk.

Please submit the images and GSPS in a zipped archive.