DVTk Basics

DVTk is the DICOM Validation Toolkit, which is maintained by the ICT Group and licensed under the GNU Lesser General Public License (LGPL). A set of DICOM modality definitions was created in 2010 and has been made available through the LGPL and newer definition files developed by the ICT Group in 2018 are available for a fee; however, ASTM has a set of definition files based on the original set of files that have been modified to accommodate the ASTM DICONDE E2339 definition which are available from ASTM without a fee.

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I. Acquiring DVTk and its definition files

The DVTk software and its original definition files from 2010 are available through the URL www.dvtk.org. Users must register in order to log into the site and download the DVTk software. Once the DVTK software installers have been obtained, the ASTM definition files for nondestructive testing modalities can be downed from the URL www.astm.org and the ASTM DICONDE collaboration site. Once all of the files have been obtained, DVTk can be installed.

II. Installing DVTk

The following Windows Installer files may be downloaded from the DVTk site for installation:

Definition_1.1.10.0.msi
DVTk-DVT-5.0.3.msi
DVTk-DVT-Examples-5.0.1.msi
DVTk-Storage-SCU-Emulator-5.0.1.msi
DVTk-Storage-SCP-Emulator-5.0.0.msi
DVTk-Query-Retrieve-SCP-Emulator-5.0.1.msi

The first file to install is the Definition_1.1.10.0 file that contains the Information Object Definitions (IODs) of the modalities which are supported by DVTk operations. An attempt to install the DVTk DICOM Validation Toolkit before these definitions have been installed will generate a dialog box with the message:

> You will need to install the latest DICOM Definition Files before installing the DICOM Editor. Do you want to download the latest DICOM Definition Files now?

Pressing “Yes” will open a browser window that takes you to www.dvtk.org and the files are downloaded as described in Section I. Since you should have downloaded the definition files previously, select “No” and install the definition files now. After installing the definition files and the DICOM Validation Toolkit, the obvious next step is to install the DVTk-DVT examples.

After installing these three files and obtaining the ASTM DVTk .def files, you should be able to test data files for DICONDE compatibility. After installing the other .msi files, you will be able to send DICONDE data to other DICONDE Application Entities (AEs) and emulate the storage of DICOM data.

III. Testing DVTk

A set of files containing nondestructive testing data modalities can be downloaded from the URL www.astm.org and the ASTM DICONDE collaboration site. These files along with the DVTk .def files for nondestructive testing modalities can be used to evaluate data files and software for compatibility with ASTM DICONDE. As described on p. 44 in Section 5.2.2 of the DVTk User’s Guide, the ASTM SOP classes defined in the ASTM definition files can be loaded into a DVTk session. The DVTk User’s Guide

can be displayed by first selecting the Help menu item from the top level menu of the DVT Validation Tool and then selecting the User Guide menu item below the Help menu item,

IV. Summary

DVTk users can validate DICONDE conformance using the ASTM definition files containing nondestructive testing data modalities.