Codonics® Virtua™ 3rd Party Viewers

Overview

This document details how to create a custom viewer package for a Codonics Virtua Medical Disc Publisher. This includes how to use various features and options – such as autorun or security measures – and how to get the verified package installed onto Virtua. The standard Virtua software configuration includes the Codonics Medical Image Viewer, which is recorded onto each disc produced by Virtua. Virtua software allows vendors to replace this default with their own custom viewer.

There are 6 steps for creating and validating viewer packages:

1) Determine which operating systems will run the viewer package. This decision affects certain options like auto-run.
2) Create the viewer package per the instructions in this document.
3) Choose security measures.
4) Zip the viewer package.
5) Optionally, encrypt and tag the viewer package.
6) Submit the viewer package to Codonics for validation.
7) Install the validated viewer onto Virtua.

Viewer Requirements

The viewing program must:
- Read images per the IHE PDI standard (DICOMDIR)
- Run entirely from a CD-ROM drive and therefore must not install additional files onto the host system.

Virtua imposes no limits on the operating systems supported by the viewing program.

Optional Security Measures

Codonics has provided a number of methods to protect the digital rights of viewer providers. These methods are intended to help our customers control the dissemination of their viewers. The first method prevents a third-party viewer from being recorded onto discs created by Virtua; the second method prevents the viewer program from running anywhere except from a disc created by Virtua. These security measures are completely optional and are not required for successful custom viewer integration.

Viewer Locking (to Virtua)

Codonics Virtua Feature Number Upon request, Codonics will assign a feature number specific to a particular custom viewer.

In order for the assigned viewer to be used by Virtua, the Virtua must have a corresponding Feature Key installed. This key is specific to each individual Virtua and is tied to the hardware. This feature allows vendors to control which users have a license to run their viewer.

Key Assignment to the Viewer Package: Codonics can provide an application that both encrypts the viewer package and tags the package with the assigned feature. The encryption application is validated for use on Microsoft® Windows® XP and Windows 2000 and requires both a viewer package zip file (see the section Creating a Viewer Package) and a feature number (see above). The application runs from the Windows Command Prompt:

```
encryptViewer.exe Viewer.zip 27
```

where Viewer.zip is the viewer package created and 27 is the feature number. The application will encrypt the package and save it with the name `Viewer.vwr.`

Viewer Locking (to the CD/DVD)

This mechanism requires a 32-bit Windows operating system, such as Windows 2000 or XP. Viewer locking mechanism prevents the viewing program from being copied from the Virtua-created disc back onto a different computer. To achieve this, a locking executable is included in the root of the viewer package zip file. The executable must not require any user input and exit with a return code of 0 upon success.

The executable is passed three command line arguments:
- the Content Directory, which will be the root of the target disc
- the Volume Label of the target disc
- the type of media the disc will be (CD or DVD).

```
e.g. postinstall.exe E:\data\content LABEL DVD
```

Before recording the data to the disc this executable is run and should create a security file specific to the viewer that is based upon the contents of the disc. A common technique is to create an encrypted checksum of the contents of the disc. The viewer will only run if this checksum is present; therefore, the viewer will not run when copied onto a PC computer.

To enable viewer locking, include postinstall.exe in the root of the viewer package zip file.

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Creating a Viewer Package

A Virtua Viewer Package is a compressed zip file that is placed on the Virtua USB SmartDrive. Virtua then extracts the zip file onto each target disc. Depending on the operating system support of the viewer, additional files that allow the disc to auto-run when it is inserted into a computer's CD/DVD drive may be included in the viewer package.

The format of the zip must conform to the standard zip file format specified by Info-ZIP Application Note 970311.

Configuring Auto-Run for Microsoft Windows

autorun.inf: This file is placed on the disc when the auto-run option on the Virtua is enabled. This is a text file pointing to the applicable viewer executable.

```
[autorun]
OPEN=bin\Viewer.exe
ICON=bin\Viewer.exe
```

RunViewer.bat: This batch file allows users to launch the viewer if the disc was not burned with the auto run option enabled, or the computer does not support it. This text file should contain the path to the applicable viewer executable.

```
bin\Viewer.exe
```

Creating the Zip File

When all security and auto-run options have been decided create a zip file using an application conforming to the standard zip file format, such as Winzip®. The zip file should contain:

• All files needed to execute the viewer.
• autorun.inf and RunViewer.bat (for Windows based viewers)
• postinstall.exe (optional)

autorun.inf, RunViewer.bat, and postinstall.exe must all exist in the root of the zip file.
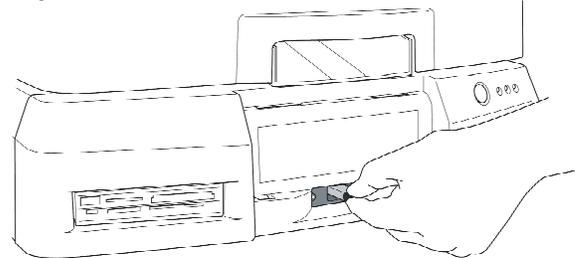
Validating the Viewer Package

To arrange for a package validation, e-mail the The Virtua Viewer team directly at **virtuaviewers@codonics.com**. The completed viewer zip file may be submitted via e-mail or shipped to Codonics on CD or SmartDrive. The Virtua Viewer team will verify that the viewer installs and operates correctly on a Virtua. Codonics will not modify the viewer or validate the viewer functionality.

Installing the 3rd Party Viewer

Shut down Virtua using the soft power button on the front of the Controller. Refer to the Virtua User's Manual for detailed instructions on shutting down the unit.

1. Lift the green output bin from the front of the Controller to access the SmartDrive.

2. Remove the SmartDrive by grasping the end and pulling away from the Controller.

3. Connect the SmartDrive to the USB port of the PC.

4. Open the SmartDrive using **My Computer** or **Windows Explorer.** The **viewers** folder is visible at the top level of the drive.

5. Double-click to open the **viewers** folder.

6. Copy the zip file or vwr file into this folder.

Restarting Virtua

Eject the SmartDrive from the PC using normal USB removal procedures.

After installing the Codonics Viewer on the SmartDrive, re-insert the SmartDrive in Virtua and power-on the system. Refer to the Job Profiles section of the User's Manual for instructions on how to configure Virtua to use the 3rd party viewer as the DICOM viewer. Virtua adds a DICOMDIR file to the root of the disc and places all other DICOM data in the /DICOM directory.

Technical Support

For questions or problems with 3rd Party Viewers for Codonics Virtua, please contact Codonics Technical Support department. 8:30AM - 5:30PM EST, Monday-Friday (U.S. Holidays Excluded):

Phone: 440-243-1198

Email: support@codonics.com

WebSite: www.codonics.com

Get it all with just one call
1-800-444-1198

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