

EHR Custom PDFViewer Application

Summary

The PDF image viewer application is a third party add-on application for TouchWorks, which leverages the TouchWorks Image Link functionality, as well as a Result interface. Enabling the PDF Viewer allows physicians to view high quality images and diagrams for results, which are often provided by outside companies, such as Pathology and Cardiology vendors. This document will guide you through the application architecture, components, and a sample result with the Custom PDF Image Viewer.

Application Architecture

Figure 1 below shows the typical setup and workflow of the Image Viewer Filing Process. The core component to this interface is a vendor which provides the data in both a text and a PDF format.

For the example below, an HL7 message with an embedded Base64 PDF document is produced by an outside vendor and transmitted to the Interface Server. The interface software will process this data through two target interfaces. One interface will file the standard result into TouchWorks with the link over to the PDF Document and a second target interface will file the actual PDF document into a custom, secure database.

Figure 1

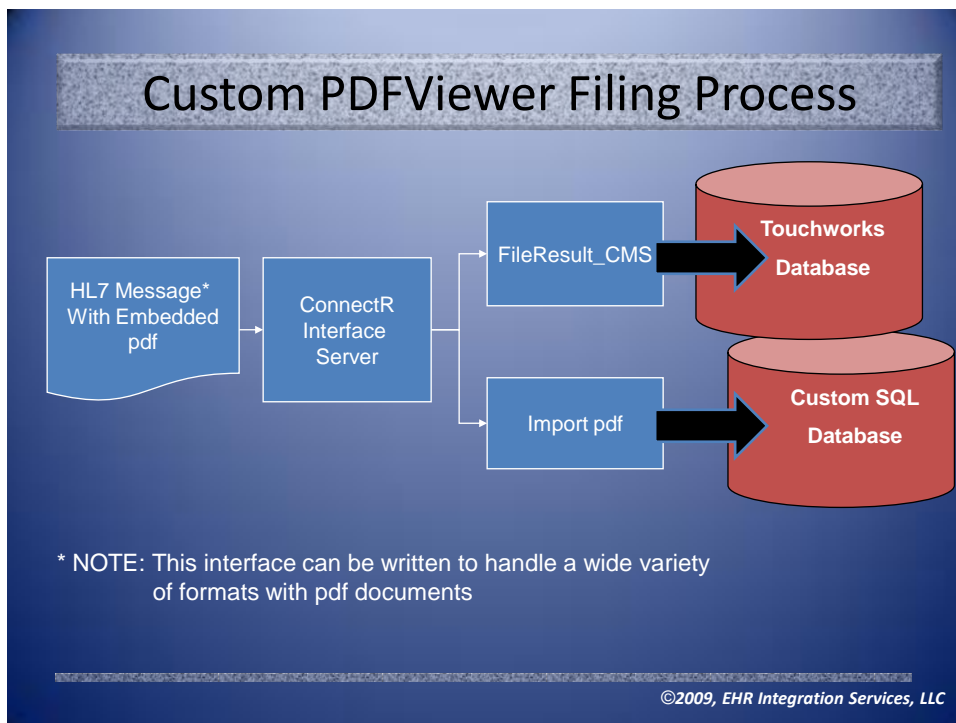
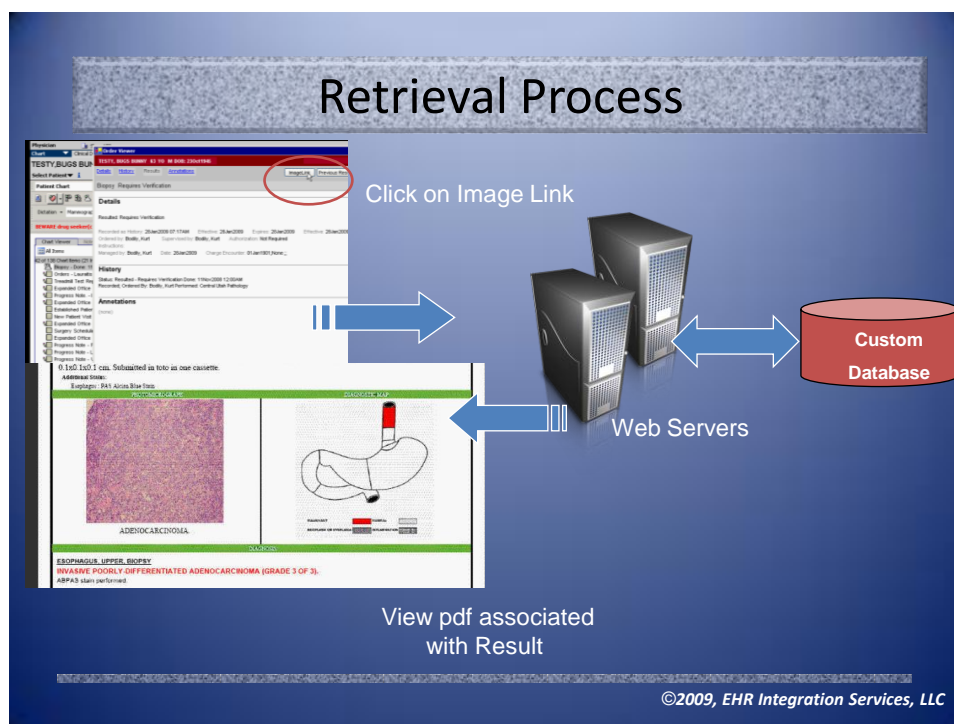


Figure 2 below shows the typical setup and workflow of the Image Viewer Retrieval Process. A TouchWorks user will view a result and make a request in the Touchworks application to view an image linked to the result.

When this workflow occurs a request is made to the web server for the PDF document. The PDF is retrieved from the database and streamed back to the user in the browser window. The Adobe plug-in via internet explorer allows this to be viewed online and printed via the standard printers installed on the local machine.

Figure 2



Server Components

- Touchworks version 10.2 or higher – This is required because this technology is built to leverage the Image Link functionality within Touchworks.
- Interfaces
 - 1 Source Interface
 - This is the vendor/product that is producing the result and PDF Document. Although the example above is based on an HL7 Message, the interface can be written to handle a wide variety of formats with the PDF Document.
 - 2 Target Interfaces

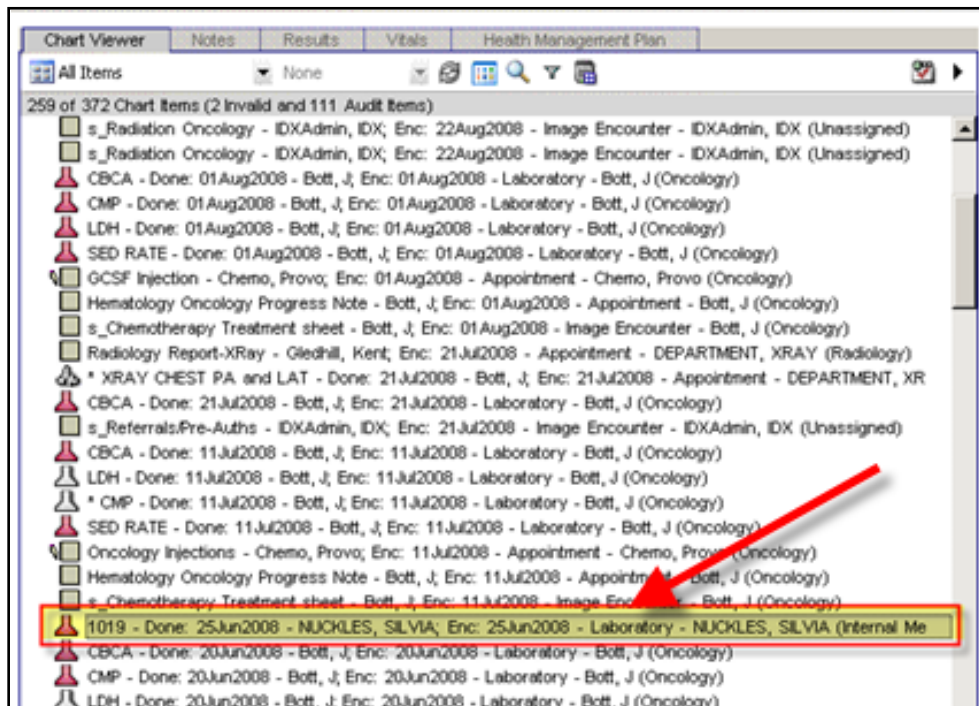
- Result Interface – this processes the standard result into TouchWorks, with an identifier to the Image Link functionality.
- Custom PDF Interface – this processes the PDF document into a custom database for access through the Touchworks application. The PDF Document is linked to the result through a unique identifier filed in the Result Interface.
- Custom Microsoft SQL Database
 - A custom database is created to store the PDF documents.
 - This can be installed on a single server or cluster environment.
 - Microsoft SQL Server 2005 is required.
- Custom Web PDF Viewer
 - This is a custom application to view the PDF Document per Result. It is accessed through the Touchworks Image Link functionality.
 - This can be installed on a single web server or a load balanced environment.
 - ASP.NET 2.0 or higher is required.

Client Components

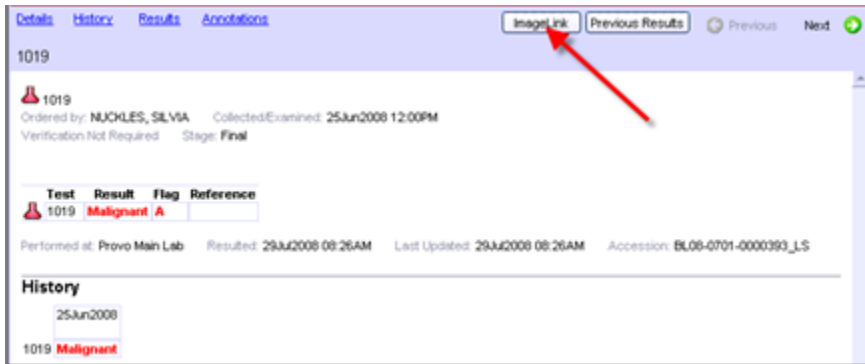
- Adobe Reader – This is required on the client to view the PDF document through the web application.
- Microsoft Internet Explorer 6+ or similar browser

Sample Result w/ Custom PDF Image Viewer (3 Step Process)

Step 1: The TouchWorks user would open a result through the ChartViewer or other TouchWorks view.



Step 2: Once the Result is opened, a new button will appear on the top of the result to launch the ImageLink functionality.



Step 3: The TouchWorks User views the PDF Document in a separate browser window. The PDF Document has been extracted from the custom SQL database where it is stored.

