MEDICAL IMAGING DVDs / CDs CONVERSION PRODUCT AND SERVICES

INTRODUCTION & PURPOSE

Legacy medical images stored on DVDs / CDs, or in video files on some other media, often don't have the right associated data to link them to the patient charts. As per regulatory and legal requirements, several types of medical images need to be stored for specified durations. Medical operations staff can have difficulty locating these images when they are needed or are requested by the patient or other parties such as the Legal department. In order to make them easily accessible, and perhaps link them to patient charts, special processing is often needed. For example, the legacy video files could contain imaging studies of multiple patients in the same video file, in which case an individual patient image clip would need to be separated out for dissemination to the patient when requested. The accuracy of the MRN contained in the image may be suspect (manually entered with no system validation in place), in which case HIM needs to be engaged to establish the veracity of that data and link it to the patient's chart.

Intellix provides services at various levels to extract the video files and process them to isolate patient image clips and store them in a single repository for ease of access. The repository can reside on a network drive within the organization's datacenter, in a secure Cloud environment or in the PACS system. Medical imaging studies (consisting of images and reports) on CDs/DVDs brought by patients often don't get uploaded to PACS, which this product can automate. CDs/DVDs can corrupt, break, or be lost resulting in loss of data. If they are stolen, PHI can get exposed in violation of HIPAA law. Storing the images on storage media in a datacenter or on the Cloud increases the reliability and availability of the data; it also reduces the organization's legal liability in several cases.
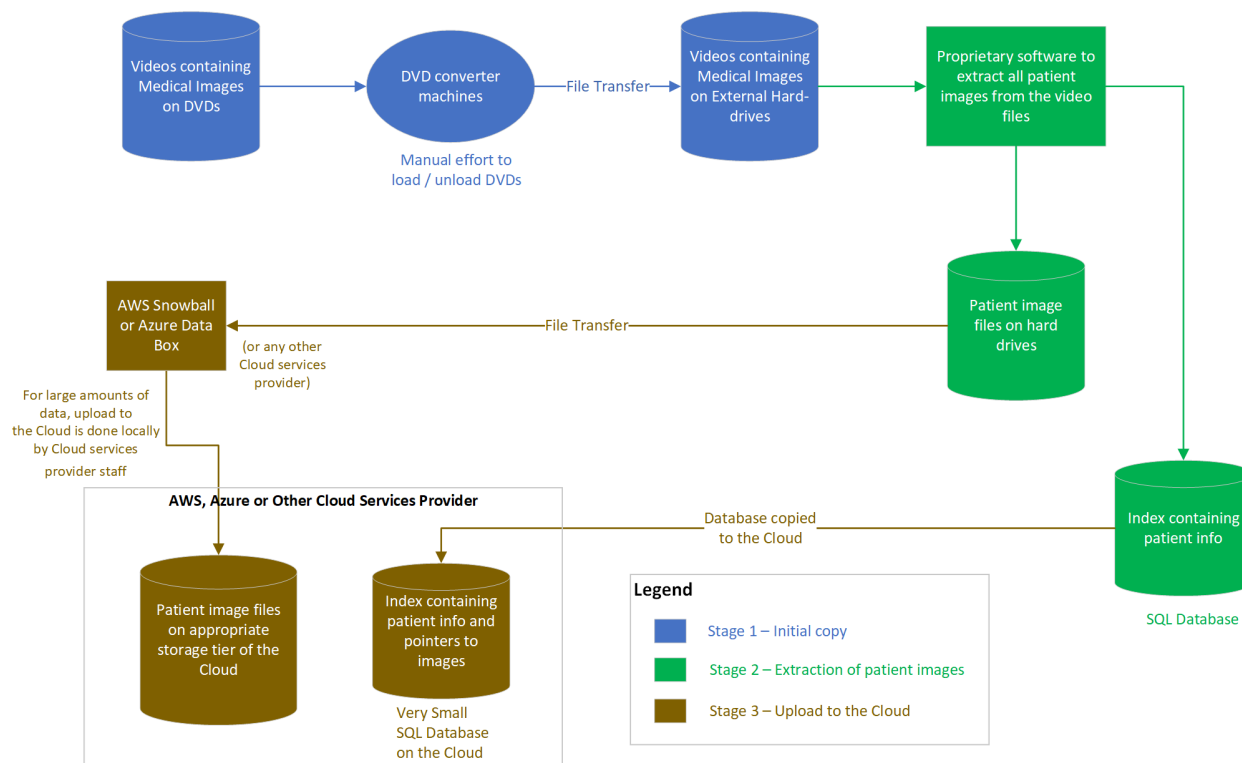
Uploading the studies to PACS and linking them to the patient chart can be an onerous and expensive exercise, especially if the number of such image clips is large. Even without linking the studies to the patient chart, substantial productivity gains can result by merely improving accessibility to the images. If you choose to not upload the studies to your PACS system, we can provide a custom search tool to find them easily once they are uploaded to the Cloud or a network share drive.

BATCH PROCESSING OF A LARGE NUMBER OF CDs / DVDs

Our services in this area are intended to achieve the following:

1. Digitize video recordings of medical imaging studies conducted on patients by ripping DVD disks and extracting medical image clips into individual, digital files;
2. Upload these image files to the Cloud or a network drive in your organization's datacenter, such that they are readily accessible to authorized personnel;

3. Provide a convenient software tool for authorized personnel to find the images quickly rather than waste valuable time manually looking for the data;

4. (Optional) Upload the imaging studies to your PACS system and link them to the patient chart. Although we can do most of this in an automated fashion using our software tool add-on (with some customization), in most cases, the organization's HIM team needs to perform validation and "certify" the new linkages to the patient chart.

As shown in the above diagram, the images are extracted from the CDs / DVDs and uploaded to the Cloud (or a network drive in your datacenter) in three stages.

The first part of the solution is a one-time effort of mass extraction of the patient images from the videos stored on the CDs / DVDs. This is a manual process for which we provide experienced, temporary staff. Additional hardware to process a large number of CDs / DVDs in a single payload may be needed if the volume is high.

In the second stage, our image extraction product isolates individual patient images from the video files and creates an image clip for each patient. A complex series of steps accomplishes this for image files obtained from any radiology or cardiovascular modality. The corresponding, extracted PHI data along with

pointers to the image files, is stored in a SQL database. An Optical Character Recognition (OCR) tool is used to read the text contained in the video files. Separation of individual patient clips is accomplished by checking frame by frame for a change in the text containing patient data.

This product has been tuned for optimum performance and can process thousands of video files within a matter of days.

In the third stage of the process, the files are uploaded to the Cloud or a network drive in your datacenter. The data repositories are configured to be accessible from a simple, web-based search tool. A custom search tool (not shown in the diagram) can be built to locate the patient's images by patient name, date of birth, and other criteria. The images can be downloaded for distribution to various parties as needed.

AUTOMATING THE UPLOAD OF PATIENT IMAGING STUDIES TO PACS

When patients bring CDs/DVDs containing their prior imaging studies, the format of the images, existence of reports in addition to the images in the studies, etc. variables can make it tricky to upload them to PACS. It's no wonder that many organizations have a large number of imaging studies on external media stored somewhere, that have not been uploaded to their PACS system. Our product can read the CDs/DVDs and automatically upload the imaging studies to PACS, removing the potential risk that comes with maintaining such media.

SYSTEMS INTEGRATION SERVICES FOR THE IMAGING STUDIES

In addition to processing imaging studies, we can perform other integration functions on a case-by-case basis. At Intellix, we have expertise in systems integration of clinical and business applications to create seamless workflows for medical operations staff. We have implemented EHR, medical imaging systems and other clinical systems and business applications for several clients. Our approach is to fully assess the client's requirements and the overall workflow involving the product or service requested. With the multitude of software and device vendors in the market, the need for some customization is inevitable. Our professional services team will inform you of any other opportunities for automation that we discover during our assessment. We will recommend an integrated solution and explain our services and any customizations required to the core product. Our professional services team will also perform onsite testing and associated remediation to ensure a smooth implementation. Besides ensuring that our solution works correctly in your environment, such testing will uncover any issues with data flow due to information security provisions or other factors on your intranet. We provide maintenance and support for ongoing upgrades and modifications if things change in your environment.

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