



White Paper: Data Capture and Document  
Management Systems - 10 Tips and  
Information Nuggets That Will Save  
You Time, Money, and Hair



## Choosing the Right Image Resolution – Part 2

by Phillip Cormier

In Part 1 of the section entitled Choosing the Right Image Resolution you learned why storage sizing and image processing were important when dealing with image resolution and your scanning operation. In this Part 2 of the same named article – Choosing the Right Image Resolution – you will discover how document transmittal time and scanning time must also be taken into account if you want your image resolution and scanning system to be in sync.

### Document Transmittal Time

In regards to document transmittal time, the reference is to the time it takes to transmit images from the storage repository over the intranet (or internet) to the client machine that made the request. Images stored in multipage formats with high resolutions will consequently have higher file sizes. This can be quite frustrating for the end user when they request a document and the image takes several minutes to come down from the server and display. As with everything, there are many factors to consider here. If the data is only going to be served on a local intranet where everybody has gigabit access to the network and the server has 5 network interface cards, then even the largest of files are going to fly down to the client! However, if your content management has a web interface exposed to the internet where users might still be on dial up connections, then you will most likely end up having some frustrated users. One thing to note is that some content management systems do have features that help alleviate these woes, such as page caching, where only one page is delivered at a time to the client while the rest are cached in the background. This caching feature will help but the point remains the same – make sure that you understand page formats and server architecture when it comes to image resolution and document transmittal time.

### Scanning Time

Scanning time must also be considered when determining what resolution to acquire and store your images in. Scanning a 200DPI image on most modern scanners is a very fast process. However, scanning 600DPI, for instance, can sometimes make you pull your hair out because it can be very slow. The first factor to consider in scanning at higher resolutions is the actual scanner hardware. Incremental higher spend normally leads to incremental higher speeds. Some of the very high end scanners suck pages so fast that they can be scanned faster than you can see them being scanned, even at 600DPI! While, some lower end scanners can take minutes per page. Choosing the right scanner is normally just a matter of evaluating your budget and weighing the highest number of pages per minute you realistically will need to scan in a given hour. However, you will also want to evaluate the scanning time that is lost to software processes such as Optical Character Recognition (OCR). You will want to keep in mind that as resolution increases, OCR accuracy increases, but so does processing time.

## User's View

Last but not least, one of the most important factors to consider is what the images will look like to the end users when they pull them up on their screens or print them. If you choose to scan everything at 100x100 DPI to save on scanner or hardware costs, you are likely to have some serious complaints and usability issues from your users. There are no hard rules here either, but experience recommends that you use no less than 300x300DPI for an optimal viewing experience. The easiest way to determine the best resolution that meets your viewing needs is to simply scan some example documents at various resolutions and review them yourself and with your users to see how they look. The input that you gain from your users will most likely lead to the best decision.

Choosing the right image resolution is critical to a good data capture and/or integrated document management system and thinking through the trade-offs between detail, costs, and system performance are important points to consider. It is often said that beauty is in the eye of the beholder, and in the case of image resolution, you can have the most beautiful system and hardware that money can buy, but you ultimately need your users to be satisfied that they can successfully view and use the documents and images that your scanning solution provides for them.



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Unlike vendors that deliver generalized ECM products with centralized or consolidated architectures, or support few applications and data types, UFC delivers the most comprehensive solution, specifically tailored for the customer. The distributed nature of the solution along with UFC's extensive expertise and unique approach makes it ideal for companies with remote offices that have limited storage space, minimal IT infrastructure or technical support. Remote locations realize significant improvement in operational efficiencies, improved collaboration, a reduction in storage costs - without sacrificing centralized control or visibility of information. From capturing and processing vendor invoices, personnel information such as employment applications and human resource forms to capturing and storing engineering drawings, large contracts and correspondence, UFC provides their customers the ability to reduce paper transaction costs while increasing their data processing efficiencies.

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