



Crawford Courier



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www.crawfordtech.com



Ernie Crawford
President, Crawford Technologies

Ernie's Corner

Welcome to another issue of the Crawford Courier. The focus of this issue is print stream transform and document re-engineering. This is an area of our business that is growing very fast, and it is easy for me to see why. For hundreds of years, there was only one way to deliver transactional documents - on paper.

In the 15 years that Crawford Technologies has been in business, new delivery formats have been springing up all over the place.

AFP, PostScript, PCL, PDF, HTML, SVG, email, ECM systems, SMS MMS, XML, QR Codes, Braille, eText, Audio, Large Print, Accessible PDF, PDF/A, PDV/VT, PDF/UA – the list just keeps growing. And the larger it grows, the bigger the challenges people have with keeping up.

It is pretty obvious that the application infrastructure which has been in place for decades just cannot cope with all of these new requirements. Some organizations are going back and redesigning their entire document creation infrastructure, and finding it very expensive and time consuming. By the time they have implemented their new architecture, many new delivery formats have sprung up and customers are demanding support for them, so – it's back to the drawing board.

It is easy to see why print stream transform and document re-engineering software is becoming so popular. Rather than try to maintain a plethora of document creation programs, and keep them all in sync as business needs evolve, it makes more sense to have a single point of content creation.

Then you may use downstream software to modify the content to adapt it to the different formats and delivery channels. That is what print stream transform and document re-engineering software allow organizations to implement quickly and inexpensively. The articles in this issue should help you understand why this is so important, and how to get started.

As a perfect illustration of the power of document re-engineering, for our American customers, the USPS is offering postage discounts for mailers who use QR Codes in their mailings. We have been watching this opportunity evolve and we have been updating people via our blog.

Document re-engineering software is really the only way most organizations will be able to take advantage of this gift horse. We hope that all of our QR Express customers in the US will be able to reap some savings from it. Stewart Rogers gives you all of the details on page 6.

For us, the big news is that CrawfordTech is once again one of Canada's fastest growing companies! PROFIT Magazine has again listed us in the PROFIT 200 list of Canada's fastest growing companies. I owe many thanks to our hard working employees, dedicated partners and supportive customers. For more details, see the article on page 9.

We have a super line-up of relevant, topical and educational articles in this issue, and I hope you enjoy it. ♦



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Connect with us now on [Twitter](#), [Facebook](#) and [LinkedIn](#) and in return, we'll promise to keep you updated on industry news, opinion, product updates and the latest tips.

You can also scan this QR code with your smartphone (using a suitable QR code reader), where you'll find links to all three social networks.

Come and join us online now!



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Transforming your customer communication

Differentiating your products and services to the customers you serve

by Pat McGrew

Do you receive mail? Most of us do. We receive bills, regulatory notices, advertising circulars and targeted direct marketing pieces that are intended to communicate to us. Some mail pieces do a great job, while others are relegated to the waste bin almost immediately.

Do you receive email? Many of us do. Some of us confine our online adventure to personal email and online shopping, while others of us have integrated email into our regular personal business routines.

Do you receive text messages? Many of us do. Some of us confine our text messaging to friends and family, but a growing number of people are opting in to accepting text messages about promotions, bill notifications, and banking information.

Have you ever followed a personalised URL to a personalised landing page?
Have you ever scanned a QR code or other type of printed code to get to a website?

The theme here is how businesses communicate with you as a consumer. The challenge for businesses is how to participate in all of these communication channels in a consistent manner. Even if the recipient doesn't use every channel, the messages in the channels should have consistent features. Do yours?

In many organisations the answer is "no" because each channel is owned by a different department. Coordination is lacking because everyone is so intent on meeting their own performance goals.



Think about the goals of your customer communications and then make a list of all of the ways you achieve those goals. Once you have that list, ask yourself what is missing.

Sadly, the customer ends up the worse for wear as they are left to sort through mixed messages. It begs the question, how can an organisation execute a campaign that touches all of the channels without overspending the marketing budget? You might find that the right transforms in your workflow can streamline your path to consistency.

Think about the goals of your customer communications and then make a list of all of the ways you achieve those goals. Once you have that list, ask yourself what is missing. Are you using every channel that your customer might be interested in?

Can you provide a fast path to your billing site by adding a QR code that links to the customer's personal landing page? Can you accommodate a customer request to push a notice to their mobile phone but still deliver the printed bill to their post box?

Can you generate a text message or printed notice if an email delivery arrives at a full mailbox or invalid email address? Even more importantly, can you communicate to your visually impaired customers in the best format for them?

These are the characteristics of organisations that are customer focused and using technology as an enabler. Where does the transform piece come in? It is the fastest way to take what you have and make it available on multiple platforms.

And, with intelligent re-engineering you can build a customer communication platform that is best in class, versatile and scalable as new customer communication platforms and media emerge.

Start by taking a good look at what you do today, and start brainstorming what you would like to do. These are the first steps to differentiating your products and services to the customers you serve. ♦

Pat McGrew is an industry rainmaker and an authority on customer communications technology and systems. You may contact here at pcm@mcgrewgroup.com.

The Seven Deadly Sins of Print Streams

Industry mistakes to avoid when creating and producing print files

by Ernie Crawford

While participating on a panel at the recent Xplor International Conference & Vendor Forum, the discussion came around to things that users should not do in their print files. We named these errors the Seven Deadly Sins of Print Streams.

Many experienced attendees recognized these errors and agreed wholeheartedly, while the newbies to the industry did not understand why these things would have any importance. They questioned, "If it prints correctly, doesn't that mean it's good?"

A file simply printing correctly may be fine for printing a one-off note at home, however in today's business and government environments, that is no longer true. Printed documents serve multiple purposes these days. Several very important requirements must be addressed:

- **Automated document assembly and insertion**
- **Embrace the evolution of printing technologies**
- **Archival of documents for future reference**
- **Distribution of documents through different channels for different people**



Seven Deadly Sins of Print Streams

1. Never use full-page images instead of text
2. Avoid unusual code pages, especially rolling code points
3. Never use proprietary formats
4. Avoid non-standard use of print stream extensions
5. Never archive print files or promote to production without appropriate testing
6. Avoid character placement or font kerning in the data composition step
7. Avoid using color to achieve a gray level that prints nicely

Automated document assembly and insertion: Pages of printed documents need to be assembled, folded and stuffed into envelopes for mailing. For a one-off letter at home you would do this manually. However, in any large business or government environment, the documents are batched together and inserted by a machine. In order to properly do this, the print file needs to contain enough information to allow the automated inserters to determine what to do with the documents.

Embrace the evolution of printing technologies: When you put a process in place for creating documents for printing purposes, you need to consider that the printers you are using today will not necessarily be the same printers that will be used in the future. You should create the documents in a way that they can be migrated to different printing hardware and architectures in the future.

Archival of documents for future reference: While most information in databases is constantly in flux, printed documents are snapshots in time, and must be preserved as such. Since few among us still cling to files and boxes of paper to preserve documents, the electronic versions of documents can stand the test of time, if created and stored correctly.

Thus, the second objective of document creation, after getting it to print correctly, is to create it in a way it can be saved electronically, rather than the old fashioned print and then scan methodology, which is so resource intensive and error prone. In order to have a properly manageable stored document, the textual information must be available for interrogation during the storage and retrieval processes.

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... *Seven Deadly Sins continued from page 3*

Distribution of documents through different channels for different people: As the future unfolds, many new channels are becoming important for communicating with people. Methods of sending communications now include email, web sites, electronic post-office systems like Zumbox, mobile phones, Braille, Large Print, eText, and audio as well as print and mail.

When you create a document for printing, you should consider that some of the recipients may prefer to communicate through an alternate channel, so you need to create your document in a way that it can be sent through these channels in the future.

A big part of our business is helping organizations achieve the above goals. From time to time, we see mistakes that people have made which make it either impossible or very expensive to achieve these objectives. We call these the Deadly Sins of Print Streams, and here are the Top 7.

Seven Deadly Sins of Print Streams

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Do you have another deadly sin that could be added to this list? If so, please email it to Ernie at ernie@crawfordtech.com. He will make sure to mention it in an upcoming blog. <http://blog.crawfordtech.com>

Here is our rationale as to why these should be avoided like the plague:

1. **Never use full-page images instead of text.** This should be pretty obvious. If the pages of a document are full page images, and there is no textual content, then it is impossible to tell which pages belong to which document and who the document is addressed to without using expensive time-consuming OCR technology to interpret the image data. Also, the format of the document cannot be modified for use on alternative printers or alternate channels. It all adds up to this being only used when you have no other options available.
2. **Avoid unusual code pages, especially rolling code points.** Every computing environment has standard code pages for use when representing text. Even better, some architectures allow users to define the code points used in any font with some table such as an AFP Code Page resource. When users adhere to these standards, the text in the print files can be easily interpreted downstream and in the future.

Non-standard code page use often adds a lot of extra work whenever any of the text needs to be interpreted. Rolling code points makes it impossible to interpret the text. Rolling code points (also known as dynamic code pages) exist when code points in the text and fonts are assigned using some algorithm other than adherence to some code page standard, and are different each time they are used. For example, the normal algorithm used is to assign code points to characters sequentially as they occur in the document. Thus if the first word in the first font in the document is "The", the "T" would be X'01', the "h" would be X'02' and the "e" would be X'03'. Rolling code points are used in some print drivers and composition systems, but usually without any pronouncements that they are being used. You need to look at the output print files to determine if they are being used. You should always check for this when installing a new composition system or print driver.

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... *Seven Deadly Sins continued from page 3*

3. **Never use proprietary formats.** Whenever possible, print files should be created in industry standard formats. There are times when archive versions of print files are best stored in non-standard formats. Whenever this is done, you should ensure that you have a reverse conversion to transform the archive format back into the original print file format. When a proprietary format is used, you have a dependency on the vendor that owns that technology, and in the future, that vendor may go in a direction that is not compatible with yours.

Examples include bankruptcy, acquisition by the wrong company, product end-of-life, support price increases, platform changes or support degradation. At some point you will need to migrate to some other format, and if you do not have migration software, or at least a reverse transform, you will have an expensive problem to deal with.

4. **Avoid non-standard use of extensions.** Some users and vendors add proprietary extensions to print files, usually to carry information that is not supported in that file format. For example, PDF files do not have support for print capabilities like duplex/simplex, paper source selection, and finishing options.

Some vendors and users who use PDF files for print purposes add comments to the PDF files to specify these attributes, or even for indexing purposes. When this is done, the PDF files can now be processed by only the software that handles these extensions. Thus you are locked into vendor/programs that can handle this. Other industry standard products will not be able to interpret the proprietary extensions.

5. **Never archive print files or promote to production without appropriate testing.** We have seen users put print application changes into production without running a representative production data file through testing. We have also seen users store untested print files in archives, and get burned with 5 years of files with structural errors in them.
6. **Avoid character placement or font kerning in the data composition step.** Document composition and conversion software often offers options for handling character positioning. Using options like character kerning and individual character placement can impose severe limitations on the handling of the output print files created. For example keyword searches will not find the words in the files.
7. **Avoid using of color to achieve a gray level that prints nicely.** The age of color is upon us. Everything around us is in living color and many documents are designed to be viewed on color monitors. To take one of these color documents and print it on a black and white printer will compromise the quality of the colors in the document. And if there are color shaded areas, the conversion to monochrome shaded images will cause even further degradation.

What is worse is that, even if you tweak the colors to achieve your desired results on your printer, it will not likely look the same on other printers. High speed production printers handle gray levels much differently than desktop laser and inkjet printers, and these differences may cause shaded color areas to have unacceptable quality.

Since creating this list for a recent industry conference panel we spoke at, we have discovered that there are many other sins that organizations are committing when they create print streams. We are putting together an article for our blog called "Seven Deadlier Sins". Please watch for it at <http://blog.crawfordtech.com>. ♦

Ernie Crawford is the President of Crawford Technologies.

Seven Deadly Sins of Print Streams

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USPS Offering Mobile Barcode Discount Promotion

QR Code discount offer available from July 1 to August 2, 2011

by Stewart Rogers

You've probably heard of QR Codes. These square codes are starting to show up everywhere – even on the Crawford Courier itself. Now, the United States Postal Service (USPS) realizes how innovative QR Codes are and is helping to promote them. At CrawfordTech, we think this is quite forward thinking for a government agency!

Producing a single QR code that gives the same experience or landing page to everyone is easy. The real strength of QR codes comes when you make every QR Code unique, attaching it to data in your subscriber database or CRM system.



These unique QR Codes – encoded with Personalized URLs or PURLs – make your paper documents as interactive as a web page. The user simply points their smart phone at one of these innovative QR codes and any of a wide range of things can happen immediately:

- Users can be directed to a personalized web page that is customized to that specific person. They may receive targeted offers, product advice or information about a new store opening nearby, for example.
- Users can be directed to a customized web page that lets you respond immediately to an offer. Let's face it; the harder it is to respond to an offer the less successful that offer will be.
- Users can be directed to a video describing a product or service.
- Their phone can be directed to call a specific number.

CrawfordTech's QR Express solution can be installed and running before the promotion begins on July 1, 2011. The discounts available could well foot the bill for the software, so get in touch with us now to take advantage.

The good news is that users don't have to manually enter in a web site URL or PURL; they simply point their smart phone at the block and the phone immediately goes to the intended destination.

USPS have launched, and had approved, a discount program for mailers that use QR Codes and this will be effective from July 1st to August 1st, 2011, so you'll have to act fast. To qualify, all you have to do is use QR codes on your mailings and each piece will receive a 3% discount on your First Class Mail pre-sort and Standard Mail commercial letters. Visit the USPS website for more details.

You might be thinking that there is no way you could possibly implement QR Codes to take advantage of these discounts. Thankfully, we created QR Express for just this purpose. With QR Express, you don't have to re-write your applications. QR Express takes your existing print-ready files and adds QR Codes onto available white space in those documents; fast, effective and timely enough to achieve those postage discounts.

We believe the USPS are right to promote mobile barcodes. The US currently tops the charts in the use of QR Codes, with recent analysis from 3GVision showing a 181.1% increase in the scanning of mobile barcodes over the first quarter of 2011. The UK, Netherlands, Spain and Canada make up the rest of the Top 5 countries making good use of mobile barcodes.

If you haven't implemented a QR Code solution yet, you still have time. CrawfordTech's QR Express solution can be installed and running before the promotion begins on July 1 2011. The discounts available could well foot the bill for the software, so get in touch with us now to take advantage. Now that the Postal Regulatory Commission (PRC) have given the promotion the green-light, what are you waiting for? ♦

Stewart Rogers is the Director of Marketing Communications for Crawford Technologies.

Everyday Uses for Document Re-engineering

by Mike Porter

Want to turn your bills in to Transpromo marketing tools? Need to insert personal URL's or QR codes? Wish you could integrate your legacy print with cutting-edge communications like SMS text messaging and beyond?

Those aspirations are all perfectly good reasons to invest in a document re-engineering product, but there are lots of other things one can do with software that ingests print-image data and then recomposes documents without ever touching the originating legacy print programs.

Lots of businesses are seeking ways to cut costs, make operational improvements, and lower environmental impacts by changing their existing documents in simpler ways.

Here are just a few everyday uses for document re-engineering.

Reclaim Unused Space: A surprising amount of transactional documents continue to be produced by print programs that were written at a time when it was not feasible to intelligently manage white space. As a result, documents may feature large blank areas where content once appeared but no longer exists. Sometimes entire pages contain nothing but headings and page numbers. Document re-engineering software can recognize these conditions and move data around to reduce wasted space.

Businesses are seeking ways to cut costs, make operational improvements, and lower environmental impacts by changing their existing documents in simpler ways.

Reformat for New Materials or Equipment: A change in materials can present big problems. Envelope windows can be moved or resized, new remittance stubs may designed, new finishing equipment may require switching from top-flap envelopes to bottom-flap, etc. Making adjustments to accommodate these changes is a mainstay of document re-engineering technology that is tuned for operational efficiency.

Recognize High-Value Customers: Some organizations would like to print statements for their best customers in color, using less expensive monochrome devices to produce the documents for the majority of the accounts. Or they may want to take advantage of frequently under-utilized selective inserting capabilities to include certain enclosures for specific segments of customers – without splitting up the run. Document re-engineering products can use data that exists on the statements or can access external files to identify and separate by customer segments or create the necessary inserter control marks.

Quality Control: Automated document factory (ADF) functionality requires the creation of control files. These files, generated by document re-engineering software, are used to communicate job-level and piece-level details to downstream operations. Additionally the software can place barcodes, OCR text, or sequence numbers on the printed mail piece. The identifying marks are read by cameras mounted on finishing equipment and enable automated reconciliation with the control files that were generated at print time. Once utilized only for transactional documents, ADF technology is now a necessary capability to ensure the accurate and complete processing of other highly-personalized documents, including direct mail advertising.



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Upcoming Events



2011 XDU On The Road

June 14 - Cincinnati, Ohio

June 29 - Atlanta, Georgia

http://www.xplor.org/xdu_road



MediaPro 2011

November 1-2, 2011

Olympia, London, UK

www.mediaproexpo.co.uk

Upcoming Webinars

33+5 Things You Can Do With a Print File Besides Printing It

June 22nd 2011 - 12:00 US Eastern

Presented in association with Xplor International

Join Ernie Crawford, M-EDP, as he takes a look at 33 major areas of optimization that organizations are trying to achieve with their transactional documents.

For those of you that saw this presentation live in Florida this year, we've added 5 bonus ideas that could positively affect your bottom line.

You will be shown how you can accomplish optimization with your existing print files, regardless of whether they are AFP, Metacode, LCDS, PostScript, PCL or PDF. Go to www.crawfordtech.com details.

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Improve Productivity: To minimize the time spent on tasks such as job set-up, tracking, and reconciliation, it may be advantageous to combine several small jobs created over a period of time into one large job. For example, different kinds of notices might all be generated by separate tasks running throughout the day. If they all use the same paper stock and envelopes (or they can be reformatted to do so), notices for late payments, over credit limit, stock trade confirmations, dividend declarations, etc. may all be merged into a single job to be printed and finished at the end of the day. Document re-engineering software handles this kind of reorganization along with enabling many other productivity-enhancing improvements.

Cost Savings/Green Initiatives: There are several strategies that have a dual benefit of lessened environmental impact and lowered costs. Truncated statements are a good example. In this strategy, customers are offered the option to receive only summary information on their printed statements. They can view transactional details online. For some applications like phone bills, this strategy can have a dramatic effect on the number of pages that are printed and finished. Fewer cycles on printers and inserters results in lower maintenance cost, reduced consumables usage, less paper, and a reduction in electricity consumption as a result of shorter print/inserting runs. Using document re-engineering software, organizations can access customer preference settings in external files to selectively suppress detail pages of those customers who elect to receive truncated statements.

Organizations that are not quite ready to take the leap into the latest communication fads, or can't justify the cost, will still find plenty of value by investing in document re-engineering software that provides for operational efficiencies. Anticipating future needs, they should seek software that provides an upgrade path for when they are ready to create documents using concepts such as Transpromo or integrated multi-channel marketing. ♦

Mike Porter is an expert in print and mail operations and President of Print/Mail Consultants. For more information or to contact Mike visit www.printmailconsultants.com.

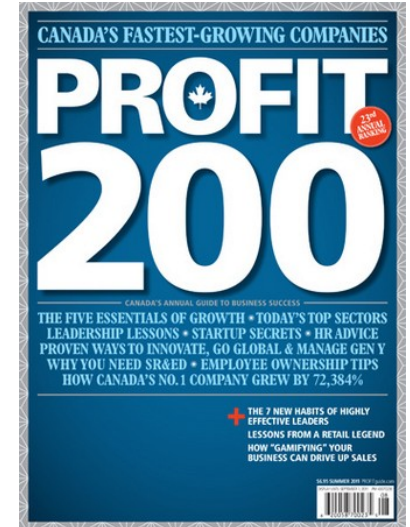
CrawfordTech listed again as one of Canada's fastest growing companies by PROFIT Magazine

For the second year in a row, Crawford Technologies has been named one of 'Canada's Fastest-Growing Companies' by PROFIT Magazine. Crawford Technologies is an award-winning global leader in the transactional customer communications software development industry. With its headquarters in Toronto, Ontario, CrawfordTech also has offices in New York, Colorado and the United Kingdom.

"We are once again honored to be on this prestigious list of outstanding Canadian companies," said Ernie Crawford, President of Crawford Technologies. "Our continued ranking is a testament to our consistent performance achieved through the hard work of our employees and partners, combined with the infinite value our software products provide to hundreds of organizations around the world."

Now in its 23rd year, the PROFIT 200 is Canada's largest annual celebration of entrepreneurial achievement. Ranking the nation's Fastest-Growing Companies by five-year revenue growth, the PROFIT 200 profiles Canada's most successful growth companies in every summer issue of PROFIT Magazine.

"The PROFIT 200 companies are the innovative, high-growth enterprises Canada needs to compete on the global stage," said Ian Portsmouth, Editor-in-Chief of PROFIT Magazine. "PROFIT is proud to celebrate their achievements and ambitions, and we encourage all businesspeople to learn more about the many ways they've come so far, so fast."



About PROFIT Magazine:

PROFIT: Your Guide to Business Success is Canada's preeminent publication dedicated to the management issues and opportunities facing small and mid-sized businesses. For 29 years, Canadian entrepreneurs and senior managers across a vast array of economic sectors have remained loyal to PROFIT because it's a timely and reliable source of actionable information that helps them achieve business success and get the recognition they deserve for generating positive economic and social change. Visit PROFIT online at www.PROFITguide.com.

About Crawford Technologies:

For companies that produce large volumes of statements, bills, invoices and similar documents, Crawford Technologies is the organization they turn to for mission-critical software solutions. Whether clients need to convert one print-stream to another, such as AFP to PDF, or alter the output on the way to the printing device, such as adding transpromo messages or QR codes, CrawfordTech's range of award-winning solutions have the answer.

With unmatched speed, the highest levels of fidelity and unrivalled support along with quality assurance processes that are the envy of the software industry, CrawfordTech is leading the way in print-stream conversion, document re-engineering, transpromo, end-to-end reporting and production output workflow.

CrawfordTech's Document Accessibility Services division (DAS) offers clients the opportunity to produce transactional documents in alternate formats, such as Braille, large print, audio and e-text. The Archive Management division offers EMC Documentum users an automated high speed solution to archive computer generated documents in their Enterprise Content Management (ECM) system.

CrawfordTech's award-winning solutions have helped over 700 companies around the world reduce costs associated with mission-critical transactional customer communications. Organizations of all sizes and from all industries realize high-value results from CrawfordTech's innovative solutions and services, including four of the top five US banks, four of the top five US insurance companies and four of the world's top five car manufacturers. ♦