




WHITE PAPER

Accessibility Solutions Architecture

MasterONE – The Crawford Technologies Accessibility Architecture



Are you looking for a silver bullet to solve your organization's high volume client communication accessible document delivery needs? Do you have a wide range of documents - from system generated transaction documents like statements, invoices or letters? Perhaps you are already providing accommodation, but do you understand its costs?

As organizations focus on finding solutions for accessible documents, many are looking for permanent solutions instead of temporary bandaids. Crawford Technologies has developed the MasterONE architecture and associated products and services to address the needs and concerns of these organizations. This paper examines the issues that have evolved as the accessible document market has grown, and shows how MasterONE addresses these issues and enables inclusion by design.

Transactional documents or client communication documents must be made accessible for organizations to comply with federal regulations. These regulations include the Americans with Disabilities Act, commonly known as ADA, Section 508 of the Rehabilitation Act and the Affordable Healthcare Act in the US. There are similar regulations in many Canadian provinces and in the EU.

These documents generally contain personal and confidential information which is subject to privacy legislation and rules such as PCI-DSS, HIPAA, PIPEDA and a host of other regulations. Our intent is not to go into these in detail here, but just to make the reader aware that the documents and their handling are subject to these regulations, and must be managed in accordance with the applicable laws.


Accessible Document Challenges

There are different types of accessible documents that an organization can provide to its customers:

1. Inaccessible –These are documents that can only be consumed by people with normal eyesight
2. Inclusive accessible –These are documents that are able to be consumed by anyone, regardless of eyesight capabilities, either visually or with an assistive technology. These include Accessible PDF and paper documents containing a Voiceeye barcode
3. Alternate accessible –These documents are in a format created specifically for people who are blind, or have low vision. These include formats such as Braille, Large Print, e-text and audio. These are often referred to as accommodation documents or Alternate Formats.

Other considerations include costs, customer experience and process efficiency. Let's take a look at how organizations are handling accessible documents today.

Traditionally, most organizations providing accessible documents have opted for alternate accessible documents. The process normally used is for a customer with vision challenges to call customer support and negotiate the alternate format that will meet their needs and which the organization is able to supply. Then someone in the billing organization will find the customer's document and send it for remediation, which when completed is sent to the customer. When the customer receives this accommodation document, they can then read it and determine their action. Then the next month this whole process is repeated.



Industry analysts have calculated that the average American household receives 14 documents monthly from the organizations they do business with. This means that a disabled person would have to make 168 customer support calls each year to receive the information that other people receive in a timely fashion without any interventions.

In order to cut their customer support overhead associated with supporting disabled customers and improve their customer experience, some organizations have begun tracking accessibility choices in their CRM or customer information file. This can eliminate the repeated calls to their customer support organizations. However it still requires them to search for the documents and transcribe them into the required formats and mail the accommodation documents.

When organizations look at processing the accessible document production in-house, they find it very difficult, as the equipment required is extremely specialized and requires frequent maintenance. The skill sets needed are very specialized, often requiring dedicated personnel. For example, when a braille document has been created, there is no visible text on it, so an operator needs to be able to read braille in order to know who the document should be sent to, but learning to read braille proficiently normally takes several years. Since the volumes are usually quite low, it makes it difficult to justify building this kind of facility in-house. Thus most organizations look to outside service providers to create the alternate format documents.


There are a number of choices of service providers to supply accommodation documents. Traditionally, options to produce accommodation documents have included:

- Alternate format transcription and remediation businesses that service conversions manually. This tends to be very slow, costly and error-prone, requiring human labor to manually transcribe documents.
- Accessible document businesses that can transcribe and remediate to the required format through automation. This has traditionally been costly to onboard as each accessible document type requires an individual accessibility design step to automate the processing steps. A separate design is usually required for each alternate format to be created. Once setup, the target formats are normally quick to produce.

Since 2008, Crawford Technologies has been providing both of these services for organizations in both Canada and the United States, giving us first-hand experience with all of these processes.

Accessibility Design

Some people call it tagging, and some call it template design and some call it application setup. We call it accessibility design (AD). It encompasses the work done to properly identify the elements in a document. Each item on each page needs to be identified and the usage of it clarified. For example, elements such as titles, table headings, table cell contents, graphics descriptions (alternate text), artifacts, headers and footers all need to be defined and rules set up to find them in the file that is going to be converted. Then the proper reading order needs to be defined, and the rules set up for how to create the desired format.



With recent adoption of the Web Content Accessibility Guidelines 2.0 and the Universal Accessible version of PDF called PDF/UA, organizations can now provide accessible documents online. This is a significant advance, and helped to jump-start adoption in forward-thinking organizations. The challenge there is with paperless adoption rates.

In the normal sighted market, adoption of online documents such as bills and statements ranges from 4% to 32%, depending on a number of factors. According industry analysts, the average paperless adoption rate in 2015 has finally reached 20%, after more than 20 years of availability. This still leaves 80% of customers dependent on paper documents monthly. These numbers show why the adoption of Accessible PDF is not yet replacing traditional alternate accessible formats. Indeed braille production is growing fast, mainly due to the baby boomer bubble and extended life expectancy.

Costs

What are the costs associated with handling accessibility as an exception process? One of the most expensive tasks with accessibility is the accessibility design needed to create accessible formats. Some organizations pay for this up to 5 times for each document - once for each of Braille, Large Print, e-text, Accessible PDF and audio formats.

Your customer support organization gets a call for each document you mail to a vision challenged customer, so these calls increase your call center costs. If you are not tracking your customers' preferences, then this would be happening often, likely monthly or even more frequently. In some markets, it is considered a privacy invasion to track these preferences, so customers are forced to call every time they receive a document from you.

Then there is the time and effort needed to find the customers' documents and send them for transcription or remediation. Finally the cost of the transcription, production and mailing, which is easily identified if you use outside suppliers. The average number of customers this applies to is normally about 5%, and will be growing as the boomer bubble advances.

There is also often a cash flow impact due to late arrival of the accommodation documents caused by the delays incurred by the exception process. These delays can be anywhere from 3 to 30 days.

The current state of document accessibility is cumbersome, and it is clearly costly for organizations to be in compliance, or rather to accommodate their disabled customers. Redundant document tagging costs are growing. Customer support calls are expensive, and the exception processes are costly to manage and the outsourcing required is expensive. The customer experience is fraught with frustrations, delays and errors.

Until now, there has never been a universal accessibility workflow or architecture that allows all popular accessible documents to be offered using a single setup.



MasterONE Overview

MasterONE is a universal accessibility architecture. It is embedded in a number of Crawford Technologies products including the following:

- PRO Transform Plus for Accessible PDF
- Voiceye Maker for Operations Express
- PRO Designer for Accessibility
- PRO Designer for Voiceye
- Accessibility Express

The MasterONE architecture allows the accessibility design work for structured documents to be done once. A GUI tool is used to create the accessibility rules. Then when required, those rules allow for conversion into formats such as:

- Accessible PDF (WCAG 2.0, Accessible PDF/UA)
- Voiceye barcode
- Braille
- Large Print
- e-text
- Audio
- Structured XML

MasterONE accepts PDF files and print stream formats, so there's no need to recompose output or go back to originating applications. Formats supported include:

- AFP
- PDF
- PostScript®
- PCL
- Xerox Metacode
- Line print data
- EBCDIC

MasterONE products support batch and interactive processing, and have many workflow and integration options available. This means that the components can be plugged into any workflow process in any environment, regardless of platform you are using.



MasterONE – Inclusive by Design

With MasterONE, your original documents can be accessible to everyone using inclusive accessible document formats. The electronic documents can be created in Accessible PDF so anyone can read them. Your paper documents can be read by anyone using their smartphone with the Voiceye app. This can avoid accommodation requests for accessible documents, and put you in compliance. Your Accessibility Professionals only need to do the accessibility design once in PRO Designer.

Accessible PDF

The Accessible PDF output from CrawfordTech's MasterONE software products, PRO Transform Plus for Accessible PDF and Accessibility Express, can be WCAG 2.0 compliant, and can also be output in Accessible PDF/UA format. You simply choose the format that works best for you. It can take normal PDF files, or print files in virtually any format and, using tagging rules, convert it to the Accessible PDF format that you need. This can be done before documents are stored in your repository, or it can be done dynamically when the documents are being retrieved for viewing.

Voiceye

The Voiceye support in MasterONE software Voiceye Maker for Operations Express and Accessibility Express allows you to place a barcode on your documents that contains the information in the document in an accessible format. A user can then read that barcode with a free downloadable smartphone app, and have access to the information using the accessibility features of the phone. This is a way to make all your printed documents accessible to everyone.

Cost Savings with Inclusive Accessible Documents

For each document that you will need to provide in an accessible format, you will need to do the accessibility design at least once, whether it is for Accessible PDF or braille, or possibly another format. Once you accept that as a reality, the next question you need to ask yourself is "Why don't we leverage that design work for any accessible format we may need to create?" That is exactly what MasterONE allows you to do, and that is why the industry is so excited about it.

With MasterONE, you only need to do one accessibility design for each document type, and all of the different formats can be created from it. Your accessibility professionals do the design work with a GUI application that is easy to use and optimized for tagging customer communications documents. This eliminates several costs. First, there is no need to do the tagging for each of the formats that are going to be created. A single tagging operation will suffice.

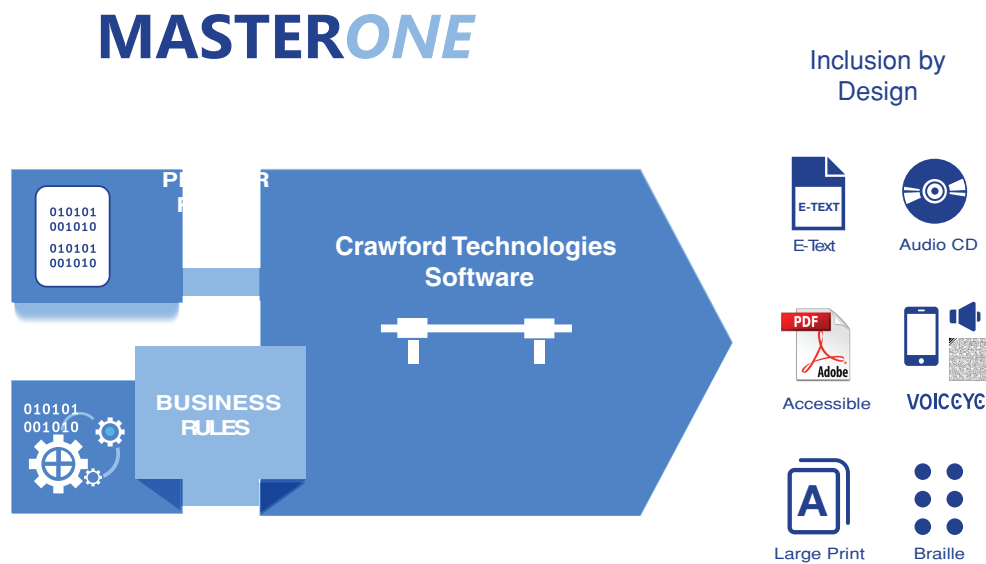
The second area of potential savings comes from eliminating the need to send documents to customers through the exception processing loop each time they cannot read a document. If they can read the original document that is mailed to them, or put online for viewing, then they will not need to call your help line. So using Voiceye and Accessible PDF can reduce your customer support center costs, and all of the costs associated with the accommodation document exception processing. This approach also eliminates the need to track individual customer accessibility needs, and there may be some savings there, especially if you are not doing it yet, and will need to implement a solution to do that. Further, in some markets, it is considered a privacy invasion to track these preferences, so this solves that problem with no additional costs.

Multiple Formats for Different Requirements

MasterONE takes it even a step further. Realizing that Accessible PDF and Voiceye may not handle 100% of your customer base, MasterONE documents can be easily output in any of the traditional alternate accessible formats using a standardized process based on the MasterONE's tagging rules.


Output of alternate formats such as Large Print, e-text, audio or Braille can be handled by CrawfordTech's Canadian and U.S. Document Accessibility Services centers, or by any certified MasterONE service center. The difference is that the accessibility design has already been done, so the costs incurred are mainly operational costs. With MasterONE very little setup costs are necessary for each output format to be used.

Here is how this workflow works:



Cost Savings from Multiple Formats

When considering the costs associated with traditional accessible documents we have seen that are a significant costs in addition to the cost of non-compliance or regulatory fines and legal. The MasterONE architecture within Crawford Technologies Accessibility products reduces and eliminates these on-going costs. Accommodations are usually requested through your call center, so if you are doing this today, you should be able to determine how many accommodation documents are sent to your customers on a regular basis, and calculate an average monthly support cost based on your average support call cost.



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We have discussed how accommodation transcriptions are costly to set up, either manually or as a one-off. Accessibility design costs can quickly add up. These setup costs can be virtually eliminated by doing a single accessibility design in PRO Designer and using MasterONE software to create the appropriate output files needed for the formats needed. To calculate this number you can look at your alternate format outsourcing costs and estimate how much of this will be saved by 1) providing Voceye barcodes on your paper documents, 2) providing Accessible PDF to online customers and 3) avoiding redundant accessibility design steps for each format you send out.

MasterONE – Inclusive by Design and Multiple Formats

MasterONE is revolutionizing the accessible document market. Organizations see the Customer Experience improvements, process improvements, and the cost savings and are adopting this approach as fast as they can. As well, the alternate format services organizations are welcoming MasterONE with open arms as they see how it can streamline the entire industry.

The MasterONE architecture meets the demands of compliance and accommodation without the need to setup each document in each accommodation format. This saves accessibility design fees and associated delays and gives your special needs clients a way to receive documents quickly and cost effectively. With the wide variety of accessible document output formats, this virtually eliminates printed document discrimination.

To find out more information on our one-step workflow accessibility solutions visit www.crawfordtech.com.

CrawfordTech Solutions

Crawford Technologies develops software and solutions to help enterprises optimize and improve the secure and accessible delivery, storage and presentment of their customer communications.

With over 1,800 customers on six continents, CrawfordTech solutions and know-how enable the largest banks, insurers, healthcare providers, utilities and print services companies to use their existing technologies, documents and data in new ways. We help them navigate the challenges in leveraging legacy applications in the platforms and applications of the future.

CrawfordTech's products, services and domain expertise reside at the nexus of content, data, and output management and are essential components of our customers' digital transformation, output management and document accessibility strategies.