

# A Seamless Records Management Solution

**Industry**  
Machine Shop

**Application**  
Sales Orders and  
Certifications

## The Problem

Vital records could not be securely maintained and also shared with staff. Retention of the documents was determined to be perpetual and critical shop floor space was being sacrificed for records storage.

## The Solution

- DjVu File Compression and Viewer by Lizard Tech
- FileBound Document Management Solution by Docusource
- Kodak i260 scanner and Kodak Capture Application
- Integration and Design by DocuSource, LLP of Santa Fe Springs, California.

## The Benefit

Machinists and Administration can share job history and part manufacturing data among themselves, but customers now have a wider access to certification documentation, past job history, and heat-treatment logs which will secure customer retention over the competition.

## Case Study: Sales Orders and Certifications

### Thermal-Vac

Steve Driscoll, the owner/operator of Thermal-Vac runs one tight shop. When you stand in the company lobby and read the company's vision statement, it is quickly realized that you are in a zero-tolerance facility. Almost every wall of the Orange County, California-based facility is decorated with the statement, "We build good parts here, at a profit if we can, a loss if we must, but always good parts." At Thermal-Vac, parts can be treated to extreme temperatures as high as 4200° Fahrenheit, furnaces with vacuum capabilities to 10<sup>-7</sup> Torr, and cryogenic depths to as low as -300° Fahrenheit. Thermal-Vac uses a lot of energy both electrical and "people-based" to treat their customers right and their parts with great respect.

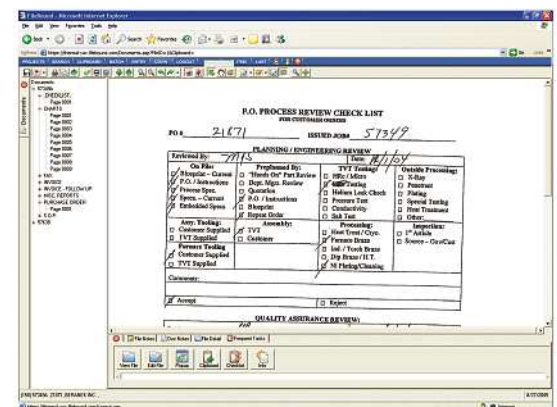


### The Problem

Each and every job (approximately 100 per day) has a process of approvals to be conducted, starting with a checklist and ending with an invoice to the customer. It is important that the journey the parts take through the shop is well-documented and historically preserved. Government regulations as well as customer confidence demands it.

Each job has relatively the same documents associated with it:

- Checklist
- Thermal Treatment Chart
- Customer Order Fax Confirmation
- Drawings
- Invoice
- Reports
- Production Trailer
- Purchase Order
- Signed Shipper



These documents need to be shared and readily available to administrative personnel for timely reviews and often necessary for re-orders. Determining what could be destroyed in the document set would be difficult, so it all must be maintained. "I was amazed as the integrator, at the detail and consistency of the document sets over a 20-year company history. I actually put my hands on Job 1 performed in 1985. It was dutifully kept all these years," says Steve MacWilliams, Senior Vice President of DocuSource.

The owner/operator was skeptical of change, but realized there must be a better way, as many jobs were never to be looked at again, but some were constantly called upon. He involved his senior staff in an exploratory analysis of document imaging. After all, imaging and x-raying parts was not a foreign concept to Thermal-Vac. Maybe something could be done about the records too.

If the efficiency of document sharing and preservation could be part of a new shop culture, a big gain would be to save valuable time in the invoicing process. "If we can shave even a day off our ability to drive an invoice out of our shop after job completion, this project of document management and imaging will all be worth it, but remember we are a small shop and we have budget limitations," were the first words out of Mr. Driscol's mouth in our initial interview. The second comment was, "This better not be too expensive, as we work on very tight tolerances and margins here." As a matter of fact, a friendly wager was made with DocuSource – that the local integrator could not pull the project off in 30 days for the budgeted amount.

## The Solution

"FileBound and DocuSource have exceeded my expectations in their ability to simplify a paper-based system into a website of job history information," commented Aaron Anderson, acting General Manger for Thermal-Vac. Steve Driscol continued on by saying, "we plan to put other departments' information into FileBound, such as HR, Policies and Procedures, Case Studies, and our own AP/AR documents as time permits. I was recently on a four-week extended business trip and it was comforting that I could get to vital information from anywhere at anytime." Steve Driscol has grasped the power of electronic document management quickly and plans to take advantage of both workflow and e-forms modules in the near future.

Although these were the ending comments, DocuSource was presented with several unique challenges that only a combination of technologies could solve. The application had very unique challenges associated with various documents and infrastructure limitations.

## Challenges

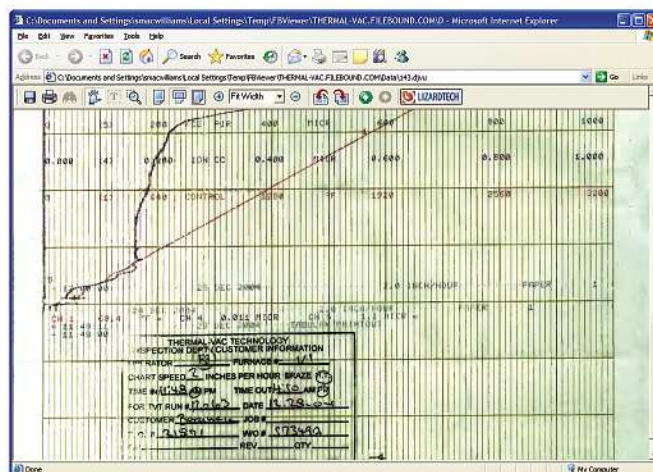
Although Thermal-Vac was technically capable of creating almost anything physically, it had no full-time network administrator. A harsh environment did not lend itself to implementing file servers, and there was no desire to add IT infrastructure.

Fortunately, File Bound's ASP (Application Service Provider) offering solved all these problems, in that all the data hosting of the images and data could be kept off-site. This was particularly attractive from a disaster recovery standpoint and all of the security requirements were met or exceeded by the FileBound ASP service.

The entire concept of a web-based user-interface that was as simple to use as Google or Ebay was attractive to the machinists and administration staff of Thermal-Vac, and not having to maintain an on-site server was a welcomed advantage.

I wish we could have said the challenges were over. No sooner had we concluded using the ASP service that we were presented a Thermal-Vac heat treatment chart that was the key document in each job file. Heat treatments can last from one hour to as long as 48 hours, the furnace temperature and many other vital records are recorded on a graph that prints about one foot of paper per hour, IN COLOR, with vital signatures at various points. How big a computer file size in bytes was a 48 foot long, 11 inch wide color document going to be and what would be the response time over an ASP? Answer: too big and too long. Initial tests file size was exceeding 30 MB and taking 5 to 7 minutes to download from the ASP. The project was facing a "show-stopper." The original answer we thought was to bring the application in-house. That was quickly dismissed since the main desire was to move the chart images by e-mail or web-services to clients, and the file sizes were a problem regardless of where the images were hosted.

DocuSource was aware of the DjVu viewer and its ability to compress color images with its impressive logarithm. It had been approached by Lizard Tech several times, but never quite believed how a TIF, PDF, or file type could radically affect file size and performance. When properly motivated a VAR will think out-of-the-box and DjVu was tested. Almost immediately we were seeing 1000% to 2000% file size reductions, moving from 20 MB to 10KB file sizes was impressive to say the least, everything from speed to performance to file size. The color images were easily read. The client was educated on the DjVu viewer and its popularity in the engineering and auto-cad space, and accepted it as a solution.



The advantage was quickly seen in the bar-graphs as common file compression saves every X and Y line, whereas the DjVu Viewer reconstructs the graphs as part of its compression technique greatly reducing the file size. Charts were now able to be retrieved from the FileBound ASP website in moments, the project was saved.

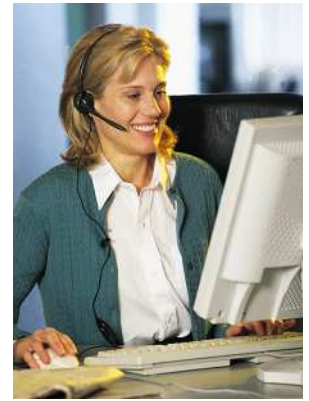
The last and final challenge was how to get the documents in. After all, we could have up to a 48' long document. When working with color and/or long documents and/or thin documents, Kodak makes the scanner for the job. The i100 and i200 line supported the ability to scan both business documents and long charts. This was a welcomed advantage Kodak had over all other scanners, as the environment and workflow would not permit one scanner for one type of document and another for the charts.

Along with the Kodak scanner, the Kodak development labs have a product called Kodak Capture which allowed us to scan documents as batches, recognize bar codes for each job number and compress the Charts using the DjVu technology. Great consideration was given to put everything in DjVu format, but the Kodak capture flexibility made it easy enough for different document types to be saved in different file formats.

Michael Melair, DocuSource technical integrator worked with Kodak, FileBound and DjVu for a four-week period to seamlessly get all three manufacturer's working with one another. Kodak integrated DjVu into their capture software. DjVu altered data output, so that the FileBound importer pro could grab images and push them to the ASP in the background, and FileBound people changed their viewer so that DjVu images were immediately visible and an extra click to open the file could be avoided. The end result was what Mr. Driscoll was looking for, a quick, simple, easy-to-use process that any administrative person with under three minutes of training could scan, index and push images to the web seamlessly.

## FileBound Results

FileBound, Kodak and DjVu are in daily use now by the entire administrative staff of Thermal-Vac. Email integration and Word integration has made it easy to add or extract documents on an as-needed basis to get information to and from customers. Documents are no longer unsecured and all images are backed up and maintained at the ASP for years to come. Job File 1 is now as safe as it ever was. Mission accomplished, DocuSource wishes to thank the tireless efforts of the developers of FileBound, Marex Corporation, Kodak, and Lizard Tech developers of the DjVu Viewer.



## Bottom Line

- Files are shared
- Valuable shop room floor is being re-purposed from records storage to revenue producing activity
- Customer retention is enhanced
- Customer service is improved
- Invoice cycles reduced
- Documents available 24/7
- Certification process greatly streamlined

*Written and submitted by  
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