White Paper

How LEAN saved big in graphic production

By IT Senior Consult John B. Jensen, 2013

webproof®

anytime and anywhere...

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How LEAN saved big in graphic production

This white paper shows how the WebProof Solution has optimized the process at one of the largest media groups in Scandinavia, with over 50 newspapers, including 10 daily papers, and a commercial production of 10,000-20,000 ads per month. The WebProof Solution has increased quality and reduced production time. By using LEAN principles to automate everything it can, it also reduced production labor by 29 people.

Af IT Senior Consult John B. Jensen, 2013

Everything is done automatically, without involving man-power, from the moment part material is received until the high-resolution PDF is delivered to the right newspaper and the pages to the right printer. WebProof also automatically controls the graphic ad production's global outsourcing to various locations around the world.

The automation has happened over several years, with IT Senior Consult John B. Jensen leading the entire implementation. The task is now complete and implemented with significantly large savings.

This white paper describes all processes involved in every graphic production. You will find many of these processes useful, no matter what you are producing. WebProof has used the same process to optimize graphic production at Aller Media, ICA with 1,000 different 8-16 page flyers per month; LEGO, with more than 2,000 users worldwide; Noth Media, with around 30 newspapers; Amedia, with around 30 newspapers; and more.

WebProof has asked John B. Jensen to share his knowledge of the integration process, which involves more details than possible to reproduce here. This paper, authored by John B. Jensen, is written in chronological order.

1. Receive email with print-ready ads
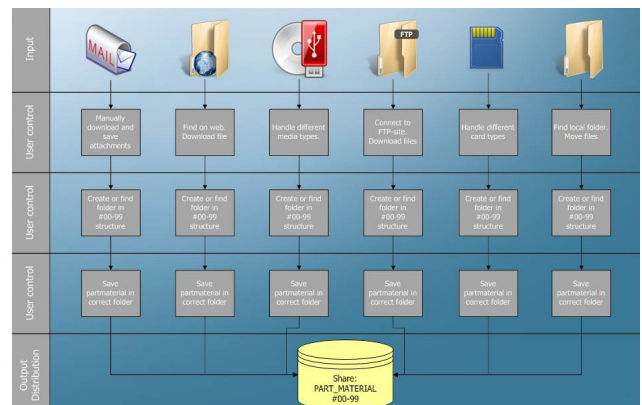
Before the integration of WebProof, the newspaper received files in many ways (USB sticks, CD-ROMs, email, shared drives, etc.). At least ten men worked to download and put ads in the right flow.

It was established that all ads should be sent to an email box, from which a backup of material and info was made (eg. sender, additional text , etc.) before each ad was automatically placed in WebProof (XML). The location of the right information in the right ad is based on a unique booking number that follows the advertisement through the whole process. Thus a PDF ad would be renamed with a booking number and queued for validation.

This meant one simple flow with a minimum of manpower, added all advertisements in WebProof, ready for subsequent processing.

Traditionally, ads were then manually reviewed (validated), where an employee assessed whether to put the ad through Acrobat or PitStop, and checked it for many things. Typically, each of these creative employees applied their own standard, which led to different results.

2. Material validation

The PDF ad was now placed in a workflow which includes Asura, a high-end preflight tool from OneVision. Asura validated through a closed profile by industry standard Ghent Workgroup (GWG) PDF/X-1a : NewspaperAds_1v3 standard. If the ad complied with the standard, it would be uploaded to WebProof, named as Preflight OK, and moved to the editorial system for placement on the pages of the respective newspapers. No person touches the ad, from the moment the customer has sent the ad until it is in the editorials for placement on the page.

If the ad shows an error in the preflight validation, will the employees again check the ad?

No, a team member will automatically be notified about the ads he has to take care of, with a status code on the ad showing the type of error. Then he can open an automatically attached preflight report in WebProof.

Then there are 5 options:

1. Change the status to NO FIX if it is a trivial problem, such as a small logo lacking resolution, with the result that the ad is automatically moved to the editorial.

2. Select AUTOFIX COLOR, whereby RGB images autofix to CMYK, if the resolution is far too high, the fonts are not embedded or colors need adjusting to meet Ghent PDF/X-1a : NewspaperAds_1v3 standard. Since the ad will then be validated, this gives assurance that nothing can go wrong.

3. In AUTOFIX BW, the ad autofixes to greyscale with the ICC profile, according to the newspaper standard.

4. In addition, the status AUTOFIX PS is placed when there is transparency or layers involved; the ad is sent through Acrobat and saved as a postscript file, then distilled to a PDF. The ad is then sent again through validation--this process solves the problem. One can simply click on the log without having to download the program.

5. Finally, MANUAL FIX can be used if errors do not fall under the other categories and can only be fixed manually, or if it is impossible to obtain customer confirmation on whether you or he will fix the error.

These procedures run on all ads received as finished material, as evidenced through the Danish Ritzau Medianet.

This process optimization has saved greatly. While ten people previously handled these processes, today only two part-time workers handle 10,000 to 20,000 ads per month, while CREDITNOTES are reduced to almost zero. These procedures have increased quality. Similarly, the turnaround time is significantly reduced, which is important for deadlines.

3. Ad production and collection of part materials

But what about all the ads that the newspaper produces in the production department?

The company used a lot of resources. There were even more potential savings here, along with more problems to be solved. Ad consultants were presented with the most outrageous material from a customer visit. It might be a layout on a napkin or even a logo cut out of a plastic bag.

The sales people could also send material to a specific designer that might not be there that day, which increased deadline stress. All that took a lot of time and there were not much money left from the sale of such an ad.

1. It was decided to collect all the part materials for one ad in a fixed structure, which included a way to track the location of every part material. The designer would not bother with USB memory sticks, CDs, downloads from various shared drives or different mailboxes, etc., but could directly start the preparation of the ad.

2. A unique specific folder structure was established, where all the material for each ad was filed under a unique ad number. However, many people had to manually load all this material into these folders. We wanted to automate this step.

3. Ad consultants were told to send all the materials to a specific mailbox, which WebProof empties automatically through the WebProof workflow. WebProof searches for the ad number anywhere in the material, then moves it to the correct ad folder. If the consultant wants another image, he just sends a new email, which is placed in the same folder. One can, from WebProof, attach materials assembled in those centralized ad-material-folders located on a local drive. If attachments are larger than 10 MB, some email systems limitations will not handle them. In these cases, one can upload through FTP or place the file on a harddisk for this purpose. Web-Proof automatically moves the part material to the ad folder.
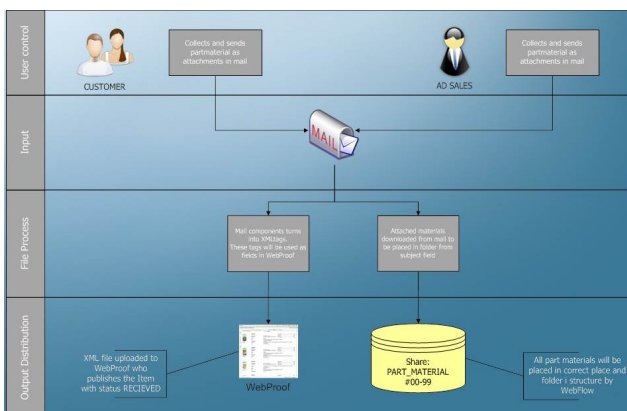
Previously, all of this material was placed on 25 servers spread across different locations, which meant that in order to move all this material, we had to go through each server. It took some time to gather everything from the servers. Placing ad materials in one space creates a very big advantage for IT management and saves the designer a great deal of time traditionally used to search for material for a given ad.

4. Manual packing of ad materials

Again, let me give you a little background history.
The amount of ads to be produced can vary widely throughout the year. This requires more production capacity during certain periods. It showed up that ad production costs are much cheaper in countries like India, China, Bolivia, and Lithuania than at home.
Even there are economic advantages to centralized ad production, it is necessary with more ad-production locations at certain periods.
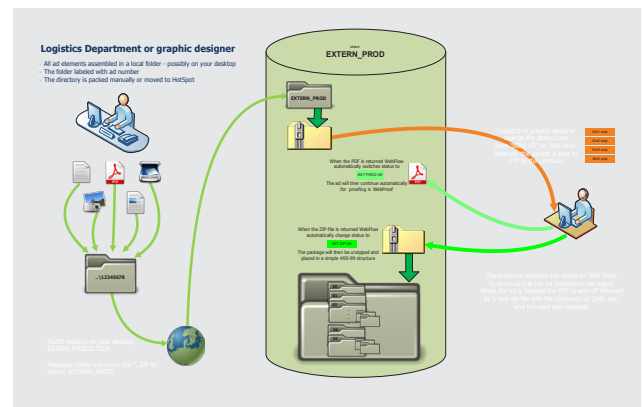
The handling of this can be quite time-consuming; the layout descriptions must be translated, ad materials must be packed, and it all must be sent to the manufacturer through FTP. Similarly, the producer must unpack everything, so there are typically many mistakes. Handling of proofs between sales consultants and the global production may also be difficult when different languages and cultures must communicate. Both start-up and ongoing operations can be quite time-consuming and quickly eliminate the otherwise great economic advantage by outsourcing graphic ad production.
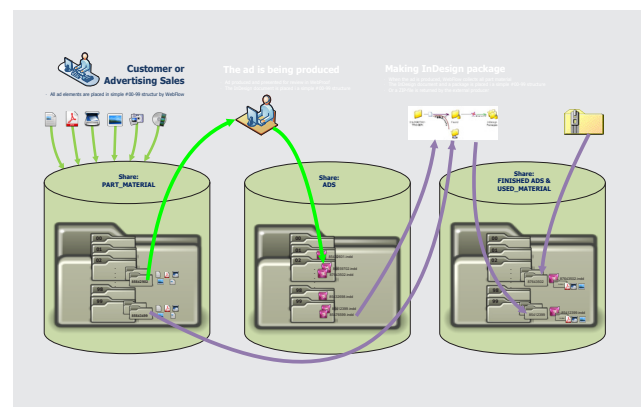
To obtain the ad-production economic savings, these processes should be automated at both ends.

Internally, we had to eliminate the time spent on packing all materials, the time to unpack again when the ad was produced, and time spent on moving materials to

the right folders. In principle, we should not worry about the extraction at the supplier, as this was included in the agreed millimeters price, but many errors at this process revealed that we had to automate this process as well. In this way, we eliminated all the manpower required to pack and unpack and materials went back realtime.

1. We set up a function which collected all materials together, including previous InDesign ads, images, fonts, and renamed files so when the material is returned. This function automatically moves and archives folders and moves ads to respective newspapers, etc.

2. After collection of all material into a folder, it will be zipped and uploaded to WebProof, where it waits for a status that tells which production location shall produce the ad. When this status is applied, the zip package will automatically be moved to the production site. The ad is visible in WebProof for only this particular production location, and they can start immediately.

3. The proofing traditionally runs between the production location and the advertiser or sales consultant. When the ad is approved by the customer, all materials will again automatically be collected and packed, including InDesign files, high-resolution PDFs, and part materials, and sent back to be unpacked automatically and moved to the right folders. The production location handles the proofing directly with the customer. Eliminating manpower means no designers have to unpack when the ad is returned from the production location. All material is ready when we receive an order for a new ad from the same client. Only one designer is involved, when all material must be prepared for auto packing. The structure of part materials and PDFs, both going and coming, is most important.

It now becomes meaningful to outsource production.

Prior to implementation, it could take up to one month before ads and part material came back from other production locations. Problems could result if the ad had to be produced again. This now happens in realtime. Today we are never missing material.

5. Process flow to external production locations

We would like to go even further and remove the resources we used to prepare the materials for ad production: part materials, previous ad copies, old logos to be recycled, old material copies, etc. At the same time we would like to ensure that suppliers do not have external access

to our file system, a general IT security requirement for all external suppliers.

We used the WebProof solution, which has some great facilities to auto-empty email boxes and structures, i.e., XML tag content for further use.
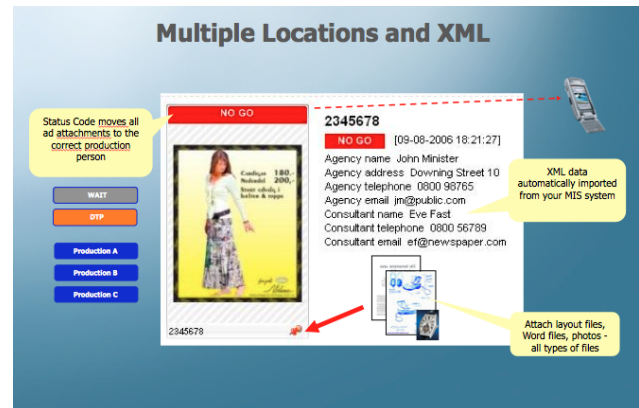
When there is an order for a new ad, you simply send an email, with the ad number in the subject line, to a given emailbox. This email also contains, for example, the message that the ad should look like the last produced ad, but it must be changed. WebProof picks up all sub materials in different folders, zips and places the package on a FTP server, and creates an ad page in WebProof with the status "Ready for production." By placing status "EXTERNAL" in WebProof, the zip package is automatically moved to the current supplier and passes a message that the supplier can now start to produce the ad. The supplier places the status "EXTERNAL PRODUCTION," which tells everyone that they are now in progress. At any time in WebProof you can determine a given ad's location in the process and sort these process statistics and display visually, in real time, how many ads are waiting to get started, how many are in progress, in proofreading, etc.

When a new supplier starts up, we initially add an extra CONTROL bow, to eliminate obvious errors until the supplier runs flawlessly. This check is also performed during production, as a quality control.

6. XML integration between booking and WebProof (mirroring)

There was still some manual handling we wanted to remove from the process. Here we saw the XML integration as a solution. We could also exchange more information between WebProof and the booking system--here, Atex Enterprise (Mactive). Users sometimes registered incorrect file names, which meant that we sometimes had to spend quite a time on troubleshooting, material search, etc. A prerequisite was that suppliers must not have access to the internal production systems. If you gave

access to the internal production system, which they could get through Citrix, the supplier would have access to billing basis. This must not happen.

So we decided which data fields in the booking system should display in WebProof. This means only fields that are useful for ad manufacturers, not economic data. Ad info is now automatically exchanged between Atex and WebProof using XML and is free-text-searchable. This is a big advantage for both internal sales and production employees who are always in WebProof, and from where they simply can search on their name and only view their own ads. The external production location can, for example, now view the insertion date directly, which is important when it comes to priority.

The implication is that users can only see what they have access to. Some of the fields are editable, so you can add comments and other pertinent information.
We exchange data between WebProof and Atex so WebProof is the direct production management tool for external ad producers. We should not, through other channels, give the manufacturer the delivery date, the consultant's name, whether the advertisement has to go through proof, etc.

7. Workflow Summary

Atex Enterprise is a booking system that delivers ad data to WebProof.
WebProof is the proofing and production management system.

Process status code changes on every single ad tell the user where in the process the ad is located. These status changes, either automatically via XML or manually - when a person is inside one of the processes, in both Web-Proof and Atex Enterprise. It could, for instance, automatically release a message to the respective sales people if the designer is missing some material.

You can see an ad's production location, the designer does not need to search for part materials, others can see that the designer is now working on the ad and, of course, you can see when it is approved. The ad may be in one of more than 100 different processes, but you never have doubts about where it is--an overview no other system can deliver and, as described here, has reduced manual manpower to a minimum as well as reduced production time, particularly waiting times, to almost zero. Everything runs automatically to produce 10,000 to 20,000 ads per month, which has achieved major savings.

8. Hardware overview

All the manual processes that have been removed and put into automated workflows require a smaller system than you think.

The only hardware used are a few servers. Moreover, instead of using expensive cluster solutions, for production security, we have developed a solution so there are always two servers, one as a hot standby for the other--i.e. all configurations files and ad data are being written down on both servers, so if one goes down, the other can just take over. It is a practical solution--Keep It Simple, Stupid--it works. Requiring no high IT skills, this solution can be handled by a superuser with normal IT background. Cluster systems are very difficult to handle and require much more IT expertise when something goes wrong. What once required 25 servers to handle preflight, etc. is today accomplished by one server, processing One-Vision Asura and WebProof workflow. Savings are piling up by dealing with one server rather than 25. This server handles preflight, collects all finished material, validates and manages the files so they follow the proof flow. A file server handles all part materials, packing/unpacking, shipping, etc.
Finally server handles XML file exchanges between Atex Enterprise and WebProof, where WebProof is a SaaS solution where the hardware and software is neither handled nor maintained by internal IT. WebProof is solely responsible – again savings.

9. Workflow overview
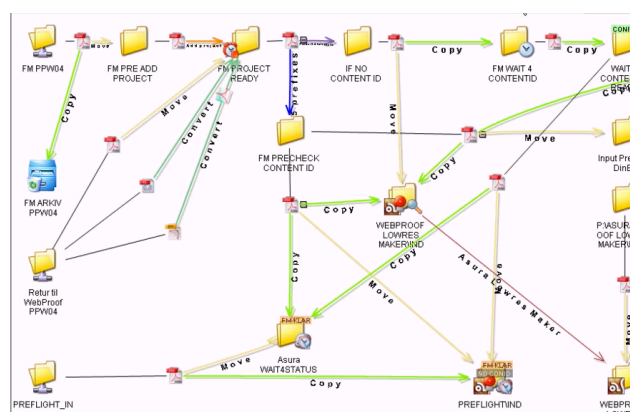
To illustrate the extent of this automated ad production system, you will see just a small selection of the workflow involved--probably only 10% of all the processes. Previously, moving a file from one folder to another required a manual action. Now everything happens automatically with a status code change, which eliminates the need to dig deeply in a file structure and copy files with the chance that they will be moved into the wrong folder, contain incorrect or old data, etc.

10. Executive summary

What is the result of the use of WebProof for this media group?

The process has been ongoing for some years.

1. The starting point was that the ad production was carried out on each newspaper. However, due to the need for economic improvement, it was necessary to reduce the cost of ad production. Thus, we started to centralize the ad production: i.e., moved from the individual newspapers to one central ad production location. This required some simple communication lines between sales and ad production, between which there can be great geographical distance.

2. Previously, a layout came on the back of a bag and the designer made a logo from the front of the bag, or sales consultants would arrive with a USB memory stick on which there was an image, etc. We needed a much more systematic way to collect all elements for the individual ads. We managed to get sales consultants to send all part materials in one email, to an email box which WebProof automatically emptied, validated, and attached to the ad, now ready for the designer.

3. We became totally independent of distance and knowledge of where the part material and finished material was located. This was subsequently very important, as requirements for further cost reduction and process optimization meant that the ad production had to be moved to where the millimeter price was cheapest--external ad manufacturers in the Far East, the Baltic States, South America and other places around the world. The only requirement is access to the internet, where WebProof operates.

4. Most important of all is STRUCTURE. Since it is not possible to let users manage a tight data structure, the WebProof solution was a system ensuring that outsourcing became an economic success.

5. The ad production was much cheaper in these low-wage countries, but it did not help if all savings went to manual time spent finding old ads, part materials, zips, etc., as well as the time it took to receive the finished PDF ad materials, InDesign document materials, unzip and place them to be found the next time an ad was produced.
   All this could be more than enough to remove the great economic advantage afforded by outsourcing ad production. Just like in the LEAN theory, the automation went on, including all the processes that take place before ad production and all the processes that take place after ad production.

6. As we determined that the external commercial production also should handle the proofing time, WebProof became both a production management tool and an ideal tool for the subcontractor. By changing a status code, designers could order missing part materials directly from the person responsible for the current ad.

At the beginning we created a control, so when sales consultants changed status when all part material was ready, we made certain the ad could now be produced. During the short time sales consultants learned this and from now on, everything processed automatically.

The solution's savings produced from outsourcing went directly to the bottom line, rather than going to increased administration before and after the ad production.

11. Advertisers can now both change and correct their ads themselves

The above has reduced the annual cost of ad production by several million DKK, but there are many more tasks that will lead to annual savings of even more.

WebProof solution contains a function whereby the advertiser or sales consultant is able, through a user-friendly interface, to perform their corrections directly in the original file--in the InDesign document. There is no re-

quirement for graphical experience; the only requirement is access to the Internet. This solution will save considerable time as well as money, which reduces stress over deadlines.

Since the solution contains the possibility of creating templates, we can establish an ad template file archive, where advertisers choose the desired template, place text, and attach images.

12. Stop ripping ads

More big savings come when we eliminate all the servers currently used to rip all ads prior to delivery to the printers. This means we can cut maintenance of software and servers. This is possible because we can guarantee that ads meet Ghent PDF/X-1a : NewspaperAds_1v3 standard, and that we no longer fit the ads as EPS, but as high-resolution PDFs of the pages. In addition, all printers today rip the newspaper pages, including ads, which eliminates the necessity of internal pre-ripping.

13. Automatic publishing on the flip-PDF, App and Management Report

In addition, the WebProof solution includes automatically publishing to both a page-flip PDF for reading newspapers on PC/MAC, iPhone, iPad and Android, and an App with readable pages, based on the input XML. This is based on the LEAN principles, which, automatically and without involvement of manpower, always produce a higher quality at a lower cost. This page-flip is especially interesting for the free local weekly newspapers.

WebProof also has a Management Bench Marking Report, which is quite good. With these statistics you can establish a good dialog with those involved, in order to further reduce production time and cost.

Benchmarking Management Report

News paper	Ads total	Ads with 2 or more Proofs	%	Ads with 3 or more proofs	%
AA	957	489	51	236	24
BB	14043	7067	50	3359	23
CC	6196	2913	47	1278	20
DD	2875	1276	44	551	19
EE	16971	6935	40	35	16
FF	210	81	38	2848	16
GG	4005	1467	36	574	14
HH	13302	4852	36	1598	12
II	13044	4353	33	1584	11
JJ	5435	1616	29	444	8
Total	77038	31049	40	12507	16

✓ 31.000 ads have minimum more than 2 proofs, why?
✓ If BB had 29% like JJ, almost 3,000 ads did not require an additional proof?
✓ 12.000 ads had more then 3 proofs, why?

14. Move all servers and workflow CLOUD

As a final task, I see the possibility of moving all workflows and the entire server farm to the CLOUD.

The purpose of this is to simplify the transmission of data, further enhance the operating stability, and remove shared responsibilities between internal IT service and maintenance and vendor software, leaving WebProof solely responsible for the operation. This means great savings, not only currently in operation but also year after year, as we have removed the cost of hardware upgrade and expansion because it is included in the running CLOUD!

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I do hope you found something you can use within your graphic production. You are welcome to contact me or WebProof for further information. I have been working within graphic production for many years and I just love what I do.

Kind regards,
John B. Jensen, IT Senior Consult, 2013

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