



Importing PDF files into Design Applications

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Table of Contents

1	Introduction	3
1.1	About the Ghent Workgroup.....	3
1.2	About This Document	4
1.3	More Information.....	4
2	PDF Aggregation: An Overview	5
2.1	What is an Aggregation?.....	5
2.2	What is PDF Aggregation?.....	5
2.3	Human Versus Non Human PDF Aggregation	5
2.4	Understanding PDF Aggregation is Important	6
3	Potential Concerns Associated with PDF Aggregation	7
3.1	Aggregating PDF's with Differing PDF Settings	7
3.2	Individual PDF Settings may be ignored when Aggregated.....	7
3.3	Things Don't Always Work as Planned.....	8
4	Common PDF Aggregation Workflows.....	9
4.1	PDF Aggregation In Adobe InDesign	9
4.2	PDF Aggregation in QuarkXPress.....	10
4.3	Aggregation in Imposition Software.....	12
4.4	Aggregation in Editorial (publishing) Systems	12
5	Minimizing Undesirable Results	14
5.1	Best Practices for PDF Aggregation.....	14
6	PDF Aggregation in Practice: Placing Partial Ads	17
7	Conclusion and Further Information	19
7.1	Conclusion.....	19
7.2	Further Information	19
8	Acknowledgements.....	20



1 Introduction

1.1 About the Ghent Workgroup

The Ghent Workgroup (GWG) is a worldwide assembly of graphic arts stakeholders (user associations, vendors, consultants, educational institutions, service providers, and end users) founded in 2001. It was formed in response to increased needs for standardization of the different processes in graphic arts workflows, especially in an increasingly globalized service provider landscape. The rules of the group have been carefully conceived to ensure that the group remains practically oriented, and the priority is focused on the needs of the end users.

The GWG focuses on developing best practice guidelines and specifications for graphic arts workflows. While initially focusing mainly on quality control and preflight for PDF workflows in commercial print, that focus has broadened to also include metadata specifications, workflow test suites and increased support for market segments such as packaging.

All material created by the GWG is disseminated free of charge through its website (www.gwg.org) and through the vendors and user associations partaking in the work of the group.

The mission statement of the Ghent Workgroup states that the group will “establish and disseminate process specifications for best practices in graphic arts workflows”. In practice this means that the group:

- Develops and maintains process specifications and associated documentation for best practices in graphic arts workflows.
- Develops and maintains *reference implementations* to ensure the specifications it develops are usable in the real world.
- Actively promotes adoption of its work in both the graphic arts user and vendor communities.
- Streamlines and coordinates the decision process between its members.

While the group started its work developing guidelines for PDF quality control, it has expanded its scope. The group is now involved in magazine, office, and packaging specific specifications, the development of job ticket metadata specifications for delivering PDF files for advertisements, preflighting PDF files, and in developing test suites to ensure workflows and applications are configured and used correctly.

Much of the work of the group is done through teleconferences and e-mail discussions. Three times a year, the members come together for a three-day face-to-face meeting. To streamline the work and decision process, subcommittees have been organized around specific topics do the actual work. To learn more about the different subcommittees, or to find out how you can contribute to this effort, visit the Ghent Workgroup website (www.gwg.org).



1.2 About This Document

The purpose of this white paper is to highlight important information regarding the aggregation of PDF Files, and how to manage the potential problems that might occur when dealing with PDF files that have been aggregated.

1.3 More Information

The GWG website contains a lot of useful information regarding the GWG, its specifications and deliverables, and caters to vendors, associations and end-users alike. It also features a user forum where you can interact with your peers and ask questions.



2 PDF Aggregation: An Overview

2.1 What is an Aggregation?

In order to better understand the concept of PDF aggregation as presented in this whitepaper, it is useful to first review aggregation from a generic sense. The following explanation of aggregation was extrapolated from two separate information sources: <http://whatis.techtarget.com/definition/aggregate> and <http://www.merriam-webster.com/dictionary/aggregation>.

The verb aggregate (from the Latin word aggregare) refers to the act of gathering things that are usually independent from one another together into a collection, mass or whole. An example of this would be the aggregation of data into a database. The data maintains its own identity but becomes part of a collection or whole within the database.

It is with this understanding that underlies the concept of PDF aggregation.

2.2 What is PDF Aggregation?



For the purpose of this whitepaper, the term PDF aggregation refers to placing (or nesting) one or more PDF file(s) inside another document that will then itself be saved as a PDF. One example of this might be placing a half-page ad saved as a PDF into an InDesign editorial page of a magazine for print publication. Eventually that page will be saved as a PDF for output, and that final PDF page will contain the half-page ad that was placed as a PDF.

PDF aggregation also occurs in commercial printing when several PDFs are imposed either manually or automatically, and then a final imposed file is exported as a PDF to be processed by a workflow RIP.

In complex situations, there can be multiple levels of PDF nesting. For example, a logo may be saved as a PDF, which is placed into a partial ad that is also saved as a PDF, which then is placed in a page layout document that is saved as a PDF, which finally is imposed with other PDFs and saved as yet another PDF!

2.3 Human Versus Non Human PDF Aggregation

PDF Aggregation can be done manually, through human intervention, or it can be done through workflow automation. Regardless of how it is done, the end result is that a PDF (or multiple PDFs) were placed into another file, and the file was saved as a PDF.

This whitepaper will touch briefly on non-human (automated) PDF aggregation, but will focus primarily on PDF aggregation through human intervention. Having said this, many of the suggestions and guidelines discussed in this document have relevance for both human and non-human aggregation.



2.4 Understanding PDF Aggregation is Important

Modern software, relevant PDF standards and specifications, and PDF compliancy testing suites have all come a long way to minimize and correct potential issues that may arise as a result of PDF aggregation. Unfortunately, problems can and do arise.

Understanding what PDF aggregation is, what the potential issues are, and what tools are available to assist you with successful aggregated PDF output can save time, money, and aggravation. While it is not possible to predict and correct every possible scenario that can result from PDF aggregation, understanding the issues can help designers build better files, create better PDFs, and eliminate some of the potential pitfalls that can lead to problems at the output stage.

This document discusses some of the potential concerns associated with PDF aggregated documents, and examines some common PDF aggregation workflows and practices. This document also provides some best practices that can be followed to minimize negative outcomes that relate to PDF aggregation.

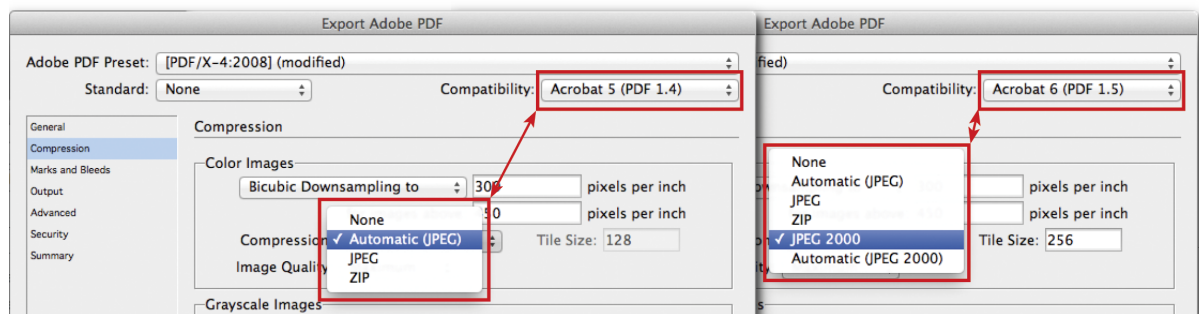
3 Potential Concerns Associated with PDF Aggregation

This section of the document will look at some of the more common concerns that can be associated with PDF aggregation; however, it is important to note that the culmination of all these concerns is the issue of correct versus incorrect output. In other words, at the end of the day, the finished product needs to be right.

3.1 Aggregating PDF's with Differing PDF Settings

Regardless of whether PDF standard like PDF/X-1a or PDF/X-4 is used to generate a PDF, there is a potential that PDFs being aggregated may have different settings. Of particular importance is the PDF level or compatibility selected when generating the file.

For example, A PDF that was created using PDF 1.3 will not retain any native transparency because PDF 1.3 does not support a transparent imaging model. Saving a PDF using PDF 1.4 does allow for transparency, but does not allow for JPEG 2000 compression, which is only supported in PDF 1.5 and above.



Aggregating PDF files that have different PDF levels can be problematic because the final PDF may not render all of the attributes of the nested PDF files, or may render them incorrectly. For example, imagine a PDF 1.6 file using JPEG 2000 and containing native transparency is placed into a page that is then saved out as a PDF/X-1a file that does not support either of those attributes. Depending on the software used to aggregate the files, and the complexity of all the corresponding PDF files, the nested PDF file may not render correctly in the final PDF/X-1a file.

In general, when PDF aggregation occurs where PDF files use different PDF settings, there tends to be less problems when the final PDF level is as high or higher than the PDF levels of the PDFs nested within it. In other words, a final aggregated PDF that was created using PDF 1.6 that contains nested PDF files that were created with PDF 1.3 will tend to be less problematic than a final aggregated PDF file that was created using PDF 1.3 that contains nested PDF files that were created with PDF 1.6.

3.2 Individual PDF Settings may be ignored when Aggregated

One thing to keep in mind when dealing with PDF aggregation is that certain PDF settings within nested PDF files may be ignored when aggregated into a final combined PDF file. For example, when placing a PDF in InDesign, the Output Intent (OI) of the nested PDF file will not be maintained when an aggregated PDF file is created; instead, the DeviceCMYK colours that were generated according to that PDF's Output Intent will be applied through the aggregate document's CMYK working space. If the CMYK working

space in InDesign is different than what was defined in the nested PDF, colour shifts may occur.

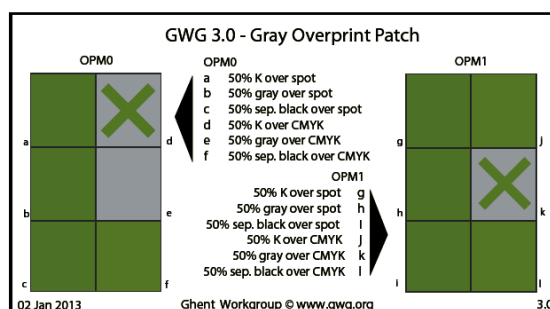
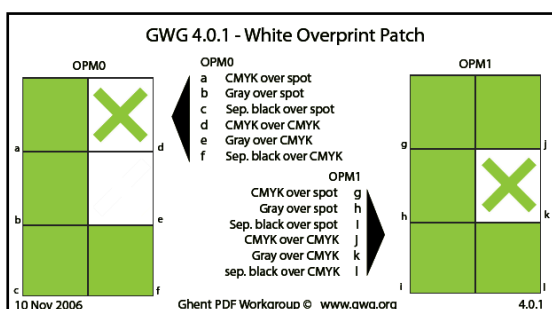
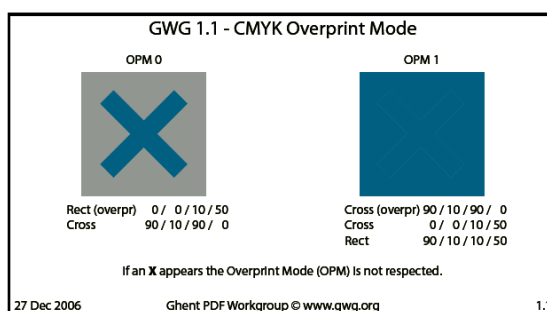
It should be noted that the vast majority of PDF aggregation applications on the market are not currently PDF/X compliant since they ignore Output Intent. This can be problematic if the Output Intent of a placed PDF/X (e.g. ISO Coated) is not identical to the document color space (e.g. ISO Newspaper) of the new aggregated PDF document.

Ideally aggregation software such as layout and imposition applications should warn users when the Output Input of a placed PDF does not match the Output Intent of the aggregated PDF being created.

The concepts of file and settings inheritance are beyond the scope of this whitepaper, except to say that they play a role in how certain PDF settings are articulated through the aggregation process.

3.3 Things Don't Always Work as Planned

Software, hardware, and file formats change at staggering rates. As things evolve, there is always the chance that snags will happen along the way. Sometimes software doesn't perform as expected, and it is important to use tools to help identify these situations. For example, the GWG Output Suite v.4.0 has been successful in identifying inconsistencies with PDF settings inheritance. In the example below, patches 1.1, 3.0, and 4.01 of the Output Suite has demonstrated that a particular page layout application fails to honour certain overprint settings, despite the fact that the program has been designed to honour



all overprint settings.

As this example shows, the more tools that are used to model and predict behaviour, the better the end results can be predicted to ensure successful and consistent output.

Section 5 of this document contains some suggestions on best practices and tools that can help minimize and detect undesirable effects of PDF aggregation.



4 Common PDF Aggregation Workflows

As mentioned earlier in this document, PDF aggregation can be done through human intervention, or through workflow automation. While the latter will be touched upon in this document, the former will be discussed in detail.

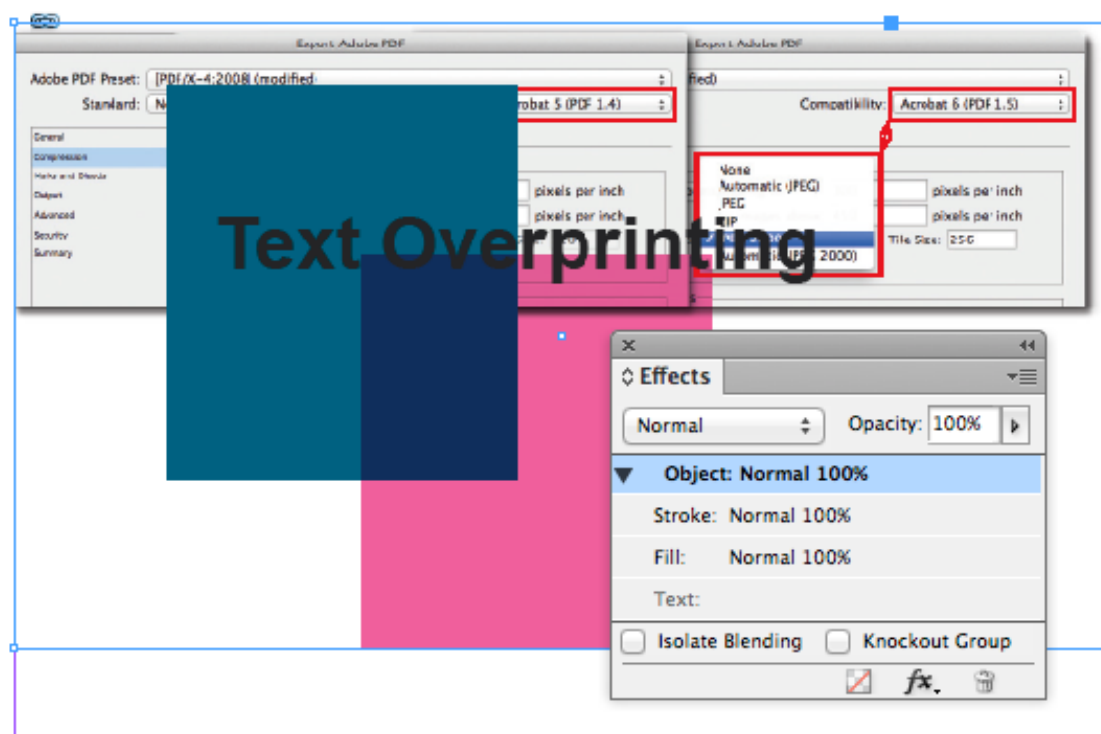
4.1 PDF Aggregation In Adobe InDesign

PDF aggregation in Adobe InDesign occurs when one or more pages from one or more PDF files are placed into an InDesign document, and then the InDesign document itself is exported as a PDF file. When a page from a PDF file is placed into an InDesign document, it is “internalized” into the InDesign document, maintaining the graphical objects and their properties from the PDF page including fonts, colours, and colour spaces, transparency and blending options (including transparency groups), and overprinting. (Note however that this placed content is *not* editable within InDesign other than overall scaling and rotation of the placed page as a whole.) By doing this, InDesign is better able to apply output settings such as colour conversion, PDF/X requirements, transparency flattening (for PDF versions less than 1.3), and other relevant attributes. (This behaviour is quite different than that of the earliest versions of InDesign that kept placed PDF content “native” yielding various nesting issues.)

It is critical to note that InDesign does *not currently* maintain or otherwise utilize the Output Intent of any placed PDF files such as those for PDF/X and PDF/A subset standards. As such, any DeviceCMYK colours in placed PDF content assume the InDesign document’s CMYK working space. Any DeviceRGB colours in placed PDF content assume the InDesign document’s RGB working space. Thus, if the InDesign’s document CMYK working space and the Output Intent of the placed PDF are different, the result could lead to visually noticeable colour shifts in any DeviceCMYK objects within the placed PDF. ICC colour profile-tagged content within placed PDF content maintains its colour management attributes (including rendering intent). As such, to maintain the colour accuracy and production flexibility, consider:

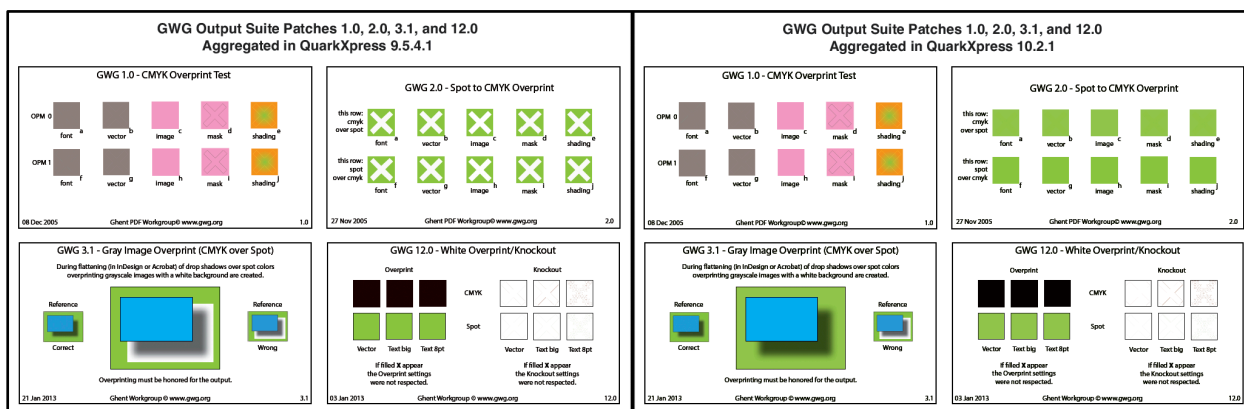
- For placing PDF/X content into an InDesign document where the output intent profile of the PDF/X file does *not* match the InDesign document’s CMYK working space, consider converting the DeviceCMYK colors from the Output Intent colour space to the InDesign document’s CMYK working space *prior* to placement of the PDF content into the InDesign document.
- Avoid premature conversion of colour-managed RGB content (such as digital raster imagery) in your workflow. Placed PDF content with ICC profile-tagged RGB content is fully and properly honoured and not affected by the output intent profile issue cited above.

If the PDF page that is placed in InDesign contains a page-level transparency group, the attributes of that transparency group are visible, and editable, in the Effects Panel in InDesign. The exception to this is “colorspace” which is only maintained if the page’s group is marked as isolated.



4.2 PDF Aggregation in QuarkXPress

The behaviour (and result) of PDF aggregation in QuarkXPress varies depending on what version of the software is being used. In particular PDF aggregation is different in QuarkXPress 10 (and later versions) than it is in QuarkXPress 9 (and earlier versions).



There are even differences between QuarkXPress versions 10.1, 10.2 and 10.5.

The image above shows patches from the GWG Output Suite that were aggregated in QuarkXPress 9.5 on the left, compared to the same patches aggregated in QuarkXPress 10.2. Note the significant differences in the result.

4.2.1 QuarkXPress 9 and Earlier

Earlier versions of QuarkXPress (i.e. versions 8 and 9) were not designed to interpret or honour external transparency, so when a PDF with native transparency is placed in a document, QuarkXPress 9 and earlier will generate a preview and internally convert it to PostScript (EPS), which in turn flattens any native transparency. Consequently, when the original placed PDF is aggregated when that page is exported to PDF, the native transparency within the imported PDF is not native within the exported PDF. Due to the flattening of native transparency for placed PDF in QuarkXPress 9 and earlier, Matthias



Guenther, Quark's Global Director, Desktop Business Unit, mentions that Quark recommends flattening all transparency in a PDF prior to importing it into a QuarkXPress document up to version 9 (personal communication, October 16, 2014).

For QuarkXPress 9 and earlier, transparency is maintained for native objects, like boxes, text or lines, when the appropriate output options are used (i.e. the resulting PDF the transparency of these objects is retained). QuarkXPress 8 or 9 exports the PDF via PostScript using PDFmarks, which is a technology invented by Adobe to retain transparency, layers and other objects unknown to PostScript and carry it over to PDF.

This is possible for both, the built-in PDF libraries and via Adobe Distiller, when you use the appropriate distiller settings to retain transparency in PDF carried through PostScript with PDFmarks.

It should also be noted that QuarkXPress 8 and 9 retain PDF Layers, so these layers can be retained through the aggregation process and so that they appear in the exported PDF.

4.2.2 QuarkXPress 10 / QuarkXPress 2015

Unlike its predecessor versions, QuarkXPress 10 and QuarkXPress 2015 understand PDF natively, meaning they do not see PDF as single entity, but rather understand all elements within, including transparency. This understanding of native PDF transparency occurs when PDFs are imported into a Quark layout, as transparency within imported PDF is retained, and all elements behind transparent objects in the imported PDF are visible. In addition to PDFs, Adobe Illustrator and Adobe Photoshop files can also be imported into QuarkXPress 10 with unflattened transparency, and be processed further once placed.

When exporting a QuarkXPress 10/2015 page to PDF that contains placed PDF files with native transparency, QuarkXPress can export them unflattened when the appropriate output settings are used. Then transparency in imported PDFs will be retained in the resulting exported PDF.

Matthias Guenther offers this explanation:

With QuarkXPress 10 and later [processing imported PDFs] is completely different. When importing, QuarkXPress 10 has a fundamental understanding of the PDF and can process it natively. QuarkXPress 10 holds onto the richness of imported PDF with all elements and attributes (like transparency). PDFs are native to the Xenon graphics engine in QuarkXPress 10, which is developed by Quark. QuarkXPress 10 basically keeps an internal representation of the placed PDF with all its elements and attributes; only images are downsampled if appropriate. For layout purposes a proxy image is rasterized for screen, adaptive to the resolution needed (screen/magnification).

The output intent of the imported PDF is not kept, as QuarkXPress is always repurposing source graphics according to the output intent specified when exporting/outputting. Upon output QuarkXPress 10 injects the placed PDF into the output stream.

4.2.3 PDF/X-4 export out of QuarkXPress

QuarkXPress 10.5 is the first version that can export imported PDF files of the Ghent Workgroup Output Suite v4 successfully. QuarkXPress 10 does not add a verification flag for PDF/X-4, which means that for a correct PDF/X-4 the user needs to use 3rd party software such as Adobe Acrobat or callas pdfToolbox to add a PDF/X-4 flag.

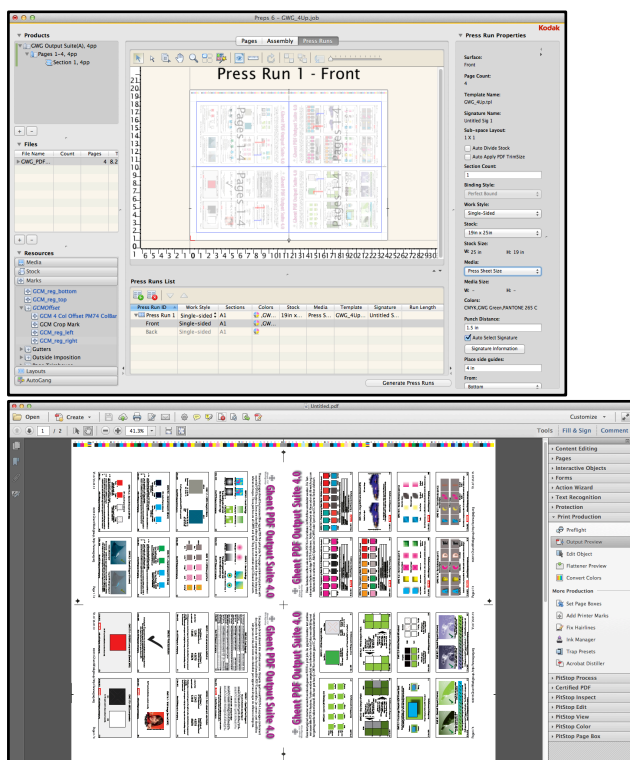
QuarkXPress 2015 (released in April 2015) can export valid and verified PDF/X-4, the verification is ensured by preflight technology from callas.



4.3 Aggregation in Imposition Software

In some cases, PDFs can be aggregated through commercial imposition software such as Kodak Preps or EFI Metrix. In some cases imposition software can be integrated into prepress workflows, and in other cases it can be used as a standalone product.

In certain situations, PDFs placed into an imposition are aggregated when the imposition is “printed” to a PDF file. The example below shows a Preps imposition with four placed PDF files that was printed to a PDF file.



4.4 Aggregation in Editorial (publishing) Systems

Some publishers use advanced Editorial and/or publishing systems, such as CCI NewsGate or the Quark Publishing Platform, as well as a variety of other proprietary systems, to regulate complex publishing workflows. There are several advantages to these systems, including automation, collaboration, and multi-channel distribution capabilities. While a detailed examination of these tools is beyond the scope of this document, it should be noted that when editorial/publishing systems are part of the PDF workflow, it is important to understand the underlying technology, capabilities, and limitations that may exist in relation to PDF aggregation.

Here is a non-exhaustive list of things to consider when aggregating PDF using editorial type publishing systems:

- Does system use PostScript technology within the process of generating the PDF (not recommended)?
- Does the system honour and interpret the PDF data of the files placed in it?
- Does the system use Adobe Library for aggregation, or another technology?



Søren Chrestensen, Technology Architect at CCI Europe, offers this explanation of PDF aggregation within editorial systems (personal communication, January 12, 2015):

PDFs are aggregated in editorial systems when a PDF is placed on a page, and the page is output to a media channel where PDF is the output medium. PDF is used in media channels such as printing and tablet/mobile apps.

Editorial publishing systems can be separated by which technology stack is used by the vendor for PDF aggregation. Some editorial systems use Adobe InDesign or similar applications for all PDF operations. Other editorial systems use PDF libraries such as Adobe PDF Library or have their own native implementation of the PDF standard.

For both groups of systems it is important to investigate which versions of the PDF standard are supported, and if standards such as the PDF/X standards are supported. As mentioned earlier in this document special care should be taken if using PDF documents with different versions of the PDF standard as features can be discarded or the output PDF can be malformed when aggregated.

Furthermore it is relevant to investigate if the editorial system does any pre-processing of images. Editorial systems using Adobe InDesign or Adobe PDF Libraries have the feature of resampling or compressing images when aggregating PDFs. This can lead to loss of quality with images in aggregated PDFs. You should be aware of what manipulation can happen to the PDFs when they are being aggregated.

CCI NewsGate uses its own implementation of the PDF 1.7 standard. In order to preserve quality images are not pre-processed. Furthermore the content of the PDF being aggregated is preserved without altering content. This is done in order to limit the amount of control needed after creation of the final PDF and to eliminate the possibility of errors in the PDFs.

Chrestensen goes on to explain that whether or not the aggregated PDF's output intent is honoured or not will vary from system to system. For example, all current releases of CCI NewsGate do not have any knowledge of the aggregated PDF's output intent and therefore does not honour it.

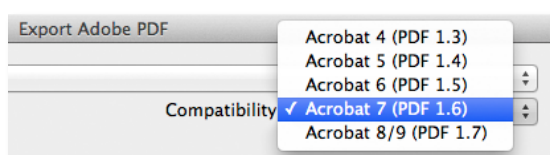
5 Minimizing Undesirable Results

As technology improves, it becomes easier to limit undesirable results on output with aggregated PDF files. By following some best practices for PDF aggregation, and by using some simple tools, it is possible to identify potential problems before the files get to press, and produce proper and predictable output with aggregated PDF files.

5.1 Best Practices for PDF Aggregation

The first and most important step in reducing potential problems associated with PDF aggregation is to produce good quality individual PDF files with proven reliability to the extent that this is within one's control. The suggestions below identify some best practices that can be used to minimize variability between single PDF files that will be aggregated.

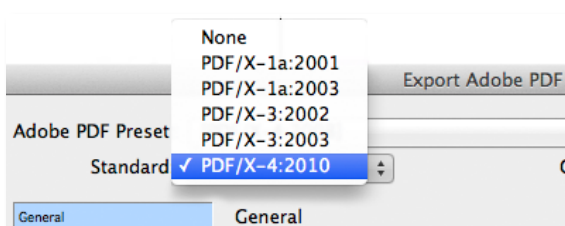
5.1.1 Suggestion #1: Keep PDF Levels (compatibility) consistent when possible.



This will help reduce any issues that can occur when PDF levels are not consistent. This will eliminate issues that might arise due to transparency, compression, layers (OCGs), and/or other considerations.

5.1.2 Suggestion #2: Use proven PDF Standards.

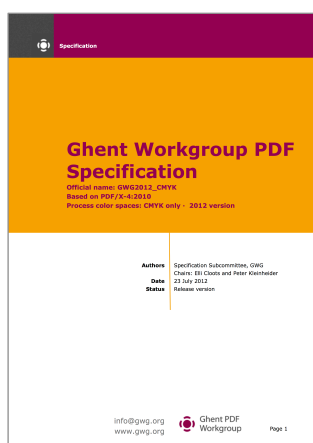
There are many benefits to generating PDF files that conform to PDF standards. By conforming to a standard, predictability and repeatability are greatly increased.



Since 2012, the Ghent Workgroup has endorsed PDF/X-4 (ISO 15930-7:2010) as a preferred PDF standard for PDF files intended for print. PDF/X-4 offers many improvements over older PDF/X standards and consequently output results can be very predictable and repeatable.

5.1.3 Suggestion #3: Take advantage of specifications

While PDF standards can do a lot to minimize concerns, further controlling PDF output with industry recognized specifications can further tighten specific PDF creation considerations to increase the likelihood of successful PDF output.



One such specification is the GWG2012_CMYK specification released by the Ghent Workgroup. The full specifications, as well as an easy to follow whitepaper are available, for free, from the GWG website (<http://www.gwg.org/gwg-2012-specifications/>).

There are many benefits to using the GWG2012_CMYK specifications as a guide for creating PDF files. For example, there are several free tools available from the GWG that can be used to verify the conformance of a PDF file to the specifications. Additionally, many of the key software and workflow vendors in the market endorse and support the GWG specifications, further ensuring conformance and predictability.

5.1.5 Suggestion #4: Take advantage of GWG 2012 specification variants

Within the GWG 2012 specification, several variants are listed that further define the specification for different market segments. When creating aggregated PDF files, creating

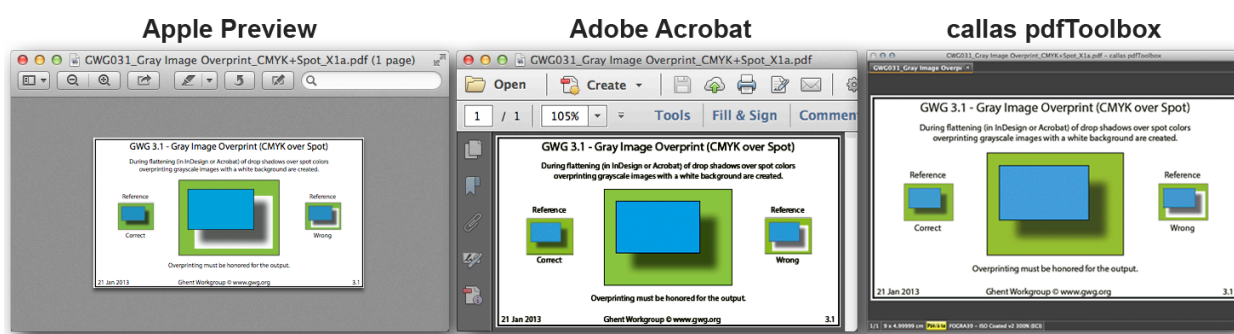
all PDFs to be aggregated to conform to the same GWG 2012 variant will further reduce the possibility of inconsistencies between the various PDF files. For a full list of variants, please refer to the GWG2012_CMYK specification that can be downloaded from www.gwg.org.

5.1.6 Suggestion #5: Use the same Output Intent when possible

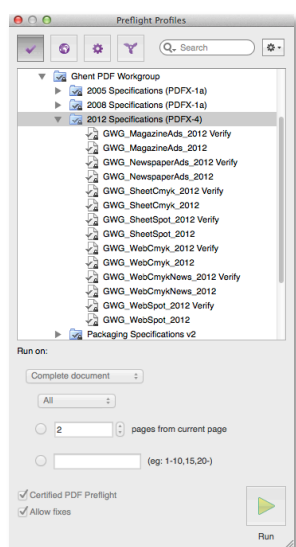
Since most aggregation software does not honour the Output Intent of placed PDF files, it is strongly recommended that the output intent of placed PDFs matches the Output Intent of the final aggregated PDF file. In some cases, the author of the final aggregated PDF file also creates the placed PDF content and therefore it is easy to control this. In many cases, however, printers and publishers are provided with PDFs created by clients and do not have control of the Output Intent used to create the supplied PDFs. In this scenario, additional workflow solutions (e.g. a color server) may help manage this.

5.1.7 Suggestion #6: Soft proof PDF files (properly) before output

Soft proofing aggregated PDF files properly prior to output can be a simple and powerful way to predict what output will look like before the job gets to proofing or press. Not all PDF viewers can preview the output results properly. In the example below, we see the difference in how Preview (apple), pdfToolbox (callas) and Acrobat Pro (Adobe) preview the same file. In this example, both Acrobat Pro and pdfToolbox preview the file correctly, while Preview does not.



5.1.8 Suggestion #7: Preflight



Preflighting should be done on each individual PDF file as well as the aggregated PDF file to validate the successful creation of a PDF file when evaluated against certain criteria.

The Ghent workgroup offers free PDF preflight profiles that will preflight a PDF against the GWG2012_CMYK specifications.

The image to the left shows the GWG 2012 preflight profiles that come preloaded into Enfocus Pitstop.

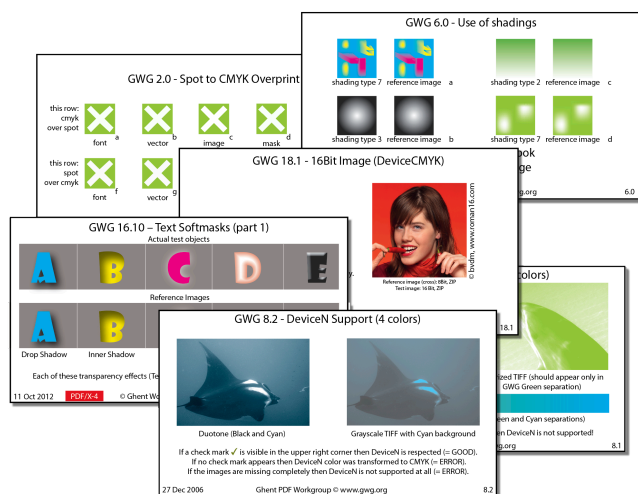
Likewise, current versions of Adobe Acrobat and callas pdfToolbox natively provide preflight profiles for the GWG 2012 standards.

These profiles can be imported into the most popular PDF preflight programs, such as Adobe Acrobat, Enfocus Pitstop, and callas pdfToolbox to name a few. The GWG preflight profiles can be downloaded from <http://www.gwg.org/application-settings/>.



5.1.9 Suggestion #8: Take advantage of the Ghent PDF Output Suite

The Ghent Workgroup has developed a comprehensive output suite that can be used to validate PDF output against the GWG2012_CMYK specification. The test suite and its patches are free to use, and can be found at <http://www.gwg.org/download/test-suites/ghent-output-suite/>.





6 PDF Aggregation in Practice: Placing Partial Ads

Magazine publishers face a unique set of challenges when it comes to PDF aggregation, especially when it comes to the need to place partial ads into editorial pages prior to output.



Source: InStyle Magazine, October 2014, pg. 413

Partial ads are ads that only take up part of a magazine page's real estate. Partial ads are usually supplied as PDFs made by designers. The quality and consistency of the PDF generation is often beyond the control of the publisher, and they are often challenged to work with what is given to them. Trade and local publications can be particularly challenged because partial ads are frequently prepared by small independent business owners as opposed to professional ad agencies.

Issues can be further complicated when more than one partial ad from different sources are combined on a single page. For example, there might be a page that has one half-page ad and two quarter-page ads on it. When the page is aggregated into one final PDF, there is a risk that one or more of these ads may not output correctly. Of course getting the ads to output correctly is a key priority for a magazine publisher because when ads go wrong it can result in costly "make good" concessions and even lost business.

While processes and procedures may vary, a general workflow for incorporating partial ads into magazine editorial pages is as follows:

- The magazine publisher receives a PDF of the partial ad from the ad supplier;
- The magazine publisher may or may not preflight the supplied PDF file;
- The magazine publisher may or may not have to further edit the PDF ad to adjust such things like trim size, etc.;
- The magazine publisher may or may not have to convert the color space of the PDF ad (defined by the output intent) to the document color space of the publication;
- The editorial for the magazine is typeset and laid out in a page layout program;
- The partial PDF ad is inserted (placed) into the appropriate page of the page layout file (or it may be placed in an editorial systems such as DPS);
- The page layout file is exported to PDF;
- The exported PDF page may or may not be preflighted;
- The individual PDF page files exported from the page layout file are imposed (typically within the prepress workflow);
- The job may or may not be hard or soft proofed before going to plates and press.

Most magazine publishers realize the importance of ensuring supplied PDF ads (partial or full page) are built correctly so that potential errors can be minimized. The process of preflighting each and every ad for a publication can be laborious and costly. Further, when errors are found, the ad supplier must be contacted and a request for a revised ad must be issued. With tight deadlines, small profit margins, and limited staff, the more time and money a publisher spends preflighting ads and working through correction loops, the less likely they are to turn a profit. It is for this reason that many publishers



have turned to online digital ad submission through an ad portal. Some publishers have developed their own systems, while others rely on services provided by specialized ad submission companies such as SendMyAd by Blanchard Systems (<http://www.blanchardsystems.com>).

In Canada, several magazine publishers collaborated with Magazines Canada to create jointly used ad submission portal called AdDirect. Magazines Canada is a non-profit organization that represents magazines publishers across the country.



Advertisers and ad agencies upload their ads to AdDirect, where the ads are automatically preflighted to a specified set of criteria established by the magazine publishers. If the ad does not pass preflight, the sender is made aware immediately of the concerns and the ad is rejected. If the preflight generates

warnings, the sender is made aware of the warnings and has the choice to accept the warnings or not.

After the ad successfully passes preflight, the sender previews the ad on screen for a final check. If the sender is okay with the soft proof, they release the ad to the publisher. By doing this, they are essentially signing off the job. As long as the ad prints the way it looks on the ad portal, the printer and publisher have met their obligations with relation to the printing of that ad.

Since implementing this portal a number of years ago, the magazine publishers using the portal report a notable reduction in the time and cost associated with obtaining a valid PDF ad, and have seen more predictable results on press.

When using a complex editorial system to manage partial PDF ads, the workflow is somewhat different. Søren Chrestensen, explains how partial ads can be processed using an editorial system such as CCI NewsGate (personal communication, January 12, 2015):

Some media houses use an editorial publishing system such as CCI NewsGate for print production. Ads for print pages are often booked into a specific page in NewsGate through an ad booking system. The booking contains a reference to the associated ad material. Ad material is then imported into NewsGate and automatically connected to bookings that may be placed automatically or manually on pages. If manual correction is needed it is done in the page planning tool.

NewsGate keeps metadata about the specific ad in the database. Most important in this context are the size and coordinates of the ad in order to check if page has any overlapping elements. This is done automatically by CCI NewsGate and reported to the user before releasing the page for output.

When the page is output, either automatically by NewsGate or manually by the editorial staff, all PDF ads are aggregated into the PDF document for the specific page. NewsGate uses a CCI developed PDF implementation to have greater control of output PDF. PDF ads are parsed for all objects which are to be inserted into the final PDF, and are inserted without being altered. This ensures no interference in quality when aggregating and will eliminate the possibilities for errors.

NewsGate offers several options to proof pages for errors in the final PDF. Soft proofing through a page display of a PDF is possible during all stages of page production. Furthermore page proofing where the page is printed to a print proofer, or sent to a RIP or preflighter is possible. Most processes are automated so efficient page production with error reporting is possible. Users are then free to concentrate on producing content, not checking for errors.

7 Conclusion and Further Information

7.1 Conclusion

PDF aggregation occurs when one or more PDF files are imported into a page that is transformed into a new PDF file. There are always cautions that must be headed when PDF aggregation occurs because the characteristics and behaviours of the final aggregated file can vary from the individual files within it. This in turn can cause incorrect print output.

For situations where PDF aggregation is necessary, there are best practices that can be followed that can minimize the potential for errors. Among other things, saving PDF files that conform to a standard and/or specifications will result in more predictable and repeatable results. The GWG recommends adhering to the PDF/X-4 standard while following the GWG2012_CMYK specifications when saving PDF files. Using tools such as the Ghent PDF Output Suite and GWG preflight profiles can help identify potential issues before files are output, saving both time and money.

It is important to understand that PDF aggregation can happen in many different ways. It can be done through human intervention, or it can happen through automated workflow processes. PDF aggregation may happen only once for a particular job, or it may happen multiple times. The more one is aware of the workflow and its implications, the better one can anticipate challenges and overcome them.

7.2 Further Information

You can find more information on the work of the Ghent Workgroup, and on delivering print ready PDF/X files that comply with the Ghent Workgroup specifications on the Ghent Workgroup website: www.gwg.org. Here you will also find useful resources such as preflight profiles, test suites and whitepapers that can save you time and money.

For more specific information about PDF aggregation, you can get in touch with someone at the Ghent Workgroup via the online form found under the contact area of the website. Here you can ask specific questions and get feedback.



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