

Section 508 compliance,  
accessibility, and Adobe  
Acrobat PDF

Kathy Bine  
ICF Consulting  
(703) 934-3896



## My favorite myths

- ▶ “If I save to PDF, that PDF file is 508 compliant (or accessible).”
- ▶ “My client says they will take care of Section 508 compliance (or accessibility).”
- ▶ “We know who will use this file, and none of them need Section 508 compliance (or accessibility).”
- ▶ “We don’t have time/money/people. Isn’t that an undue burden?”



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

Here are my favorite myths about Section 508 compliance in particular, and Section 508 compliance or accessibility in general.

I wish it were that fast, easy, or clear, or could be prioritized in this way. It's not.

## PDF compliance is hard

"PDF is just not accessible to people who use screen readers. Accessible PDF is an oxymoron."

--George Kerscher, Open EBook Forum chair, Recording for the Blind and Dyslexic's executive on loan to the DAISY consortium

Adobe's document *Advanced Techniques for Creating Accessible Adobe PDF Files*, FAILS the Acrobat 5.0.5 Accessibility Checker.

-- (<http://www.adobe.com/products/acrobat/pdfs/CreateAccessibleAdvanced.pdf>, March 15, 2004



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

In case you've been beating your head against the wall, thinking that you just weren't smart enough to do this or to understand the material... stop punishing yourself. It is hard: Adobe can't do this reliably. I've found their documentation to be sorely lacking in detail, even though they've published the 200-page manual on this subject.

## Terms

**Section 508 compliant:** Compliant with U.S. government regulation. Section 508 compliant files might also be accessible.

**accessible = compliance + usability**

**source file:** The file someone used to generate the PDF

**PDF:** An Adobe Acrobat file

**build in:** Creating Section 508 compliance or accessibility in the source file

**retrofit:** Adding Section 508 compliance or accessibility in the PDF

**tags, tag structure:** The structure in a PDF that controls reading order of text and ALT text



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

I'm just defining some terms I'll be using.

## Problems and solutions

“How do I make this PDF comply with Section 508, or accessible?”

- ▶ Don't. If possible, make the source file Section 508 compliant.
- ▶ Don't. Consider posting the file in a more accessible format.



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

Why make the source file compliant?

It is almost certainly part of what you'll provide to your client. As such, it must be compliant.

It is probably much faster to build compliance into the source file than to retrofit it to the PDF.

If there are changes to the content, or future uses for the file, others will be grateful for the work you did to build in compliance.

## Problems and solutions (cont.)

“We don’t have the source file.  
All we have is the PDF.”

- ▶ Extract text and recreate the document in an application that supports Section 508 compliance or accessibility.
- ▶ Make the PDF Section 508 compliant or accessible.



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

Doug Wakefield at the Access Board (creators of [www.section508.gov](http://www.section508.gov)) has recommended to me that our Federal clients should consider posting the source file for the PDF rather than the PDF, if the source file is in a format that the public might have, or can view with minimal investment. Clearly that’s not going to include Framemaker, Pagemaker, or Quark. It could include PowerPoint, Word, and Excel, which have a publicly available, free viewer application.

## Problems and solutions (cont.)

“I can’t extract the text from the PDF.”

- ▶ The file may have been made by scanning text into PDF. Run Acrobat Capture on it.
- ▶ The file may have security features to prevent text extraction.



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

If security features are enabled, consider carefully whether you ought to be hacking the information in this manner. If the content isn't yours, and you plan to redistribute it, you probably need to get permission before proceeding.

## Problems and Solutions

“I got your estimate for retrofitting this PDF. Why is it so high?”

- ▶ Tools are inefficient
- ▶ Resolving problems at this stage takes longer.
- ▶ Risk is higher (client changes, unanticipated problems)



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

Failure to plan early means that costs increase. Project managers know this, yet they are surprised every time I state this simple fact.



## Avoiding problems

- ☞ Tell your managers to get you involved early in the project planning/cost estimation process
- ☞ Help your managers choose software applications that allow them to build Section 508 compliance or accessibility into files, rather than retrofit it
- ☞ Test early and enough to have confidence that your plan will work
- ☞ Ask questions
- ☞ Help with research



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

No surprises or really original ideas here, are there? The real challenge is to educate your managers to consider accessibility during the project planning phase, rather than during the delivery phase. Once you achieve that goal, you've created a success spiral.

## Is Acrobat v.6 better than v.5?

- ▶ Yes: checker is more robust, has more options
- ▶ No: user interface changes support commenting more than forms or Section 508 retrofitting/validation
- ▶ My story: I upgraded to v.6, reverted to v.5, and now I'm back to v.6



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

Version 6's tool to build the tag structure can handle much larger files than version 5's Make Accessible plug-in. The checker is more robust and has more options; we'll see that in a bit.

The problem? Adobe redesigned the user interface extensively in version 6. It now supports commenting and review much better than version 5 did, but removed features that make accessibility and forms tasks efficient.

After upgrading to 6 and using it for two days, I backtracked to 5.0.5. In February, my organization pushed version 6 to all desktops, so I really didn't have a choice about upgrading to 6.

## Creating a compliant MS Word file

- ▶ Start with Microsoft Word v2000 or higher
- ▶ Avoid using special bullet characters
- ▶ Avoid using columns
- ▶ Avoid using graphics in headers and footers, or lots of inline graphics
- ▶ Avoid Word art
- ▶ Add ALT text for graphics
- ▶ Create hyperlinks on URLs and e-mail addresses before converting to PDF
- ▶ Demo



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

## Generating a compliant PDF from Word

- ▶ Use the Adobe PDF>Convert to Adobe PDF menu option, or the Convert to PDF button on the Word toolbar
- ▶ Other options generate much less compliant PDF
- ▶ Demo



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

## Retrofitting

- ▶ Time-consuming
- ▶ Irritating
- ▶ Fonts may not be available to update non-Unicode characters
- ▶ Dropouts in graphics
- ▶ Tag structure editing



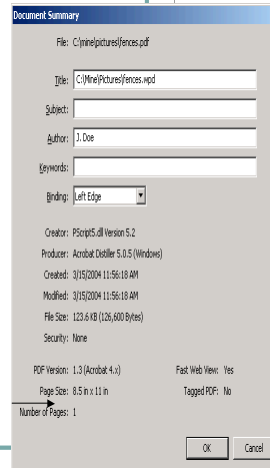
Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

I had a Quark XPress file that I retrofitted accessibility. The layer attributes—what keeps the blue sidebar underprinting a photograph, for example—got very flaky, and suddenly the photograph of a person’s face was interrupted. I tried to resolve the problem and could not. A person at Adobe tried to fix it too, and failed. So beware: making the file accessible may generate errors for persons who would read the file.

## How do I find out how the PDF was generated?

Look at the Document Summary.

- ▶ Open the file in Adobe Acrobat
- ▶ Press CTRL+D
- ▶ In v. 5.0.5, you'll see this dialog box:



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

Screen capture. Capture shows the file name and path. Title of the document is the file name and path. It should be the title of the document. The text box for Subject is blank. The text box for Author reads "J. Doe." Keywords text box is blank. Binding is left edge. Creator is PostScript5.dll Version 5.2. Producer is Acrobat Distiller 5.0.5 (Windows). This tells you that the file was created in a way that means it probably isn't Section 508 compliant or accessible. The screen also indicates that this is not a tagged PDF, which means that it has no Section 508 compliance or accessibility at this time. Fast Web View has a Yes beside it, meaning that the file has at least been optimized.

## Uh-oh comparison

**Better (v.5) versus worse (v.5)**

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Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

Screen capture of the Document Properties page from a more Section 508 compliant or accessible PDF. Screen shows the file name and path. Title of the document is not completed correctly. It should be the title of the document. The text box for Subject is blank. The text box for Author reads "strager." It should be the name of the person who is the author. Keywords text box is blank. Binding is left edge. Creator is Acrobat PDFMaker 5.0 for Word, which tells you that the person who generated this file used the Create PDF plugin in Word and the file is probably more Section 508 compliant or accessible than usual. Producer is Acrobat Distiller 5.0.5 (Windows). The screen indicates that this is a tagged PDF, which means that it a basic level of Section 508 compliance or accessibility. Fast Web View has a Yes beside it, meaning that the file has at least been optimized.

Screen capture. Screen shows the file name and path. Title of the document is the file name and path. It should be the title of the document. The source file was in WordPerfect—not a good sign. The text box for Subject is blank. The text box for Author reads "J. Doe." Keywords text box is blank. Binding is left edge. The Producer is Acrobat Distiller 5.0.5 (Windows). PDF Version is 1.3 (Acrobat 4.x). Acrobat 4.x was the last version that had no Section 508 compliance or accessibility features. This tells you that the file was created in a way that means it probably isn't Section 508 compliant or accessible. The screen also indicates that this is not a tagged PDF, which means that it has no Section 508 compliance or accessibility at this time. Fast Web View has a Yes beside it, meaning that the file has at least been optimized.

## Problem: No tags in PDF

- ▶ Perform all forms work (e.g., convert URLs and email to links, add buttons) *before* you create tags
- ▶ Use the Make Accessible plug-in (v5.x) or Add Tags to Document (v6.x) to add tags
- ▶ Prepare for some work



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

If you fail to do all forms work before running the Make Accessible plug-in (v5.0.5) or the tag generator (v6), you will see additional errors in the checker. Save yourself the frustration: do the forms work first.



## Problem: Figures

- ▶ If figures in a PDF need ALT text, use the Tags structure to add text
- ▶ There is no automated way to do this
- ▶ If you aren't the SME, be careful about writing the ALT text yourself
- ▶ Be meaningful
- ▶ Don't be repetitive



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

You can insert AltText or ActualText properties using Acrobat 5.0:

1. Open the PDF file in Acrobat 5.0.
2. In the Tags palette, select the <Figure> element tag.
3. Choose Element Properties from the Tags pop-up menu.
4. Type the AltText or ActualText meta data.

## Problem: Audio, video

- ▶ Embedding audio in a PDF file used to cause errors on computers without an audio card
- ▶ Captioning and comments must be simultaneous
- ▶ A text file may be very desirable for all audience members, not just those with special needs
- ▶ See me after if you have questions



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

## Problem: Forms

- ▶ Do the forms work first, before you create or edit tags
- ▶ No good checker for forms elements
- ▶ See me after if you have questions



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

## Validation

- ▶ None of the free validators will check your PDF—they only check the HTML, and flag PDF occurrences
- ▶ Test each file with the Accessibility Checker (automated check)
- ▶ Test with a screen reader (manual check)
- ▶ Check the tag structure (manual check)



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

Validators include Bobby, Watchfire, HiSoftware's AccVerify, Deque's product... pretty much any HTML validator will only find instances of PDF rather than check the compliance of the PDF.

## Acrobat Accessibility Checker

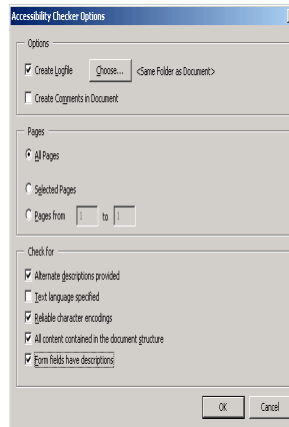
- ▶ Easy to use
- ▶ Unclear what settings to select for Section 508 compliance
- ▶ Doesn't include all checks needed for Section 508 compliance/accessibility
- ▶ No good reference on how to resolve errors, or even what the errors mean (Unicode, artifacts)



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

## Accessibility Checker v5.05

Here's what  
I  
select for  
Section 508  
compliance  
in  
Acrobat  
v5.0.5:



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

Accessibility Checker Options page.

I like to see a log file, and also to create comments in the document. This page supports both.

I typically run the checker on all pages, but there are options to run it on selected pages.

In the Check For option, I check for elements EXCEPT for the Text Language Specified option. Text language isn't required for 508 compliance.

Click OK.

You can select a language property in Acrobat 5.0:

1. Open the PDF file in Acrobat 5.0.
2. Select the element tag (for example, <Table>, <TableTitle>, <TableHead>, or <TableBody>).
3. Choose Element Properties from the Tags pop-up menu.
4. Select the Language desired.

## Accessibility Checker v6

Here's  
what I  
select for  
Section  
508  
compliance  
in  
Acrobat  
v6's  
Full  
Check:



Kat  
kbme@icfconsulting.com

Accessibility Full Check

Report and Comment Options

- Create Accessibility Report
- 
- Folder: C:\DOCUME\PA508
- Include repair links in Accessibility Report
- Create comments in document

Page Range

- All pages in document
- Only those pages selected in Pages panel
- Pages from  to

Checking Options

- Alternative descriptions are provided
- Text language is specified
- Reliable character encoding is provided
- All content is contained in the document structure
- All form fields have descriptions
- Link and table structure is correct

Accessibility Full Check page.

I like to see a log file, and also to create comments in the document. This page supports both.

I typically run the checker on all pages, but there are options to run it on selected pages.

In Checking Options, I check for elements EXCEPT for the Text language is specified option. Text language isn't required for 508 compliance.

Click OK.

## Screen readers

- ▶ Visual inspection, which works for HTML, doesn't work as well in PDF
- ▶ Identifies places where the reading order is incorrect
- ▶ Finds other problems
- ▶ Be sure to spot-check the suspects, and a few additional places
- ▶ Test with multiple readers (for a list, see <http://www.stcsig.org/sn/visual.shtml#READ>)



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com



## General Best Practices for PDF

- ▶ Add information to the Document Properties
- ▶ Create bookmarks
- ▶ Optimize (v6's Reduce File Size is safe)
- ▶ Beware of columns
- ▶ Beware of forms
- ▶ Push the accessibility work upstream so that it's built in, rather than retrofitted!



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

## More Information

- ▶ AccessAbility SIG: <http://www.stcsig.org/sn/>
- ▶ Adobe's Advanced Techniques for Creating Accessible Adobe PDF Files: <http://www.adobe.com/products/acrobat/pdfs/CreateAccessibleAdvanced.pdf>
- ▶ *Acrobat 5.0 FAQ* [Online]. Available: <http://access.adobe.com/accessibility.html>
- ▶ *Acrobat 5.0.5 update FAQ* [Online]. Available: <http://www.adobe.com/products/acrobat/pdfs/acr505faq.pdf>
- ▶ Sajka, J., & Roeder, J. *PDF and public documents: A white paper* [Online]. Available: [http://www.afb.org/info\\_document\\_view.asp?documentid=1706](http://www.afb.org/info_document_view.asp?documentid=1706).
- ▶ Staff. (2002, April 24). *Making PDFs accessible: The big picture* [Online]. Available: <http://www.pdfzone.com/news/101078.html>
- ▶ Cooke, A. *The Conundrum of PDF Accessibility*. Sept. 2002. Available: <http://www.afb.org/afbpress/pub.asp?DocID=AW030502>



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

## Who was that speaker?

Kathy Bine  
ICF Consulting  
9300 Lee Highway  
Fairfax, VA 22031  
Phone: (703) 934-3896  
Fax: (703) 934-3974  
kbine@icfconsulting.com



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

## Bonus Slides: Sources of PDF

- ▶ Information is based on my experience with retrofitting Section 508 compliance on existing PDFs, and on reports of trying to build in compliance
- ▶ If you have experience and opinions, contact me



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

## Sources of PDF

- ▶ Microsoft Word
- ▶ HTML (web pages, JavaDocs)
- ▶ Corel WordPerfect, Quattro Pro
- ▶ Microsoft Excel
- ▶ Microsoft PowerPoint
- ▶ Quark XPress
- ▶ Adobe Pagemaker
- ▶ Adobe InDesign
- ▶ Adobe Framemaker
- ▶ And anything else from which you can print



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

## PDF Sources: The great unknown

**Corel Quattro Pro:** Unknown, probably nonexistent

**Adobe Framemaker:**  
Unknown; reported to be better  
(<http://www.adobe.com/support/techdocs/29992.htm>)

**Adobe InDesign v2.0:**  
Unknown, reported to be better



Kathy Bine, (703) 934-3896,  
[kbine@icfconsulting.com](mailto:kbine@icfconsulting.com)

Illustrator: drawings can throw errors in the Make Accessible plug-in; missing options to build Section 508 compliance or accessibility into the PDF.

## PDF Sources: Noncompliant PDFs, guaranteed

- ▶ Do nothing to your source file, and use tables, images, headers/footers, etc.
- ▶ Print to EPS, run through Distiller, any version
- ▶ Print directly to Distiller, any version
- ▶ Print directly to PDF Writer, any version
- ▶ Quark XPress, any version
- ▶ Adobe PageMaker, Illustrator, any version



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com

## PDF Sources: Slightly more compliant PDFs

- ▶ WordPerfect's Publish to PDF plug-in
- ▶ Adobe FrameMaker (rumored)
- ▶ Microsoft Excel
- ▶ Microsoft PowerPoint



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com



## PDF Sources: More compliant PDFs

- ▶ Start with creating a compliant source file in an application that supports compliance
- ▶ Acrobat Web Capture, from compliant HTML
- ▶ Microsoft Word 2000 or higher, with Convert to PDF plug-in



Kathy Bine, (703) 934-3896,  
kbine@icfconsulting.com